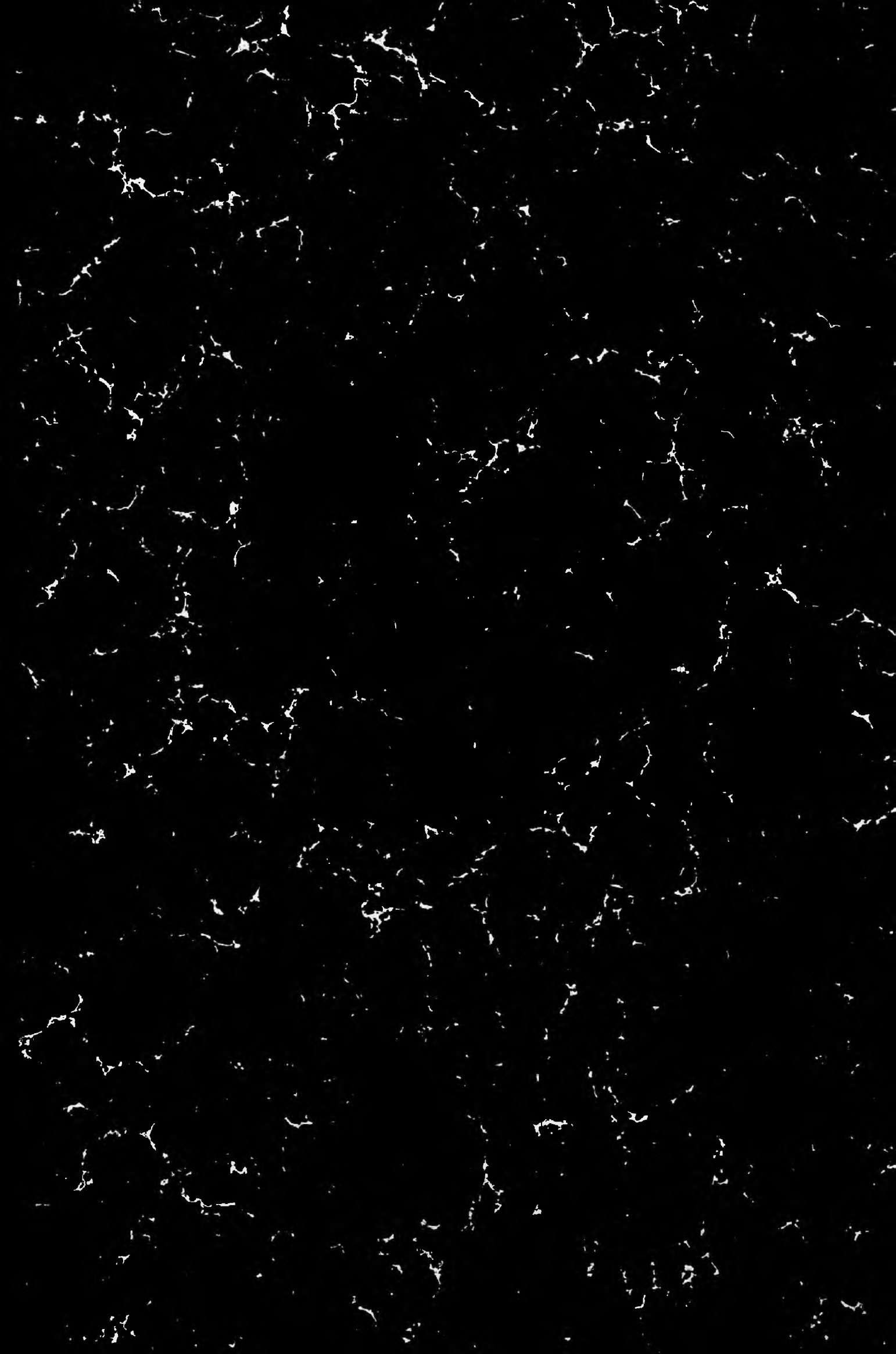




Bibliotheca Lundensiana.

PHILATELIC SECTION.





Crawford 1185 (1-61)

United States. Patent Office

187.08 Write to him to make use a
similar collection of Postage patents.

CARPMAEL & CO.,
CHARTERED PATENT AGENTS.

TELEPHONE: 4761 HOLBORN.
TELEGRAMS: CARPMAEL, LONDON.

ARTHUR CARPMAEL, Assoc. INST. C.E.
EDWARD CARPMAEL, B.A. CANTAB., Assoc. INST. C.E.
V. PERCY CARPMAEL, B.A. CANTAB.
WILFRED CARPMAEL, F.G.S.
ROBERT B. RANSFORD, M.A. CANTAB.

24, SOUTHAMPTON BUILDINGS,

CHANCERY LANE,

21 Ap. 1903

LONDON, W.C.

The Hon: R. Brougham
8 Pont Street S.W.

Dear Sir,

As desired in your letter of the 28th March we wrote to our Agents in Washington for the specifications of patents dealing with postage stamps and their manufacture, and have just received their reply as follows

"As requested we have made a list of patents relating to postage stamps and their manufacture, and have obtained copies of the specifications and drawings of most of them. As you suggest, the list accompanying your letter is not complete, and there were some errors in the numbers. From this list we have obtained copies of the specifications and drawings of the following N°:-

41991	92593	175242
42207	94079	177821
45038	95624	180394
48389	95628	180564
51782	101020	190376
53723	102200	220092
79157	167987	228365
80943	169125	236980
86952	171871	250376
91108	175228	

"We regret to say that the copies of the following patents are exhausted.

41118	Gibson, Jan 5, 1864 Postage and other stamps
41505	Harmon, Feb. 9, 1864 Postage and revenue stamps
73296	Carusi, Jan. 14, 1868 System of postage stamps

77807

Kellogg, May 12, 1868

Postage and revenue stamps

"In supplementing your list we have had to examine quite a number
"of different classes. There is a class of 'postage and revenue stamps'
" We have selected from this class such patents as relate to postage stamps
"and have excluded such patents as are purely revenue stamps. This class does
"not include paper especially adapted for postage stamps or ink for printing
"such stamps or adhesives for the stamps. Such patents are scattered through
"other classes. There are a large number of patents for devices for moisten-
"ing postage stamps, for affixing stamps to letters &c, but these, of course,
"are excluded. We believe that we have obtained a list of all the patents in
"which you will be interested. There may be a few patents scattered through
"different classes that might relate to the subject, but a further search
"would involve the expenditure of a great deal of time.

"We send copies of the following: -

45057	194212	305292
47909	200187	306674
63733	200702	444344
70147	201769	464085
97528	202760	492912
98031	205292	520399
101170	208433	521177
104554	211207	522037
127663	212416	596656
192893	233363	606542
192968	(re-issue 9126)	

"We also listed the following patents, but we regret to say that copies
are exhausted

39147	Herron, July 7, 1863
	Preserving postage stamps
52889	MacDonough, Feb. 27, 1866
	Manufacture of ink for postage stamps
101604	Fletcher, April 5, 1870
	Adhesive stamps

We send all the copies referred to.
Our charge in this matter is \$2. 25-

Yours truly

Carpmael & Co

39147-³ 41505
 2 41118.)

- 4 ✓ 41991 ✓ 22/3/64 E Hamon Cancelline
- 5 ✓ 42207 ✓ 5/4/64 Lowenburg Cancelline.
- 6 ✓ 45038 ✓ 15/11/64 C W Harris Cancelline. Thread under stamp
- 7 ✓ 45057 ✓ 15/11/64 Lowenburg reversed print over gum on transparent paper
- 8 ✓ 47909 ✓ 23/5/65 Cuatrecasas soluble printing ink
- 9 ✓ 48389 ✓ 27/6/65 D S. Ward Francis. Chemical cancelline. Ferrocyan Pot. & Sulphate of Iron.
- 10 ✓ 51782 ✓ 26/12/65 G. W. Boulesby. Stamp half gummed only.
- 12 ✓ 53723 ✓ 5/4/66. W.C. Wyckoff. Printing on soluble ^{slide} substratum
- 13 ✓ 63733 ✓ 9/4/67. H Lowenburg Printing ink of saccharine matter.
- 14 ✓ 70147 ✓ 22/10/67. C F Steel. Embossing or Grille -
- 15 ✓ 73296 ✓ 10/6/68. J. In Sturgeon insoluble gum. Invisible ink brought out by water -
- 16 ✓ 79157 ✓ 11/8/68. H Greenfield. Paper treated with acetate of lead, cancelled by sulphate of Ammonia
- 17 ✓ 80943 ✓ 16/2/69. C.F. Steel. Double paper.
- 18 ✓ 86952 ✓ 9/6/69 Addison C Fletcher. Look thin pp flaps to be torn off
- 19 ✓ 91108 ✓ 12/7/69. Earle & A B Steel. Combination printing 2 Colours forms.
- 20 ✓ 92593 ✓ 24/8/69. Charles Coombs. New form of Gum, Tannin & Gelatine.
- 21 ✓ 94079 ✓ 5/10/69. Wm Thorpe Two colour work in sensitive inks.
- 22 ✓ 95624 ✓ 5/10/69 Thomas Antisell Colours sensitive inks, acid & alkaline
- 23 ✓ 95626 ✓

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- 25. v 97-528' 7/12/69. Skinker & Hallam H. Spencer. Printing on early "sulfonamide" acid form carbonic acid for...
- 26 v 98031' 21/12/69. S. Clark. Double paper, for upper trunk, and printed on...
- 27 v 101020' 22/3/70. G. T. Jones. Two colour work with sensitive dials.
- 28 v 101170' 22/3/70. Jan. P. Simons. Searching dial. containing Drakill. (101604)
- 29 v 102200' 26/4/70. Lewis Altracom. Double paper trunked & transparent
- 30 v 104554' 21/6/70. Gene H. Casleer. English ink. containing Patent Driers & Glyerin
- 32 v 127663' 4/6/72. Felix Walker. Transparencys paper printed over the gum.
- 33 v 169987' 21/9/75. G. W. Casleer & H. McIntire. Paper with woven fabric and rubber lining
- 34 v 169125' 26/10/75. C. F. Stee - Johnson & Sons. In "Water-leaf" stamp.
- 35 v 171871' 4/11/76. Joseph Schenck. Preparation of paper printing - to work off by water
- 36 v 175228' 21/3/76. Joseph & Wimmer. Partly double pp. Printing on both. cleaning sensitive
- 37 v 175242' 28/3/76. G. W. C. Fletcher. Paper cut by a die. In "Logwood" stamp
- 38 v 177821' 23/5/76. Sam R. Dummer. Cancellation by tearing off a loose flap.
- 39 v 180394' 25/7/76. Peter H. Van der Nijde. Cancellation at temperature of 300°F.
- 40 v 180564' 1/8/76. Louis H. G. Shardt. Printed over a stable size, cleaning part of
- 41 v 190376' 1/5/77. James Sawyer. Printed over colourless soluble pattern. carbon off
- 42 v 192893' 10/7/77. Bernard Beaumont. Double paper. upper on water-purified cuts metal

101020
 101170
 102200
 104224
 117052
 118287
 169122
 171071
 172228
 172242
 177821
 180294
 180294
 190270
 191892



- 43 ✓ 192968 10/7/77. ✓ Wm W Bierce - Central portion is perforated and not gummed. ^{scratches of for cancell}
- 44 ✓ 194212 14/8/77. ✓ Wm W. Bierce. same practically as 192968. -
- 45 ✓ 200187 12/2/78. ✓ John Fox. Sheet is cut by dies in shapes. Tissue at back to keep all together.
- 46 ✓ 200702 26/2/78. ✓ John Dewe. paper coloured at back slitted all over. then pressed & gummed. the colour comes through slits by damp.
- 47 ✓ 201769 26/3/78. ✓ Addison. C. Fox. a crease or fold in the stamp sticks up. to be torn off.
- 48 ✓ 202760 23/4/78. ✓ James Sangster. Size partly removed ^{from unprinted part of paper} (by P&S. Hyd. after printing).
- 49 ✓ 205292 25/6/78. ✓ G & Neville & Henry Godwin. A metal stick stuck into the stamp. cancelled by a blow cuts the paper and the stud comes away.
- 50 ✓ 208433 24/9/78. ✓ Charles F. Spencer. Emery or ground glass in the gum. cancelled by abrasion surface of the stamp.
- 51 ✓ 211207 7/1/79. ✓ Axel W. Anderson. Fibres in the paper are "upset", then sized, & printed on - moisture loosens them - they take another form. & show.
- 52 ✓ 212416 8/2/79. ✓ Hendrik Wheeler. application of line of colour to Fletcher's "Capital".
- 53 220092 30/9/79. ✓ James Sangster. Size partly removed from paper under design (concern of 23/4/78) -
- 54 228365 1/6/80. ✓ James Macdonough. shellac pattern on paper. Ink and it rubs off on trying to clean.
- 54 ✓ 223363 6/1/80. ✓ Julius Kircher. An ink easier to remove than writing fluid or cancelling fluid amended. & re-issued.
- 55 Re-issued 9126. 23/3/80. ✓ same.
- 57 ✓ 236960 25/1/81. ✓ Reese Sawyers. Stamp half gummed irregular line. cancelled by tearing flap.
- 58 ✓ 250376 6/12/81. ✓ Gidem B. Massey. Double paper partly free on lower cancelled by tearing upper.
- 59 ✓ 305292 16/9/84. ✓ William John Clapp. paper for cheques &c not important.
- 60 ✓ 306674 14/10/84. ✓ Albert W. Cooke. Book for stamps. alternately stamp, wax paper, stamp.

61 ✓ 444344

6/1/91. Adrian C Fletcher. not postae one stamp sheet not stock B other

~~✓ 464085~~

not Postae at all.

62 ~~✓ 492912~~

7/5/93 Jm. Poriquet. proposal for split stamps. e.g. 5.10 or 5.50 even

~~✓ 520599~~

not Postae. a store stamp book

63 ~~✓ 521177~~

12/6/94. Wallace M. Pope an indelible composition for Cancellling ink

~~✓ 522037~~

~~✓ 596656~~

64 ✓ 606542

28/6/98. Francis B Hall. Vehicle for ink - sugar in excess of Salicylic Acid and not very sensitive. water, alcohol ether or then cleaning fluid.

out of Print

- 39247

- 41408

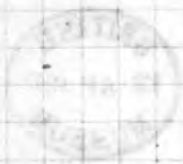
- 41505

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Crawford 1185(1)

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Done



E. HARMON.

Mode of Canceling Revenue and other Stamps.

No. 41,991.

Patented March 22, 1864.

Fig. 1.



Fig. 2.



Witnesses:

James M. Letts
Wm. H. Harrison

Inventor:

E. Harmon

UNITED STATES PATENT OFFICE.

EMANUEL HARMON, OF WASHINGTON, DISTRICT OF COLUMBIA.

MODE OF CANCELING REVENUE AND OTHER STAMPS.

Specification forming part of Letters Patent No. **41,991**, dated March 22, 1861.

To all whom it may concern:

Be it known that I, EMANUEL HARMON, of the city of Washington, in the District of Columbia, have invented a new and useful Improvement in the Process of Canceling Postage or Revenue Stamps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the clipping or cutting from the stamp the date or mark representing the approximation to the date of the month and the year of its use as a method of cancelment, instead of cutting away the other dates, as proposed.

To simplify the process I would prepare my stamp as represented in Fig. 1 of the accompanying drawings.

The letters on the borders of the stamp are the initials of the months of the year, and the dots represent periods or divisions of the month of five days each. The cancelment of this stamp would consist in the clipping from

the border the dot representing the period of the month embracing the date of its use, as shown in Fig. 2 of the accompanying drawings. The figures representing the days of the month may be substituted for the dots representing series of days, if deemed advisable, or dots representing the days of the month may be used; but I prefer the dots representing series of days as simplest and sufficiently safe.

What I claim as my invention, and desire to secure by Letters Patent, is—

The method of canceling revenue-stamps, in combination with engraving thereon of the initials of the months of the year, and of figures or dots representing the days, or a series of days of months, substantially as above described.

In testimony whereof I have herenunto signed my name before two subscribing witnesses.

E. HARMON.

Witnesses:

WM. H. HARRISON,
EDM. F. BROWN.

THE UNIVERSITY OF CHICAGO

LIBRARY OF THE UNIVERSITY OF CHICAGO

520 EAST 57TH STREET

CHICAGO, ILL. 60637



1917

Branford 1185(2)

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UNITED STATES PATENT OFFICE.

HENRY LOEWENBERG, OF NEW YORK, N. Y.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 42,207, dated April 5, 1864.

To all whom it may concern:

Be it known that I, HENRY LOEWENBERG, of No. 400 Fourth street, in the city, county, and State of New York, have invented a new and Improved Stamp for Postage, Revenue, and other Uses; and I do hereby declare the following to be a full and exact description of the same.

The object of my said invention is to produce stamps which, after being canceled by over-printing, or in any other way, will not permit the removal of such cancellation-marks without destroying the print. This object I effect by so preparing the paper or other substance on which the print is to be produced as to prevent the penetration of the ink, printing on this prepared surface, and applying to the opposite side the adhesive material by which the stamp is to be secured to the letter or other document. By these means a print is produced which, when canceled by over-printing in the usual way, cannot possibly be restored, for any successful attempt to remove or wash

off the canceling-mark will inevitably result in the removal or defacement of the print itself.

In some instances the effect may be improved by employing for the printing an ink which, when dry, will be more readily soluble than that employed for canceling.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A postage, revenue, or other stamp produced by printing on size applied to paper or other material to prevent the penetration of the ink, and applying the adhesive material to the opposite side of the paper, so that when the said stamp has been attached to a letter or other document and canceled by over-printing in the usual way the cancellation-marks cannot be removed without destroying or effacing the print.

HENRY LOEWENBERG.

Witnesses:

CHAS. L. DUBOIS,
OCTAVIUS KNIGHT.

Crawford 1185(3)

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6



C. W. HARRIS.

Mode of Canceling Postage and Revenue Stamps.

No. 45,038.

Patented Nov. 15, 1864.



2

Fig. 2.



1

Fig. 1.

Witnesses:

John J. Halsted.

E. H. Smith

Inventor:

Chas. W. Harris
by his attorney

W. B. Bancroft

UNITED STATES PATENT OFFICE.

CHARLES W. HARRIS, OF PITTSBURG, PENNSYLVANIA.

MODE OF CANCELING POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. **45,038**, dated November 15, 1864; antedated February 1, 1864.

To all whom it may concern:

Be it known that I, CHARLES W. HARRIS, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Device for Canceling Postage and Revenue Stamps; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 represents a postage-stamp before it is canceled. Fig. 2 is a postage-stamp after cancellation.

My invention is designed to furnish a rapid and efficient mode of canceling or destroying so as to prevent a second use of postage-stamps or internal revenue-stamps, without injury to the letter, envelope, or instrument to which the stamp has been affixed, and yet in such way as to effectually prevent the stamp from ever being again used. Destruction of such stamps by ink, whether printing or writing ink, seems to be but partial, and frequently the ink-stains are removed by chemical process and the stamps used over again; but destruction by tearing the stamp is not liable to these objections.

In order to tear the stamp in two after it has been used or affixed to the letter or instrument of writing, I place under it a piece of fine tape or thread, *a*, Fig. 1, one end of which projects beyond the edge of the stamp *b*. This string may be of any suitable material, and had better be thin and broader than its thickness, so that it may lie flat upon the

under side of the stamp, and when pulled may tear out a piece of the stamp. This string (or strings, for more than one may be used) is placed upon the under side of the stamp and secured thereto by the gum or mucilage usually employed in making stamps, or is otherwise so attached to the stamp as to tear it in two when the end of the string is pulled. These strings may be attached to the stamps during the process of manufacture by machinery.

If preferred, the string may be attached to the envelope, letter, or instrument of writing, and the stamp pasted over it; but I prefer making the string a part of the stamp.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The mode of canceling Government stamps, whether postage or revenue stamps, by tearing them by means of a string interposed between the stamp and the letter or instrument of writing to which it is attached, substantially as described.

2. Constructing Government stamps with a string or strings attached thereto, for the purpose of cancellation, in the manner described.

In testimony whereof the said CHARLES W. HARRIS has hereunto set his hand in presence of us.

CHAS. W. HARRIS.

Witnesses:

A. S. NICHOLSON,
W. BAKEWELL.

Branford 1185(4)

45057

7.

UNITED STATES PATENT OFFICE.

HENRY LOEWENBERG, OF NEW YORK, N. Y.

IMPROVEMENT IN ADHESIVE POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 45,057, dated November 15, 1864.

To all whom it may concern:

Be it known that I, HENRY LOEWENBERG, of No. 400 Fourth street, in the city, county, and State of New York, have invented a new and useful Process for the Manufacture of Self-Canceling Postage and Revenue Stamps and Analogous Articles; and I do hereby declare the following to be a full and exact description of the same.

The nature of my said invention consists in applying an adhesive substance to transparent paper or other material, and afterward producing any desired picture, characters, or design upon the surface of the said adhesive substance, so that the said characters or designs will be distinctly visible through the paper or other material without coming in contact therewith, and so that the stamp or other article thus produced, when it has been once applied to any surface, cannot be removed therefrom without being destroyed.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe the manner of carrying it into effect.

For the purposes of this invention any suitable transparent paper, cloth, or other material may be employed. To one surface of this paper, cloth, or other transparent material I apply a coating of dextrine, gum-arabic, or other suitable adhesive material which will adapt the article to be stuck on paper or other surface, as hereinafter explained. Upon the surface of this material I then produce the desired picture, characters, or design by printing with non-reversed types, or with engravings on metal, wood, or stone, or by the lithographic or the photographic processes, or by any other

suitable means, the picture, characters, or designs being distinctly visible through the transparent material from the other side thereof. The article thus produced may be applied to paper or any other surface by moistening and sticking in the way commonly practiced with postage or revenue stamps, and from the foregoing description it will be apparent that after having been so applied it cannot be removed without being destroyed. The print being upon the soluble adhesive material, and the ink in contact with this material only and not with the paper, the application of water to assist in removing the stamp will, in dissolving the adhesive material, unavoidably destroy the print thereon, and if it be attempted to remove the stamp without moistening the transparent paper, cloth, or other material, having not been penetrated by the adhesive solution in applying the same, will come away in a blank state, leaving the print covered with the adhesive material upon the paper or other surface to which the stamp was applied.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

A self-canceling postage, revenue, or other stamp produced by applying to a transparent material an adhesive substance, and printing or otherwise producing the desired picture, characters, or design upon the surface of the adhesive material by which the stamp is to be stuck upon a letter, document, or other object, substantially as described.

HENRY LOEWENBERG.

Witnesses:

R. H. MAYHEW,

C. L. DU BOIS.

11-021

UNITED STATES PATENT OFFICE

NOV 11 1902

Crawford 1185(5) 47909
8

UNITED STATES PATENT OFFICE.

ANATOLE A. HULOT, OF PARIS, FRANCE.

IMPROVED PRINTING-INK.

Specification forming part of Letters Patent No. 47,909, dated May 23, 1865.

To all whom it may concern:

Be it known that I, ANATOLE AUGUSTE HULOT, of the imperial mint, Paris, in the Empire of France, (gentleman,) have invented a new Typographic Ink; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the usual manner of making, modifying, and using the same.

My invention consists in the manufacture of a deleble or indelible black or colored ink containing neither fatty substances, fatty varnish, or water, and applicable to printing postage and other similar typographic stamps or labels, and also to other printing.

The movable adhesive stamp, post-stamp, or label can only secure the amount of duty that it represents by uniting to a type that cannot be forged a perfect printing, and as the use of these stamps imposes on the public the necessity of canceling them by writing on the design with common ink a signature, date, or other mark, they must be printed with an ink such that any attempt at washing out or effacing the canceling by reactive agents will cause the printing itself to disappear, as well as the writing. Ordinary writing-ink—that is to say, the black prepared by the combinations of iron with gall-nut acids, tan, or of any other known vegetable extracts producing a similar reaction—has not been successfully employed in the usual typographic printing, because the material forming the ink used with printing-varnish produces an inferior impression, and which, preserved partly by the varnish from the action of the reactive agents, does not generally yield to washing, and thereby facilitates fraud, as the canceling can be effaced without affecting the printing. Many trials in printing typographic stamps with ink more or less thick have shown that the presence of water in the typographic ink, no matter how small the quantity, prevents the proper distribution of the ink, which dries on the surface of the roller, and thus prevents a perfect impression being obtained.

By my invention these difficulties are avoided, for I produce an ink which, by its easy distribution, prints perfectly. It may be made deleble or indelible to any degree, black or colored, and of any shade, according to the coloring-matter employed, and it contains neither fatty substances or fatty varnishes or any trace of water.

I prepare the ink of my invention as follows:

First. To compose the non-fatty varnish capable of being dissolved in water, I melt at a low temperature (to prevent its rising into froth) two parts, in weight, of pure honey, (for light colors white honey is more suitable,) to which I add two parts of neutral glycerine, at 28°. I agitate the composition, and as soon as it is well mixed I leave it to cool and settle. The vegetable or mineral coloring substances to be used with this composition must be perfectly dried and ground with the utmost care, and then, to form the ink, I add to one part of color thus prepared four parts of the above-described composition, and I work the whole well together. It must be understood, however, that the above proportions need not be strictly adhered to, either as regards the composition of the varnish or in its combination with the colors, the same colors being capable of producing different shades, the darker ones requiring a larger proportion of color and the lighter shades a larger proportion of honey. I have found by practice that the same result may be obtained by working the colors with the glycerine alone in suitable proportions, and then adding the raw honey and mixing the whole together.

I also prepare a second non-fatty varnish in the same manner as the first by substituting molasses for the honey, and I would here observe that the first varnish hereinbefore described dries rapidly and renders the colors fast; but the second varnish dries slowly. When mixed in suitable proportions with the first, it gives a luster to the printing. Any mixture of mucilaginous, gelatinous, albuminous substances, &c., are detrimental to the spreading of the ink. The colors employed with the ordinary typographic varnish can also be used with the varnishes prepared according to my invention, and all the dry drying-colors—extracts from wood, carmine, and especially aniline colors—are well adapted for printing in a very perfect manner in combination with the honey and glycerine varnish. The deleble black—composed of iron and tan or gall-nut acids—should not contain any gum, but should be as neutral as possible. It must be dried in vacuum at a low temperature, and in order to vary the shades of the deleble black other wood extracts can be added to the nut-gall extracts. For preparing the inking and feeding rollers I use the following composition, videlicet: thirty-three parts of glue, fifty-two of honey, seven

of water, and eight of glycerine. For certain colors the honey may be replaced by the same proportion of molasses as before stated, and the glycerine is not absolutely necessary. The ink hereinbefore described can be employed to print typographic or copper-plate stamps of all kinds, either with deleble black or one or more fast colors. It can also be used for relievo-stamps with colored grounds and deleble vignettes for envelopes; also, for printing bank-notes, commercial bills, and all other papers or documents where it is required to prevent the possibility of the printing being effaced by washing or blotting out.

This ink can also be employed to imitate water-color pictures with one or more colors, and printed on paper or vellum, and also to printing on dyeing-colors on silk, cotton, linen, and other stuffs or fabrics.

Having now described the nature of my said invention and in what manner the same is to be performed, I wish it to be understood that I do not confine myself to the precise details herein laid down; but

What I claim is—

1. The manufacture of typographic ink capable of being washed out when printed on movable adhesive and postage stamps, labels, or designs requiring to be dated, signed, marked, or otherwise written upon with common ink, as hereinbefore described.

2. The application of the said typographic ink to the printing of typographic or copper-plate stamps of all kinds, either with deleble black or with fast colors, and to relievo-stamps with colored grounds and deleble vignettes for envelopes, to bank-notes, and other documents where it is required to prevent the printing from being washed out.

3. The application of the said typographic ink to imitate water-color pictures with one or more colors, and printed on paper or vellum, and also to printing in tinctorial colors on silk, cotton, wool, and other textile fabrics.

ANATOLE A. HULOT.

Witnesses:

DE FONTAINE MOREAU,
H. T. GILBEC,

10 Rue de la Fidelité, Paris.

Greenford 1185(6) 48389
9.

UNITED STATES PATENT OFFICE.

SAML. WARD FRANCIS, OF NEW YORK, N. Y.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 48,389, dated June 27, 1865.

To all whom it may concern:

Be it known that I, SAMUEL WARD FRANCIS, of New York, in the county and State of New York, have invented certain new and useful Improvements in Revenue, Postage, and other Stamps; and I hereby declare that the following is a full, clear, and exact description of the same.

The object of this invention is to dispense with the canceling or defacing of stamps by writing over or stamping or by any operation other than the affixing of the same onto the paper.

For certain purposes, such as postal, its further object is to so prepare stamps as to admit of their obliteration or defacing, after being affixed in the most expeditious manner, without the necessity of stamping or mode heretofore employed of canceling the same.

To carry my invention into effect due regard must be had to the mode of using the stamps and the means of protection against fraud provided by the laws and the government. Thus, revenue-stamps should be canceled as soon as used or attached to the instrument in writing. The danger of using it again arises mostly from the omission to cancel the same. If, therefore, a stamp be made self-canceling or self-destructive, by the very act of attaching it the object of this invention will be attained; but for postage the self-cancellation would afford no means of protection against fraudulent use of stamps already canceled. Such stamps should reach the office of deposit clean, so that the inspecting-officer may satisfy himself that the stamp had never been used before. The cancellation, however, is effected, according to my invention, by simply handling or disturbing the letter, thus saving great loss of time attending the defacing and stamping of each individual letter.

My invention therefore consists in incorporating with or applying onto the stamp two or more ingredients, such as will chemically combine to produce a dark color or stain under the action of the moisture. For revenue-stamps both or all ingredients may be embodied in or combined with the stamp before delivered for sale, so that when moistened for the purpose of sticking the same onto paper it may be defaced at once and become unsalable and unfit to be used again. For postage-stamps but one of the ingredients is used, so that no chemical combination or stain will be effected by merely

moistening it, the other ingredient or ingredients being used at the receiving-office and applied to the stamp in the manner hereinafter described, for the purpose of producing the combination which effects the cancellation.

To enable others to make and use my invention, I shall now proceed to describe the manner in which it is or may be carried into effect.

I use for the stamps paper but little or not at all sized or glazed. This paper is soaked in a solution of ferro-cyanide of potassium or an infusion of nut-galls. The solution may be applied on the side which is to be gummed, and the paper is then allowed to dry. Sulphate of iron reduced to an impalpable powder is rubbed onto the opposite side or face of the stamp, and the back is gummed over in the usual manner.

I prefer to gum the back of the stamps in such manner as to leave a central ring, bar, cross, or other figure, device, or letter free from gum. For this purpose the gum may be spread over the paper by means of stencil-plates. It will be understood that by wetting the stamp or paper the ferro-cyanide of potassium will combine with the sulphate of iron and produce a stain of a deep-blue color, which will permanently deface the stamp. With the gallic or tannic solutions a pergallate or pertannate of iron will be formed, which is black. Of course other ingredients, both organic and inorganic, may be used to produce combinations with similar effects, to determine which is the province of the chemist. The face of the stamp may be coated with a varnish or sizing, so that no ordinary dampness may affect the stamp before it is used. Instead of soaking the paper with an infusion of nut-galls, the paper may be soaked with a solution of sulphate of iron, and fine-powdered nut-galls may be used in lieu of the powdered sulphate of iron. For postage-stamps the paper is soaked in sulphate of iron before it is gummed. Otherwise the stamp is prepared in the usual manner. These stamps may be affixed by moistening them without defacing them, and the letters are dropped into the post-office with clean stamps on them. To cancel these the sorting-clerk, who takes the letters up to ascertain their destination, uses a finger-glove or some other equivalent device provided with a sponge-pad or other contrivance imbibed with a solution of nut-galls or the chemical equivalent thereof. By simply

taking up the letter with the fingers, and but slightly pressing it at the part bearing the stamp, the stamp becomes immediately and permanently defaced, without staining any other portion of the envelope or letter. In this way an army of defacing-clerks employed in the post-offices is done away with, and a great expense to the government is saved.

Having thus described my invention, I would observe that it is susceptible of many modifications without departure from the principle thereof. I therefore do not confine myself to the ingredients specified or the manner of applying the same; but

What I claim is—

Incorporating with or applying onto stamps, either before or partly before and partly after being used, ingredients such as will chemically combine to produce a dark color or stain under the action of moisture, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

SAML. W. FRANCIS.

Witnesses:

JOHN A. M. SORLEY,
WM. B. GRANT.

Grawford 1185(7)

51782
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10



48712
m

*G. W. Bowlsby,
Postage Stamp.*

N^o 5,1782.

Patented Dec. 26, 1865.

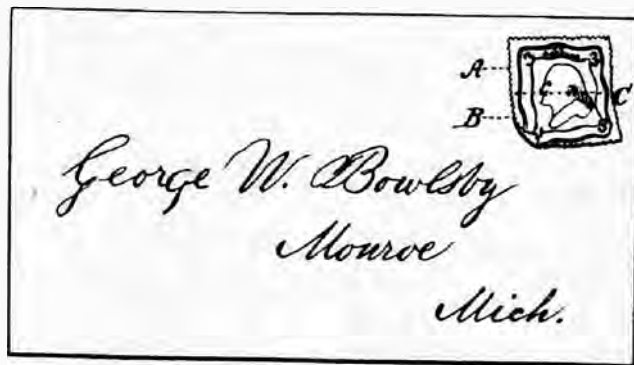


Fig. 1.

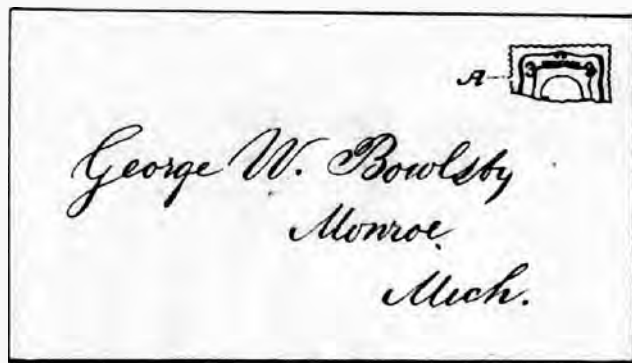


Fig. 2.

Witnesses.

W. H. Baman

C. V. Cook

Inventor.

George W. Bowlsby

UNITED STATES PATENT OFFICE.

GEORGE W. BOWLSBY, OF MONROE, MICHIGAN.

IMPROVEMENT IN POSTAGE-STAMPS, &c.

Specification forming part of Letters Patent No. 51,782, dated December 26, 1865.

To all whom it may concern:

Be it known that I, GEORGE W. BOWLSBY, of Monroe, in the county of Monroe and State of Michigan, have invented a new and Improved Mode of Preventing the Second Use of Postage - Stamps; and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in applying the adhesive substance to only a portion of the under surface of the stamp, so that when the stamp is attached to the letter or other mailable matter it will leave the remaining part, which is not made adhesive, projecting—that is, not adhering to the letter.

It also consists in the tearing off of the projecting part of the stamp by the postmaster before the letter is put into the mail, and so totally destroying the stamp past all further recovery and use.

To enable others to understand and use my invention, I will proceed to describe it.

I apply the adhesive substance to the upper half of the back of the stamp only, leaving the lower half of the back of the stamp bare, so that it will not adhere when wetted and applied to the letter or other mail-matter on which it is placed. The object of this is to leave the upper half of the stamp remaining on the letter after the lower half of the stamp

is torn off by the postmaster, instead of defacing the stamp with ink, as is now practiced.

In the accompanying drawings the same letters of reference indicate like parts.

A B, Fig. 1, is the stamp. A is the upper half adhering to the letter. B is the lower half, to be torn off by the postmaster. C is the line of perforations across the middle of the stamp in the line of separation, to complete the tearing in a neat manner.

In Fig. 2, A is the fragment of the stamp remaining on the letter and adhering to it when it enters the mail, the lower half having been torn off by the postmaster.

The object of this invention is to totally destroy the stamp, so that it cannot be washed or otherwise cleaned and reused, as is now much done.

What I claim as my invention, and desire to secure by Letters Patent, is—

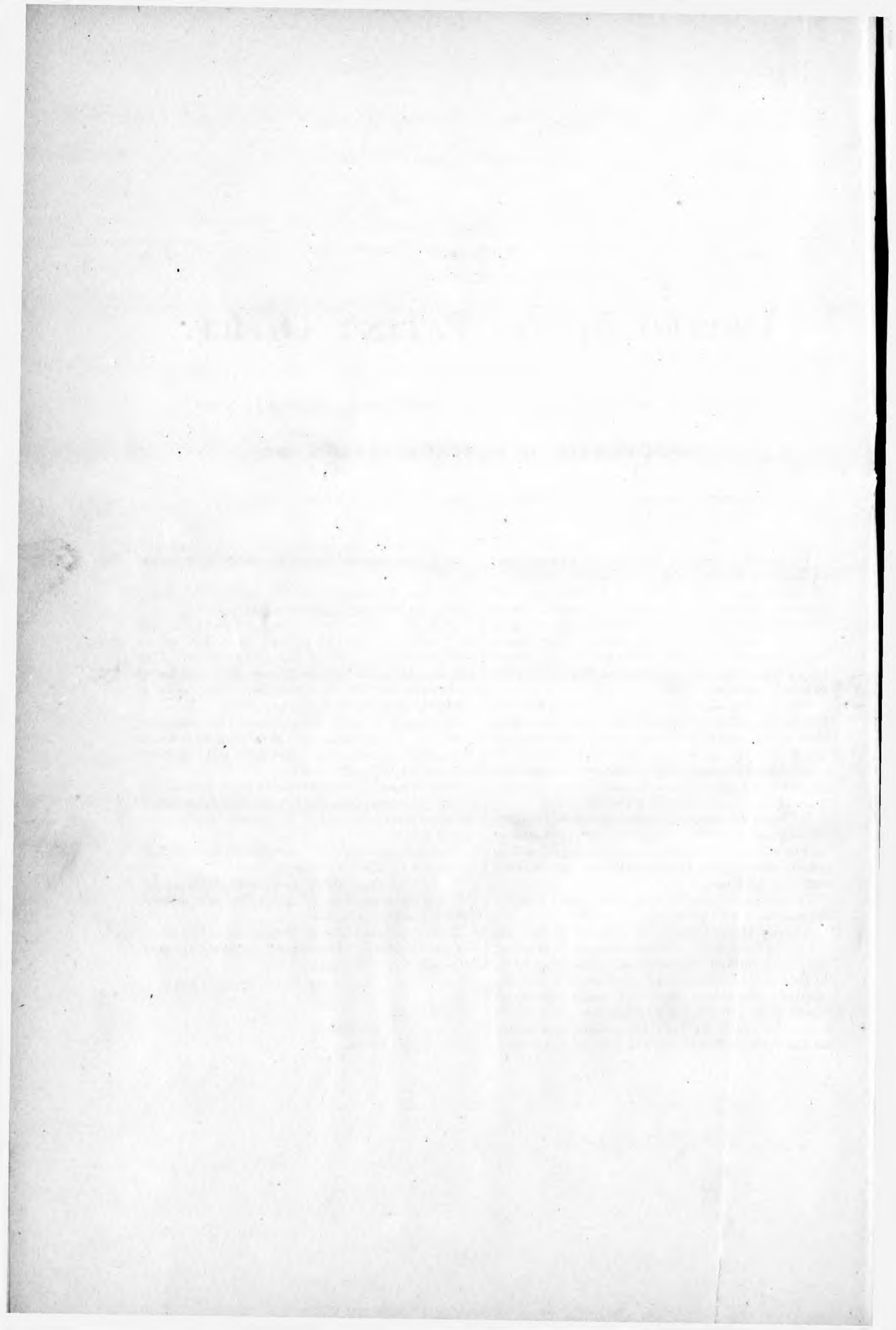
1. The destruction of the postage-stamp by tearing off a portion of it by the postmaster before it enters the mail.

2. The preparation of the stamp in the manner substantially as described, so that this may be done.

GEORGE W. BOWLSBY.

Witnesses:

W. H. BEEMAN,
C. V. COOK.



Crawford 1185(8)

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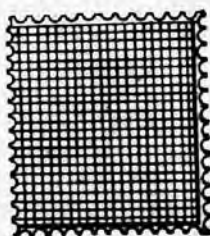
W. C. Wyckoff,

Postage and Revenue Stamps.

N^o 53,723.

Patented Apr. 3, 1866.

Fig; 1.



Fig; 2.



Witnesses;
Chas. A. Warland
Chas. M. DeLacy

Inventor;
W. C. Wyckoff

UNITED STATES PATENT OFFICE.

WILLIAM C. WYCKOFF, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 53,723, dated April 3, 1866.

To all whom it may concern:

Be it known that I, WILLIAM C. WYCKOFF, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Postage and Revenue Stamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification.

The said drawings illustrate my invention by a face view, Figure 1 and enlarged section, Fig. 2, of the proposed stamp.

It is alleged, and with good reason, that extensive frauds are committed against the Government by persons removing from letters, envelopes, wrappers, documentary papers, &c., postage and revenue stamps that have once been used, and that these stamps, after being cleaned by certain processes which are simple and effective, unless, indeed, they should, through oversight, have escaped cancellation, are used again or sold at a discount for use by others who are not cognizant of the fraud practiced, inasmuch as it is represented to such persons that the stamps came singly and in disconnected states as remittances for subscriptions to papers, &c. Thus the stamps that have once been used are sold readily, and the Government, it is supposed, suffers considerably by such frauds.

The object of my invention is to prepare the paper on which the stamp is to be printed in such manner that a stamp cannot be removed from an envelope or whatever it has been attached to by the process of wetting, steaming, or soaking; and to this end my invention consists in coating the side of the paper on which the printing is to be done with a surface of water-color pigment or paint, or some sufficiently opaque surface to receive a good impression, and be at the same time quickly soluble in water or other fluid.

As one means of carrying out my invention, I prepare sheets of paper, which it is not essential to have as thick as the ordinary paper used for stamps, and spread over or paint the surface of the paper on the side which is to receive the impression of the plate an opaque water-color pigment or paint. This can be done by very simple machinery or by hand, such

pigment or paint being prepared by the method usual and long known in what are called "water-colors," and consisting of the admixture with the coloring-matter of some adhesive substance to hold it together. The color I propose to use as the surface to receive the design may be made in various ways—for instance, oxide of zinc, which, when it is in the condition of water-color, is known in the market as "Chinese white"—or indeed pipe-clay (alumina) may be used with good effect, as it can be spread evenly for the purpose and furnishes a smooth surface and receives the impression well.

The stamp thus prepared can be used as any ordinary stamp, and it is to be used in the same way, and it accomplishes the end sought, as it can under no circumstance be removed from whatever it has been attached to by soaking or wetting, for the moment the surface comes in contact with water or other fluid the stamp becomes defaced and is consequently destroyed. Hence in using such stamps there would be no necessity of cancelling the same. Therefore it is not only applicable to postage-stamps, but also to revenue-stamps, many of which latter are used without being canceled—as proprietary stamps, for instance; and if such stamps are properly "stuck" to the article it would be impossible to remove them, and indeed it is believed that many revenue-stamps are removed by soaking or wetting the checks, notes, or other articles on which they are placed, and used again, and the fact of their previous cancellation is not noticed.

I am aware of the existence of a patent granted to Henry Lowenberg for self-cancelling stamps; and I wish here to remark that my invention differs from his in very important particulars. It will be understood that I do not require or wish transparency of paper or material on which to print, but, on the contrary, I leave the paper in its natural opaque condition and add to it some opaque soluble substance, for the reason that it is very difficult to obtain a good impression upon a glazed surface, or indeed upon any glutinous surface. Stamps made thereby are impracticable for ordinary use, aside from the above disadvantage in printing, for the reason that they are

either sticky or too brittle, the latter being a great fault. Hence, to make such stamps on an extensive scale, as does the Government, is impracticable. The preparation of the material in a state ready for the impression is exceedingly expensive, the material receives the impression poorly, the sheets of stamps when printed are apt to stick together or break in pieces, and indeed much time would be consumed in the mere matter of handling and counting sheets of such stamps, and there would be some difficulty in counting them accurately; and these are no inconsiderable items, as is well known to those who do engraving and printing for the Government. I therefore wish it distinctly understood

that I lay no claim to Mr. Lowenberg's invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

Coating the side of the paper which is to receive the print of the postage or revenue stamp with a surface of water-color pigment or paint, or some sufficiently opaque or non-transparent surface as to receive a good impression from the types or plates, and at the same time be soluble in water or other fluid, substantially as described.

WM. C. WYCKOFF.

Witnesses:

B. W. BECK,
W. J. HOY.

Crawford 1185(9)
63733
13

United States Patent Office.

HENRY LOEWENBERG, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND EMILE GRANIER.

Letters Patent No. 63,733, dated April 9, 1867.

IMPROVED COMPOUND FOR PRINTER'S INK.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY LOEWENBERG, of No. 1 Park Place, in the city, county, and State of New York, have invented a new and useful improvement in Printer's Ink; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same.

This invention relates to a compound for printer's ink, which contains sirup, molasses, honey, or other saccharine material or materials, with or without glycerine or oily matters, in such a manner that an ink is obtained which is more brilliant and less liable to fade than printer's ink made in the usual way.

In carrying out this invention, I take lampblack, or other suitable coloring matter, and add to it sirup, molasses, honey, or other equivalent saccharine substance, with or without glycerine or oily matter.

By using the ingredients in the following proportion a good result is obtained:

Oil, one part; sirup, or equivalent saccharine substance, four parts, with the requisite quantity of coloring matter. If a more soluble ink is desired, I take the ingredients in the following proportion: Oil, one part; sirup, or equivalent saccharine substance, four parts; glycerine, three parts, with the requisite quantity of coloring matter. In order to render the ink still more soluble, the proportion may be as follows: Sirup, or equivalent saccharine substance, four parts; glycerine, two parts, with the requisite quantity of coloring matter. A good ink is also obtained by using the following proportion: Sirup, or equivalent saccharine substance, four parts; oil, one part; glycerine, one part, with the requisite quantity of coloring matter.

By the use of sirup, molasses, honey, or other saccharine matter, an ink is obtained which is soluble and of superior brilliancy, and not apt to change by age, and by the addition of glycerine in greater or less quantities the ink is rendered more or less plastic. This ink is particularly useful for postage or revenue stamps, because if an attempt is made to remove the cancellation mark by any liquid the stamp is destroyed; or if a label is printed with this ink, and the attempt be made to remove the same from the vial, or other article to which it may be attached, for which purpose generally steam or liquids are employed, the print will be destroyed, and the label becomes useless.

What I claim as new, and desire to secure by Letters Patent, is—

1. A printer's ink made of sirup, molasses, honey, or other saccharine substance, in combination with suitable coloring matter, substantially as and for the purposes described.

2. A printer's ink composed of sirup, molasses, honey, or other saccharine substance, in combination with glycerine or oily matter, or both, and with suitable coloring matter, substantially as and for the purpose set forth.

HENRY LOEWENBERG.

Witnesses:

W. HAUFF,
N. MEYER.

13

Brawford 1185(10)

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14.



[Faint handwritten notes]

[Faint handwritten notes]

C. F. Steel,
Postage Stamp.

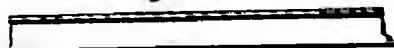
N^o 70,147.

Patented Oct. 22, 1867.

Fig; 4.



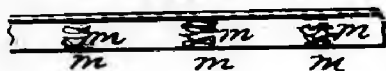
Fig; 5.



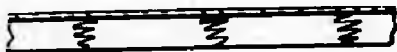
Fig; 6.



Fig; 7.



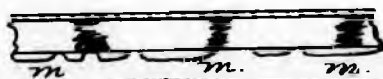
Fig; 8.



Fig; 9.



Fig; 10.

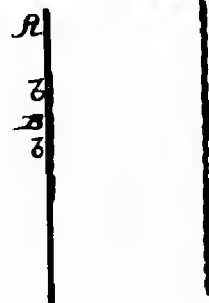


Witnesses;
Wm. C. Livingston
John C. Day.

Fig; 1.



Fig; 3. Fig; 2.



Inventor;

Charles F. Steel
By his attorney, J. S. [Signature]

United States Patent Office.

CHARLES F. STEEL, OF BROOKLYN, NEW YORK.

Letters Patent No. 70,147, dated October 22, 1867.

IMPROVEMENT IN THE MANUFACTURE OF POSTAGE-STAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES F. STEEL, of the city of Brooklyn, in the county of Kings, and State of New York, have invented new and useful Improvements in the Manufacture of Postage-Stamps, applicable, also, to other stamps, druggists' labels, etc.; and I do hereby declare that the following is a full and exact description thereof.

The object of my invention is to produce a stamp which shall stick better than usual, and which it shall be impossible to fraudulently remove and use again. Many efforts have been before made in this direction, but the difference in the dryness between the recently-applied cancelling-ink and the long-before-applied ink of the printing so greatly facilitates the removal of the former that it is frequently easy to wash off cancelling-ink with so simple chemicals as common soap and water, even when the cancelling-ink is of the same kind and quality as the ink with which the stamp is printed.

A part of my invention consists in embossing or partially breaking the paper, so as to open the texture of the paper along certain lines, without removing any part thereof. This causes the stamp, label, etc., to stick better, and allows the oil of the cancelling-ink, when such is used, to strike in very deeply.

Another portion of my invention consists in applying the gum to such stamps prior to the breaking operation. This avoids its too much filling such broken places, and impairing its appearance on the front side.

Another portion of my invention consists in smoothing the paper again after the embossing or breaking, and prior to the printing. This allows it to be printed better, and to present a more finished appearance.

And another portion of my invention consists in leaving certain parts of the stamp, so broken, in a clean or unprinted condition. This allows such part to absorb the cancelling-ink still more perfectly, when such is used.

My improved stamp may be more cheaply produced than any stamps adapted to effect this purpose which are known to me.

I will first describe what I consider the best means of carrying out my invention, and will afterwards designate the points therein which I believe to be new. The accompanying drawings form a part of this specification.

Figure 1 is a face view of my stamp complete.

Figure 2 represents a cross-section of the stamp on line *s s*, when made according to a portion of my invention.

Figure 3 is a cross-section when made according to the preferable plan.

Figure 4 is a greatly-magnified cross-section, showing the paper in its original condition.

Figure 5 represents the same gummed, the gum being represented in red.

Figure 6 represents the same embossed.

Figure 7 represents the same after having been again flattened, ready for use.

Figure 8 represents the same after printing. The printing-ink is shown in blue.

Figure 9 represents the same after the cancelling-ink is applied, and

Figure 10 represents the same after the cancelling-ink is washed off from the surface, showing its retention in the body of the paper.

Similar letters of reference indicate like parts in the several figures where they occur.

I select suitable paper, and, applying the gum on one face, let it dry. I then press the entire sheet between embossed plates, or pass it through between embossing-rollers. I then flatten a portion or the whole of the paper, so as to nearly remove all indications of the embossing, except that the fibre of the paper remains disturbed, and partially broken. After this I print on the surface thus prepared.

I esteem it greatly preferable to leave a portion of each stamp unprinted, and untouched either by the printing device or the flattening device, but some of the advantages of my invention may be attained without thus proceeding.

I do not deem it necessary to describe the devices for embossing, flattening, printing, etc., as they may be of any convenient character known to mechanics; but I prefer surface-printing, as it is more easy by that style of printing to leave a portion of each stamp untouched and unaffected.

The ordinary surface of a stamp which is printed by a plate is more compressed than usual. When paper

is intensely compressed by the severe contact of the polished plate therewith it becomes more dense and impervious; and when upon the surface of paper so compressed is laid, as usual, nearly a continuous coating of thick ink—that used in printing the stamp proper—and the same is allowed time to become thoroughly dried, it is difficult for the cancelling-ink to strike into the material of the paper. But in my stamp, made in the manner which I most prefer, the paper is not compressed by the plate, and is not covered with well-dried ink at the points referred to, but, on the contrary, it is strained open, and formed into cavities sufficiently large to offer free access to the oil, and to the coloring matter of the cancelling-ink.

Referring to the drawings, A is the main printed surface of the stamp, printed by surface-printing, or from a plate, or otherwise, with any ordinary or required devices. The whole or a portion of the remaining surface B is covered with sharp and clearly-defined elevations and depressions, produced by embossing with dies or rollers, not represented. The depressions are marked *b*, and are, in these drawings, distributed in regular order. At the points or along the lines *m m*, between the depressions and the elevations, the material of the paper is so greatly strained and expanded in the act of embossing that its fibre is partly broken, and the material is left at those points more open or porous than usual. The entire surface A has also been at a previous period embossed, (in a style similar to *b b*, *m m*, or differently,) but these embossed elevations and depressions have all been nearly or quite obliterated by having been subsequently pressed down and flattened. As a result of the whole, it follows that the area A is printed as usual and appears as usual, except that the lines, partially broken therein, are somewhat open to receive the cancelling-ink, and that the area B is unprinted, and is still more open to receive cancelling-ink along the partially-broken lines therein.

The cancelling-ink may be applied in any convenient manner, either upon the embossed surface alone, or promiscuously upon this and the other surfaces. The cancelling-ink, striking upon the embossed surface, enters the cavities and remains there, and washing will not remove it. Furthermore, the embossing so far weakens the paper that the stamp will not bear the same amount of severe washing as ordinary stamps, but will fall in pieces.

I believe that my stamp cannot be peeled from the paper by soaking without tearing at the embossed points, and I am positive, from repeated trials, that the provision for absorbing and retaining the cancelling-ink is very successful.

I propose to flatten a portion of the paper in the interior of the space B, which is in the form of a numeral or numerals, indicating the value. This surface is marked C in the drawing, and is in the form of the numeral 3, indicating that this stamp is a three-cent stamp.

By the use of yellow paper, prepared with fugitive colors, or the ordinary coloring matter employed in the manufacture of yellow paper, I am able to produce my stamps in such condition that the application of diluted acids, or any other of the ordinary chemicals employed to aid in the removal of cancelling-ink, will be shown and indelibly recorded by changing the color of the stamp.

The lines of punctures nearly separating the several stamps one from the other are indicated by D. These are produced by dies, acting in the same manner as has been long practised in the production of stamps, or the same dies may be also employed to flatten the surface, and thus, by additional labor on the dies, I can decrease the labor of printing and treating the stamps.

I have proved, by experiment, that there is an increased degree of adhesiveness attained by this system of breaking paper and flattening it out again, and that it has the effect of an unsized paper, and is superior to an unsized paper, because unsized paper will not hold but absorbs the gum into its body. By first applying the gum, and then giving it the soft nature by mashing and breaking, as described, I obtain the adhesion due to unsized paper without the disadvantage. The breakage, as described, is different from simply perforating paper, because perforating does not affect the whole body of the paper, while this straining and expansion does. I consider it also an important point that these stamps, being washed or soaked so as to remove the gum from them, cannot be regummed fit for sale, as the gum will penetrate to the face of the stamp and injure its appearance.

The printing may be done, with some success, directly upon the embossed or partially-broken material, before it is compressed or flattened again into the plane form. In other words, the compressing may be done by the operation of printing, or embossing on an embossed surface, but I prefer to flatten beforehand, as described.

Some of the advantages due to certain features of my invention may be separately enumerated, as follows:

First. By reason of the fact that the paper of my stamp is partially broken along the lines *m*, I am able to make the paper more flexible and elastic, and less liable to loosen itself by shrinkage in drying; and also am able to insure the destruction of the stamp in any effort to fraudulently remove it, by making the stamp too weak to be removed entire; and also to insure that there shall be cavities and ragged fractures in the paper, which cavities will remain unfilled until the cancelling-ink is applied, and will afterwards hold the same, so that it cannot be washed away or otherwise removed.

Second. By reason of the fact that the gum is laid on my stamp before the embossing or partial breaking of the paper, I am able to avoid the filling of the cavities with gum. The ordinary wetting of the stamp to apply it commences to soften the gum on the outside, and does not soften it so much as to cause the gum to penetrate the fractures, and the fractures remain open, in the same condition as if no gum were applied.

Third. By reason of the flattening of my stamps after their partial breakage or disturbance along the lines *m*, as described, I am able to print on the partially-broken surface as perfectly as if it had not been disturbed, while cavities are still allowed to remain partially but not entirely closed, to weaken the stamp and to receive and hold the cancelling-ink, as specified.

Fourth. By reason of the fact that the portion B of my stamp is left unflattened and unprinted, I am

able to insure a still greater degree of permeability in the material of the stamp to receive and retain the cancelling-ink.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

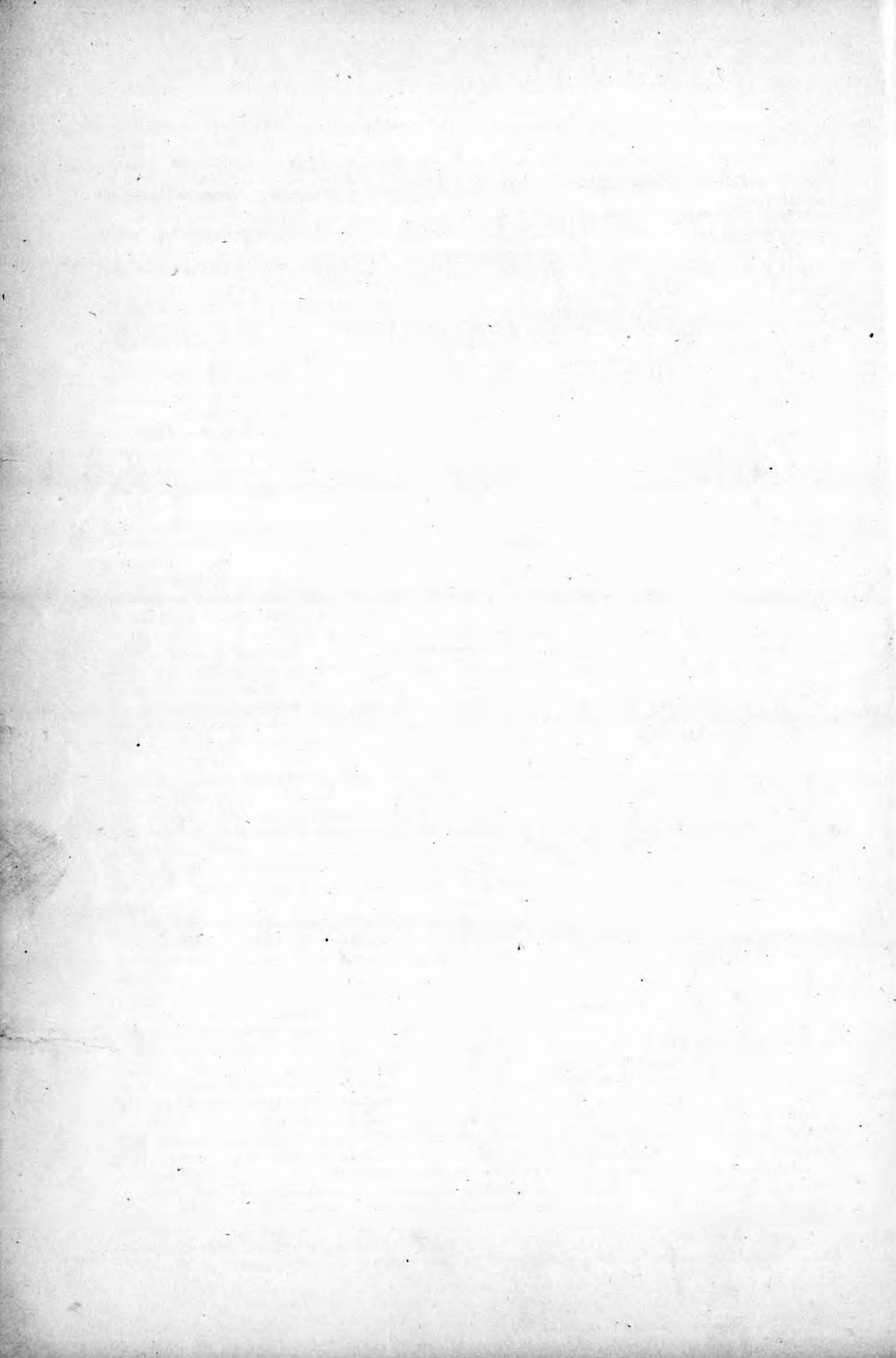
1. I claim a postage-stamp, or equivalent printed paper, having the paper partially broken, opened, and weakened along the lines *m*, substantially as and for the purpose herein set forth.
2. I claim in the above applying the gum or equivalent adhesive material before such treatment of the paper, as and for the purposes herein specified.
3. I claim, in connection with the above steps, the flattening of the whole or a portion of the surface of the paper prior to the printing operation, as and for the purpose herein explained.
4. I claim leaving a space, *B*, which is embossed and partially broken, as indicated, and not flattened or printed, substantially as and for the purpose herein specified.

In witness whereof I have hereunto put my name in the presence of two subscribing witnesses.

CHAS. F. STEEL.

Witnesses:

C. C. LIVINGG,
W. C. DEY.



Brooklyn 1185(11) 79157
16.

United States Patent Office.

JOHN M. STURGEON, OF NEW YORK, N. Y.

Letters Patent No. 79,157, dated June 23, 1868; antedated June 10, 1868.

IMPROVEMENT IN POSTAGE-STAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN M. STURGEON, of the city of New York, in the county of New York, and State of New York, have invented a new and useful Method of Cancelling Stamps; and I do hereby declare that the following is a full, clear, and exact description thereof.

The nature of my invention consists—

First, in attaching the stamp to a paper or other surface, by means of a cement or mucilage, so insoluble in water that any application of water or steam, for the purpose of facilitating the removal of the stamp, will destroy the integrity of the paper before dissolving or materially diminishing the adhesiveness of the cement.

Second, in printing upon the face or back of the stamp, with perfectly colorless and invisible ink, the word "cancelled," or any other cancelling-device, said ink having the property of becoming dark-colored and visible whenever dampened.

Third, in the preparation of a new colored vegetable ink, peculiarly adapted to the printing of stamps, bills, bonds, and other like instruments, to which said colorless and invisible ink is to be applied, as aforesaid,

The first part of my invention I carry into effect as follows: I make a cement or mucilage by mixing together animal glue, saccharine matter, either honey or molasses, and acetic acid. The proportions will depend in some degree upon the density of the glue, as well as of the saccharine matter, but a sufficiency of the latter must be used to form a mucilage of the proper consistency. These ingredients are to be well ground together, and will form a cement so far insoluble in water that it cannot be softened and its tenacity destroyed, by the application of water or steam, without destroying the integrity of the paper. Stamps may be coated with this mucilage for future use in the ordinary way.

The second part of my invention I carry into effect as follows: I make a preparation of four parts tannic acid, one part sulphate of iron, one part gallic acid, two parts of starch, and two parts balsam Riga, reduced to impalpable powder and well ground together, forming a paste of about the consistency of printers' ink. I do not, however, limit myself to these proportions, as they may be considerably varied. With this preparation I print words, figures, or devices on the face or back of the stamp, which are colorless and invisible until dampened, when they will turn a dark color and become perfectly distinct. The whole face or back of the stamp may be coated with this preparation in any suitable way, in which case the whole face of the stamp will turn a very dark color on being dampened. When this preparation is applied to the back of the stamp, the color will be brought out by wetting the mucilage for the purpose of attaching the stamp, and will show through the paper, so as to become apparent on the face of the stamp, which will thus become cancelled in the very act of attaching it, but when applied to the face, the cancelling-device will only become apparent on an attempt to remove the stamp by wetting it.

The third part of my invention I carry into effect as follows: I take scarlet, crimson, or other lakes, sap green, indigo, or other suitable vegetable coloring-matter, and add flour, starch, and balsam copaiba, in such proportions as will produce a proper consistency, the coloring-matter to be applied in sufficient quantity to produce the desired tint, all to be pulverized and well ground together.

The first and second parts of my invention may be used separately, for the purpose specified, but to get the best results I recommend the use of all in combination.

Having thus fully described my invention, and the several modes of carrying it into effect, what I claim as my invention, and desire to secure by Letters Patent, is—

1. Attaching stamps to papers or other surfaces by means of an insoluble mucilage or cement, prepared substantially as herein described, for the purpose set forth.

2. I also claim printing upon the face or back of the stamp with the colorless and invisible ink above described, or its equivalent, any cancelling-mark or device, which will become visible on being dampened by water or steam, as and for the purpose set forth.

3. I also claim, as an article of manufacture, the insoluble mucilage or cement above described.

4. I also claim, as an article of manufacture, a stamp coated with the insoluble mucilage or cement above described.

5. I also claim, as an article of manufacture, a stamp having a cancelling-device printed upon its face or back in the above-described colorless ink, or its equivalent, as and for the purpose described.

6. I also claim, as a new manufacture, the colored vegetable printing-ink, prepared substantially as described

JNO. M. STURGEON.

Witnesses:

J. J. COOMBS,

HENRY FAYETT.

Greenford 1185(12)

80943

17.

United States Patent Office.

HENRY GREENFIELD, OF NEW YORK, N. Y.

Letters Patent No. 80,943, dated August 11, 1868.

MODE OF CANCELLING POSTAGE AND REVENUE-STAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY GREENFIELD, of New York, in the county and State of New York, have invented a new and useful Improvement in Postage and Revenue-Stamps, and in the Method of Cancelling the same; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same.

This invention consists in preparing the paper from which the stamps are to be made, or the stamps, after they have been completed, with a suitable chemical, such as acetate of lead, and exposing them afterwards, for the purpose of cancellation, to the action of another chemical, such as sulphate of ammonia, or the fumes of sulphur, in such a manner, that, by printing or stamping with a solution of sulphate of ammonia, or other suitable chemical, each single stamp can be effectually cancelled, and by applying fumes of sulphur or other chemical, in a gaseous form, a large quantity of stamps can be cancelled simultaneously, thereby saving much time and labor.

In carrying out my invention, I prepare the paper on which the stamps are to be printed, or the stamps themselves, after they have been printed, with acetate of lead, or any other chemical which has no effect on the printing-ink. After a stamp of this kind has been attached to a letter or other paper, document, or article, I cancel the same by stamping it with a solution of sulphate of ammonia, or other chemical, which, when brought in contact with the lead, salt, or other chemical previously applied to the paper, will discolor the same, for instance, cause it to assume a brown tint, which cannot be removed without defacing the stamp entirely, and thus the object of cancellation is effected without fail.

In large offices, where a large number of stamps have to be cancelled every day, I propose to enclose the letters, documents, or other articles to which the stamps are attached, in a box, which can be filled with fumes of sulphur, or other chemical in a gaseous state, which, when coming in contact with the prepared stamps, will discolor the same in the same manner as the application of a solution of sulphate of ammonia or other chemical.

By these means I am enabled to cancel a large number of stamps simultaneously in little time, and with comparatively very little labor.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A postage or revenue-stamp, prepared with acetate of lead, or other chemical, so that it can be cancelled by the action of sulphate of ammonia, or other chemical, as a new article of manufacture.

Also, the within-described process of cancelling postage or revenue-stamps simultaneously in quantities, by exposing them to the action of fumes of sulphur, or of other chemicals in a gaseous form, substantially as set forth.

HENRY GREENFIELD.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.

Grainford 1185(13)

86952

18.



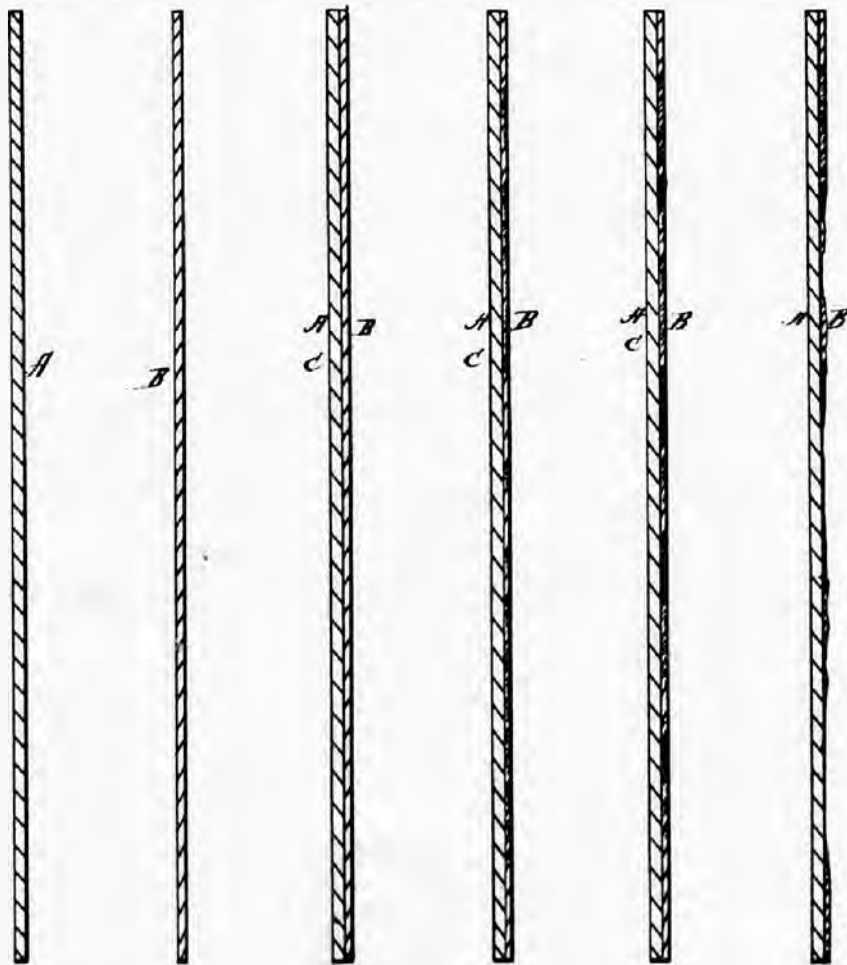
C. F. Steel.

Postage Stamp.

N^o 86,952.

Patented Feb. 16, 1869.

Fig. 1. Fig. 2. Fig. 3. Fig. 4. Fig. 5. Fig. 6.



Witnesses,
Wm C Dey
Wm C Dey

Inventor.
Charles F Steel
By his attorney J. S. [Signature]

UNITED STATES PATENT OFFICE.

CHARLES F. STEEL, OF NEW YORK, N. Y.

IMPROVEMENT IN REVENUE AND POSTAGE STAMPS.

Specification forming part of Letters Patent No. 86,952, dated February 16, 1869.

To all whom it may concern:

Be it known that I, CHARLES F. STEEL, of the city and county of New York, and State of New York, in the employ of the National Bank-Note Company as superintendent of the manufacture of postage-stamps, have invented certain new and useful Improvements in Stamps for Postage, Revenue, and analogous purposes; and I do hereby declare that the following is a full and exact description thereof.

I make my stamp with the face of the paper of an entirely different character from the back. The face is blotting-paper, while the back is hard and well-sized paper. The back prevents the gum from striking through, while the character of the face allows the canceling-ink to penetrate through it, and causes the whole to be rapidly defaced when any friction is applied to wash off the canceling material.

I will proceed to describe what I consider the best means of carrying out my invention.

The accompanying drawings form a part of this specification.

Figure 1 is a magnified edge view of the back layer of the paper. Fig. 2 is a correspondingly-magnified edge view of the front layer or porous paper. Fig. 3 represents the two layers pasted or otherwise firmly secured together. Fig. 4 represents the same after the face has been printed. Fig. 5 represents the same, after the canceling-ink has been applied, either by a canceling-stamp, by a pen, or otherwise. Fig. 6 is a corresponding view, representing the stamp after an effort has been made to fraudulently remove the canceling-marks.

Similar letters of reference indicate like parts in all the figures.

I take sheets of hard well-sized paper, a little thinner than the postage-stamp or other stamp is intended to be, as indicated by A, and having applied a thin and uniform coating of wheat-paste, or other suitable cementing material, over the face by the aid of a brush, roller, or other suitable device, I lay upon it a corresponding sheet of tissue-paper, and press the whole together by passing the compound sheet between rollers, or by other suitable means. The rollers thus employed may, if preferred, be covered with rubber. The compound paper thus produced may be afterward treated in all respects as ordinary

paper, care being taken to print on the tissue-paper B and to apply the gum on the sized paper A.

The ink received from the plate in the act of printing penetrates somewhat more deeply into the blotting-paper than it would in the ordinary hard sized paper; but this is of little moment. The canceling-ink, by thus penetrating, becomes very deeply set instead of lying, as usual, upon the surface; and even if the canceling-ink lies as usual upon the surface, it cannot be removed by any ordinary means, because water is employed with friction in all such means, and the moment water is applied on my stamp the front layer of paper, B, is softened, and becomes easily entirely or partially removed. It is impossible to remove the canceling-ink by washing and rubbing without either removing the face-paper B or so disturbing it that the fraud may be readily detected.

There have been attempts at fraudulently removing canceling-marks without friction. These consist mainly or entirely in the use of acids and other strong solvents for the canceling-inks. In case such are applied to my stamp, the penetration of the canceling-ink through the tissue-paper, which is certain to occur at some points, if not at all points, renders so long and thorough a soaking necessary that the front surface becomes disturbed and the stamp spoiled.

Stamps made entirely of blotting-paper cannot be used, because they become too soft in wetting the back to apply them, and, furthermore, because the gum or mucilage applied on the back to make them adhesive strikes through to the face. Furthermore, such paper cannot conveniently be printed and handled, because they are dampened in the printing and again in the gumming operations, and tissue-paper becomes extremely weak when damp or wet.

My compound stamp overcomes the difficulty and gives a soft face, with a hard impermeable back. The very thin layer of paste between has no particularly deleterious effect, and serves a useful purpose, beyond that heretofore noted, in preventing the gum (which is liable to permeate even the hard sized paper employed) from reaching the face. I will repeat this idea. It is found that, in printing ordinary stamps, certain colors used on the

face are injuriously affected by the small quantity of gum or mucilage which strikes through from the back. I have found in my experiments that the paper made up of two thicknesses pasted together, as I have above described, is less subject to this evil—a fact which I ascribe to the thin stratum of flour-paste interposed.

I prefer to make the back paper about three-fourths the thickness of the whole, and to make the stratum of paste as thin as is found sufficient to insure coherence.

When the stamp is unskillfully wetted, both on the front and on the rear, in order to affix it to a letter or other paper, the penetration of the moisture at the face produces no serious evil in the absence of friction. My stamps may be used, in all respects, in the ordinary manner. I find that the paste is sufficiently insoluble to prevent the parts separating under any ordinary circumstances. The gum at the back dissolves, and the stamp is fixed in the ordinary manner, and the stamp may be ultimately removed by soaking in the ordinary manner; but when any process, either with or without friction, is applied to remove the canceling-marks, the advantages of my invention become apparent.

Fugitive inks, relied on in some cases to prevent counterfeiting, may be used with my invention as an additional security, if preferred; so may also the embossing and partial breaking of the paper, set forth in a former patent issued to me.

Various other modifications may be used in connection with my improvement, if preferred; but I do not believe any such generally necessary.

My invention differs radically from the fugitive-ink system, because the fugitive inks adhere necessarily with little tenacity to the paper when dry, and smear when wet, thus becoming liable to grow pale from frequent handlings in a dry state and to be spoiled in being slowly or unskillfully applied to letters. Even storing in damp places or sea-voyages are liable to spoil stamps made with fugitive inks. My stamps are free from all these evils. My stamps may be soaked apart when they are accidentally stuck together from perspiration or other cause—an operation which completely ruins the fugitive-ink stamps.

Stamps have been proposed with the ink laid upon a very soluble sizing or glazing on the face, with the view to insure the ruin of the stamp in removing the canceling-marks.

These are subject, in a great degree, to the evils above enumerated as involved in the fugitive inks, which my stamps completely avoid.

I believe it possible to produce my paper in the paper-mill with the face of tissue and the back of well-sized material. Stamps printed on such paper would afford a portion of the advantages of my invention; but I prefer the paper separately made up and fixed together by a thin layer of paste or analogous adhesive material, which is nearly impermeable and insoluble. I believe it practicable to secure the parts together by very thin rubber cement. I do not confine myself to the use of flour-paste for the middle layer, C.

I have found by experiment that, in canceling my stamps with common ink applied by a pen, the front layer frequently becomes so much softened during the very brief interval employed in making the two or more cross-marks that the face-surface commences to tear and move along with the point of the pen in making the final strokes. Such an effect still further insures the complete cancelation of the stamp, and is another advantage due to my invention. I can also interpose, by my invention, another obstacle to prevent frauds, by using a different color for the face of the paper from that employed for the back. Such a use of colors facilitates the employment of fugitive-colored paper to detect the presence of acids in removing canceling-marks, and also renders more distinctly visible the slightest removal of the facing-paper.

Having now fully described my invention, with what I believe to be the best mode of putting it in practice, and enumerated some of the advantages accruing therefrom, what I claim as new in postage-stamps and other stamps of analogous character is as follows:

1. In postage-stamps, printing the device on the face of an absorbent and weak material, with a backing of harder and less absorbent material to receive the gum, so as to make the absorbent-faced stamp practicable, all substantially in the manner, and for the purposes herein set forth.

2. A postage-stamp having a face of absorbent material, a back of less absorbent material, and an intermediate layer more impermeable than either, all as and for the purposes herein set forth.

CHAS. F. STEEL.

Witnesses:

THOMAS D. STETSON,
C. C. LIVINGS.

Grainford 1125 (14)

91102

19.



A. C. Fletcher,
Postage Stamp.
No. 91,108. *Patented June 8. 1869.*



Witnesses:
J. W. Coombs.
Arthur Kinney

Inventor
Adison C. Fletcher

United States Patent Office.

ADDISON C. FLETCHER, OF NEW YORK, N. Y.

IMPROVEMENT IN POSTAGE-STAMPS, &c.

Specification forming part of Letters Patent No. 91,108, dated June 8, 1869.

To all whom it may concern :

Be it known that I, ADDISON C. FLETCHER, of the city, county, and State of New York, have invented a new and useful Improvement in Stamps, applicable to internal-revenue and other purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figures 1 and 2 represent face views and longitudinal sections of an internal-revenue stamp made in accordance with my improvement, according to two modifications thereof.

Similar letters of reference indicate corresponding parts.

My invention consists in providing the stamp with a flap or flaps covering a portion of its face, and arranging the vignette, design, or printed matter on said stamp to extend over the flap or flaps and remaining or uncovered portion of said face or body of the stamp.

By this application of my invention as applied to an adhesive stamp, whether for internal-revenue or other purposes, said stamp may be canceled by tearing off the flap or flaps, which, if necessary, may be preserved as evidence of the cancellation; or, where not required to be preserved, the flap or flaps may either be torn off and thrown away, or be so mutilated by the act of canceling, as heretofore practiced on postage-stamps, (which, and other adhesive stamps, my invention is equally applicable to,) as that it will be impossible to use the same stamp over again without detection of the fraud.

Referring to the drawing, *a* is the main body of an internal-revenue stamp, of the paper ordinarily used, having mucilage or other adhesive matter on its back, and having secured to its face, for a portion of its length or area, an outer piece of tissue or other thin paper or flap, *b*, which is loose from the main body, excepting where joined to it, as at *c*, and which has impressed on it a continuation of the vignette or design that is seen in part on the remainder or uncovered portion of the main body.

A stamp thus constructed may be canceled by simply tearing off the flap *b*, which may be separately preserved as evidence of the cancellation; or, in case of a postage-stamp, for instance, it may be so mutilated by the ordinary method of cancellation as to make the use of the stamp again, without detection of the fraud, impossible.

The flap *b* being made of thin or bibulous paper, the portion of the design upon it is protected from being effaced by chemical agents, in consequence of the fragile or peculiar nature of such paper, while the body *a* may be made of comparatively stout paper; or, especially where it is desired to preserve separate evidence of the cancellation, the flap *b*, which is the portion torn off in canceling, may be made of stout paper, and the main body *a* of thin or bibulous paper.

In Fig. 2 of the drawing the same principle of construction is shown, but the body *a* represented as having duplicate flaps *b b* on the face of the stamp, which in some cases may be preferred to one.

What is here claimed, and desired to be secured by Letters Patent, is—

A postage or revenue stamp having a portion of its surface composed of thin or fragile paper or other suitable material, loosely attached, and on which a portion of the design or other matter is printed, substantially as and for the purpose or purposes set forth.

Witnesses :

J. W. COOMBS,
ARTHUR KINNIER.

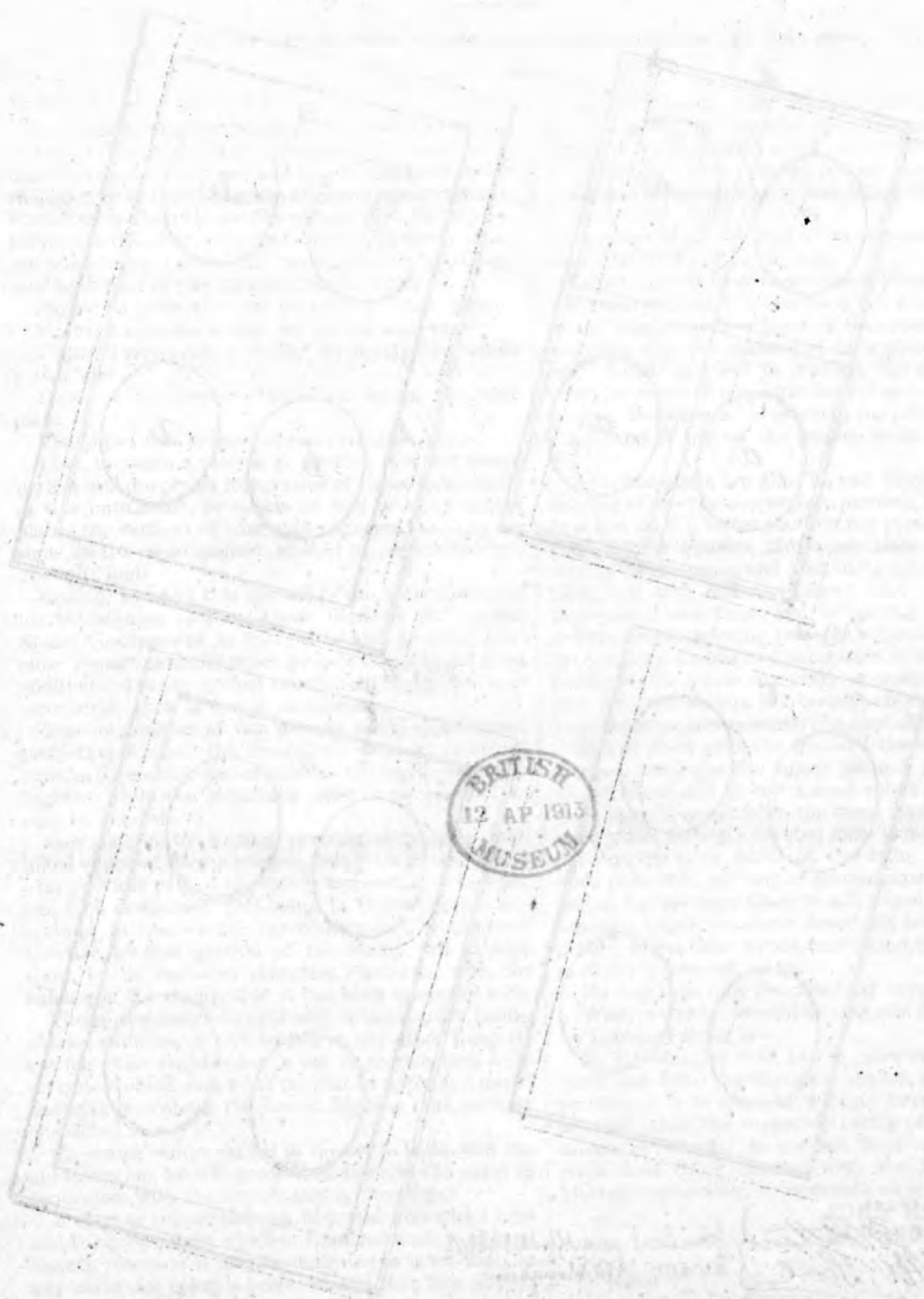
ADDISON C. FLETCHER.

Brawford 1185(15)

92593
20.

United States National

Geological Survey, Philadelphia, Penn.



Earle & Steele,
Revenue Stamp.

No. 92593.

Patented July 13, 1869.

Fig. 1.

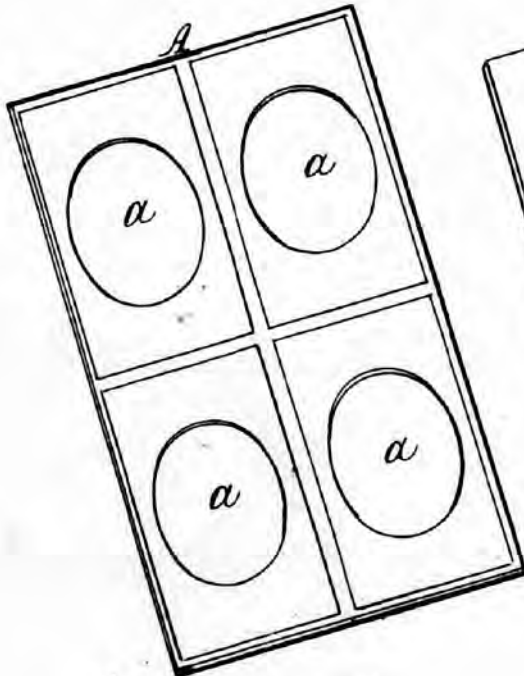


Fig. 2.

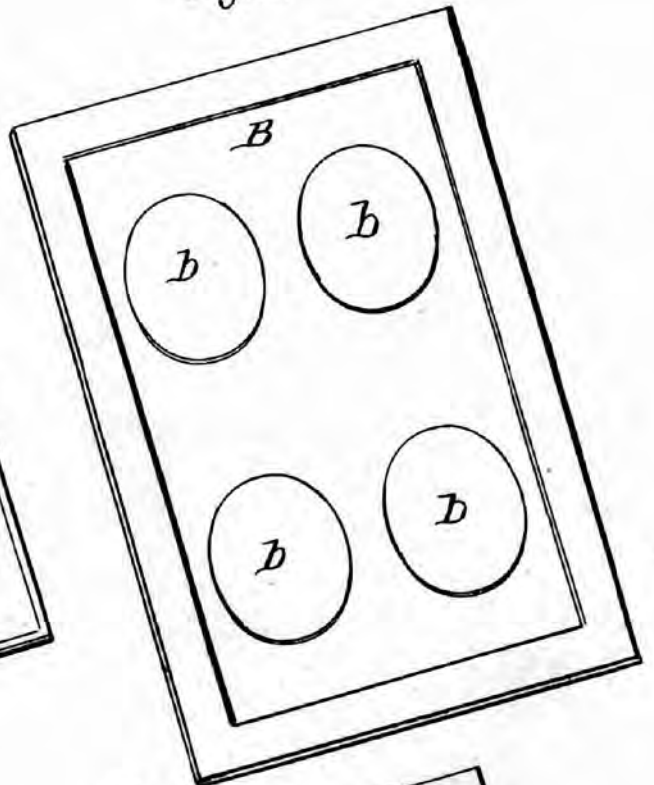


Fig. 3.

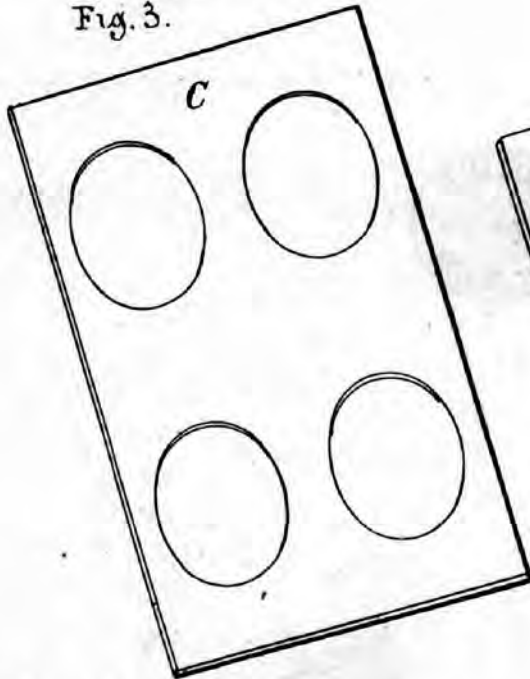
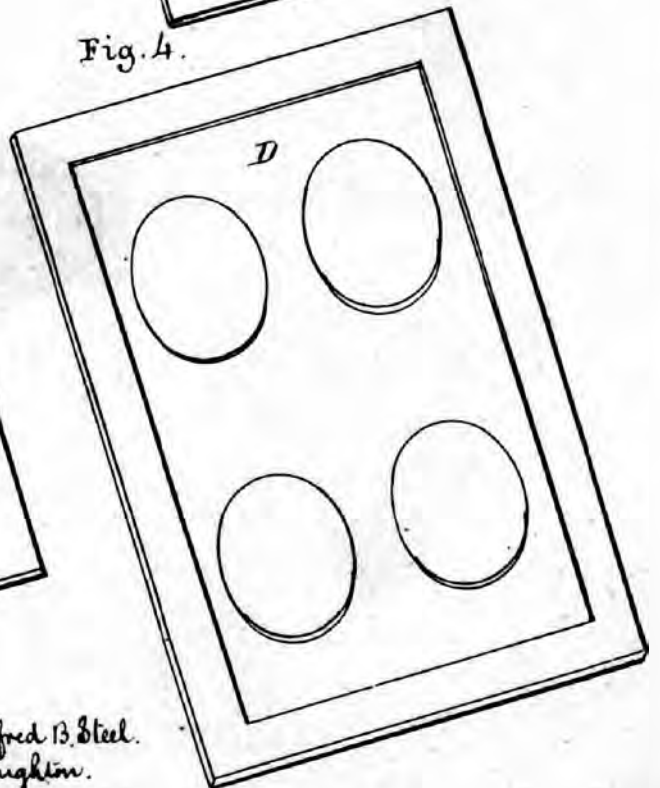


Fig. 4.



Witnesses.
Jas. A. Patten
E. W. Pool } John Earl and Alfred B. Steel.
By atty A. B. Sloughton.

United States Patent Office.

JOHN EARLE AND ALFRED B. STEEL, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 92,593, dated July 13, 1869.

IMPROVEMENT IN PRINTING REVENUE-STAMPS, &c., IN TWO OR MORE COLORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, JOHN EARLE and ALFRED B. STEEL, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in the Manner of Producing Revenue-Stamps, Printed in Two or more Colors at one Operation; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents what we term a female plate;

Figure 2 represents what we term a male plate;

Figure 3 represents a "form" for inking the female plate; and

Figure 4 represents a "form" for inking the male plate.

The object and purpose of our invention, are—

First, to attain a process of printing that will secure perfect and unvarying registration of two or more colors at one impression, by means of two or more united plates, the surfaces of which are engraved with any designs, in the usual manner of steel or copperplate engraving; and

Second, to apply this process to the manufacture of printed stamps, such as those used by the United States Government in the Postal and Internal Revenue Departments, by which process they receive great additional security against counterfeiting, by such uniform registration of two or more colors.

The application of our process would afford great protection against the fraudulent reuse of cancelled stamps, by making one or more of the registered colors fugitive, while the remaining color or colors shall, or may be indelible.

Cancellation, by writing, printing, or cutting with inked edges of stamp-presses, being made obligatory over a certain part of the stamp-top, centre, or bottom, and such designated part being in fugitive color, any attempt to remove the cancellation will be rendered abortive, as that portion of the stamp will at once show, by its impaired character, compared with the balance of the stamp, that it has been tampered with.

The process is equally applicable to bank-notes, bonds, checks, coupons, or certificates, or any other thing requiring exact registration in two or more colors, as to revenue-stamps, and we so propose to apply and use it, and with or without the use of fugitive inks, as may be desired.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same in connection with the accompanying drawings.

A steel or copper plate, A, of proper superficial area and thickness, upon which is engraved such work, and in such places as it may be desirable to print from in any particular color, is prepared, and then this plate is cut entirely through where the blanks are intended to be, as at *a a*, &c., and which space will be occupied by

the second or male plate. Pieces of steel or copper are next prepared, and engraved upon, and made to fit precisely the open spaces *a a*, both in superficial area and in thickness. These pieces, *b b*, are then fixed accurately and immovably on a back plate, which we style the male plate B.

The color of the ink used on these pieces *b* may differ from that used on the plate A.

To print neatly from these plates, "forms" of metal, or other substance, O D, are used, and so made as to fill up the blank spaces or places of their respective plates, and even with the surfaces of their plates; and when said "forms" are laid in position, the plates may be inked in, respectively, with the colors intended to be printed, the "forms" preventing the printer from leaving a mass of ink on the perpendicular sides of each plate.

After the plates are filled in, and wiped, in the usual manner of steel or copperplate printing, the male plate B is laid on the bed or plank of the press. Upon this plate is then adjusted the female plate A, one fitting exactly in the other, and presenting a surface as of one plate, but with different-colored inks. The paper is then placed over them, and, on pulling it through the ordinary roller-printing press, or subjecting it to vertical pressure, a registered impression, of undeviating accuracy of the whole engraving or design, or series of engravings or designs, is invariably obtained; and every impression must necessarily be a duplicate of its fellows.

Should three colors be required, the same process is applied, leaving in the female plate A the blanks for the third, as well as the second colors; and a second male plate is prepared in the same manner as the first male plate, B, while the first male plate, B, has blanks cut through it, to admit of the fitting of the second male plate with the first or female plate A. The three plates, having been inked in and wiped on their three separate forms, as above described, are adjusted together, and printed by one impression, producing three perfectly-registered colors.

Having thus fully described our invention,

What we claim therein as new, and desire to secure by Letters Patent, is—

In combination with two or more engraved plates, made and fitted together as described, and from which printing is to be done, by a single impression, in two or more colors, the separately inking of said plates by means of "forms," to prevent their vertical sides or walls from being covered with the ink, or causing blurred impressions, substantially as set forth.

JOHN EARLE.

ALFRED B. STEEL.

Witnesses:

WM. J. DELLEKER,

ALONZO P. RUTHERFORD.

STANDARDIZATION OF THE UNITED STATES

DEPARTMENT OF COMMERCE, BUREAU OF STANDARDS

STANDARDIZATION OF THE UNITED STATES

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United States Patent Office.

CHARLES L. COOMBS, OF WASHINGTON, DISTRICT OF COLUMBIA

Letters Patent No. 94,079, dated August 24, 1869.

IMPROVED COMPOSITION FOR GUMMING POSTAGE AND REVENUE-STAMPS.

Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES L. COOMBS, of the city of Washington, in the District of Columbia, have invented a new and useful Improvement in Composition for Gumming Postage and Revenue-Stamps, and Envelopes; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in applying to the backs of stamps, or to the flaps of envelopes, a mucilage, consisting of tannin and gelatine, either alone or in combination with albumen.

This compound may be formed in various ways, not differing essentially, however, in principle.

I take a solution of gelatine in hot water, and add to it, drop by drop, or slowly, a solution of tannin, until nearly all the gelatine is precipitated.

I then heat the mass to about 212° Fahrenheit, and stir until the precipitate is dissolved.

The mucilage may also be prepared by adding to a warm solution of gelatine, a solution of tannin in excess, until all the gelatine is precipitated. This precipitate is washed, and sufficient gelatine added to dissolve it by the aid of heat.

The compound may be applied to the stamp or other article, while warm, with a brush, or in any other manner desirable.

Upon drying, it assumes the appearance of the ordinary gumming, and when moistened and attached to

any material, cannot be removed without destroying the stamp, by the action of any of the solvents, such as water, alcohol, &c.

I have found it advantageous to combine albumen, in many cases, with the above composition. To effect this, I allow the composition to cool to between 120° and 130° Fahrenheit, and add the albumen in solution, in various proportions to suit the requirements of the case.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The method or process of forming mucilage for stamps, envelopes, and similar articles, by compounding tannin and gelatine, with or without albumen, in the manner substantially as herein described.

2. Also, as a new manufacture for coating stamps, envelopes, and similar articles, a mucilage formed by compounding gelatine and tannin, with or without albumen, substantially in the manner herein described.

3. Also, as a new article of manufacture, stamps, envelopes, and similar articles, coated with a mucilage formed by compounding tannin and gelatine, with or without albumen, substantially as herein described.

CHAS. L. COOMBS.

Witnesses:

JOS. L. COOMBS,
WM. KESLEY.

General State of Affairs

THE STATE OF THE UNION

IN THE YEAR 1862

AS REPORTED BY THE SECRETARY OF THE WAR DEPARTMENT

IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE

ON THE 15TH OF FEBRUARY, 1862

AND BY THE HOUSE OF REPRESENTATIVES

ON THE 15TH OF FEBRUARY, 1862

AND BY THE HOUSE OF REPRESENTATIVES

ON THE 15TH OF FEBRUARY, 1862

AND BY THE HOUSE OF REPRESENTATIVES

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AND BY THE HOUSE OF REPRESENTATIVES

ON THE 15TH OF FEBRUARY, 1862

AND BY THE HOUSE OF REPRESENTATIVES

ON THE 15TH OF FEBRUARY, 1862

United States Patent Office.

WILLIAM THORPE, OF ST. LOUIS, MISSOURI.

Letters Patent No. 95,624, dated October 5, 1869.

IMPROVED MODE OF APPLYING INKS OF DIFFERENT CHARACTERS, SO AS TO PRINT SAFETY, REVENUE, AND OTHER STAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM THORPE, of the city of St. Louis, in the county of St. Louis, and State of Missouri, have invented certain new and useful Improvements in the Manufacture of Stamps for the Use of the Internal-Revenue Bureau, the Post-Office Department, or any department, office, or person, so as to prevent their reuse, and to prevent as much as possible the counterfeiting of the same.

The nature of my invention consists in the printing each of such stamps with two kinds of ink of different colors, and so different in their chemical composition that a solution of any acid will destroy the one, while the other will be likewise destroyed by the action of a solution of any alkali, the object being to prevent the removal of the cancellation-marks from such stamps after they have been once used and cancelled.

And further, in so disposing the ink of the ground color, and that with which the letters, figures, and vignettes or other devices are printed, as to render it impossible for the marks of cancellation to touch one kind of ink without touching the other, and at the same time to render it extremely difficult, if not impossible, to counterfeit such stamps.

To enable others skilled in the art to use my invention, I will proceed to describe the same.

I claim no novelty as to size, form, vignette, or mechanical means of imprinting the colors or devices upon the stamps.

One of my inks, which I will call the green ink, I make of about fifteen parts of verdigris, two parts of ultramarine, one-half part of chrome-yellow, with boiled linseed-oil and flake-white in sufficient quantities to give it proper consistence or body.

The other, which may be called the red ink, is composed of about fifteen parts of litmus-red and one part of carmine-lake, together with boiled linseed-oil and flake-white in quantities sufficient to give the ink proper consistence or body.

These colors may be varied, as may be desired, but there should always be a decided contrast between the two inks used in printing a stamp, as to color, and one of them should be as sensitive as possible to the action of the acids, while the other should be sensitive, and as much so as possible, to the action of the alkalis.

The ink which is sensitive to the action of the acids should be so in a greater degree, if practicable, than ordinary writing-ink, so that when cancellation-marks made with writing-ink are removed by the use of an acid, such ink-color will certainly be removed at the same time; and, on the other hand, the ink which is sensitive to the action of the alkalis should be more

sensitive to their action than printers' ink, so that when the stamp has been cancelled with printers' or other similar ink, and such ink has been removed by the use of an alkali, some part of the ink of the stamp will certainly be removed at the same time, and thus the stamp will inevitably and effectually be destroyed.

Reference here is had to the two modes prescribed by law for the cancellation of revenue and postage-stamps; one by the use of a pen and writing-ink, the other by the hand or other stamp and printers' ink.

The letters, figures, and vignette, and other devices, should be printed upon and after the ground color has been imprinted, and they should be so disposed and arranged upon the ground color of the stamp as to leave no large spaces not covered by them, so that the ink from the cancelling-instrument will invariably touch and cover over some portion of inks of the stamp.

The difficulty of extracting the ink used in cancelling might be much increased by the use of paper for the stamp which has been only partially sized, so that the ink used in cancelling would penetrate it more deeply. This means might increase the security of effectual cancellation.

I have thus far mainly devoted my attention to describing in what manner, by my invention, the destruction of the marks of cancellation and the reuse of the stamp may be prevented. But another principal object of my invention is to prevent the counterfeiting of stamps.

Four different modes of counterfeiting stamps have been resorted to with more or less success:

First, by the transfer-process, which consists in softening, by a solution of alkali, the ink upon the stamp, from which an impression is then transferred to a steel plate. The form of the stamp is then engraved upon the plate, after which any number of stamps may be printed from it with great accuracy.

Second, by lithography, which is similar to the above, stones being used instead of steel plates.

Third, by photography.

Fourth, by tracing, which is an old and well-known method, and consists in tracing out the lines of the stamp upon a plate first, and then engraving the same, after which the stamp is printed.

Now, for instance, the first or ground color will be assumed to be the one most sensitive to the action of the acids, and the engravings upon it to have been made of lathe-work with a suitable design. Then the other color should be the one most sensitive to the action of alkalis, and the engravings upon it should consist of a vignette, letters, figures, with any other desired devices, and a border for the stamp. Then, when an attempt is made to transfer the stamp, the ink

which is most sensitive to the alkalies will be destroyed, and pass off into the solution used before the other becomes sufficiently softened to be transferred, and thus the attempt will be defeated.

The use of two different colors in printing the stamps, and they imprinted at different times and by two distinct operations, one over and upon the other, would necessarily result in such a commingling of tints and colors as to render counterfeiting by means of photography utterly impracticable.

The use of lathe-work, &c., will render the counterfeiting by tracing an impossibility, for no hand, however skilled and steady, could follow the innumerable lines, curves, and angles of the lathe-work.

The fact of the colors being printed over and through each other will greatly increase the difficulty of counterfeiting by any means whatever.

As further means of preventing counterfeiting, the stamps should be engraved and printed in the best and most finished manner. The lathe-work should be open, so as not to blur, and a vignette should be used, as it has been found, by experience, to greatly increase the difficulty of counterfeiting. The letters and figures should be as light and open as possible, so that the tint of the lathe-work beneath them may be plainly seen. There should be no heavy work on the stamp, unless it be in the margin or border.

In the use of my invention, I do not restrict myself to the two inks described, but will use any two inks now in use, or that hereafter may be made, having the properties and qualities requisite to produce, in combination with each other, the results described in the manner set forth. Nor do I restrict myself to any of the known mechanical means of communicating the inks and colors to the paper, and I use herein the terms "printing" and "engraving" interchangeably, to signify impressing the colors or inks upon the stamp.

What I claim as new, and desire to secure by Letters Patent, is—

1. In the printing of stamps for internal-revenue,

postal, and other purposes, the combination of the two inks described, or of any other two inks, of whatever ingredients and proportions thereof composed, provided that one of the inks shall have a sufficient affinity for the acids, while the other shall have a like affinity for the alkalies, and the two shall produce substantially the results described, substantially in the manner described.

2. The using of any two inks of decidedly different colors and of materially different chemical affinities, one for the acids and the other for the alkalies, so that while one of them will be destroyed by the action of the acids, the other will be destroyed by the action of the alkalies, and the imprinting the ground color upon the stamp with one ink, and by another operation imprinting the letters, vignette, or other devices with the other ink over and upon the first impression, so as to commingle the tints and colors of the two upon the face of the stamp, for the purpose of preventing the removal of the ink used in cancelling, without also destroying at least one of the inks used in printing the stamp, and as a means of increasing the difficulties of counterfeiting the same, when used and done substantially in the manner described.

3. In combination with the described mode of inking or coloring the paper of the stamp, paper sized with any material which is delicately sensitive to the action of chemical solvents, so that an attempt to remove the ink used in cancelling, by the use of either an acid or an alkali, will result in the destruction of the sizing, as well as one of the inks of the engraving, substantially as set forth.

4. The described stamp for internal-revenue, postal, and other purposes, made substantially as described and set forth, as a new article of manufacture.

WM. THORPE.

Witnesses:

A. M. STOUT,
S. A. PEUGH.

United States Patent Office.

THOMAS ANTISELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 95,626, dated October 5, 1869.

IMPROVEMENT IN INKS FOR PRINTING REVENUE, POSTAGE AND OTHER STAMPS, SO AS TO SECURE GREATER SAFETY AND PREVENT FRAUDS.

The Schedule referred to in these Letters Patent and making part of the same.

I, THOMAS ANTISELL, of the city of Washington, and District of Columbia, have invented certain Improvements in the Manufacture of Printing-Inks, of which the following is a specification.

These inks belong to the class of safety-inks which is not fugitive under mere solar or atmospheric influences, and is not durable or capable of resisting the action of the chemical reagents used in such cases.

Such inks are adapted for the uses of postage and revenue-stamps, bank-checks, notes, and drafts; and it is for the purpose of rendering such more sensitive, and to facilitate the detection of fraud, by the removal of the cancel-marks, or otherwise, that this improvement is designed; and the nature of my invention has relation to the use of inks in such documents—

First, by the use of an ink suitable for the ground or basic color of the stamp, or other document, which ink is so easily decomposed, and its visible qualities so distinctly and immediately altered, that it cannot be restored again, either to its original shade of color, or to its chemical constitution, when the effort to remove the cancelling-marks has been attempted.

Second, in the use of certain fugitive inks of a vegetable nature, when such inks are used either alone or in combination with the above-described basis ink.

To form the basis ink, only a few metallic salts seem adapted. They must be readily decomposed by an alkaline carbonate, with sufficient change of color to mark the decomposition. The salts of copper are of this class, and the acetate of copper, or verdigris, may be used, by mixing it with other materials, to give it substance and body, such as white lead, zinc-white, or flake-white. Care should be taken that these substances are colorless, or so little tinted as not to interfere with the color of the copper-salt; or the verdigris may be mixed with any pigment of a light tint, so as to vary the shade without marring the sensitiveness of the acetate to the action of alkalies and acids, when these latter are used for fraudulent purposes. Chrome-yellow may be thus used to brighten the tint of the verdigris without diminishing its sensitiveness.

An ink made of these two salts, as follows, verdigris, fifteen parts, chrome-yellow, one part, well blended together, and flake-white, or other suitable material, added to give body, and the whole rubbed up with boiled oil, forms a very sensitive ink. When an alkali, as sodic carbonate, is applied to it, the copper-salt is decomposed, and the tint changes at the point acted on. If an acid be now used to neutralize the alkaline action, the other element of the ink, the chrome-yellow, is now acted upon, and the ink is thus so irretrievably injured, that the stamp or document so tampered with is rendered worthless.

Ultramarine may enter into such inks, and be used as a substitute for chrome-yellow, but cannot replace the copper-salt.

Salts of nickel or cobalt may be used as the copper-salt for making such inks, but I prefer the use of verdigris.

Another ink which I have found to answer, is made of carbonate or acetate of copper, sixteen parts, extract of logwood, one part, ultramarine, one part, flake-white sufficient for body. These may be mixed with oil in the usual way, and ink thus formed is very sensitive to alkalies and acids. The proportions of the substances used may be varied from the foregoing, without altering the nature of the invention.

The majority of stamps, whether revenue or postage, are printed in only one color, and similarly of bank-documents; but two, or even three sensitive inks of different tints may be employed with advantage.

Those used for lettering, or vignettes, need to be very sensitive, and, for such, vegetable colors may form the basis. Litmus and logwood may be used, by treating these with a small quantity of acid, either vegetable or mineral, so as to change their colors to a bright red; then, mixing such substance with flake-white, or other suitable substance, and boiled oil, an ink is produced which is highly sensitive to alkalies. A brighter tint may be given by the addition of carmine, vermilion, or other mineral red, but this is no essential part of the invention.

The proportions of these ingredients may vary within some range, but I find the following proportions to answer the purpose, viz, reddened litmus, fifteen parts, carmine, one part, flake-white sufficient for body. These to be mixed up with boiled oil, or other suitable menstruum for plate-printing.

Other shades of colored ink may be made by varying the vegetable substance, as by the use of Brazil wood, dragon's blood, or indigo combined with a deoxidizing-substance. I do not, therefore, limit myself to the use of litmus alone or logwood alone.

Having thus described my invention,

What I claim as my improvement, and desire to secure by Letters Patent, is—

1. An ink, composed as described, having for its basis a salt of copper, or other metal acting similarly, as set forth.

2. An ink, having for its basis a sensitive vegetable color, acting in the manner and for the purposes set forth.

3. The combination of a vegetable-color ink, as described, with the metallic ink, set forth, on the same print by successive application.

Witnesses: THOMAS ANTISELL.

EDM. F. BROWN,
WM. H. MCCABE.

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United States Patent Office.

SAMUEL LENHER AND HALLAM H. SPENCER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 97,528, dated December 7, 1869.

IMPROVED MODE OF PREPARING PAPER FOR PRINTING POSTAGE AND REVENUE-STAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, SAMUEL LENHER and HALLAM H. SPENCER, both of the city and county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Preparing Paper for Printing Revenue and Postage-Stamps; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains, to make and use our invention.

The object of our said invention is to prevent the restoration of cancelled stamps. This we accomplish by coating the paper, previously to printing, with a sizing, of which the essential ingredients are an earthy substance, which is insoluble in water, and easily decomposed by acids, and a glutinous substance, which serves to affix it to the paper.

We compound this preparation of one pound of carbonate of lime, carbonate of baryta, carbonate of magnesia, or other earth which is insoluble in water, and easily decomposed by acids, carbonic-acid gas being readily eliminated, to which earthy "body," we add an ounce and a half of glue, two ounces of gum-arabic, dextrine, or other gum, which is readily soluble in water, and one quart of water.

We do not confine ourselves to the precise proportions given, as they may be slightly varied without substantially affecting the nature of the composition; but we state those proportions which we have found to be most advantageous in practice. We would also state that the gumming-ingredient may be dispensed with, as it is not essential either to the adhesiveness of the size, nor to its ready disintegration, but we prefer to use it, as it renders the sizing more soluble.

To compound the ingredients above named, we dissolve the glue or gum and glue in the water, which we heat until either or both are dissolved, and then stir in the earthy "body" till it is thoroughly mixed.

When the mixture is perfectly smooth and of uniform consistency, we apply it to the paper in any convenient way, laying it on with a brush, or by means of the machinery commonly employed for coating wall-paper. When the paper thus prepared has been slightly dampened, it is ready for printing.

The stamp having been cancelled, whether with printers' ink, writing-fluid, or any other ink, should it be attempted to obliterate the mark of cancellation by means of an acid, the chemical action of the acid on the earthy body, eliminating the carbonic-acid gas, will decompose the size, and consequently efface the print.

If the attempt be made with other substances, such as water or alkalies, the glutinous and gummy ingredients will be dissolved, not only by chemical action, but also by the mechanical action necessary to efface the mark, so that, in any event, the mark of cancellation cannot be removed without disintegrating the size and thereby defacing the print.

We do not claim printing a stamp on sizing interposed between the printing-ink and the paper, as we are aware that that is a well-known process; but

What we do claim as our invention, and desire to secure by Letters Patent of the United States, is—

1. The preparation, compounded of the ingredients specified, and for the purpose set forth.

2. A preparation for printing postage or revenue-stamps upon, and from which the mark of cancellation cannot be effaced, without disintegrating such preparation, either by chemical action alone, or by chemical and mechanical action combined, substantially in the manner described.

SAMUEL LENHER.
H. H. SPENCER.

Witnesses:

GEORGE E. BUCKLEY,
WILLIAM J. BURNS.

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UNITED STATES PATENT OFFICE.

SPENCER M. CLARK, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
TO ADOLPHUS S. SOLOMONS, OF SAME PLACE.

SELF-CANCELING POSTAL AND REVENUE STAMP.

Specification forming part of Letters Patent No. 98,031, dated December 21, 1869; antedated June 21, 1869.

To all whom it may concern:

Be it known that I, SPENCER M. CLARK, of Washington city, in the District of Columbia, have invented a new and useful Self-Canceling Postal and Revenue Stamp, of which the following is a specification:

The nature of my invention consists in the production of a postal or revenue stamp, composed of two layers, one of which is perforated, the two being united and printed on the perforated side and gummed on the imperforate, so that when the stamp thus made is affixed to paper or other material the two layers shall separate, or the imperforate layer break in the part thereof uncovered by the perforate layer in any attempt at removing the stamp from the surface to which it is attached.

In manufacturing my improved stamps I first punch one or more holes in the sheet of paper which shall constitute the outer layer of the stamp. I then cover this perforated paper with a second imperforate sheet, and unite the two by means of a suitable adhesive gum or cement in the usual manner. The sheet thus prepared is then ready to receive

the proper design, which is imprinted upon the perforated side thereof in such manner as to extend over and include therein some portion of the inner or imperforate layer disclosed by the perforations in the outer layer.

When the stamp has been duly printed the imperforate layer or under side thereof is coated with gum in the ordinary manner, so that it may be made to adhere to any desired surface.

A number of subjects may be imprinted as usual upon one large sheet prepared for the purpose, as herein set forth, and the finished stamps be afterward separated in the customary manner.

I claim as my invention—

A postal or revenue stamp composed of two layers, one of which is perforated, the two being united and printed on the perforate side, and gummed on the imperforate side, substantially in the manner and for the purpose herein set forth.

S. M. CLARK.

In presence of—

DAVID A. BURE,
A. A. BROOKE.

United States Patent Office.

GEORGE T. JONES, OF CINCINNATI, OHIO.

Letters Patent No. 101,020, dated March 22, 1870.

IMPROVEMENT IN THE MANUFACTURE OF REVENUE AND OTHER STAMPS.

The Schedule referred to in these Letters Patent and making part of the same

I, GEORGE T. JONES, of the city of Cincinnati, in the State of Ohio, bank-note engraver, have invented certain new and useful Improvements in the Manufacture of Internal-Revenue, Postage, and other Stamps, which improvements are described as follows:

Nature and Objects of the Invention.

My improvements relate to the manufacture of engraved and printed stamps of the kinds demanded by the United States Internal Revenue, and the United States Post-Office Department, and all analogous stamps whatsoever, whether for governmental or private need, upon which marks or checks made by the pen with writing-inks, or with printing-ink applied by mechanical means, or with other coloring-matter applied by any suitable means, are prescribed or required by law, or employed in practice, as evidence of their cancellation.

The first object of my improvements is to prevent the fraudulent reuse or subsequent issue of any such stamps after cancellation, by extracting or obliterating the ink or marks used to cancel them.

The second object of my improvements is to furnish an effective check against fraudulent imitations by the usual methods known and employed in counterfeiting.

General Description.

The most important principle of my invention consists in the printing of stamps from separate steel dies or surfaces engraved in relief (or from plates) with two or more kinds of ink of different colors, differing in their chemical nature or composition, whereby the use of an ink of one color, or of a class tested and known as sensitive to, and soluble under the action of alkaline agents, being used in direct relation to and combination with another colored ink, or inks, alike sensitive to the action of acids, the application of either an acid or alkaline agent to the stamps so printed for the purpose of extracting the commercial writing-inks generally used for cancellation, or of removing the oil-prepared printing-ink affixed by mechanical means for the same object, will so immediately and inevitably deface or remove one or more of the colored inks used upon the stamp, that its vitiated and changed condition is so unmistakably apparent as to render it utterly unfit for further use.

The respective devices printed upon the stamps with these different kinds of ink should be so disposed and combined that any cancellation-mark applied to the stamp will be certain to cross parts of both or all such devices, so that the defacement or destruction of the stamp will inevitably result from an attempt to remove the cancellation-mark from any part, by any agent.

A part or all of the printing of my improved stamps

may be performed upon paper before the same is sized, or when it is but partially sized, and one mode of carrying out the first part of my invention, hereinbefore set forth, consists in printing a portion of the devices or work of the stamp upon unsized or partially sized paper, then applying a size or coating of material readily soluble in alkalies, and afterwards printing upon this surface with an ink soluble in or sensitive to acids or printing with ink soluble in or sensitive to alkalies on a surface of a material readily soluble in acids, so that the use of either an acid or an alkaline agent to remove cancellation-marks from such a stamp will inevitably cause the destruction or defacement of the devices last printed thereon, by the removal of either the ink or the surface on which it is applied.

My invention also includes the introduction and use of inks of the most permanent kinds known, in combination with those inks already referred to as sensitive or soluble, by which means any portions of a stamp that are deemed essential to its specific identity can be so firmly imprinted and incorporated with the texture of the paper that removal cannot be effected without causing obvious and irreparable injury if not destruction of that fabric.

The foregoing indicates the main object and advantages of my invention in respect to prevention of the reuse of stamps. In this connection I would refer to the hindrance and difficulties presented by my process to some of the various modes and resources usual in counterfeiting as a direct and necessary result from my adaptation and use of the chemically-prepared colored inks, and by which several of the most important aids to fraudulent imitation, such as are inherent to the ordinary methods of engraving and printing stamps, and similar instruments, are essentially defeated and rendered worthless. The usual facilities for softening the single common ink and transferring the same for the purposes of the counterfeit plate are thwarted.

Similar obstacles likewise to imitation by the lithographic mode are also produced, while counterfeiting by the photographic process is rendered virtually impracticable and useless.

As further and effective means of preventing counterfeiting, the stamps proposed by my invention admit of the use of, and should have, the most perfect vignettes and elaborate devices that the skill of the best artists and mechanics can produce.

The new method of color printing from the separate adjustable steel surfaces, or dies, besides affording unusual scope and variety in the choice and use of colors, and insuring completeness in execution with entire uniformity and accuracy in production, will form a powerful additional warrant against any successful imitations.

In the practical use of my invention I do not purpose or propose any limitation as to the number of inks or colors that may be used upon any stamp, except that sufficient and proper inks shall always form such constituent parts as to demonstrate the action of my improvement for the prevention of reuse of such stamps by the removal of any marks of cancellation which have been put upon it. Nor do I restrict myself to any particular materials or ingredients in the manufacture of the inks.

For the purpose of illustration I subjoin recipes for two inks of different colors, which may be used with good effect in carrying out my invention.

For red ink, take of carmine, sixteen parts; magnesia, eight parts; copperas, two parts; ammonia, one part.

The above is delicately sensitive to and soluble in acids.

For purple ink, take of aniline blue, sixteen parts; drop lake, sixteen parts; magnesia, eight parts; pearl-ash, one part.

This ink is readily soluble in alkalies.

Claims.

The following is claimed as new:

1. A stamp for internal-revenue, postal, or other purposes, printed with two or more inks of different kinds, one of which is sensitive to or soluble under alkaline agents, and another of which is sensitive to or soluble under the action of acids, substantially as and for the purposes set forth.

2. The printing of stamps for internal-revenue, postal, or other purposes, with two or more inks of different colors, and one or more of them sensitive to or soluble in acids or alkalies, for the object stated.

3. The combination of one or more fugitive, sensitive, or readily soluble inks, with a more permanent or insoluble ink, substantially as set forth, in the printing of internal-revenue, postage, or other stamps.

4. The combination of any suitable ink or coloring-matter employed in printing internal-revenue, postage, or other stamps, with a surface for printing upon delicately sensitive to the action of chemical agents.

5. The stamp, made substantially as hereinbefore described, for internal-revenue, postal, or other purposes.

GEO. T. JONES.

Witnesses:

OCTAVIUS KNIGHT,
WM. H. BREERTON, Jr.

United States Patent Office.

JOHN P. SIMONDS, OF NEW YORK, N. Y.

Letters Patent No. 101,170, dated March 22, 1870.

IMPROVEMENT IN INKS FOR PRINTING STAMPS, DRAFTS, AND CHECKS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN P. SIMONDS, of the city, county, and State of New York, have invented certain new and useful Improvements in Inks for the prevention of alterations, erasures, or removals in bank notes, bills of exchange, certificates of stock or deposit, notes, bonds, checks, drafts, deeds, mortgages, wills, revenue or post-office stamps, and any and all other written or printed matter on paper, parchment, or other material that can be written or printed upon; and I hereby declare that the following is a full, clear, and exact description of the same.

This invention is more especially intended to prevent the erasure or removal, without detection, of the signatures, amounts, and other written portions, or the cancellations or other superscriptions from all such articles, documents, or matters as I have above enumerated; and the system which I adopt for this purpose, and upon which my invention is based, is the employment, for printing a tint in oil-colors on the faces of such articles, documents, or matters, of an ink, the color of which will be removed or changed by acids or other chemicals that may be employed for the removal of the written or other superscription.

The invention consists in an ink in which orchil is employed in combination with the ordinary composi-

tion or menstruum forming the basis of or used in inks for printing tints in oil-colors.

The proportions of the materials employed may be varied considerably without materially affecting the character of my invention, but I will here give the formula of an ink which I have used with great success, the proportions being all by weight:

Zinc white or Paris white, six (6) parts; magnesia, one (1) part; beeswax, one (1) part; printers' varnish, three (3) parts; spirits turpentine, one (1) part; orchil, two (2) parts.

These materials are ground together and thoroughly incorporated, and the ink produced is used in the same way as any other oil printing-ink.

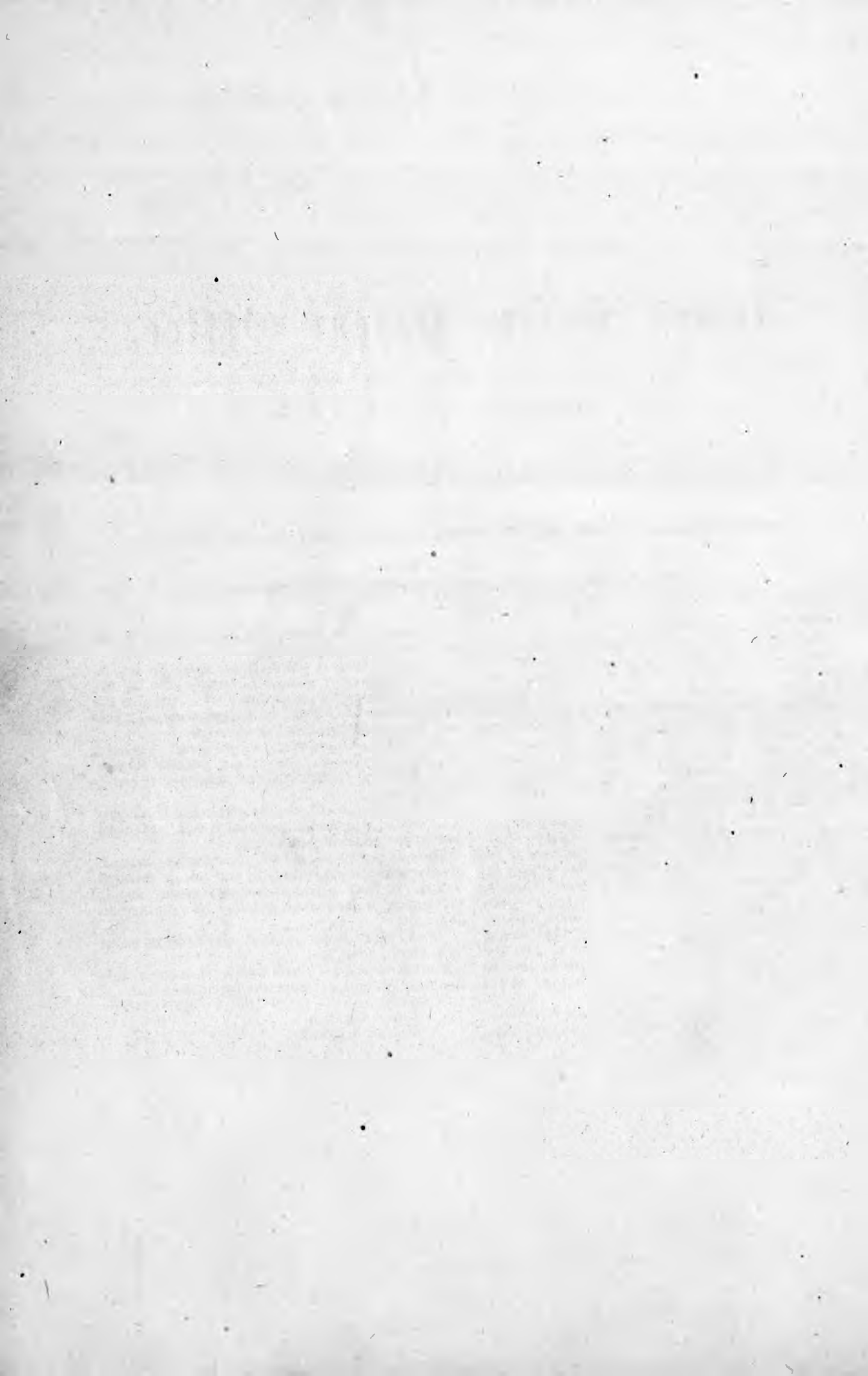
Tints or devices printed with this ink are changed in color or destroyed entirely by any acid or chemical that can be used to remove ordinary writing, and, in this respect, it differs from all other oil printing-inks now used.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of orchil with a printing-ink, substantially as and for the purpose herein described.

Witnesses: JOHN P. SIMONDS.

FRED. HAYNES,
HENRY PALMER.



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L. Abraham,

Revenue Stamp.

No. 102200.

Patented Apr. 26. 1870.

Fig 1



Fig 2



Fig 3



Witnesses
J. Pollok
Wm. H. Baker

Lewis Abraham
Inventor

United States Patent Office.

LEWIS ABRAHAM, OF NEW YORK, N. Y.

Letters Patent No. 102,200, dated April 26, 1870.

IMPROVEMENT IN REVENUE AND POSTAL STAMPS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, LEWIS ABRAHAM, of the city, county, and State of New York, have invented certain new and useful Improvements in Revenue and Postal Stamps, of which the following is a full, clear, and exact description, reference being had to the drawings that accompany this specification, making a part thereof.

The intention of my device is to provide a stamp that cannot be used but once, as it is so made that any attempt to take it off or disengage it from an instrument or package to which it has been once affixed will cause fracture or totally destroy it. This is effected by making the stamp of two or more layers, the lower one, by preference, of a weak and fragile nature. These layers are perforated with certain designs, so arranged that when they are laid one on top of another the varied perforations combined make up a given design, and, when required, the whole stamp, when combined, may be completely perforated.

By preference, the upper layer, for some purposes, should be somewhat transparent, so that any inscription or design placed inside may be visible.

It is evident that if any effort is made to remove a stamp of this description by steam, dampness, or any liquid, the combined layers will have a tendency to peel off and separate, and cannot be readjusted.

Referring to the drawings that accompany this specification—

Figure 1 represents the lower surface of a fifty-cent stamp, with four perforations representing rays of a sun.

Figure 2 represents the upper surface of the same stamp, with other perforations representing different rays of a sun.

Figure 3 represents the two layers joined, and the combined perforations complete the representation of a sun, which, it will be seen, is semi-perforated through divers parts of the whole stamp.

The inequalities formed by these perforations make the stamp adhere firmer than if the stamp had a smooth under surface, and the inequalities of the upper surface cause any cancellation-ink to penetrate into and between each layer, so that any attempt to expunge the same by moisture, acid, or other means will cause the laminæ to separate and fracture each angle and indentation made by the perforation and combination of the layers.

Any desired inscription or ornamentation can be placed either on the lower, upper, or between the layers, partially on each, if desirable, so that in conjunction they will make any required device or description, as is illustrated on the drawings by the words "U. S. Int. Rev., Fifty Cents," arranged in letters alternately on separate layers, and then combined, making the inscription.

I do not confine myself to any special design shape of either the stamp, its perforations, or the inscriptions; but,

Having now fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. An adhesive postal or revenue stamp composed of two or more layers of paper, perforated substantially as herein set forth and for the purposes described.

2. An adhesive stamp composed of two or more sheets of paper, both or all of which are so perforated that when united, such perforations shall constitute given designs.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

LEWIS ABRAHAM.

Witnesses:

A. POLLOK,
WM. H. MCCABE.

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United States Patent Office.

GEORGE W. CASILEAR, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 104,554, dated June 21, 1870.

IMPROVEMENT IN PRINTING-INK.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE W. CASILEAR, of Washington, District of Columbia, have invented an Improvement in Printing-Inks, of which the following is a full, clear, and exact description, sufficient to enable persons skilled in the art to make and use the same.

The object of my invention is to produce an ink for printing alone or in conjunction with embossing from steel plates and other printing media, or by surface-printing from the white line of geometrical lathe or cycloidal work upon ordinary printed checks, stamps, or other securities, using for that purpose a highly sensitive ink, to prevent washing, alteration, or photographing; and

The nature of my invention consists in incorporating with the ordinary coloring materials or pigments employed in manufacturing inks, a vehicle, which, while it prevents the inks from drying in an insoluble or permanent form, as is the case with the ordinary printing-inks used for surface and plate-printing, yet, at the same time, will permit it to dry so far as to lose all gummy or sticky nature inconsistent with the ordinary use of the stamps, checks, or other securities printed therewith, and yet be readily soluble and penetrable by acids and chemicals such as are used in washing stamps, erasing or altering values upon checks, bonds, &c., and, further, to unite with these qualities that degree of tackiness while inking the plate or form so essential in the mechanical process of printing.

Many efforts have been made heretofore, but with very unsatisfactory results, to produce the first-mentioned quality of drying in a soluble form by using the various soluble gums as substitutes for the several oils and varnishes of the commercial inks. Such inks have, however, been found to be defective in their working qualities, owing to their want of tackiness or strength, and a tendency to dry and clog up the plates or types in the process of rolling the ink over the plate or form, while, on the other hand, in the attempt to use glycerine, honey, or other saccharine or hygroscopic substances, to prevent such premature drying

and intractability, an ink is produced which leaves the print itself in such a gummy or semi-fluid condition as to be readily smeared, blurred, or defaced by ordinary handling or by the temperature and moisture of the atmosphere.

To correct these evils, I have, by continued experiments, discovered that by combining the glycerine with the "patent drier" of commerce in connection with boiled molasses, to give the compound a tacky nature, I obtain a vehicle in which the ingredients mutually correct the defects of each other, the boiled molasses giving great strength and tenacity to the composition, the drier overcoming the disposition of the glycerine to remain gummy and sticky after printing, and the glycerine preventing the drier from rendering the impression from becoming so fixed and permanent as to be insoluble and impervious to the action of certain fluids, acids, and chemicals, such as are used for removing the inks used for cancellation from stamps and other papers of value. This soluble quality insures the disfiguring and destroying of the design or ground-work tint, when such fraudulent attempts are made, thus effectually preventing the alteration of bonds and checks and the washing off of cancellation marks from internal revenue and postage stamps, that the same may not be used and re-used, to the detriment of both public and private interest, without leaving unmistakable traces of the fraud upon the face of the stamp or paper so tampered with.

Claim.

What I therefore claim as my invention, and desire to secure by Letters Patent, is—

The combination of "patent drier" with glycerine and boiled molasses, or their equivalents, to produce a vehicle for making soluble or fugitive printing-ink, substantially as set forth and described.

GEO. W. CASILEAR.

Witnesses:

FRANCIS TOWNY,
DAVID M. COOPER.

United States Patent Office

Patent Office

Patent Office

Patent Office

Patent Office

Patent Office

UNITED STATES PATENT OFFICE.

FELIX WALKER, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN ADHESIVE STAMPS AND LABELS.

Specification forming part of Letters Patent No. 127,663, dated June 4, 1872.

To all whom it may concern:

Be it known that I, FELIX WALKER, of New Orleans, in the parish of Orleans and in the State of Louisiana, have invented certain new and useful Improvements in Adhesive Stamps and Labels; and do hereby declare that the following is a full, clear, and exact description thereof.

The nature of my invention consists in the mode of preparing and printing "adhesive stamps or labels," so that when once applied they become self-canceling, and cannot be used a second time.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe how such stamps or labels are or may be prepared so as to prevent their being used over again.

I take transparent paper and saturate the same with coal or other oil, and upon one side of said paper I print such letters, figures, or devices as may be required. On the reverse side of the paper I apply a coat or coating of adhesive paste or mucilage; and when the said adhesive coating or covering is perfectly dry I print, with any suitable kind of ink, such letters, figures, or designs as may be desired on the pasted side of the paper.

The printing on the two sides of the paper should not be exactly opposite each other so as to obstruct the view of the different figures or letters. The first printing, or the printing of the face of the stamp or label, is to guard against being counterfeited.

To apply the adhesive stamps or labels, I cut them in proper shape, and apply them by dampening the part where it is intended to attach the stamp or label, with the paste side, on which is the second printed matter, to said dampened part, when the stamp or label will readily adhere; and when once dry the said stamp or label cannot be removed without defacing the printed matter or device on the pasted side, and consequently rendering the said stamp or label unfit for use a second time.

Although I prefer to print on both sides of the stamp or label, it is not absolutely necessary to do so. The stamp or label may have printing only on the pasted or mucilage side.

I am aware of a patent granted to Henry Loewenberg, of New York, November 15, 1864, in which he described making the paper transparent by means of varnish, then applying the paste or mucilage, and printing on the pasted side. But in his case the mucilage will adhere to the varnished paper to such a degree that when the stamp is made wet to remove it a large part, and often the whole printed matter, will be carried off with the stamp.

The varnish will prevent the moisture from going through the stamp, and thus the mucilage will be prevented from leaving the surface of the stamp.

This dislocation, as it were, of the mucilage with its entire print is my aim, and which cannot be done from a hard and water-proof surface. My paper is first saturated with coal-oil, and soon thereafter the mucilage is applied, and when quite dry the printing is made on the mucilage side. Very soon the coal-oil evaporates, when the prepared transparent paper will receive moisture, and be easily separated from the mucilage with all the printed matter, which will nearly all remain on the object to which the stamp was applied.

Hence I do not claim a stamp or label made transparent by means of varnish; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. An adhesive stamp or label made of paper prepared with coal or other volatile oils, and having letters, figures, or other devices printed upon the pasted or mucilage side, all substantially as and for the purposes herein set forth.

2. An adhesive stamp or label made of paper prepared with coal or other volatile oils, and having letters, figures, or other devices printed both upon the face and pasted sides, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of November, 1871.

FELIX WALKER.

Witnesses:

GEO. CROMWELL, Jr.,
J. CROMWELL.

UNITED STATES PATENT OFFICE

THIS INVENTION RELATES TO IMPROVEMENTS IN ADHESIVE STAMPS AND LABELS.

IMPROVEMENT IN ADHESIVE STAMPS AND LABELS.

I claim as my invention a stamp or label consisting of a sheet of paper or other material having a layer of adhesive material on one side and a layer of ink or other coloring material on the other side, the adhesive material being of such a nature that it will adhere to a surface when the stamp or label is pressed against it, and the coloring material being of such a nature that it will be transferred to the surface of the stamp or label when it is pressed against it.

The object of my invention is to provide a stamp or label which will adhere to a surface when it is pressed against it, and which will be transferred to the surface of the stamp or label when it is pressed against it, and which will be of such a nature that it will be transferred to the surface of the stamp or label when it is pressed against it.

It is a further object of my invention to provide a stamp or label which will adhere to a surface when it is pressed against it, and which will be transferred to the surface of the stamp or label when it is pressed against it, and which will be of such a nature that it will be transferred to the surface of the stamp or label when it is pressed against it.

It is a further object of my invention to provide a stamp or label which will adhere to a surface when it is pressed against it, and which will be transferred to the surface of the stamp or label when it is pressed against it, and which will be of such a nature that it will be transferred to the surface of the stamp or label when it is pressed against it.

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It is a further object of my invention to provide a stamp or label which will adhere to a surface when it is pressed against it, and which will be transferred to the surface of the stamp or label when it is pressed against it, and which will be of such a nature that it will be transferred to the surface of the stamp or label when it is pressed against it.

J. F. BROWNELL
BY

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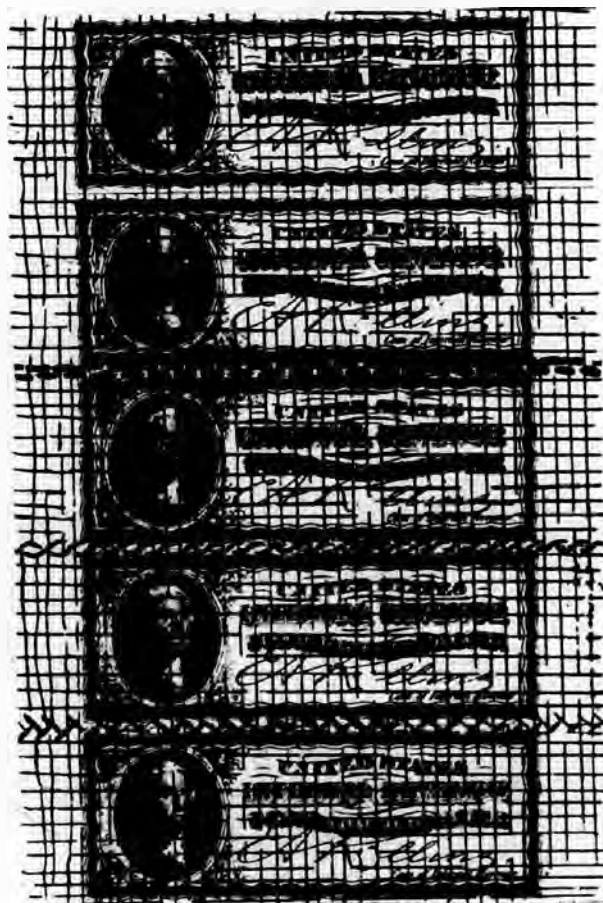


G. W. CASILEAR & W. C. McINTIRE.

Revenue-Stamps, Checks, &c.

No. 167,987

Patented Sept. 21, 1875.



WITNESSES.

Myrdner.
J. G. Hoff.

INVENTORS

Geo W. Casilear
Wm C. McIntire
By *Atty* *J. C. McIntire*

UNITED STATES PATENT OFFICE.

GEORGE W. CASILEAR AND WILLIAM C. McINTIRE, OF WASHINGTON, D. C.

IMPROVEMENT IN REVENUE-STAMPS, CHECKS, &c.

Specification forming part of Letters Patent No. 167,987, dated September 21, 1875; application filed August 21, 1875.

To all whom it may concern:

Be it known that we, GEO. W. CASILEAR and WILLIAM C. McINTIRE, of Washington city, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Revenue-Stamps, Checks, &c.; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this application.

Our invention relates to certain improvements in revenue and postage stamps, checks, &c. It has for its object to provide against a second use or alteration, and to provide a ready means of separation. With these objects in view our invention consists, first, of a stamp, check, or other evidence of value printed upon paper, having embedded in its face side an open woven fabric or warp, as fully described in a pending application of Geo. W. Casilear for Letters Patent for safety-paper. Our invention consists, secondly, in so cutting or perforating the paper above described between the marginal lines of the prints that the cutting of the embedded fibers or warp will be insured, while at the same time suitable sustaining-partitions exist to retain the stamps, &c., in proper relation to each other, as will be hereinafter more fully set forth.

In order to more fully understand our invention, reference is made to the accompanying drawing, which represents a series of stamps printed upon the improved safety-paper, and so perforated as to be readily separable one from another.

The broken lines are intended to indicate the woven fabric or warp embedded in the surface of the paper, and in order to save one printing where more than one color is required, the fabric used should be of such color as is desired for the surface-tint, while the print proper may be in any other or contrasting color, and impressed upon or on top of the fabric or warp, so as to be partly on the paper and partly on the woven fabric. Any attempt to "lift" a revenue-stamp so printed from a barrel or other package would require the application of moisture, and the effect of such moisture would be to separate the woven fabric or warp from its foundation of paper, and

hence destroy the stamp, while with a stamp or check any effort to erase any canceling-marks or evidences of value by the application of acid would have a like effect, as above described, and render it impossible to avoid detection, while also any effort to cancel by erasure with a blade would result necessarily in the destruction of the colored fabric or fiber, and expose the paper beneath.

It will be observed that, in view of the properties described, it would not be necessary in the official cancellation of postage and other stamps to use any strongly-indelible inks or complicated mechanical tools, but ordinary ink or simple colored water may be used, and insure the stamp against reuse.

In order to provide for the ready separation of stamps, &c., embodying the fibrous character described, we perforate or cut the same, as shown, so that there shall be a space between the plane of each cut and the beginning of the next lower, to sustain the stamps in relation to each other, the partition giving away under the slight strain usual in the separation of the ordinary stamps.

The necessity of the peculiar cuts or perforations is due to the fact that the woven fabric or warp embedded in the face of the paper, lying comparatively in parallel lines, would not be necessarily cut by the ordinary perforation, as it would not unfrequently happen that a thread would lie between the perforations, and the act of separating one stamp from another would lead to the lifting up of such threads as were uncut, resulting in the destruction of one or more of the stamps. This is perfectly avoided by our improved method of perforation, as every possible line lying between any given points is necessarily intersected by one of the series of cuts or punctures. We have shown in the drawing several ways of accomplishing the result desired, and do not wish to be limited to any particular one shown, the gist of this part of our invention lying in the idea of so combining the cuts or perforations that one shall begin above the plane of the terminus of the preceding one, and at the same time leave sufficient one, to support the series of stamps or prints in proper relation to each other until final separation is desired.

What we claim as new, and desire to secure by Letters Patent, is—

1. A postage or other stamp, check, or other evidence of value printed upon paper composed of paper-stock and an embedded open woven fabric or warp, so that the impression shall be visible partly on the paper and partly on the embedded material, as hereinbefore described, as a new manufacture.

2. A sheet of postage or other stamps, checks, &c., printed upon a paper and textile surface, the individual stamps, &c., rendered capable of ready separation by perforations or cuts, so

arranged with reference to each other that any and every line between any two parallel points will be intersected by some one of the series of cuts or perforations, substantially as and for the purpose set forth.

Witness our hands and seals this 21st day of August, A. D. 1875.

GEO. W. CASILEAR. [L. S.]

WM. C. McINTIRE. [L. S.]

In presence of—

D. M. COOPER,

S. D. CALDWELL.

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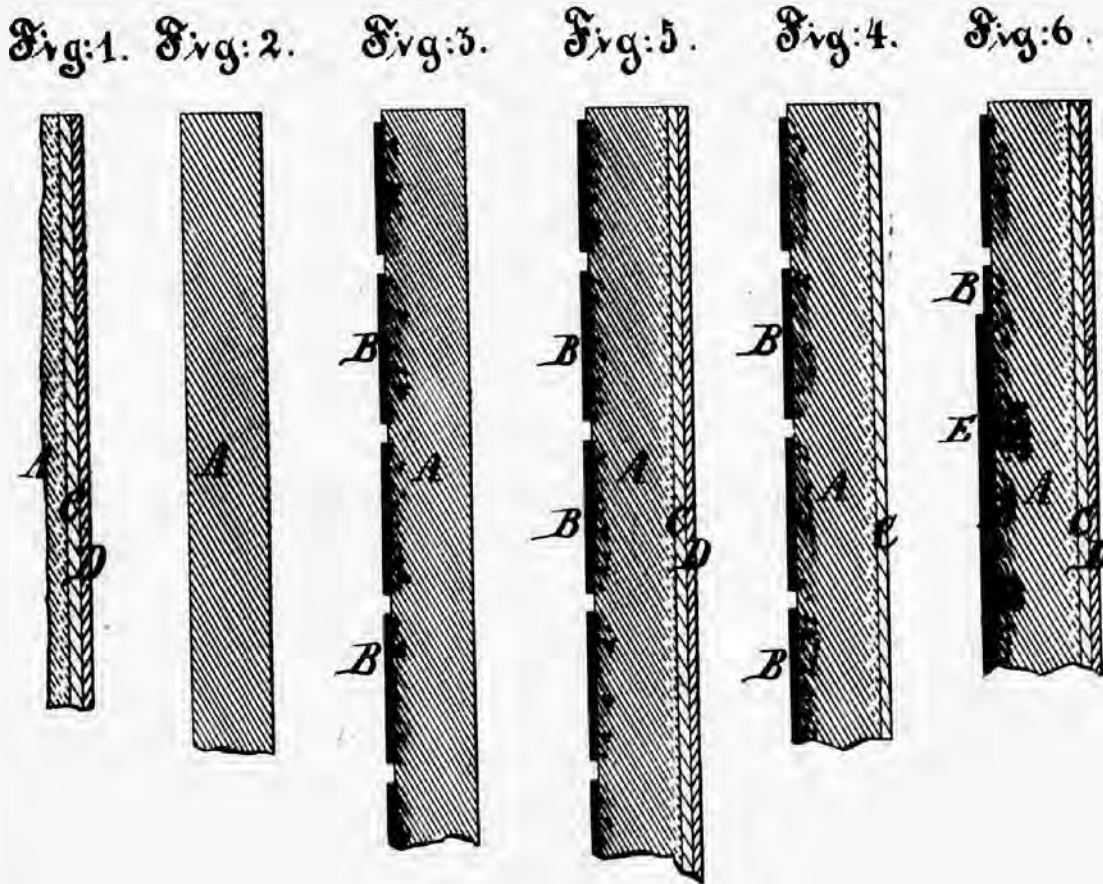
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C. F. STEEL.
Postage-Stamp.

No. 169,125.

Patented Oct. 26, 1875.



Witnesses:

Henry Gertner
M. A. Van Namee

Inventor:

Charles F. Steel
by his attorney *J. D. Slaton*

UNITED STATES PATENT OFFICE.

CHARLES F. STEEL, OF NEW YORK, N. Y.

IMPROVEMENT IN POSTAGE-STAMPS.

Specification forming part of Letters Patent No. 169,125, dated October 26, 1875; application filed March 15, 1875.

To all whom it may concern:

Be it known that I, CHARLES F. STEEL, superintendent of the manufacture of postage-stamps for the Continental Bank-Note Company, in New York city, in the State of New York, have invented certain Improvements relating to Postage-Stamps, of which the following is a specification:

Many efforts have been made by myself and others to produce a practically successful postage-stamp from which the canceling-ink cannot be removed to allow of their fraudulent reuse. My present invention is for that purpose.

I take a soft unsized paper analogous to blotting-paper, quite soft and absorbent. Having printed the face from the properly engraved plates, and allowed the ink thereon to dry properly, I treat the back with a solution of starch of just a proper consistency, having the effect both to lay a thin coating or covering on the back surface, and also to fill the interstices between the fibers in the paper, so as to give the back surface of the paper a firmer character than the front. Then, after flattening in a press, if desired, I apply British gum or other adhesive layer on the back of the starch layer, and, having again pressed the sheets of stamps, they are ready for shipment and use like ordinary stamps.

My improved stamp is cheaper to produce than the double-thickness stamp described in my patent of 1869, while it possesses in a great degree the same desirable qualities. The soft face will readily absorb the canceling-ink, and will be soaked and washed away on any attempt to remove the latter.

The accompanying drawings form a part of this specification, and represent magnified cross-sections.

Figure 1 represents the condition of my stamp after it has been used and an attempt has been made to remove the canceling-ink. The entire face portion of the paper, including the printed device thereon, is removed and destroyed by the operation. The succeeding figures show the several stages of the operation of manufacture and canceling. Fig. 2 is a section through the soft paper before anything has been done to it. Fig. 3 represents the same after the face device has been printed.

Fig. 4 represents the same after the application of starch to the back. Fig. 5 represents the same after the back of the starched paper has been gummed; and Fig. 6 represents the same after the canceling-ink has been applied and has struck deeply into the soft paper in the space previously unprinted.

Similar letters of reference indicate like parts in all the figures.

A is the soft body of the paper. This should be of such a character as to be removed and destroyed by a moderate friction after being wetted, care being taken to avoid employing so extremely soft a paper as will become destroyed by ordinary unskillful manipulation in affixing the stamp. What is called in the trade "water-leaf" paper will suffice. The ink B may be of any color or character ordinarily used in printing from warm engraved plates. The printed device B may, if preferred, be applied from surface-printing plates in the manner adopted by some foreign nations. C is a layer of starch. This may, if preferred, be made from wheat-flour, rye-flour, or various other materials. It should be of such consistency as to strike a little, but only a little, into the thickness of the paper. D is the ordinary layer of British gum, or other soluble adhesive material, applied on the back of postage-stamps to be moistened by the mouth or otherwise in applying upon a letter.

The canceling ink or substance E cannot be controlled. It is liable, in the multiplicity of offices, large and small, and, under various exigencies, to be very greatly varied in different instances. Whatever it may be, it is usually moist enough to strike deeply into the soft body A.

A hard-bodied paper holds the canceling-ink on the surface. My soft paper A allows it to strike in; but the same quality which allows the canceling-ink to penetrate would allow the gum D to also penetrate through the soft paper and discolor and give an oily appearance to the entire stamp. This is prevented by my stratum of starch, or its equivalent, indicated by C.

Any attempt to remove the canceling-ink E other than by the most delicate chemical means involves both wetting and rubbing.

The soft body A of my stamp will be destroyed and the printed face removed by any considerable friction in a wet state.

The qualities of the soft body induce less disposition in the stamp to curl when moistened and applied on a letter. There is, also, less disposition to curl after the gumming in the process of manufacture. Less care is required in the subsequent pressing and preparation, in the handling, and shipment. A thinner and lighter paper may be employed, and thus the expense of postage in the transmission of sheets of stamps is reduced.

I believe that with a given quantity and kind of adhesive gum my stamp sticks better than the ordinary kind.

I claim as my invention—

A postage or revenue stamp formed wholly of water-leaf or other soft and absorbent paper, provided on the back with a filling coating of starch or analogous material, and a superposed coating of the ordinary gum, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 13th day of March, 1875, in the presence of two subscribing witnesses.

CHAS. F. STEEL.

Witnesses:

WM. C. DEY,

M. A. VAN NAMEE.

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UNITED STATES PATENT OFFICE.

JOSEPH SCHNOBLE, OF NEW YORK, N. Y.

IMPROVEMENT IN PROCESSES OF PREPARING PAPER FOR POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 171,871, dated January 4, 1876; application filed December 1, 1875.

To all whom it may concern:

Be it known that I, JOSEPH SCHNOBLE, of the city, county, and State of New York, have invented a new and useful Improvement in Preparing Paper for Printing Postage-Stamps, Revenue-Stamps, and other similar articles, which improvement is fully set forth in the following specification.

This invention relates to the preparation, whereby the same is rendered particularly fit for the production of postage and revenue stamps.

In preparing paper for revenue-stamps I proceed as follows: I take woven tissue-paper and soak the same with a solution of beeswax in turpentine, so as to render the same transparent. This transparent paper I treat with a sizing compound, No. I, made of glue, sugar, glycerine, muriatic acid, and water. The proportion in which these ingredients are mixed together is to use about one part, by weight, of each of the various ingredients to ten or more parts of water; but this proportion depends, in a great measure, upon the quality of the various ingredients, and must be varied to suit circumstances.

After this sizing has been applied to one side of the paper, I apply to the same side thereof the composition No. II, of albumen, glycerine, and water, mixed together in suitable proportions—about one part, by weight, of albumen and of glycerine, and of two or more parts of water. The requisite design is then printed on the side of the paper which has been coated as above stated, and then I apply over the design a gumming compound of any suitable nature.

When this stamp is stuck to any surface, and an attempt is made to soften the same and to remove it, the design printed thereon separates from the paper, and the stamp is effectually destroyed. No stamps made according to my process can be used twice.

For stamps which are to be canceled, like postage-stamps, check-stamps, or stamps of a similar nature, I use tissue-paper, which, however, is not rendered transparent. I then apply to one side thereof the sizing compound No. I above stated, and on the same side of the paper I apply the composition No. II, of albumen, glycerine, and water, and then I print on the side of the paper coated with these compounds. The gumming compound is applied to the opposite side of the paper.

If a stamp made according to this process has been canceled, and an attempt is made to wash off the canceling-mark, the design printed on the stamp is destroyed.

I do not claim in this application a revenue-stamp or postage-stamp produced by my process, these articles being subjects of separate applications for patents; but I will here remark that stamps to be canceled can be made by coating the paper with the composition No. II alone, without first applying composition No. I; also, any other paper besides tissue-paper may be employed; but I prefer to use tissue-paper, as stated.

What I claim as new, and desire to secure by Letters Patent, is—

The method of preparing paper for printing postage or revenue stamps upon, consisting essentially of applying thereto a sizing compound of glue, sugar, glycerine, muriatic acid, and water, and then a composition of albumen, glycerine, and water, of about the proportions described, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 28th day of October, 1875.

JOSEPH SCHNOBLE. [L. s.]

Witnesses:

W. HAUFF,
EMIL RATH.

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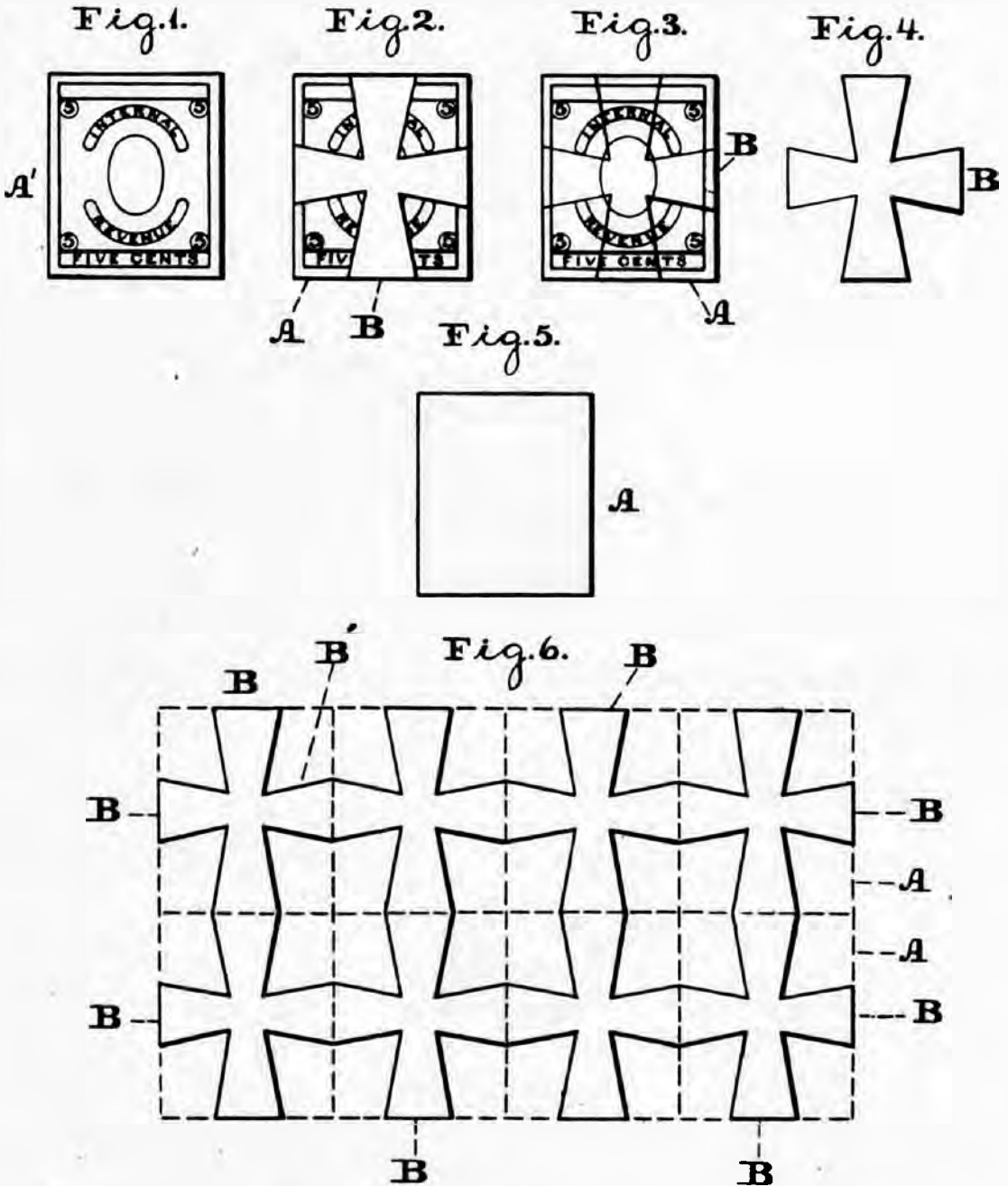
BRITISH
MUSEUM
12 APR 1913

J. E. WINNER.

POSTAGE AND REVENUE STAMPS.

No. 175,228.

Patented March 21, 1876.



Witnesses:
Lewis F. Brown,
Asst. P. Grant.

Inventor:
Jos. E. Winner
by
John A. Diederichsen
att'y.

Bradford 1185(29)

UNITED STATES PATENT OFFICE.

JOSEPH E. WINNER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO HENRY K. FOX, OF SAME PLACE.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 175,228, dated March 21, 1876; application filed December 29, 1875.

To all whom it may concern:

Be it known that I, JOSEPH E. WINNER, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Stamps, Checks, Bonds, and all monetary papers; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figures 1 and 3 are face views of stamps having my invention applied thereto. Fig. 2 is a similar view, the stamp irretrievably destroyed. Fig. 4 is a face view of the protector or guard of the stamp. Fig. 5 is a face view of the blank sheet. Fig. 6 is a face view, showing the manner of producing a number of stamps embodying my invention.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a stamp or other monetary paper having a protected or guarded printed surface, consisting of an imperforate sheet proper forming one portion of said surface, and a protecting-piece forming another portion of said surface integral with that of the surface of the sheet proper, the protecting-piece being firmly affixed to the sheet at all points in such manner that it will be indicatively injured or destroyed, partly or entirely, by attempts to remove the cancellation-marks or alter the character of the stamp or paper. The invention also consists of the protector or guard constituting the denomination of the stamp or other monetary paper, whereby also inks of more than one color will not be requisite in the production of stamps, &c. It further consists in the manner of constructing the protector or guard, whereby the whole sheet of stamps may have the protector or guard applied to each stamp of the sheet.

Referring to the drawings, A represents an imperforate piece of paper, on which is to be printed a stamp, check, or other instrument of a monetary character. B represents a film or thin piece of paper or other material, whose dimensions are such that when it is laid on

the piece A it will occupy but a portion of the surface of said piece, and one face of the film is coated with an adhesive preparation, so that the said film may be made to adhere firmly to the surface of the piece A.

Prior to the operation of printing the stamps and other monetary papers the blank paper will be moistened and the film laid thereon. Then the printing takes place, the impression being made on the surfaces both of the piece A or paper proper and film B, and the film due to the consequent pressure adhering to the piece and becoming integral therewith.

It will be seen that the appearance of the stamp or other paper A' is in no way altered, and its aspect is in no respect different from that of stamps or papers in use.

The operation will here be described with special reference to stamps. If the canceled stamp is washed, scraped, or rubbed in order to remove the cancellation-marks the film will become rough and "furred," and thus indicate the attempt at restoration. If the canceled stamp is laid in water, acid, or other fluid the film will loosen, but it will be impossible to restore it to its primitive location, hence the stamp (owing to the delicacy of the engraving) is irretrievably injured. The film will be cut in sheets with pieces removed therefrom, so as to form a series of cross-bars, strips, or other figures B, Fig. 6, which may be regular or irregular, the construction being such that when the prepared sheet of film is placed on the piece A of paper (shown in dotted lines) on which a sheet of stamps is to be printed, at least one strip, bar, or figure of the film will fit on the portion of the paper constituting the confines of an individual stamp, so that no stamp will escape having a piece of the protecting film as a portion of its face.

In order to indicate the denomination of the stamp the film is available therefor. For this purpose I employ films of various colors, whereby different colored inks are rendered unnecessary, since the color of the protecting film will indicate the denomination of the stamp, and thus, also, all stamps may be printed in the same color, as, for illustration, with black ink; but the protective feature of

the film is in no wise affected by its additional service as an indicator of denominations.

In checks, drafts, bonds, &c., the film will be placed where the amounts of the same, or other important words, figures, or characteristics are written or located.

The material of which the film is composed should be of a most sensitive nature, so as to indicate the slightest attempt to restore the canceled stamp.

I am aware that it is not new to provide a stamp with a protecting film of thin or sensitive material, and I therefore do not claim the same broadly; but

What I do claim, is—

1. The protecting film B, firmly secured at all points to the imperforate body-piece A, and forming an integral portion of the stamp, and of the design subsequently printed upon

it, substantially as and for the purpose set forth.

2. The protecting film, secured to the piece A, and having a color different therefrom, whereby said film protects the stamps or monetary paper, as stated, and indicates the denomination thereof, substantially in the manner set forth.

3. The protecting film, formed of a series of bars, strips, or figures connected together and applied in a body to the sheet on which a series of stamps or other monetary papers are printed, so as to occupy a part of each stamp, substantially as and for the purpose set forth.

JOSEPH E. WINNER.

Witnesses:

JNO. A. WIEDERSHEIM,
H. E. HINDMARSH.

Branford 1185(30)

175-242

36



A. C. FLETCHER.

POSTAGE AND REVENUE STAMPS.

No. 175,242.

Patented March 28, 1876.

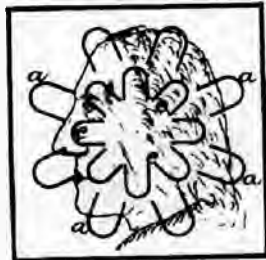
Fig. 1.



Fig. 2.



Fig. 3.



Attest:
H. L. Basini,
Notary Public.

Inventor:
Addison W. Fletcher,
By *James L. Norris,*
Att'y.

UNITED STATES PATENT OFFICE.

ADDISON C. FLETCHER, OF NEW YORK, N. Y.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 175,242, dated March 28, 1876; application filed March 9, 1876.

To all whom it may concern :

Be it known that I, ADDISON C. FLETCHER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Stamps for Postal, Internal-Revenue, and other Purposes, of which the following is a specification :

This invention relates to certain improvements in stamps, such as postage-stamps, revenue-stamps, and the like, its object being to prevent the removal and subsequent fraudulent use of such stamps; and it consists in cutting entirely through the paper in detached lines along various portions of the stamp after the printing of the same, and before or after the application of the adhesive compound, in such manner as to render it almost impossible to remove the stamp in an entire condition after being once applied, and prevent all possibility of applying the mucilage to the same for subsequent use, should it be successfully removed, as more fully hereinafter described.

The adhesive stamps heretofore in use have proved objectionable for the reason that they can be readily washed or soaked off the material to which they are applied and the canceling-ink readily removed by chemical agents, after which they can again be attached to the articles requiring such stamps, in such manner as to defy detection of their fraudulent use, resulting in a great loss to the Government.

Attempts have been made to prevent the removal and subsequent use of such stamps by embossing or partially breaking through the paper, so that they will tend to break or tear upon any attempt to remove them, and also to allow the canceling-ink to penetrate the body of the paper and more successfully withstand attempts to remove the ink. This method, however, has been found to only partially answer the purpose, as, by careful manipulation, the said stamps may be removed entire from the paper and the canceling-ink, if fresh, taken out.

By the use of my invention it is almost impossible to remove the stamp in an entire condition, even by the most careful manipulation, and, if once removed, it would be utterly impossible to again apply the stamp without making the second use plainly evident, as the mucilage necessary to secure the stamp to the

article would invariably penetrate the cut portions and disfigure the face of the stamp.

In the drawing, Figure 1 represents a view of my improved stamp, and Figs. 2 and 3 modifications thereof.

In the ordinary application of my invention I first print the stamp with suitable designs, in the ordinary manner, and, when intended for postage stamps, apply the gum or adhesive compound as usual. I then, by means of suitable dies, cut entirely through the body of the paper of each stamp in detached lines radiating from a common center, leaving connecting portions to keep the divided parts of the stamp together, but separating the central and outer portions of the stamp to such an extent as to render it almost impossible to remove the stamp in an entire condition when once applied.

In Figs. 1 and 2 the separating cuts are indicated by the letter *a*, and the outer portions of the stamp by the letter *b*. The dividing lines, it will be perceived, radiate outwardly from a common center, connecting portions *d* being left between said lines to hold the two portions of the stamp together until applied.

In Fig. 3, which shows a modification of my invention, two series, *a* and *e*, of such dividing cuts are shown, one surrounding the other, and both radiating from a common center. This modification is intended for the revenue-stamps of that class in which it is necessary to apply the mucilage when the stamp is used, such as the stamps for liquor-barrels and packages and boxes of various descriptions.

It is evident that the stamp, as thus constructed, can only with difficulty be removed from an article when once applied, as the connecting parts between the cuts will almost invariably give way and break upon any attempt at removal; and if, by very careful manipulation, the stamp is successfully removed, the two portions will be so separated that any subsequent attempt to apply the stamp will invariably indicate its second use, as the mucilage will strike through the cut portions and deface the surface of the stamp.

Having thus described my invention, what I claim is—

1. A stamp for postal, internal-revenue, and other purposes, having the paper thereof cut

entirely through in detached lines radiating outwardly from a common center, substantially as described and shown.

2. An adhesive stamp for postal, internal-revenue, and other purposes, having the paper and mucilage or other adhesive material cut through in detached lines radiating outwardly from a common center, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

ADDISON C. FLETCHER.

Witnesses:

**JOS. L. COOMBS,
A. H. NORRIS.**

Crawford 1185(31)

177821

37



S. R. DUMMER.
POSTAGE-STAMP.

No. 177,821.

Patented May 23, 1876.

Fig. 1.



Fig. 2.

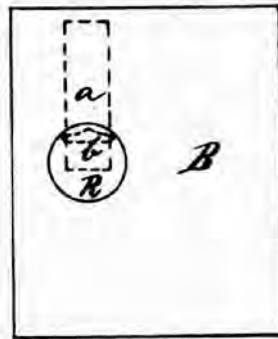


Fig. 3.



Fig. 4.

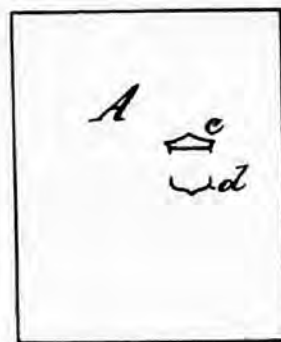


Fig. 5.



Witnesses
Henry L. Brewster
Phillips Abbott.

Inventor
Saml. R. Dummer

UNITED STATES PATENT OFFICE.

SAMUEL R. DUMMER, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN POSTAGE-STAMPS.

Specification forming part of Letters Patent No. 177,821, dated May 23, 1876; application filed April 20, 1876.

To all whom it may concern:

Be it known that I, S. R. DUMMER, of Jersey City, State of New Jersey, have invented an Improvement in Postage and other Stamps on letters and on other articles; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which like figures indicate like parts.

Figure I is a face view of my stamp as arranged for cancellation. Fig. II is a back view of the same; Fig. III, an edge view; Fig. IV, a face view, showing only the perforations or openings; Fig. V, a face view canceled, and exposing the re-enforce lettered, &c.

My invention consists in a stamp so prepared that when a projecting piece of paper, which is attached to it, is pulled or detached a portion of the stamp will be entirely removed, and the surface beneath the stamp proper will then be exposed through the opening thus made.

I take stamps for postage, or for revenue, or for any other purpose for which such things may be used, and I punch or perforate through their surface two openings, as seen at *c* and *d*, Fig. IV, which, it will be observed, are so arranged as that when the paper immediately between the openings is removed the space thus left will roughly resemble a shield, or it may be so arranged that the piece to be torn out shall, when removed, leave an opening resembling any other desired figure. Through one of these openings *c* is inserted a strip of paper or other suitable material, one part of which shall be at the back of the stamp, and the other part in front of the stamp, as seen at *a* and *b*, Figs. I, II, and III. The portion of this piece of paper *b* which is behind or at the back of the stamp is glued to it, but it is of such size and shape that it is only connected to the portion of the stamp which is to be removed. The portion of the strip which is on the front of the stamp, as at *a*, is not glued to it, but projects from it at any angle which circumstances may cause it to assume, and this

piece of paper, when the stamp is to be canceled, is caught between and pulled by the fingers of the person canceling the stamp.

At the back of the stamp, and glued to it, is a re-enforcing circular, square, or other shaped piece of paper, as at *R*. This piece of paper *R* is larger than the piece of the stamp to be removed, and more than covers the opening when made, being so adjusted on the back of the stamp as to effect this purpose. It must be distinctly understood that, though this piece of paper *R* covers entirely the portion of the strip *b* which is glued to the inside or back part of the stamp, it is not glued to this strip, but is only attached to the stamp itself, so that, when the strip *a b* is torn out, carrying with it a piece of the stamp, the re-enforcing-paper *R* shall be seen through the opening thus made, and not a portion of the envelope, if used on a letter.

I may, if desired, stamp or print letters or rule lines on this piece of paper *R* in such a manner that, after the removal of a portion of the stamp, these letters, lines, or tints will be seen, making the fact of the cancellation of the stamp plainly evident.

The back of the re-enforcing piece *R*, which comes in contact with the envelope, may or may not be covered with the adhesive preparation used for the back of the stamp.

Revenue, postage, check, and all other forms of stamps can be thus prepared, and the effect of tearing out the slip *a b* will always be such as to effectually destroy the stamp and prevent the possibility of any further use.

The re-enforcing-piece *R* may, if desired, be omitted, and in that case the exposed portion of the back of the strip *b* must not be gummed, for if it were gummed the envelope on which the stamp is attached would be injured when the stamp was canceled.

What I claim, and desire to secure by Letters Patent, is—

1. A postage or other stamp, provided with a strip of paper or other suitable material glued to the rear of the stamp and protrud-

ing through a slit or opening in the face of the stamp, substantially as hereinbefore set forth.

2. In a stamp provided with a canceling-strip, the re-enforcing piece of paper in rear of the stamp and canceling-strip, and visible only upon the cancellation of the stamp, as hereinbefore set forth.

3. The re-enforcing piece of paper arranged

behind the stamp and canceling-strip, and provided with figures, lines, or tints different from the stamp, which become visible upon the cancellation of the stamp, as hereinbefore set forth.

SAML. R. DUMMER.

Witnesses:

HENRY L. BEEVOORT,
PHILLIPS ABBOTT.

Brawford 1185(32) 180394
38.

UNITED STATES PATENT OFFICE.

PETER H. VANDER WEYDE, OF BROOKLYN, N. Y.

IMPROVEMENT IN POSTAGE-STAMPS.

Specification forming part of Letters Patent No. 180,394, dated July 25, 1876; application filed July 29, 1875.

To all whom it may concern:

Be it known that I, PETER H. VANDER WEYDE, of the city of Brooklyn, New York, have invented a new Method of Preparing Postage-Stamps, intending to do entirely away with the canceling or so-called "killing" by hand, which is a laborious and tedious operation, especially in the large post-offices of our metropolitan cities, where letters arrive hourly by the thousand.

Many attempts have been made to reduce the labor, and even the double stamp, consisting of a combination of the stamp bearing the date and the canceling-stamp, has been judged valuable enough to command a special appropriation to the patentee, and a consequent lawsuit between him and the real inventor.

Methods proposed by which the canceling is effected by chemical action a few hours after the moisture has been applied to affix the stamp on the letter have, by experience, been found to be totally impracticable, and thus far no reliable method has been found to effect this canceling without labor.

After I have had this subject on my mind for several years I have come to the conviction, fortified by practical experimental tests, that the only sure and reliable method for wholesale canceling is the application of heat. In order to apply this agent for this purpose I have the postage-stamps printed with pigments which will resist dryness and moisture, cold and light, but not heat, as they will totally volatilize at a temperature of from 212° Fahrenheit, the boiling-point of water, to 300° or 350° Fahrenheit, a temperature not high enough to injure or oven change any ink, writing-fluid, aniline, &c., or even vegetable coloring matter.

Fortunately modern chemistry has taught us the knowledge of many colored solids which will evaporate at that temperature, and all that we have to do is to have the postage-stamps printed with such substances, when they will remain unchanged any length of time, until at last, when affixed to letters and dropped in the post-office, they are then simply thrown in a box, heated by a steam-coil or other suitable means to the temperature of 300° Fahrenheit, more or less, and left there for the space of a few minutes, when the whole figure of the postage-stamp will have become obliterated by volatilization.

The substances which can be used for this purpose are bi-iodide of potassium for scarlet, realgar for dark red, orpiment for yellow, red iodide of mercury, some colored cyanides and fulminates. All permanent colors may also be used, especially when, for the purpose of printing, they have been mixed with a protective mucilage or varnish-like substance, as a solution of shellac in borax solution, &c. Fixed oils form a protecting material, which would tend to prevent volatilization, except when we make use of some volatile ethereal oils and resinous substances, which would only protect the volatile coloring matter against the usual agencies of moisture, &c., but volatilize with the pigment at 300° Fahrenheit. Some intermixtures also affect the disappearance by heat as a mixture of cyanide of mercury with bi-iodide of mercury, or the sulphide of arsenic with the sulphide of cyanogen; further, the iodides and bromides of cyanogen and mercury, &c.

In order not to destroy the denomination of the stamps, in canceling them, I print them with two different inks—one to indicate the monetary value—which ink is of the ordinary kind, or any other ink indestructible by heat, and the other for the remaining portion of the design, consisting of one of the substances above described, volatilizable by heat. When the latter is destroyed by the heat the stamp is considered canceled, notwithstanding the primitive value is still visible.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. The process of producing postage-stamps by printing the same with a pigment consisting of bi-iodide of potassium, or equivalent substance heretofore named, volatilizable at a temperature of 300° Fahrenheit, substantially as described, and for the purpose set forth.

2. The process of producing postage-stamps consisting of printing them with two different inks—one being the ordinary printing-ink, or other ink indestructible by heat, and the other consisting of bi-iodide of potassium, or other equivalent substance heretofore named, volatilizable at a temperature of 300° Fahrenheit, substantially as and for the purpose set forth.

P. H. VANDER WEYDE.

Witnesses:

WM. H. SCHUTTE,
HENRI GERARDE.

STATE OF NEW YORK

IN SENATE

JANUARY 15, 1907

REPORT

OF THE

COMMISSIONERS OF THE LAND OFFICE

FOR THE YEAR 1906

ALBANY:

ANDREW DEWEY, STATE PRINTER

1907

NEW YORK: J. B. LIPPINCOTT COMPANY

SOLE AGENTS

FOR THE UNITED STATES

AND CANADA

1907

ALBANY:

ANDREW DEWEY, STATE PRINTER

1907

180564

39

Granford 1105(33)



L. H. G. EHRHARDT.
POSTAGE AND REVENUE STAMPS.

No. 180,564.

Patented Aug. 1, 1876.

Fig. 1.



Fig. 2.



Witnesses:

Lewis F. Brown
No. P. Grant.

Inventor:

L. H. G. Ehrhardt

by

John A. Dierking

Attorney.

UNITED STATES PATENT OFFICE.

LOUIS H. G. EHRHARDT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR
OF ONE-HALF HIS RIGHT TO JOSEPH R. CARPENTER, OF SAME PLACE.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 180,564, dated August 1, 1876; application filed
April 15, 1876.

To all whom it may concern:

Beit known that I, LOUIS H. G. EHRHARDT, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Postage and Revenue Stamps; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, in which the figures are face views of a stamp embodying and illustrating my invention.

My invention relates to a novel improvement in postage and revenue stamps. It has for its object to prevent the removal of any cancellation-marks which may be made thereon without destroying the stamp; and, with this object in view, my invention consists of a postage or revenue stamp, printed upon paper previously prepared with a soluble size, as will be hereinafter more fully set forth.

To enable those skilled to fully understand how to prepare my improved stamp, and thoroughly understand its advantages and the theory of its destruction by any attempt to remove the cancellation, I will describe the process I have successfully practiced to produce the results aimed at.

I take the ordinary unsized paper, and subject to a bath of size, soluble in water, composed of gum-tragacanth four pints, dissolved starch one pint, to which is added of acetate of alumina one ounce, also in a dissolved state, or any other ingredients which will produce a soluble size that will thoroughly permeate the fiber of the paper, and leave one or both surfaces of the same completely covered by said size, upon either of which I then print in the ordinary manner, and with ordinary ink, the design composing the face of the stamp, the opposite surface being gummed in the usual way. The stamp thus produced is then subjected to ordinary calendering and finishing processes, and is ready for use.

When any cancellation-mark has been made upon the face of a stamp thus produced, any attempt to remove the same by any fluid will insure the destruction of the stamp, owing to

the fact that the contact of the fluid with the size dissolves the same, and thus softens the only agent by which the ink-design is held in union with the paper, and any amount of friction necessary to remove the cancellation-mark disturbs and removes the soluble and softened size, and the ink-design resting thereon.

I am aware that all ordinary paper in the market ready for use is sized to greater or less extent with sizes which are not removably affected by contact with water.

I am also aware that it has been proposed to treat paper in such manner as to render it transparent and destructible by the application of fluids, and that it has also been proposed to coat the surface of the paper with a water-color pigment, which is made to adhere by the addition of some gummy or mucilaginous substance; but all of these methods are essentially different from the features of my invention. The ordinary sized paper is, to all intents and purposes, unaffected by the application of water or other fluids, becoming only temporarily limp and wet, and again being restored to its natural condition.

With paper rendered transparent and destructible by the application of moisture it is difficult to print thereon, for the reason that the sheets are apt to stick to the plate, and only a few out of a large number can be successfully printed, and that when so printed the stamps are liable to stick together, and are very brittle, and readily broken; and with paper coated with a water-color pigment or paint, held in contact by use of any mucilaginous substance, and a design printed thereon, the pigment, if sufficiently thick to be useful as a soluble coating, renders the stamp-design or ink-surface liable to be peeled off, as the pigment is simply an interposed strata, independent of the ink and the paper, and held in contact with the surface of the paper by the gummy admixture, so that any crumpling of the stamp will destroy the interposed pigment strata.

My invention differs from all these in that the size, although a soluble one, becomes, as it were, a part and parcel of the paper, and cannot be cracked or broken off, and may even be wet, and, if not subjected to any friction,

will dry again, and resume its natural condition, so that stamps printed thereon, which may be accidentally wet, are not necessarily destroyed.

I of course do not wish to be limited to the peculiar ingredients named as composing the size used by me, or to the method of application, as other sizes may be now or hereafter known embodying the same characteristics, and it may be applied by a brush or in any other manner, though I prefer applying it in the usual manner of applying size, by bathing the paper, as the most rapid, economic, and successful method.

What I claim as new, and desire to secure by Letters Patent, is—

A postage or revenue stamp, printed upon paper previously treated with a mixture composed, essentially, of gum-tragacanth, starch, and acetate of alumina or other soluble size, removable by moisture and friction, substantially as and for the purposes hereinbefore set forth.

L. H. G. EHRHARDT.

Witnesses:

A. M. WALKER,
EDWIN LAMASURE,

190876
40.

Brawford 1185(34)



J. SANGSTER.

POSTAGE AND REVENUE STAMPS.

No. 190,376.

Patented May 1, 1877.

Fig. 1

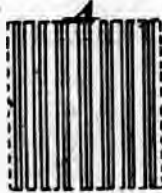


Fig. 2.



Fig. 3.



Witnesses:

Geo. H. Dunbar.
C. L. Pond.

Inventor:

James Sangster

UNITED STATES PATENT OFFICE.

JAMES SANGSTER, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF HIS
RIGHT TO ROBERT DUNBAR & CO., OF SAME PLACE.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 100,376, dated May 1, 1877; application filed
March 17, 1877.

To all whom it may concern:

Be it known that I, JAMES SANGSTER, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Postage or other Stamps, which improvements are fully set forth and described in the following specification and accompanying drawing, in which—

Figure 1 represents a postage-stamp partly finished. Fig. 2 represents a finished stamp; and Fig. 3 represents the stamp as it would appear after the removal, or attempted removal, of the canceling-ink by the process known as "washing," for the purpose of fraudulent reuse.

My invention is designed for postage, revenue, or other stamps. Its object is to prevent the washing or otherwise cleaning of the stamps after cancellation; and it consists of a postage or other stamp having the printed surface composed of two or more different materials, one kind of which is without color, and of itself is never intended to show any, or be visible, and is capable of absorbing water only to such an extent that it will stand nearly as much rubbing to remove the postage-stamp printing-ink above it as would be required to remove the canceling-ink, which may reach the paper through the numerous interstices between the lines of the printing-ink which forms the stamp, and the first or soluble material, the other kind being the ordinary printing-ink used for that purpose, or other oily or resinous ink.

The first or soluble material is printed, ruled, or otherwise placed upon the paper, in straight, wavy, circular, parallel, or irregular lines, or in small dots, covering as much of the surface of the stamp as may be desired; or said lines or dots may be arranged in the form of designs, if necessary, after which the usual postage or other stamp design, or its equivalent for the purpose, is printed thereon by means of the well-known printer's ink for that purpose, or any other suitable oily or resinous ink, the object being to so make the face of the stamp that when an attempt is made to wash or rub out the canceling-ink mark, the soluble material will easily dissolve, and allow those portions of the stamp printed

with ordinary or oily printing-ink overlaying it to be washed out, so as to expose the paper below it, while those parts which do not overlay the first material, and are consequently in direct contact with the paper, remain, thereby leaving only parts of the oily ink, and effectually destroying the appearance of the stamp.

A in the drawing represents lines printed or otherwise placed on the face of the stamp in the soluble material. These lines are without color, and are not intended to be visible.

This is the first operation, and prepares the paper to receive the printing of the postage-stamp design with the ordinary printing-ink used for that purpose. The interstices between these lines afford openings both for the printing-ink and the canceling-ink employed to reach the paper, and thereby become more firmly fixed.

This arrangement also affords greater facilities for the water, or its equivalent, to pass through the numerous interstices or openings between the lines to reach the soluble material, and undermine those parts of the oily material or ink overlying the lines of the said soluble material when an attempt is made to wash the canceling-marks off.

The soluble material employed may be made with water and gum-arabic, starch, gelatine, dextrine, or other equivalent material for the purpose. Sugar or other similar matter may be added to increase its affinity for water, if required; but it should not be too sensitive, so as to be affected by the least moisture, enough only of such material being mixed with the water to insure its running or printing well, and the removal of the portions of the oily ink while the canceling-ink is being washed off.

If desired, any particular part of the stamp may be made to wash out, so as to show the word "canceled," or figures, numbers, or the amount of the stamp.

I am aware that it is not new to provide and cover the face of a stamp with a coating of soluble material or size, or other material soluble in water, and removed by moisture and friction, upon which a design is printed in carbon or ordinary printing-ink, as illustrated, for instance, in the patent granted to L. H.

G. Ehrhardt, August 1, 1876, and such I do not claim, broadly; but

What I claim is—

A postage or other stamp, one surface of which is provided or printed with a series of fine lines or dots in a colorless material, soluble in water, and over or on which rests the desired design, printed in ordinary printer's ink, whereby such portions only of the printing-ink lines composing such design, which

rest upon the lines of the soluble material, may be removed by the application of a liquid, and rubbing with a force sufficient to remove, or partly remove, the ink which may be used in the cancellation of the stamp, substantially as and for the purposes described.

JAMES SANGSTER.

Witnesses:

GEO. H. DUNBAR,
O. L. POND.

Grawford 1185 (35)

192893
41



D. G. BEAUMONT.
POSTAGE OR REVENUE STAMPS.

No. 192,893.

Patented July 10, 1877.

Fig. 1.

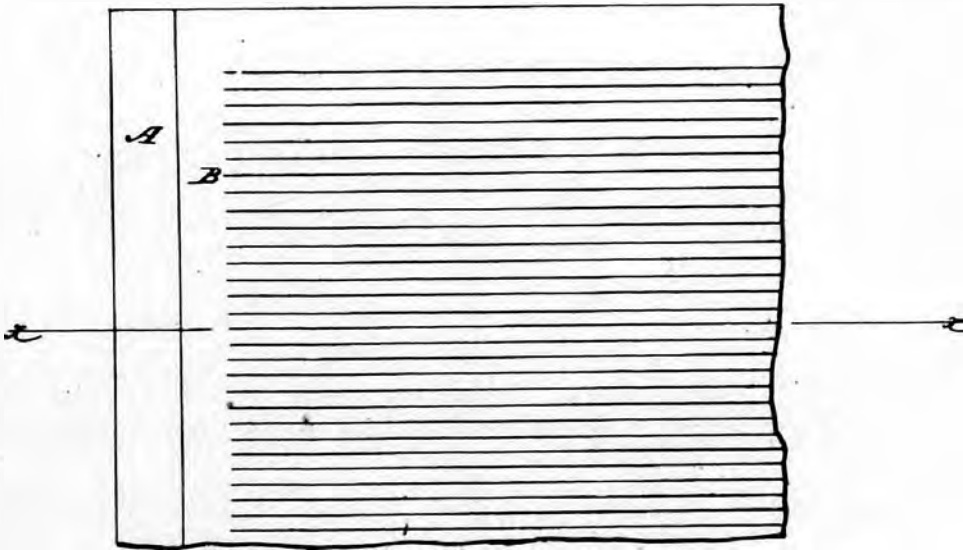
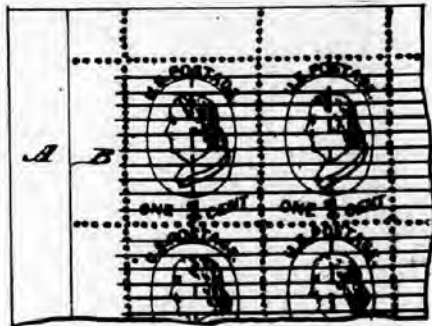


Fig. 2



Fig. 3



WITNESSES:

Francis McArdle.
J. H. Scarborough

INVENTOR:

D. G. Beaumont.

BY

Munnell & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID G. BEAUMONT, OF AUSTIN, TEXAS.

IMPROVEMENT IN POSTAGE OR REVENUE STAMPS.

Specification forming part of Letters Patent No. 192,598, dated July 10, 1877; application filed May 12, 1877.

To all whom it may concern:

Be it known that I, DAVID GREENLEAF BEAUMONT, of Austin, in the county of Travis, and State of Texas, have invented a new and useful Improvement in Postage and Revenue Stamps, of which the following is a specification:

Figure 1 represents a piece of the prepared paper before the stamps have been printed upon it. Fig. 2 is a section of the same taken through the line *x x*, Fig. 1. Fig. 3 represents the same after it has been printed and punctured.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish postage and revenue stamps which shall be so constructed that they cannot be used a second time, and which may be used as conveniently as stamps made in the usual way.

The invention consists in postage and revenue stamps printed upon paper having parallel incisions formed in it, and which is pasted to the paper to which the mucilage is applied, as hereinafter fully described.

The stamps are made of two thicknesses of paper, the lower one, A, to which the mucilage is applied, and the upper one, B, upon which the stamps are printed. The paper B

has incisions cut in and across it, parallel with each other, and at suitable distances apart. The paper B is then laid smoothly upon the paper A, and the two are secured together with mucilage. The stamps are printed upon the paper thus prepared, and the paper is then punctured between and around the stamps in the usual way. The paper B may also have incisions formed in it through the body of the stamps, and at right angles with the main incisions.

With this construction it will be impossible to remove the canceling-ink without mutilating the stamps so that they cannot be again used.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A postage or revenue stamp, composed of two superposed sheets or layers, A B, the top layer carrying the printed designs, having parallel incisions therein, and the bottom layer being provided with adhesive material on the back, substantially as and for the purpose set forth.

DAVID GREENLEAF BEAUMONT.

Witnesses:

E. L. BEAUMONT,
A. A. FLEMING.

Crawford 1185(36)

192968

42.



W. W. BIERCE.
POSTAGE OR REVENUE STAMP.

No. 192,968.

Patented July 10, 1877.

Fig. 1.

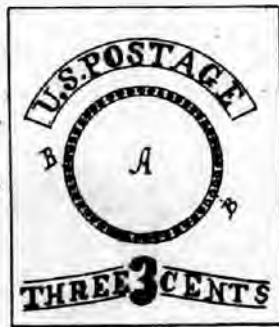


Fig. 2.



Witnesses
Robt H. Dinean
A B Jones

Inventor
William W. Bierce
per Saml A. Dinean
atty

UNITED STATES PATENT OFFICE.

WILLIAM W. BIERCE, OF MEMPHIS, TENNESSEE, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO JOHN C. SPENCER, OF NEW YORK CITY.

IMPROVEMENT IN POSTAGE OR REVENUE STAMPS.

Specification forming part of Letters Patent No. 192,965, dated July 10, 1877; application filed June 26, 1876; patented in Canada, October 30, 1876; patented in England, October 26, 1876; patented in France, January 8, 1877.

To all whom it may concern :

Be it known that I, WILLIAM W. BIERCE, of Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Improved Postage or Revenue Stamp, of which the following is a specification :

The object of this invention is to produce a stamp adapted for postal and revenue purposes which can be canceled readily, and so effectively that it cannot be restored and re-used.

The invention consists in a paper stamp, a portion of the face of which (preferably the center) is raised above its contiguous parts, and is either wholly or partially surrounded with perforations.

In the drawing which accompanies this specification, Figure 1 is a plan view of the face of the stamp. Fig. 2 is a sectional view through the center of the same.

A represents the raised central portion, surrounded with perforations or indentations B B.

The stamps may be printed in sheets from engraved plates, in appropriate designs and colors, and the embossing or raising of the portion of the face of the stamp may be accomplished at the same time. The perforations or indentations surrounding the raised portion may also be formed at the time of printing by having a series of dies engraved in the plate in the form desired for the perforations or indentations. The paper of the stamp will, by the operation of printing, be perforated or indented, as desired, and consequently weakened.

The backs of the printed sheets of stamps may be entirely covered with mucilage, in the usual way. If, however, it is desired that that portion of the back of the stamps which corresponds to the raised portion of the face thereof should be rendered non-adhesive, a form or shield can be used which will protect such portions of the backs of the sheets at the time the mucilage is applied.

Stamps thus prepared may be applied to letters, envelopes, or other packages, in the same manner as those in common use.

The advantages claimed for stamps of this construction are twofold. First, when such stamps are canceled, in the usual manner, by stamping them with ink, either by hand or by machinery, the cancellation-mark cannot be obliterated by washing, or by the use of chemicals assisted by washing and rubbing, as is the case to a large extent with the stamps now in use, without defacing the stamp to such a degree that it will be readily detected. This results from the fact that a material portion of the stamp is raised and provided with perforations or indentations, by which the substance of the paper is weakened, so that any attempt to so wash or rub the surface of the face of the stamp as would be necessary to efface the cancellation-mark would, by contact with the edge of the raised surface, cause it to be wholly or partially broken away from the main body of the stamp, and render it unavailable for a second use; and also from the further fact that, as the fiber of the paper is cut or broken by the perforations or indentations, the ink used in cancellation will become, by capillary attraction and otherwise, more perfectly incorporated with the substance of the stamp, and, consequently, will be more difficult of erasure than would be the case were the cancellation-mark placed directly upon the finished face of the stamp, as is generally done. Second, such stamps can be rapidly and effectively canceled without the use of ink. This can be conveniently accomplished by the use of a brush made of stiff bristles or small wire, the ends of which are cut off square. By passing such a brush rapidly and under gentle pressure over the face of the stamp, the central portion, by reason of its elevation and its surrounding perforations or indentations, will be torn up from the body of the stamp, and generally be carried entirely away by the brush. The thorough cancellation of the stamps will be greatly facilitated if the raised and perforated portions are unprovided with mucilage, and, consequently, not united to the envelope on which the stamps are fixed.

This plan of cancellation will be found convenient and effective in all small post-offices, in which cancellation by machinery is out of the question.

What is claimed as new is—

A postage-stamp a portion of the face of which is raised above the contiguous parts

thereof, and is surrounded with perforations, substantially as and for the purpose described.

WILLIAM W. BIERCE.

Witnesses:

ROBERT H. DUNCAN,
THOS. P. HOW.

Grawford 1185(37)

1942 12

43.



W. W. BIERCE.
POSTAGE OR REVENUE STAMPS.

No. 194,212.

Patented Aug. 14, 1877.



Fig. 1.



Fig. 2.



Fig. 3.

Witnesses
Robert H. Duncan
J. A. Smith

Inventor
William W. Birce
by Saul A. Duncan
his Atty

UNITED STATES PATENT OFFICE.

WILLIAM W. BIERCE, OF MEMPHIS, TENNESSEE, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN C. SPENCER, OF NEW YORK CITY.

IMPROVEMENT IN POSTAGE OR REVENUE STAMPS.

Specification forming part of Letters Patent No. 194,212, dated August 14, 1877; application filed November 7, 1876; patented in Canada, October 30, 1876, for five years.

To all whom it may concern:

Be it known that I, WILLIAM W. BIERCE, of Memphis, Shelby county, in the State of Tennessee, have invented a new and Improved Postage or Revenue Stamp, of which the following is a specification:

The object of this invention is to provide a stamp adapted for postal or revenue purposes which can be readily and so effectively canceled that it cannot be restored and reused.

The invention consists in, first, a stamp having a portion of its back ungummed, when the corresponding portion of its face is raised above the plane of its contiguous parts; and, second, a stamp having a portion of its back ungummed, when the corresponding portion of its face is raised and surrounded with perforations or indentations.

In the drawings which accompany this specification, Figure 1 is a plan view of the back of the stamp. Fig. 2 is a plan view of the face thereof, and Fig. 3 is a sectional view thereof through the line *xx* of Fig. 1.

In the drawings, A represents the ungummed portion of the back of the stamp; B, the raised portion of the face of the stamp; C, the perforations surrounding the raised portion of the stamp.

The stamps may be printed in sheets by the use of engraved plates or dies, and may be struck off in appropriate designs and colors.

The raised center, or the raised center surrounded with perforations or indentations upon the face of the stamp, can be produced by the use of dies, which can readily be constructed to accomplish one or both of these results at the same time the face of the stamp is printed.

The backs of the stamps may be prepared so that a portion of each shall be left un-gummed by the use of a form or shield which shall cover such portion of each stamp of the sheet as it is desired shall be un-gummed, and the mucilage can be flowed over the uncovered or unprotected portions of the sheet.

The advantage claimed for stamps which have a portion of their backs un-gummed and a corresponding portion of their face raised is, that they can be more readily and effectively canceled without injury to the envelope

to which they are applied than if their backs were entirely covered with adhesive material. In the latter case it is found impracticable to cancel the stamp by removing a portion thereof, or by defacing it by tearing to any great degree without injury to the envelope, while in the former case, there being no union of a portion of the stamp to the envelope, it can be readily removed or so defaced as to prevent any attempt to restore it.

The cancellation of stamps having a portion of their faces raised and the corresponding portion of their backs un-gummed may be effected in a variety of ways, and by the use of any instrument, which, by being passed over or brought in contact with the raised portion, will cut, tear, or remove it, or some part thereof, or otherwise deface it, the elevation above the contiguous parts permitting the instrument to take hold of such elevated portion, and the absence of adhesive material upon the back of such elevated part permitting it to be easily defaced and removed.

In order to render the cancellation still more easy and perfect, the raised portion of the face of the stamp may be surrounded with perforations or indentations, by means of which the raised portion will be partially separated from the contiguous parts, so that it can be entirely and readily removed.

A stamp constructed according to this invention—having a portion of its back un-gummed and the corresponding portion of its face raised—possesses the following additional advantage over those which lie flat throughout their entire surface upon the envelope: When such stamp is canceled, by striking or pressing upon it with some instrument carrying ink or paint, the raised portion will receive the main force of the blow or pressure and become thoroughly inked; and inasmuch as there is no coating of mucilage or gum opposite this raised part to prevent the passage of the ink through it, it will become more perfectly permeated with ink than would be the case were it not raised, and the difficulty of restoring it to its original condition would thereby be greatly increased.

I do not therefore claim, broadly, a stamp



44

202187.

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J. FOX.
Postage-Stamp.

No. 200,187.

Patented Feb. 12, 1878.

fig. 1.



fig. 2.

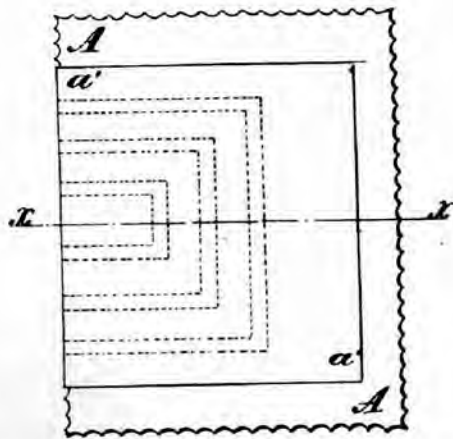


fig. 3.



WITNESSES:

Edgar Tate
J. H. Scarborough.

INVENTOR:

John Fox
BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN FOX, OF NEW YORK, N. Y.

IMPROVEMENT IN POSTAGE-STAMPS.

Specification forming part of Letters Patent No. 200,187, dated February 12, 1878; application filed November 13, 1877.

To all whom it may concern:

Be it known that I, JOHN FOX, of the city, county, and State of New York, have invented a new and useful Improvement in Postage-Stamps, of which the following is a specification:

Figure 1 is a view of the face of one of my improved postage-stamps. Fig. 2 is a view of the back of the same. Fig. 3 is a cross-section of the same, taken through the line *x r*, Fig. 2.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish postage-stamps so made that they cannot be removed, cleaned, and used again after being canceled, and which may be applied to letters and canceled in the same way and with the same facility as ordinary stamps.

The invention consists in postage-stamps cut while in the sheet, and having tissue-paper or other delicate material applied to them, so that when torn apart each postage-stamp may consist of several pieces held together by said tissue-paper, as hereinafter fully described.

A represents a postage-stamp illustrating my invention. The stamp is cut with dies into several pieces, and a piece of tissue-paper, *a'*, or other delicate material, is gummed to its back or face to keep the said pieces in place.

This cutting should be done in the sheet, so that the pieces will not get out of place, and

the tissue-paper should be applied before the sheet is perforated, so that the said perforations may also pass through the said tissue-paper, so that the stamps may be torn apart to be used with the same facility as ordinary stamps. The cuts may be made in various shapes and in various parts of the stamps, as may be desired.

With this construction, when the stamps have been torn apart and applied to letters, if steam or other moisture be applied to them to detach them from said letters, the pieces will come apart, and cannot be again arranged in exactly their former position, and if they could be so arranged any attempt to remove the canceling-marks would mutilate or deface the said pieces, so that the stamps could not be again used.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A stamp for postal, internal-revenue, and other purposes, having the paper thereof cut entirely through, so as to form several distinct pieces, and having a backing or facing of tissue-paper or other delicate substance applied to the stamp, to unite the several pieces thereof, as and for the purpose set forth.

JOHN FOX.

Witnesses:

JAMES T. GRAHAM,
C. SEDGWICK.

UNITED STATES PATENT OFFICE

IMPROVEMENT IN POSTAGE-STAMPS

INVENTOR: JOHN W. ...

TO ALL WHOM THESE PRESENTS SHALL COME, I greet you with kind regards...

WITNESSED my hand and seal...

Brewford 1185(39)

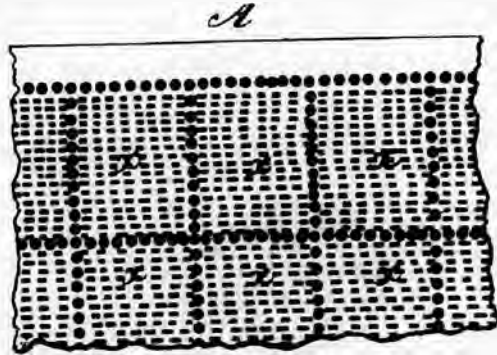
200702
45.



J. DEWE.
Postage-Stamp.

No. 200,702.

Patented Feb. 26, 1878.



WITNESSES
Robert Bennett
George E. Upham

INVENTOR
John Dewe.
John Moore & Smith Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN DEWE, OF OTTAWA, ONTARIO, CANADA.

IMPROVEMENT IN POSTAGE-STAMPS.

Specification forming part of Letters Patent No. 200,702, dated February 26, 1878; application filed November 17, 1877.

To all whom it may concern:

Be it known that I, JOHN DEWE, of Ottawa, in the Province of Ontario, and Dominion of Canada, have invented a new and valuable Improvement in Postage-Stamps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

The figure of the drawing is a representation of the paper from which my postage-stamps are made.

My invention relates to postage and other stamps and seals; and has for its object to prevent fraud in using stamps that have been previously used, and to supply a seal that cannot be tampered with.

The annexed drawing, to which reference is made, fully illustrates my invention.

A represents a sheet of suitable paper for making postage and other stamps and seals. This paper is colored on one side only, and is perforated or slitted with numerous holes, as shown at *x x*. This may be accomplished by passing the sheet between toothed rollers, or in any other suitable manner. These small holes or slits *x x* are afterward filled up by subjecting the paper to pressure. The paper is then coated on the colored side with gum or other adhesive material, and each sheet divided, the same as sheets of ordinary postage or other stamps, by perforations or other process, into equal parts, so that one or more parts can be easily detached.

Previous to being thus prepared, the sheets may be engraved with any required device on that side which is not colored.

The stamps and seals thus made are applied in the usual manner, and when applied the coloring from the back is only very faintly, if at all, discernible on the front. If, however, a stamp or seal is removed by moisture the coloring will at once ooze through the perforations *x*, and color almost the entire front surface, which will show at a glance that the stamp has already been once used, or the seal tampered with. If it is attempted to remove the stamp or seal without moistening the same, it will invariably be torn in pieces, on account of the perforations *x*.

This invention is applicable to all kinds of stamps and seals.

What I claim as new, and desire to secure by Letters Patent, is—

1. The method of making stamps and seals, which consists in coloring one side of the prepared sheet of paper, perforating the same with numerous slits, then subjecting the sheet to pressure to close said slits, then coating the colored side with adhesive material, and dividing the sheet by perforating in the usual manner, substantially as described.

2. As an article of manufacture, a postage or other stamp or seal the body of which is provided with numerous closed perforations, is colored on the back, and has the adhesive substance applied to said colored surface, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN-DEWE.

Witnesses:

LE F. AUS. MAINGY,
JOHN GRAHAM.

UNITED STATES PATENT OFFICE

INVENTOR: JOHN W. BARKER

IMPROVEMENT IN POSTAGE STAMPS

Filed for patent July 10, 1907

Reference is made to my patent for an improvement in postage stamps, bearing the date of July 10, 1907, and to my patent for an improvement in postage stamps, bearing the date of July 10, 1907.

The object of the present invention is to provide a postage stamp which is adapted to be used in a postage meter, and which is adapted to be used in a postage meter, and which is adapted to be used in a postage meter.

Witness my hand and seal this 10th day of July, 1907.

Crawford 1185(40)

201769.
46.



A. C. FOX.
Postage and Revenue Stamp.

No. 201,769.

Patented March 26, 1878.

Fig. 1



Fig. 2.



WITNESSES,

David G. Wemy
W. A. Beaman

INVENTOR,

Addison C. Fox

BY

R. W. Williams

ATTORNEY.

UNITED STATES PATENT OFFICE.

ADDISON C. FOX, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO THOS. F. EIGELBERNER, OF SAME PLACE; SAID FOX AND EIGELBERNER ASSIGNORS OF ONE-THIRD THEIR RIGHT TO EDWARD B. CRAM, OF PORTLAND, MAINE.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 201,769, dated March 26, 1878; application filed January 26, 1878.

To all whom it may concern:

Be it known that I, ADDISON C. FOX, of the city of Baltimore, State of Maryland, have invented certain new and useful Improvements in Postage and Revenue Stamps; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

Figure 1 represents a face view of a postage-stamp embodying my present invention, and Fig. 2 is a cross-sectional view of the same.

This invention has for its object to furnish a postage or revenue stamp which may be readily canceled, so as to preclude the possibility of its fraudulent reuse; and to this end I construct the stamp in such manner that its cancellation is effected by cutting or tearing away a portion of the stamp.

An indelible cancel in the form of an ink to be applied to the stamp is manifestly out of the question. If the ink is a true solution, excess of the solvent will completely remove it, while if it consist of a coloring matter in the form of carbon or similar insoluble substance in a state of mechanical suspension, it is merely a surface coating upon the paper of the stamp, and may be readily brushed off after dissolving the suspending material.

From the foregoing it is evident that the cancellation of a stamp by means of a coloring matter, so as to preclude the reuse of the stamp, is a theoretical, as it has been found a practical, impossibility.

In order to effect the object in view, I con-

struct the stamp as hereinafter described, leaving a portion of it in bold relief, which can be cut off, effectually destroying the stamp, and furnishing at the same time a voucher for its cancellation.

In the accompanying drawings, A represents an ordinary postage-stamp, differing from the usual one only in having a rib, *a*, substantially at right angles to its surface. The said rib is formed by making a plait in the stamp-paper, the sides of the plait being attached together by gum in order to give it the stiffness necessary to prevent its being accidentally torn off.

In order to cancel the stamp, it is only necessary to tear or cut away the rib *a*, in whole or in part; and, in case it is desired to preserve a voucher for the cancellation, the portion so cut away may be retained.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A postage or revenue stamp having a rib or ridge, consisting of a double thickness of the material of the stamp, substantially as described.

2. A postage or revenue stamp having a plait or ridge formed in the material of the stamp, the sides of the said plait being attached together, substantially as described.

ADDISON C. FOX.

Witnesses:

R. D. WILLIAMS,
DAVID G. WEEMS.

Grawford 1185(41)

202760.

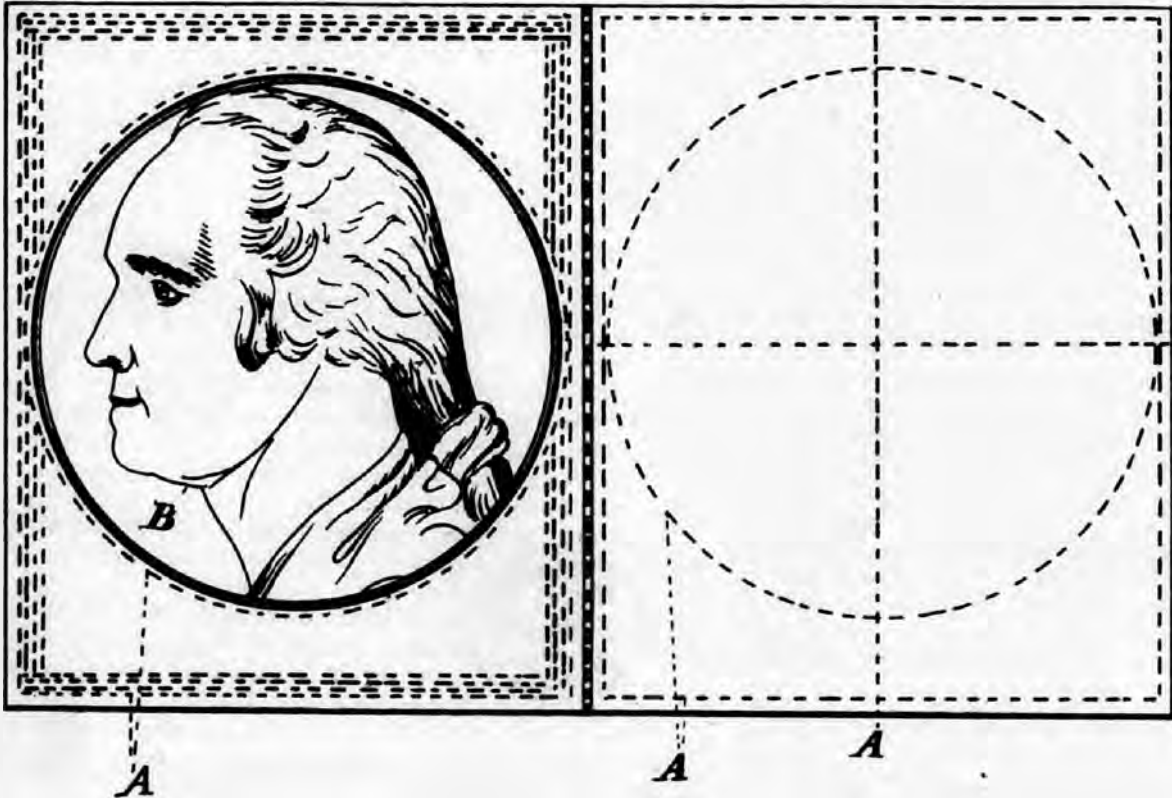
47.



J. SANGSTER.
Postage-Stamp.

No. 202,760.

Patented April 23, 1878.



Witnesses

S. M. Sangster.
A. J. Sangster.

Inventor.

James Sangster.

UNITED STATES PATENT OFFICE.

JAMES SANGSTER, OF BUFFALO, NEW YORK.

IMPROVEMENT IN POSTAGE-STAMPS.

Specification forming part of Letters Patent No. 202,760, dated April 23, 1878; application filed February 11, 1878.

To all whom it may concern:

Be it known that I, JAMES SANGSTER, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Postage or other Stamps, which improvements are fully set forth in the following specification and accompanying drawings.

The object of this invention is to loosen the fiber of the paper on portions of the stamp not covered by the design or printing, so that the coloring matter of the canceling-ink will more readily penetrate such more absorbent, open, or softer portions of the stamp, and thereby render the washing or otherwise cleaning of the same for fraudulent reuse impossible.

The further object is to render parts of the paper more absorbent, so as to take up the ink, but without permitting any of the material used to be retained so as to affect the ink subsequently applied.

For these purposes I employ any of the alkalis of sufficient strength—caustic potash or caustic soda—(both answer the purpose) or any acid or chemical that will, to a certain extent, dissolve or otherwise loosen the sizing in the paper, and thereby produce the desired result.

It is best to put the alkali or acid on such portions of the stamp (by ruling or otherwise) after the design has been printed. If it is done before, the heavy pressure required by steel or copper plate printing would be liable to press the treated portions close together again, and thereby, in a measure, defeat the object sought to be gained by this invention.

A stamp treated in this way is just as strong and durable in the printed portions as the ordinary stamp, and is no more liable to be affected by moisture, while it is capable of holding the canceling-ink on certain portions, so that it cannot be effectually cleaned, as before mentioned, and the paper in the portions so treated will be more easily rubbed off than the rest of the stamp, and thereby render it more easily disfigured during the process of an attempted washing or cleaning.

In said drawings the parts of the stamp treated according to my invention are shown by the dotted lines A, B being the stamp-design.

I do not confine myself to any particular

design of stamp, or of the chemically-prepared portions, the object being to treat only such portions as are not covered by the ink used to print the stamp-design.

It is well known that with the ordinary postage-stamp the stamp-design is nearly indelible, while the canceling-ink is not. By treating a stamp as herein described, the best paper employed for steel or copper plate printing may be used. The stamp-design is just as indelible as any of the ordinary stamps, as it is printed in the usual manner, while the canceling-ink used thereon is equally indelible on the chemically-treated portions of the paper; and such portions of the paper being more easily abraded than the rest, it is impossible to wash or otherwise clean the stamp for fraudulent reuse.

If the chemically-treated parts should be made to cross the ink-lines composing the stamp-design without being neutralized or cleaned out from the paper, the oily or resinous matter in such ink (if it be an alkali in the paper) would be partly converted into soap, and would thereby become soluble, or partly soluble, in water, and so render the stamp-design liable to be injured by moisture, which is one of the objections this invention is intended to avoid. If the stamps are printed from a relief-line or wood-cut engraving, or by the lithograph process, the paper may be prepared beforehand by treating certain portions of its surface, either in lines or dots, with an alkali, acid, or other chemical that will loosen the fiber of the paper or partly dissolve the sizing therein, and then afterward thoroughly washing or neutralizing it, thereby relieving it of the chemical used, so that if any part of the stamp-design should be printed thereon it will not be affected thereby, while the paper will be more absorbent in the parts so treated, and thereby render the canceling-ink used in the cancellation of the stamp indelible, as hereinbefore mentioned, so that both the stamp-design and the canceling-ink are equally indelible.

I am aware that alkaline compositions have been applied to paper so as to saponify the ink with which the stamp is afterward printed; but it will be noted that in this invention the alkali is applied so as to affect the paper at

Crawford 1185(42)

205292

Lib.



SECRET

G. L. NEVILLE & L. C. GODWIN.
Stamp-Canceling Device.

No. 205,292.

Patented June 25, 1878.

Fig: 1.

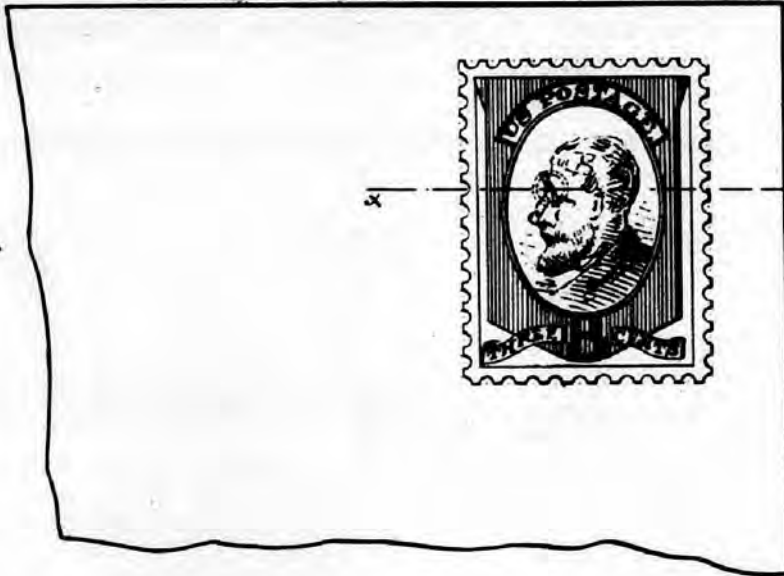


Fig: 2.

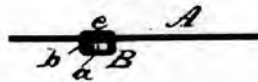


Fig: 4.



Fig: 3.



WITNESSES:

Cnas. Nida
Alex. J. Roberts

INVENTORS.

G. L. Neville
L. C. Godwin
BY *Mumford*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE L. NEVILLE AND LEROY C. GODWIN, OF PORTSMOUTH, VIRGINIA.

IMPROVEMENT IN STAMP-CANCELING DEVICES.

Specification forming part of Letters Patent No. 205,292, dated June 25, 1878; application filed November 1, 1877.

To all whom it may concern:

Be it known that we, GEORGE L. NEVILLE and LEROY C. GODWIN, of Portsmouth, in the county of Norfolk and State of Virginia, have invented a new and Improved Device for Canceling Stamps, of which the following is a specification:

Referring to the accompanying drawings, forming part of this specification, Figure 1 represents the face of a canceled stamp. Fig. 2 is a transverse section on line *x x* in Fig. 1. Fig. 3 is a detail view of the metallic cap applied to the back of the stamp. Fig. 4 is a side elevation of the instrument employed in connection with the cap in destroying or canceling the stamp.

Similar letters of reference indicate corresponding parts.

Our invention consists in a cap having thin sharp edges and two points, which are inserted in the stamp from the back and bent down over its face, to hold the edges of the cap against the back of the stamp.

In the drawings, A is the stamp, and B a cap, having a head, *a*, a vertical rim, *b*, and two points, *c*, placed diametrically opposite, and projecting in the same direction from the head as the rim *b*. These points, by means of suitable machinery, are inserted in the stamp from the back or gummed side, and are bent down over the face of the stamp, so as to hold the rim *b* in contact with the back of the stamp.

When the stamp is attached to an envelope or other surface in the usual way, the head *a* rests against the surface, while the rim *b* holds the portion of the stamp immediately surrounding it from coming into contact with the surface,

The canceling-instrument represented in Fig. 4 consists of a handle, C, having attached to one of its ends a short elastic rubber cylinder, D.

The canceling of the stamp is effected by striking it, while the surface to which it is attached lies upon a solid object, with the elastic portion D of the canceling-instrument. This operation forces the stamp down upon the cap, and cuts an aperture corresponding in form and size to the cap.

The cap and detached portion of the stamp fall from the envelope to which they were attached as soon as the envelope is moved out of a horizontal position, if they are not removed by the canceling-instrument.

The large surface of the head *a* prevents the cap from injuring the envelope, or other surface upon which the stamp is used, while the sharp edges of the rim *b* insure the removal of a portion of the stamp when it is struck with the elastic rubber instrument.

The caps are made from any suitable sheet metal by the well-known process of stamping.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

The combination of the cap B, having the head *a*, rim *b*, and points *c*, with the stamp A, substantially as herein shown and described.

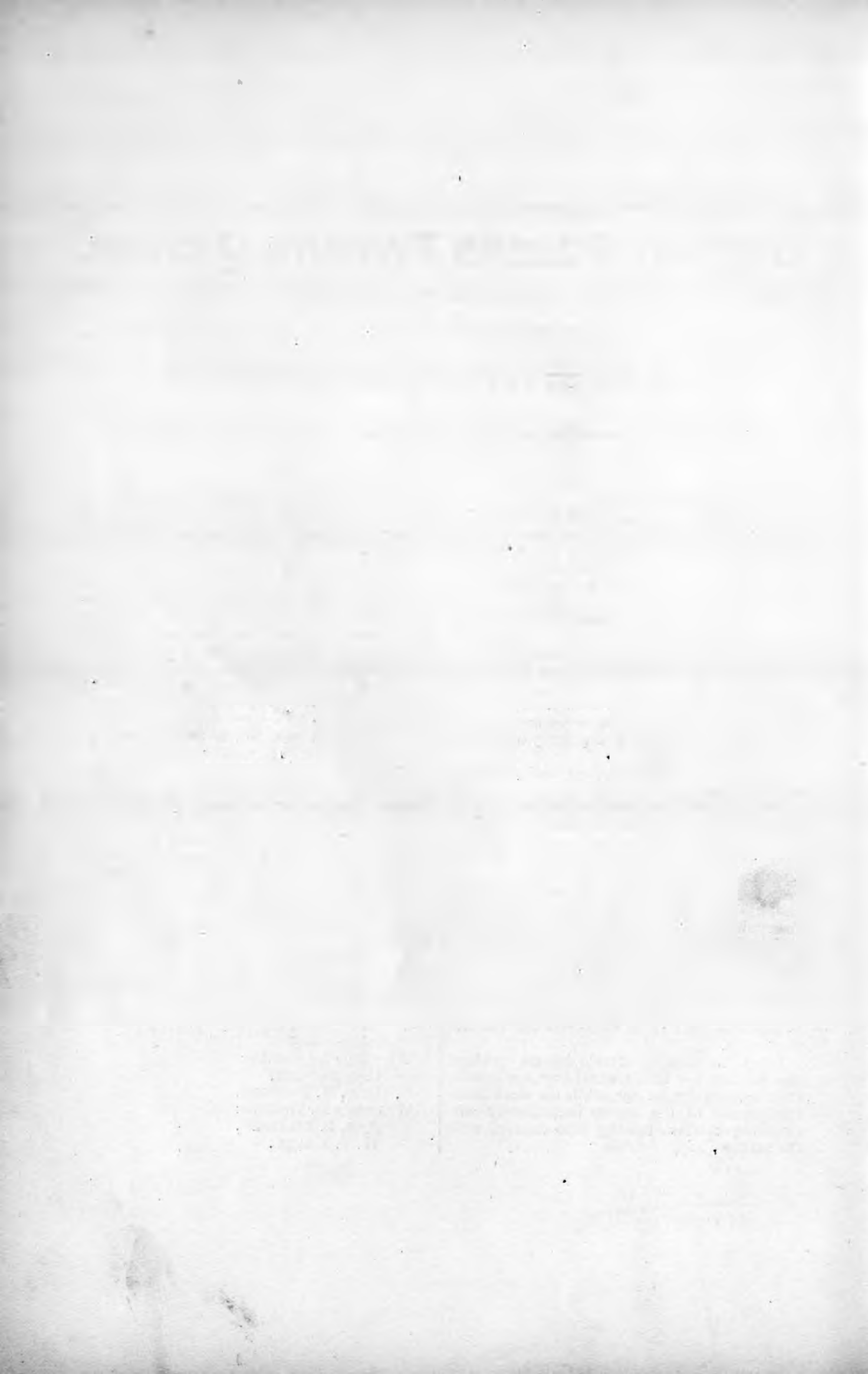
GEORGE L. NEVILLE.
LEROY C. GODWIN.

Witnesses for Neville:

C. SEDGWICK,
GEO. M. HOPKINS.

Witnesses for Godwin:

AND. L. BILISOLY,
W. T. KELLY.



Crawford 1185 (43)

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49.



C. F. SPENCER.
Postage and Revenue Stamps.

No. 208,433.

Patented Sept. 24, 1878.

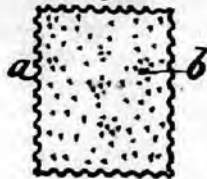
Fig. 1.



Fig. 3.



Fig. 2.



Attest.
R. F. Osgood
R. E. White

Inventor.
Chas. F. Spencer

UNITED STATES PATENT OFFICE.

CHARLES F. SPENCER, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 208,422, dated September 24, 1878; application filed August 2, 1878.

To all whom it may concern:

Be it known that I, CHARLES F. SPENCER, of the city of Rochester, county of Monroe, and State of New York, have invented a certain new and useful Improvement in Postage and Revenue Stamps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figures 1 and 2 are back views of a stamp, showing the gummed side prepared with my improvement. Fig. 3 is a front view of the same canceled.

My improvement relates to the preparation of the gummed side of the stamp, whereby the latter may be canceled by the blow of a hammer, mallet, hand-stamp, or other instrument having an elastic face, so that when the blow is given the face of the stamp will be broken into small pieces, entirely defacing and destroying the same, and preventing its recovery for second use.

The invention consists in coating the gummed side with emery, sand, or other hard granular material, either in the act of gumming or after the gum is applied, so that said granular material will adhere with the gum, and when a smart blow is delivered upon the stamp the same will be defaced and disfigured, as before described, and without any harm or detriment to the envelope or its contents.

a represents a stamp of ordinary form. *b* is the granular coating, applied upon the gummed side. It may cover a part or the whole of the back of the stamp, but should lie at least in the center. I prefer for the purpose ordinary emery of tolerable fineness; but sand, ground glass, and other materials of similar granular nature may be employed. This granular coating may be mixed with the gum and be spread in a body upon the sheets of stamps, or it may be sifted or otherwise applied on the gummed surface after the gum has been spread. Being fine, it adheres with the gum, and does not interfere with the sticking of the stamp. When the stamp is stuck this granular material rests between the stamp and the envelope, and when the stamp is struck by the canceling-instrument the fine grains

cut through the stamp, entirely defacing the same, as before described.

In use, the envelope or paper having the stamp attached is placed over a hard surface, preferably metal, and the blow is simply struck upon the stamp. This causes the granular material to cut outward through the stamp, and not inward through the envelope or paper.

I am aware that stamps have been coated with size and other materials of a soft nature; also, that strings have been applied under them. They have also been embossed or struck up in the center, and sharp cutting-teeth have been used to tear the stamp. They have also been prepared with fugitive inks, which are acted upon chemically when the natural inks have been applied; and they have been prepared in various ways in order to effectively cancel the stamp. Such devices are not the equivalent of my invention.

The distinctive feature in my improvement is, that the gummed side of the stamp is coated with hard grains of sufficient fineness to be incorporated with and form a part of the gummed coating, and yet of sufficient coarseness and hardness to cut through and utterly deface the stamp when the blow is struck. It is so easily and effectively applied as hardly to add to the cost of the stamps, having, therefore, the merit of extreme cheapness. The grains, being spread over the surface, deface the stamp over a large extent, and more effectively than can be done by any other means within my knowledge.

Having thus described my invention, I claim—

A postal or revenue stamp having a portion or the whole of its gummed surface covered with hard granular material incorporated with the gum, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

CHAS. F. SPENCER.

Witnesses:

R. E. WHITE,
R. F. OSGOOD.

UNITED STATES PATENT OFFICE

CHARLES F. BUCKNER OF WASHINGTON, D. C.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS

Be it remembered that Charles F. Buckner, of the District of Columbia, do hereby certify that the following is a true and correct copy of the original specification for an improvement in postage and revenue stamps, as filed in the Patent Office on the 15th day of August, 1900.

The object of this invention is to provide a means for the cancellation of postage and revenue stamps, and to prevent the reuse of such stamps after they have been used for their intended purpose.

The invention consists in a stamp which is provided with a perforated edge, and which is adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

The invention also consists in a stamp which is provided with a perforated edge, and which is adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

The invention also consists in a stamp which is provided with a perforated edge, and which is adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

It is to be understood that the invention is not limited to the specific details herein shown and described, but may be modified in various ways without departing from the scope of the invention.

The invention is claimed in the following claims:

1. A stamp provided with a perforated edge, and adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

2. A stamp provided with a perforated edge, and adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

3. A stamp provided with a perforated edge, and adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

4. A stamp provided with a perforated edge, and adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

5. A stamp provided with a perforated edge, and adapted to be torn apart at the perforated edge, so that the stamp may be used for its intended purpose, and the remaining portion of the stamp may be torn away and discarded.

Crawford 1185(44)

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A. W. ANDERSON.
Making Fiber-Faced Paper.

No. 211,207.

Patented Jan. 7, 1879.

Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.



WITNESSES

Villette Anderson.
W. C. Masi

INVENTOR

Axel W. Anderson,
by E. W. Anderson,

ATTORNEY

UNITED STATES PATENT OFFICE.

AXEL W. ANDERSON, OF BEDFORD, PENNSYLVANIA.

IMPROVEMENT IN MAKING FIBER-FACED PAPER.

Specification forming part of Letters Patent No. **211,207**, dated January 7, 1879; application filed August 7, 1878.

To all whom it may concern:

Be it known that I, AXEL W. ANDERSON, of Bedford, in the county of Bedford and State of Pennsylvania, have invented a new and valuable Improvement in the Art of Making Fiber-Faced Paper and the Manufacture thereof; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of a postage-stamp illustrating this invention. Fig. 2 is an enlarged view of the paper, showing the confused disposition of the fibers forming the surface. Fig. 3 is a sectional view, also enlarged, showing the fibers embedded by their lower ends in the pulp, and having their superficial ends raised to form a nap. Fig. 4 is an enlarged sectional view, showing the fibers laid down and sized. Figs. 5 and 6 show a letter printed on the paper before and after washing, the views being enlarged.

This invention has relation to the manufacture of a paper having an invisible, confused, fibrous character, whereby it is especially adapted for postage and other revenue stamps, bank-bills, checks, drafts, and other financial or important papers.

The invention consists in the novel process of manufacture—to wit, embedding in the pulp, on one or both sides thereof, a layer of fibers, the outer ends of which are then raised in the form of a nap, confused, or intermingled by rotary brushes or other suitable means, and sized to form a surface for printing or writing, as hereinafter more fully shown and described.

The invention also consists in the paper manufactured under this process having a confused fibrous face and a firm body or back, in which the interior ends of the fibers are embedded in an intimate and secure manner; and, further, in the printed stamp, bill, note, check, draft, bond, or ticket which is produced from this paper, all as hereinafter specified.

In the accompanying drawings the construction of the paper is illustrated by enlarged views, which will aid in affording a clear un-

derstanding of the invention, the object of which is to provide a paper which, having once undergone the process of printing or writing, cannot, after washing or erasing, be restored to the original printed or written form, thereby affording a secret or defensive paper, the peculiarity of which is not easily discovered, and which, when known, will serve as a warning and safeguard, because of the manifest impossibility of restoration of the surface of the paper after it has been tampered with.

The process of manufacture is as follows: The preparation of the pulp is not different from that of any other fine paper until it is ready to pass through the machine whereby it is converted into sheets. Then, as the pulp is spread, and while it is yet soft, fibers of silk or other suitable tough material, which have been previously prepared by being cut, carded, or otherwise loosened up, so that they will easily separate, are spread or scattered, by means of fans or otherwise, over the pulp, which then passes under a roller, embedding the fibers solidly into the body or back of the paper. The pulp now passes over the ordinary wire screen, so that the surplus water will be taken from the paper as completely as possible, and the paper can be passed under a second roller, providing the pressure employed is not too great. The paper is then acted upon by brushes made of wire or other suitable material having sufficient stiffness, and being of a clean character, so that the paper will not be soiled. These brushes are usually arranged in sets, and are so constructed and operated by suitable mechanism that they will rise and fall at very short intervals, and in this way raise the fibers on the surface of the paper in the form of a nap, as indicated in an enlarged view in Fig. 3 of the drawings. The fibers after the action of these rising and falling brushes or nappers now standing erect on its surface, the paper is passed over heated or calendering rollers, so as to be nearly dried with the superficial ends of its fibers in this upright form. Then the paper is passed under brushes having a horizontal rotary zigzag or irregular motion, whereby the fibers, which were before erect, will be bent down and thoroughly confused or intermingled.

The confusing-brushes are preferably made

small and circular, and arranged to revolve in different directions on vertical axes; but, if thought proper, the brushes can be arranged on horizontal axes.

Several sets of brushes acting in succession upon the fibers as the paper passes are advisable, in order to thoroughly confuse the fibers, laying them in so many and such varying directions that no regularity or order can be perceived.

The paper has now a confused nap, and is ready to be sized. In the sizing some difference is observed, according to the use for which the paper is designed, being light for postage and other revenue stamps, so as not to withstand too much moisture, while for bank-notes, drafts, and financial papers it should be well sized, so as to withstand moisture as much as possible, scratching being the main test for this class of papers; or a spot or portions of the paper may be left without sizing as a proof of its genuine character. After the sizing the confused nap is laid down, and, being clean or of the color of the paper is invisible. The fibers employed in this process may be of different lengths, according to the character of the paper desired, and it is apparent that in the action of the lifting or napping brushes only their superficial ends are raised, to be afterward laid down in the confused manner stated, and sized, so that their deep or embedded ends are rooted in the base of the paper, forming a part thereof. The paper, therefore, can have a solid base without fibered character, so far as its under or back surface is concerned, this being the usual or preferred form of manufacture; but both sides of the paper may be provided with the fibered surface if thought desirable.

The paper, having been sized, is ready for writing or printing, being chiefly adapted to the latter operation for the production of stamps and printed bills and forms of financial paper. The printing is done upon the fibered surface, and it is apparent upon the fibers in their confused and irregular position, in which they are sized down, the letters, designs, or figures being produced, nevertheless, in a clear and perfect manner, and remaining in form until the paper is tampered with by washing, scratching, or erasing, when the fiber

ends will be disturbed and move out of their normal position with those portions of the printed marks which they carry. Now, as these fibers together form or aid in forming the design, letter, or figure, because of their marked portions, when in the original position in which they were sized down and printed upon, it is evident that after the disarrangement which will inevitably occur in the erasing the figures, letters, or design will be so affected and marred that there will be direct evidence of the tampering on the face of the paper; and it is also apparent that the fibers, having been carried or moved out of position with their portions of the common design, cannot be rearranged and put back into their original positions, so as to show a clean and perfect print.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. In the manufacture of paper, the process of embedding fibers in the pulp, raising the ends of the same from the rolled sheet in the form of an upright nap, brushing the fiber ends down in different directions in a confused manner, and sizing the surface thus formed, substantially as specified.

2. A fibered paper having the inner or deep ends of the fibers embedded in a pulp body, and the superficial ends of said fibers irregularly laid and sized to form a fibered surface of confused character, substantially as specified.

3. A paper composed of pulp and fibers partly embedded therein and partly exposed and laid down in a confused or irregular manner with size, to form the surface for printing or writing, substantially as specified.

4. A revenue-stamp or financial bill or note having its body of pulp and fibers embedded therein, and its face composed of the confused superficial ends of said fibers laid down with size, and carrying the printed letters, figures, or design, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

AXEL WILLIAM ANDERSON.

Witnesses:

H. OSCAR KLINE,
T. J. TROUT.

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51



K. WHEELER.
Postage and Revenue-Stamp.

No. 212,416.

Patented Feb. 18, 1879.

Fig. 1.



Fig. 2.



Fig. 3.



WITNESSES:

S. J. West,
Cornelius Cox

INVENTOR:

KENDRICK WHEELER,
BY

H. W. Beadle & Co.

ATTYS.

UNITED STATES PATENT OFFICE.

KENDRICK WHEELER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 212,416, dated February 18, 1879; application filed June 17, 1878.

To all whom it may concern:

Be it known that I, KENDRICK WHEELER, of Brooklyn city, county of Kings, and State of New York, have invented a new and useful Improvement in Postage and Revenue Stamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists, first, in an improved method of preparing postage and other stamps, consisting, essentially, in applying color to the same by means of a cutting or puncturing tool, for the purpose of preventing the same from being reused after cancellation; and, second, in the new stamp thus produced as an article of manufacture.

In the drawings, Figure 1 represents a blank stamp which has simply been cut by the tool; Fig. 2, a similar stamp which has been cut, and also colored on the lines of the cut; and Fig. 3, an enlarged view of a printed stamp which has been cut, and also colored upon the lines of the cut.

To enable others skilled in the art to carry my invention practically into effect, I will proceed to describe the same fully.

A, Fig. 3, represents a postage or other stamp, of the usual well-known kind, which has been punctured or cut by any proper tool, in some regular form, and has been, at the same time, colored by any proper means upon the severed lines.

A simple method of carrying the invention into effect is to provide the cutting-edges of the tool with coloring material just before the operation of cutting is performed. By this means the coloring-matter is applied to the stamp in certain definite relations to the outlines and both edges of the cut—that is, the line of the cut and the line of the color exactly

coincide with each other, the color being, in fact, applied by the cutter-heads; and if the color is once removed, it can never again be applied in precisely the same relations.

The advantages resulting from this method of preparing the stamps are as follows: The coloring-matter, being applied by the cutter, coincides precisely with the lines of the cut. Now, if the stamp after cancellation be washed for the purpose of reusing the same, this color, which is fugitive in its nature, will also be removed with the canceling-ink, and, being once removed, cannot be replaced in its original position, because of the impossibility of making any tool register accurately with the lines of the cut. The points, also, of the cut portion, when wet or washed, contract in the process of drying, so that the stamp never can be restored to its original condition.

Any form of cutter may be employed, and any suitable color be applied in any proper manner.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The described method of manufacturing stamps, consisting in printing the same in the usual manner, and then making cuts or slits therein, and simultaneously applying an auxiliary fugitive color to said cuts or slits by means of the cutter-instrument.

2. An uncanceled stamp having cut or punctured lines, to the edges of which an auxiliary fugitive color is applied, substantially as and for the purpose set forth.

This specification signed and witnessed this 15th day of June, 1878.

KENDRICK WHEELER.

Witnesses:

SAMUEL WALKER,
F. G. WHEELER.

Brawford 1185(46)

220.092.

52



J. SANGSTER.
Postage and Revenue Stamp.

No. 220,092.

Patented Sept. 30, 1879.

Fig. 1

Fig. 2



Witnesses
C. L. Pond
J. H. Stiles

Inventor
James Sangster

UNITED STATES PATENT OFFICE.

JAMES SANGSTER, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO ROBERT DUNBAR AND GEORGE H. DUNBAR, OF SAME PLACE.

IMPROVEMENT IN POSTAGE AND REVENUE STAMPS.

Specification forming part of Letters Patent No. 220,092, dated September 30, 1879; application filed July 9, 1877.

To all whom it may concern:

Be it known that I, JAMES SANGSTER, of the city of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Postage, Revenue, or other Stamps, which improvements are fully set forth in the following specification.

In the drawings, Figure 1 represents a finished stamp; and Fig. 2, a postage-stamp, showing the appearance of the same after an attempt has been made to wash off the canceling-ink.

The object of this invention is to produce upon portions of the stamp-design a chemical change in the oily or other material which holds the particles of the coloring-matter of the ink together, so that when an attempt is made to wash or otherwise erase the canceling-ink from the stamp for fraudulent reuse the parts so changed will wash out and expose the attempt by destroying the appearance of the stamp; and it consists of a postage or other stamp having lines, dots, or characters ruled or otherwise placed upon its surface, composed of a material that unites with and changes the oily, fatty, or resinous matter in the ink, thereby forming a soapy compound, or otherwise rendering it soluble in water or other liquids in such lines or dots, without seriously injuring the appearance of the coloring-matter therein. There are many of the alkalis that may be used for this purpose; but in practice I find that caustic soda answers a good purpose. It ceases to be caustic in a short time after being put on, as it rapidly absorbs carbonic acid from the air and becomes carbonate of soda, after which it remains without change, and does not readily absorb water or become wet from the atmosphere, like caustic potash or its equivalent.

The caustic soda may be used in combination with many of the alkalis in such proportions that the compound will be strong enough

for the purpose. I have used a solution of caustic soda and borax, which worked well; also caustic potash, carbonate of ammonia, cyanide of potassium, and other alkaline solutions; but a solution of caustic soda and water, having a specific gravity of 1.356, or thereabout, answers a good purpose; but it may be further diluted with water and work well, according to the coarseness or fineness of the lines, very fine lines requiring a stronger solution than coarser lines.

The depth at which the solution penetrates the ink or paper may also be regulated by the width of the lines, as coarse lines hold a greater quantity of the solution and will penetrate deeper into the ink and paper than fine lines, which do not hold so much.

The stamp may be ruled or otherwise impressed with the solution on either side; but such lines or dots should be coarse enough to hold sufficient material to pass through the paper, so as to reach and act upon the material in the ink, as hereinbefore mentioned. When such lines are placed on the face of the stamp (which is better) it is not necessary that the solution should pass through the paper, but only far enough to act on the ink. Consequently they may be made finer, or sufficiently narrow to produce the desired effect.

I claim as my invention—

A postage or other stamp having on its face lines, dots, or characters consisting of caustic soda, or other material that combines or unites with or changes the oily, fatty, or resinous matter in the ink employed to form the design, as described, thereby producing a soapy compound, or otherwise rendering the ink soluble in water or other liquids, as specified.

JAMES SANGSTER.

Witnesses:

HUGH SANGSTER,
C. L. POND.

UNITED STATES PATENT OFFICE.

JULIUS KIRCHER, OF BROOKLYN, ASSIGNOR OF THREE-FIFTHS OF HIS RIGHT TO BENNO LOEWY, OF NEW YORK, N. Y.

MANUFACTURE OF PRINTING-INK.

SPECIFICATION forming part of Letters Patent No. 223,363, dated January 6, 1880.

Application filed November 28, 1879.

To all whom it may concern :

Be it known that I, JULIUS KIRCHER, of Brooklyn, Kings county, State of New York, have invented a new and Improved Printing-Ink, of which the following is a specification.

My invention relates to the printing or preparation of postage and other stamps, and has for its object to prevent the washing and reuse of said stamps.

My invention consists in preventing the fiber of paper or other material to be printed upon from taking color, printing the stamps with a deleble ink—that is, with an ink which will not unite intimately with the fiber of the paper, and which will be soluble in the liquids usually employed for washing the stamps, or will combine with any substance used for that purpose.

My invention consists, further, in a composition of ink which will effect the purposes just named.

To make an ink fit for printing purposes, and at the same time deleble, I have discovered that certain conditions are requisite: first, that the completed substance must not be of a nature which will dry too rapidly; secondly, that the substance must contain an ingredient which, covering or protecting the paper or material to be printed upon, will prevent the coloring-matter or pigment of the ink from uniting intimately therewith.

When the second condition is fulfilled the coloring-matter rests upon the surface of the paper or material printed upon, and this coloring-matter and its solvent having been mixed with a suitable resin, this resin acts to protect the ink from the atmosphere and other destructive influences.

To carry my invention into effect I dissolve about ten (10) parts, by weight, of any suitable resin, such as rosin, gum-dammar, olibanum, mastic, benzoin, or copal, with ten (10) to fifteen (15) parts of turpentine, benzine, copaibabalsam, or other ethereal or essential oil at a moderate temperature. I may, however, slightly vary these proportions, using more or less of either. When complete solution has taken place I add one (1) part by weight, or a little more, of linseed-oil or other drying-oil,

such as poppy-oil, to unite with the resin; and to this I then add one part or a little more of olive-oil or other non-drying oil, such as oleine, palm-oil, cocoa-oil, tallow, butter, fat, or the like, to unite with the fiber. The mass is then slightly heated, and any suitable pigment desired is added in quantities according to the depth of color wished, the kind and quality of the pigment used, and the proportions of the ink employed—say from ten to twenty parts by weight.

Since my invention consists, mainly, in producing an ink with which to print postal or revenue stamps, money-checks, and similar articles, which will sooner be destroyed or affected than any writing or canceling-mark upon the face of the stamp or check, it is obvious that I am not limited to the exact proportions given for producing the ink, the main essential being that the coloring-matter, while sufficiently fast for all legitimate purposes, should rest upon the body of the stamp in such manner that when it is attempted to wash the stamp with any substance to remove the canceling-mark—such as soap and water, soda, an alkali, ether, alcohol, or other substance employed to wash stamps for reuse—it will be effaced. It is obvious, therefore, that the ink might be prepared without the quantity of the non-drying or fatty oil, in which case the oil should be previously placed upon the paper or material to be printed upon, or the same be charged therewith.

Another reason why the proportions may and should be varied is, that different kinds or qualities of paper and different modes or varieties of printing may demand a different kind or quality or a different consistence of ink.

Although I have shown that certain ingredients of this ink may be used separately, I prefer to use the ink described as an entirety.

Having thus described my invention, what I desire to claim, and secure by Letters Patent, is—

1. The method of preventing the recovery and reuse of postage-stamps, revenue-stamps, checks, &c., which have been already used, which consists in saturating the body of the material of which the stamp is composed with an oleaginous protective substance, whether

forming a part of the ink or not, substantially as described.

2. The method of preventing the recovery and reuse of postage and other stamps which
5 have been already used, which consists in producing the figure or design upon the paper or material printed upon and treated with an oleaginous substance, either separate from or
10 contained in the ink, by means of a deleble ink, as set forth, whereby any attempt to efface the cancellation-mark will spoil the stamp.

3. A printing-ink consisting of a suitable resin, such as rosin, dissolved in an ethereal or essential oil, such as turpentine, a drying-oil,

as linseed or poppy oil, and a non-drying or
15 fatty oil, such as olive-oil, to protect the fabric, and a suitable pigment, substantially as and for the purpose set forth.

4. The herein-described printing-ink, consisting of ten (10) parts, by weight, of rosin,
20 ten (10) to fifteen (15) parts of turpentine, one (1) part of linseed-oil, one (1) part of olive-oil, and twelve (12) to twenty (20) parts of a suitable pigment, substantially as and for the purpose set forth.

Witnesses: JULIUS KIRCHER.

HENRY E. ROEDER,

JOHN GIBAL.

Reissued 9126

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UNITED STATES PATENT OFFICE.

JULIUS KIRCHER, OF BROOKLYN, NEW YORK, ASSIGNOR OF THREE-FIFTHS OF HIS INTEREST TO BENNO LOEWY, OF NEW YORK CITY.

MANUFACTURE OF PRINTING-INK.

SPECIFICATION forming part of Reissued Letters Patent No. 9,126, dated March 23, 1880.

Original No. 223,363, dated January 6, 1880. Application for reissue filed January 21, 1880.

To all whom it may concern:

Be it known that I, JULIUS KIRCHER, of Brooklyn, Kings county, and State of New York, have invented a new and Improved Printing-Ink, of which the following is a specification.

My invention relates to the printing or preparation of postage-stamps and other stamps, checks, bonds, &c., and has for its object to prevent the washing, reuse, or alteration of said stamps, checks, bonds, &c.

My invention consists in preventing the fiber of paper or other material to be printed upon from taking color, printing the stamps with a deleble ink—that is, with an ink which will not unite intimately with the fiber of the paper, and which will be soluble in the liquids usually employed for washing the stamps, or will combine with any substance used for that purpose.

My invention consists, further, in a composition of ink which will effect the purposes just named.

To make an ink fit for printing purposes, and at the same time deleble, I have discovered that certain conditions are requisite: first, that the completed substance must not be of a nature which will dry too rapidly; secondly, that the substance must contain an ingredient which, covering or protecting the paper or material to be printed upon, will prevent the coloring-matter or pigment of the ink from uniting intimately therewith.

When the second condition is fulfilled the coloring-matter rests upon the surface of the paper or material printed upon, and this coloring-matter and its solvent having been mixed with a suitable resin, this resin acts to protect the ink from the atmosphere and other destructive influences.

To carry my invention into effect I dissolve about ten (10) parts, by weight, of any suitable resin, such as rosin, gum-dammar, olibanum, mastic, benzoin, or copal, with ten (10) to fifteen (15) parts of oil of turpentine, benzine, copaiba-balsam, or other ethereal or essential oil at a moderate temperature. I may, however, slightly vary these proportions, using more or less of either.

When complete solution has taken place I add one (1) part, by weight, or a little more, of linseed-oil or other drying-oil, such as poppy-oil, to unite with the resin, and to this I then add one part, or a little more, of olive-oil or other non-drying oil, such as oleine, palm-oil, cocoa-oil, tallow, butter, fat, or the like, to unite with the fiber. The mass is then slightly heated, and any suitable pigment desired is added in quantities according to the depth of color wished, the kind and quality of the pigment used, and the proportions of the ink employed—say from ten (10) to twenty (20) parts, by weight.

Since my invention consists, mainly, in producing an ink with which to print postal or revenue stamps, money-checks, and similar articles, which will sooner be destroyed or affected than any writing or canceling-mark upon the check or stamp, it is obvious that I am not limited to the exact proportions given for producing the ink, the main essential being that the coloring-matter, while sufficiently fast for all legitimate purposes, should rest upon the body of the stamp in such manner that when it is attempted to wash the stamp with any substance to remove the canceling-mark—such as soap and water, soda, an alkali, ether, alcohol, or other substance employed to wash stamps for reuse—it will be effaced. It is obvious, therefore, that the ink might be prepared without the quantity of the non-drying or fatty oil, in which case the oil should be previously placed upon the paper or material to be printed upon, or the same be charged therewith.

Another reason why the proportions may and should be varied is, that different kinds or qualities of paper or material to be printed upon and different modes or varieties of printing may demand a different kind or quality or a different consistence of ink.

Although I have shown that certain ingredients of this ink may be used separately, I prefer to use the ink described as an entirety.

Having thus described my invention, what I desire to claim and secure by Letters Patent is—

1. The method of preventing the recovery,

alteration, or reuse of postage-stamps, revenue-stamps, checks, bonds, &c., which have been already used, which consists in saturating the body of the material of which the stamp, check, or bond, &c., is composed with an oleaginous protective substance, and printing the stamp or other figure or design thereon.

2. The method of preventing the recovery, alteration, or reuse of postage and other stamps, bonds, checks, &c., which have been already used, which consists in producing the figure or design upon the paper or material printed upon and treated with an oleaginous substance, either separate from or contained in the ink, by means of a deleble ink, as set forth, whereby any attempt to efface the cancellation-mark will spoil the stamp.

3. A printing-ink consisting of a suitable

resin, such as rosin, dissolved in an ethereal or essential oil, such as oil of turpentine, a drying-oil, as linseed or poppy oil, and a non-drying or fatty oil, such as olive-oil, to protect the fabric, and a suitable pigment, substantially as and for the purpose set forth.

4. The herein-described printing-ink, consisting of ten (10) parts, by weight, of rosin, ten (10) to fifteen (15) parts of oil of turpentine, one (1) part linseed-oil, one (1) part of olive-oil, and ten (10) to twenty (20) parts of a suitable pigment, substantially as and for the purposes set forth.

JULIUS KIRCHER.

Witnesses:

WM. J. LEITCH,
MOSES LEVY.

Crawford 1185(49)

228.365

55



[Faint handwritten notes, possibly bleed-through from the reverse side of the page]

[Faint handwritten notes, possibly bleed-through from the reverse side of the page]

(No Model.)

J. MACDONOUGH.
Postage-Stamp.

No. 228,365.

Patented June 1, 1880.

Fig:1.



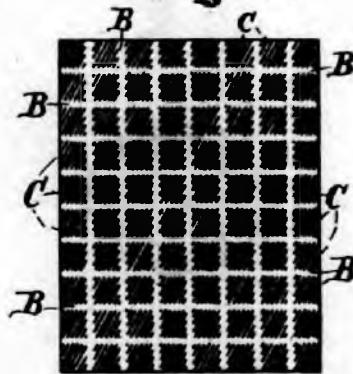
Fig:2.



Fig:3.



Fig:4.



Witnesses:

A. Henry Gentner, &
H. A. Johnston.

Inventor:

J. Macdonough.
By his attorney,
Thomas D. Stetson.

UNITED STATES PATENT OFFICE.

JAMES MACDONOUGH, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND THE AMERICAN BANK NOTE COMPANY, OF SAME PLACE.

POSTAGE-STAMP.

SPECIFICATION forming part of Letters Patent No. 228,365, dated June 1, 1880.

Application filed April 6, 1880. (No model.)

To all whom it may concern :

Be it known that I, JAMES MACDONOUGH, of New York city, in the State of New York, have invented certain new and useful Improvements relating to Postage-Stamps and analogous articles, of which the following is a specification.

I have devised improved means of rendering postage-stamps partly fugitive. It has been before proposed to do so by applying to the paper, before printing it with the ordinary ink, a partial coating of gum-arabic or other material soluble in water, applying such in cross-lines or otherwise, so as to cover a part only of the surface which is to compose the stamp. Any completely soluble or partially soluble coating thus applied is liable to be affected by the wetting of the paper which is required previous to the printing in order to insure the best work. The soluble or partially soluble lines are liable to spread and become almost or quite equally diffused over and through the entire paper. I have improved upon this by substituting for the soluble material a coating of shellac, or an analogous hard coating which is unaffected by water, but which will hold up the ink lying thereon and cause it to be easily removed when subjected to a severe rubbing in the act of washing off the canceling-ink.

The following is a description of what I consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a section of paper prepared to render a portion of the printing-ink to be applied fugitive. Fig. 2 is a corresponding section of a finished stamp ready for sale. Fig. 3 is a section showing a portion of a stamp after a trial to wash off the canceling-ink. These three figures are on an enlarged scale. Fig. 4 shows the face of a stamp after the canceling-ink has been washed off.

Similar letters of reference indicate like parts in all the figures.

I take paper of any ordinary or suitable character adapted to form the desired stamp. Previous to the printing I rule it in cross-lines by hand or with a suitable ruling-machine, employing instead of ink a solution of shellac

in alcohol, or in ammonia water, or in other suitable solvent. I can use other material than shellac or other solvent so long as it results, like the use of shellac, in the leaving of a hard coating upon the paper over which the printing of the final impression with ordinary printers' ink will lie and produce the same general appearance as on the other parts of the paper. The paper thus treated on a portion of the surface will receive the ink with practical uniformity wherever the lines of the printed device may strike, and stamps thus made will present the ordinary appearance to the eye, but the ink will lie differently conditioned on the different parts. On the squares between the rulings it will penetrate the paper and take a permanent hold; but on the surface previously coated with shellac—that is to say, on the lines which cross each other, or on whatever other lines or surfaces may be thus coated by the previous treatment—it will lie higher and with little or no penetration either into the paper or into the shellac which lies thereon.

When such stamp is subjected to friction in the attempt to wash off the canceling-ink, (not represented,) the ink lying on the shellac (not only the canceling-ink, but also the permanent ink there lying) will, by reason of its small penetration and of its being held up the thickness of the shellac coating above the adjacent parts of the paper, be washed off, or rubbed off, or removed before the permanent ink lying in the spaces between will be affected. It follows that when the stamp has been used on a letter and has been canceled, the canceling-ink cannot be subsequently washed away or removed by any process which requires rubbing without removing the permanent ink over the shellac before the rubbing has been sufficiently continued to remove the canceling-ink in the slightly-sunk or less firmly-supported intermediate spaces.

Referring to the drawings, A is the body of the paper, B the coating of shellac, and C the ink forming the proper printed device of the postage-stamp. C represents the part which lies on and becomes permanently attached to the untreated portion of the paper, and c represents the part of the ink which lies

on the partial coating B, and is thereby held up and prevented from striking into the paper.

I have not deemed it necessary to represent the canceling-ink, which, it will be understood, is liable to be applied more or less thoroughly, and in some instances will be very variable in its character. Such canceling-ink lies on the outer surface of the face-printing C c. Any attempt to fraudulently wash off such canceling-ink cannot fail to detach the original ink, c, of the stamp proper, leaving the portion C of the stamp proper unaffected.

The result of the fraudulent washing of my stamp is to leave a large portion of the original stamp unaffected, so that stamps which shall in transportation be exposed to rain or lie in the bottom of a river will still retain their identity, and can be returned to the Government and replaced by new ones. They can be recognized and counted with the same facility as ordinary stamps, because a large portion of their surface is absolutely unchangeable; but when any fraudulent washing is attempted to restore a stamp which has been canceled and make it fit for subsequent use the washing away of the ink c over the portion B of the surface will make plainly apparent the fact that the stamp has been tampered with.

It will be evident that instead of ruling in cross-lines the invention may be worked by ruling with a single series of lines, or with dots or printing with curved lines, circles, or with various more or less elaborate devices.

The invention may be used with advantage for postage-stamps, revenue-stamps, and all

kinds of stamps on manufactured articles, as tobacco, whisky, and the like. It may be used with advantage in any case where canceling or other marks are liable to be washed off from any paper representing value.

I do not in this patent claim, broadly, the making a part of the ink fugitive, or more easily removable than the remainder; neither do I in this patent claim the use of a substance on a part of the paper which will act chemically on the ink lying above it, nor one which will form a layer under a part of the ink, which is soluble in water.

I do not in this application claim, broadly, the making of a stamp partly permanent and partly fugitive; but

I claim as my invention—

1. The within-described method of preparing paper for printing postage-stamps and analogous printed articles representing value, by coating portions of its surface with a hard under layer insoluble in water, so as to mechanically hold up and thereby to make the ink on that portion of the surface more easily removed than the rest, as herein specified.

2. Postage-stamps or analogous printed articles having the ink with which the impression is made thereon lying directly on the paper on certain portions and on a hard under layer insoluble in water on the remaining portion, substantially as herein described.

J. MACDONOUGH.

Witnesses:

J. E. CURRIER,
L. B. GREGORY.

Grawford 1185(50)

236.960
56.



R. P. SAWYERS.
Postage Stamp.

No. 236,960.

Patented Jan. 25, 1881.

Fig 1.

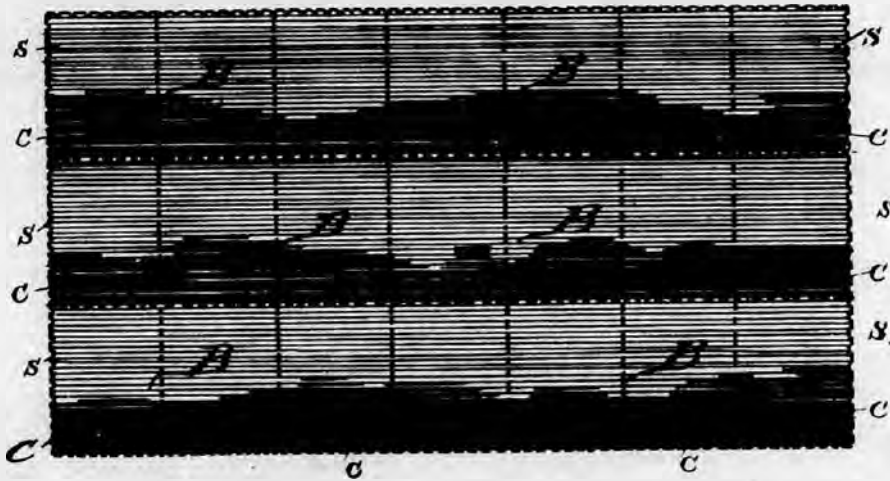


Fig 2.

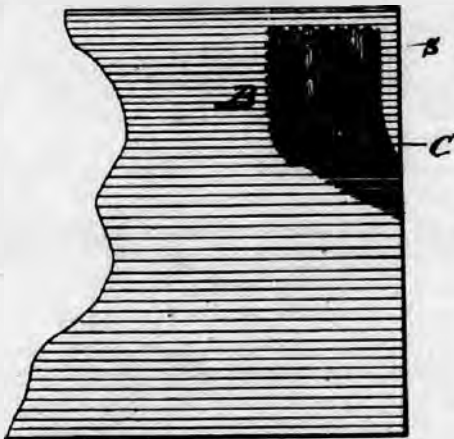
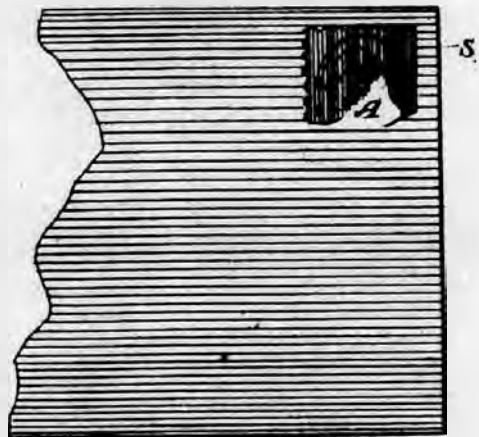


Fig 3.



Attest:
Geo. T. Smallwood Jr
Walter Allen

Inventor
Reese P. Sawyers
By Knight Bros
Atty's.

UNITED STATES PATENT OFFICE.

REESE P. SAWYERS, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-FOURTH
TO ROBERT R. HUTCHINSON, OF SAME PLACE.

POSTAGE-STAMP.

SPECIFICATION forming part of Letters Patent No. 236,960, dated January 25, 1881.

Application filed February 18, 1880.

To all whom it may concern:

Be it known that I, REESE P. SAWYERS, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have
5 invented a certain new and useful Improvement in Postage, Revenue, and other Adhesive Stamps; and I do hereby declare that the following is a clear and exact description of the same, which will enable others skilled in the
10 art to which it appertains to make use thereof, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure represents a back view of a portion
15 of a sheet of postage-stamps illustrating my improvement. Fig. 2 is a face view of an envelope with a stamp applied and ready for canceling; and Fig. 3 is a similar view of the envelope, showing the irregularly torn and
20 abraded portion of the stamp which remains affixed upon the envelope after canceling.

Similar letters of reference indicate corresponding parts in all the figures.

My invention relates to that class of stamps
25 the cancellation of which is effected by destroying the stamp by tearing it. Heretofore stamps of this class have been gummed on a portion—say one-half—of the back, with a straight line of separation between the gummed
30 and ungummed parts, which said line has been perforated to facilitate the tearing of the stamp; but it will readily be seen that by this method the torn-off portion of one stamp could easily
35 be matched to that portion of another which remains on the envelope, inasmuch as all the stamps were torn alike, so that dishonest post-office officials, by procuring a number of used envelopes with the canceled stamps attached,
40 parts of stamps with the torn-off parts of other stamps, and thus use the same stamps over and over again. Hence this mode of cancellation has never come into practical use.

The object of my improvement is to make it
45 impossible to use a stamp a second time after it has once been canceled; and to this end it consists in gumming a portion of the back of each stamp in such a manner that the inner margin of the gummed part shall present a
50 broken or irregular line of separation to the ungummed part, the stamp to be affixed upon the envelope as usual, and the ungummed part or portion to be torn off by the proper post-office official, which tearing, by my im-

proved method of gumming, is effected in an
55 irregular or broken line, so as to make it practically impossible to match the ungummed portion (torn off in canceling) of one stamp with the gummed portion of another stamp, inasmuch as no two stamps are gummed alike or
60 line can be torn asunder according to the same of separation.

In Fig. 1 of the drawings, B B represent the individual stamps. The light-shaded portion
(marked S) is the gummed portion of the
65 stamp, while the darkly-shaded lower part (marked C) is the plain or ungummed portion, and it will be seen that each stamp is gummed not only with the inner margin of the gum
(the light part) in a wave-like irregular line,
70 but on a different line relative to the gum on the other stamps.

After the stamp has been affixed upon the envelope and this has been deposited in the
post-office, the stamp is canceled by the proper
75 officer by tearing off the flap or ungummed portion, (marked C,) which leaves the upper gummed part of the stamp (marked S) sticking upon the envelope, which part will not
80 only present an irregular or broken line of separation, not alike, practically, in any two stamps, but a portion of the remaining gummed
portion of the stamp will be more or less abraded by tearing off the surface-film of the
85 stamp, so as to leave the white paper exposed, as shown at A in Fig. 3. Thus it will be seen that by my improvement it becomes practically impossible to match the torn-off fragment
C of one stamp with the gummed portion S of
90 any other stamp, and fraud by the reuse of stamps is effectually barred.

Having thus described my improvement, I claim and desire to secure by Letters Patent of the United States—

A postage, revenue, or other adhesive stamp
95 the adhesive substance of which is applied upon an irregular portion of the back, so that the inner margin of the gum or other adhesive substance will present a wave-like irregular line on a different line relative to the gum
100 on the other stamps of a sheet, substantially as and for the purpose herein shown and set forth.

REESE P. SAWYERS.

Witnesses:

OCTAVIUS KNIGHT,
WALTER ALLEN.

THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 309

LECTURE NOTES

BY

PROFESSOR

OF PHYSICS

AND

OF ASTRONOMY

CHICAGO, ILL.

1950

PRINTED BY

UNIVERSITY OF CHICAGO PRESS

CHICAGO, ILL.

1950

PHYSICS 309

LECTURE NOTES

BY

PROFESSOR

Brawford 1185(51)

250.376

57



(Model.)

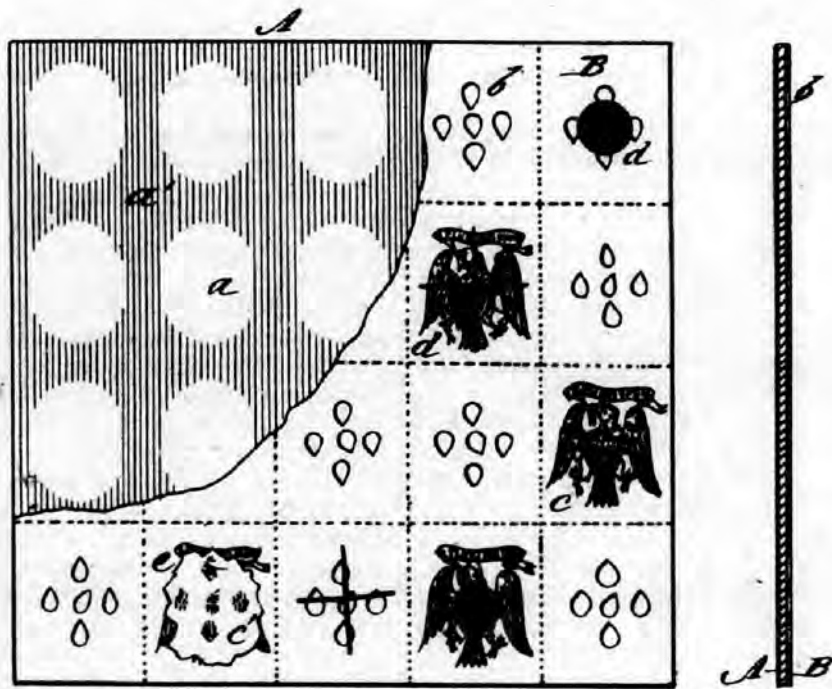
G. B. MASSEY.
POSTAGE OR REVENUE STAMP.

No. 250,376.

Patented Dec. 6, 1881.

Fig. 1

Fig. 2



WITNESSES:

C. Nevoux
W. Sedgwick

INVENTOR:

G. B. Massey
BY *Wm. H. [Signature]*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GIDEON B. MASSEY, OF NEW YORK, N. Y., ASSIGNOR OF ONE-FOURTH TO FRANCIS E. NORRIS, OF SAME PLACE.

POSTAGE OR REVENUE STAMP.

SPECIFICATION forming part of Letters Patent No. 250,376, dated December 6, 1881.

Application filed March 15, 1881. (Model.)

To all whom it may concern :

Be it known that I, GIDEON B. MASSEY, of the city, county, and State of New York, have invented a new and Improved Postage or Revenue Stamp, of which the following is a specification.

My invention consists of forming the stamps of two superposed sheets of paper, the outside sheet being perforated or cut out to form one or more holes through it near the center of each stamp, the same to be secured to the bottom sheet by some adhesive substance applied to the bottom sheet or to the outside sheet in such manner as to leave the central portion of the perforated or outside sheet free to be torn or mutilated for canceling the stamps.

In the accompanying drawings, Figure 1 is a plan view of my invention, with a portion of the outside or perforated sheet removed to show the preferred manner of applying the adhesive material, also showing the appearance of the stamps before and after printing, and also before and after cancellation or mutilation of the stamps; and Fig. 2 is an edge view of one of the sheets or blanks after being printed.

Similar letters of reference indicate corresponding parts.

The bottom sheet, A, which is preferably of strong paper—such as is ordinarily used for postage-stamps—is first coated with mucilage, or, preferably, some adhesive substance which is practically insoluble in water or unaffected by moisture or heat, in the manner shown at *a'*, so as to leave the uncovered spots *a*, which coating may be done by passing the sheets under a roller having suitable depressions formed in it or by the use of a stencil-like device and brush.

The outside sheet, B, which is preferably of tissue-paper, is first perforated with the small holes or cut-away places *b* by means of a suitable punch or cutting-roller, or otherwise, and is then placed upon the bottom sheet, A, in such manner that the central or perforated portions of each stamp will come over the spots *a*, which are not coated with the adhesive substance. The two sheets thus secured together are ready to be printed or stamped upon the outside sheet with any design, coloring, or printing, which may cover the whole surface or any portion thereof, as shown at *c*.

It is obvious, the outside sheet being perforated, that a portion of the ink or coloring material used in printing the stamps will be upon the inside sheet, as shown at *c'*, and that the two sheets are thus necessary to make the design, coloring, or printing complete.

The stamps may be canceled in the ordinary way by the drawing of a pen across the face or by the use of any hand-stamp, as shown at *d d*; or the tissue-paper may be simply torn or mutilated by passing any small instrument—like, for instance, the point of a pen—in the perforations in the outside sheet and tearing the same apart, as shown at *e*.

Though I have described and shown the perforations at or near the center of the stamps and the outside sheet of each stamp fastened to the bottom sheet at and around the edges of the stamp, it is obvious that this order might be changed—as, for instance, a row of perforations might be made near the edges of the stamp and the adhesive material applied so as to secure the outside sheet at the edges and in the center of the stamp—and that various other changes in this respect might be made and not depart from the spirit of my invention.

It is also obvious that the entire surface of the bottom sheet might be coated with the adhesive material, and thus secure the perforated sheet at all points; but in such case it would be much easier to remove the cancellation of the stamp than when the perforated sheet is not entirely secured to the bottom sheet, as then it is impossible to remove the cancellation without destroying the outside paper.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In postage and revenue stamps, a main sheet having paste or other cohesive at *a'* and uncoated spots *a*, in combination with a perforated outside sheet, B, having its perforated sections over the uncoated spots *a*, as and for the purpose specified.

GIDEON B. MASSEY.

Witnesses:

C. SEDGWICK,
H. A. WEST.

UNITED STATES PATENT OFFICE

INVENTOR: [Faint text]
BY: [Faint text]

[Extremely faint and illegible text, likely the body of a patent document]

UNITED STATES PATENT OFFICE.

WILLIAM JOHN CLAPP, OF NANTYGLO, COUNTY OF MONMOUTH, ENGLAND.

PREPARATION, &c., OF PAPER FOR CHECKS, NOTES, STAMPS, &c.

SPECIFICATION forming part of Letters Patent No. 305,292, dated September 16, 1884.

Application filed April 23, 1884. (No specimens.) Patented in England October 15, 1883, No. 4,905.

To all whom it may concern:

Be it known that I, WILLIAM JOHN CLAPP, a subject of the Queen of Great Britain, residing at Nantyglo, in the county of Monmouth, England, surgeon, have invented certain new and useful Improvements in the Preparation and Treatment of Paper for Checks, Notes, Stamps, and other Documents, in order to prevent fraud, (for which I have received Letters Patent in Great Britain, No. 4,905, dated October 15, 1883;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The invention has for its object improvements in the treatment of paper for checks, notes, stamps, and other documents, in order to prevent fraud. For this purpose I saturate the paper, either in the process of manufacture or afterward, with a solution of gallic and tannic acids, or gallo-tannic acid mixed with gum-acacia or other suitable gum and alum. The solution above described must be sufficiently fluid or watery to enable it to be readily taken up by the paper, and yet of sufficient strength to produce the effect desired. It will be found that a saturated solution of the acid and alum, or a solution slightly weaker, combined with a small proportion of gum in solution, will answer the purpose. This treatment will make little change, if any, in the color of the paper, but will render it everywhere sensitive to the action of preparations of iron. In some cases I add to the acid solution a few drops of the preparation of iron, hereinafter referred to, in order to facilitate the action on the prepared paper of inks which are weak in the iron constituent.

In the event of its being desired to print on the prepared paper in colors, then I add to the acid solution a proportion of some alkali,

which shall to a certain extent neutralize the acid, which latter is, however, left in sufficient excess to answer the purposes of my invention. 45

I print and write on paper, prepared as above and afterward dried, with an ink or preparation containing ferri-sesquichloride or other similar preparations of iron in quantity sufficient to cause the writing and printing to pass entirely through the body of the paper, whereby, in the event of any portion of the writing on the check, note, stamp, or other document being obliterated, the printing will also be removed, and the color of the body of the check or other document so altered as to render the attempted alteration apparent. This will also be the effect when any attempt is made to remove the obliterating-mark from stamps and other documents. I also prefer to print on both sides of the check or other document, in order to increase the difficulty of alteration. I also prefer to glaze the back of the paper. 65

Having thus described the nature of my said invention and the mode in which I carry the same into effect, I would have it understood that what I claim is—

The preparation and treatment of paper for the purposes described, which consists in saturating it with a solution of gallic and tannic acids, or gallo-tannic acid mixed with gum and alum, and then printing and writing on such prepared paper with an ink or preparation containing ferri-sesquichloride or other similar preparations of iron, substantially as herein described, and for the purpose stated. 70 75

W. J. CLAPP.

Witnesses:

WILL. J. LLOYD,
Solicitor, Newport, Monmouth.
EDWARD W. HILL,
His Clerk.

Faint, illegible text in the left column, possibly bleed-through from the reverse side of the page.

Faint, illegible text in the right column, possibly bleed-through from the reverse side of the page.

UNITED STATES PATENT OFFICE

OFFICE OF THE COMMISSIONER OF PATENTS

WASHINGTON, D. C.

UNITED STATES PATENT OFFICE

Bawford 1185(53)

306.674

59.



(No Model.)

A. W. COOKE.

BOOK FOR HOLDING POSTAGE AND OTHER STAMPS.

No. 306,674.

Patented Oct. 14, 1884.

Fig. 1.

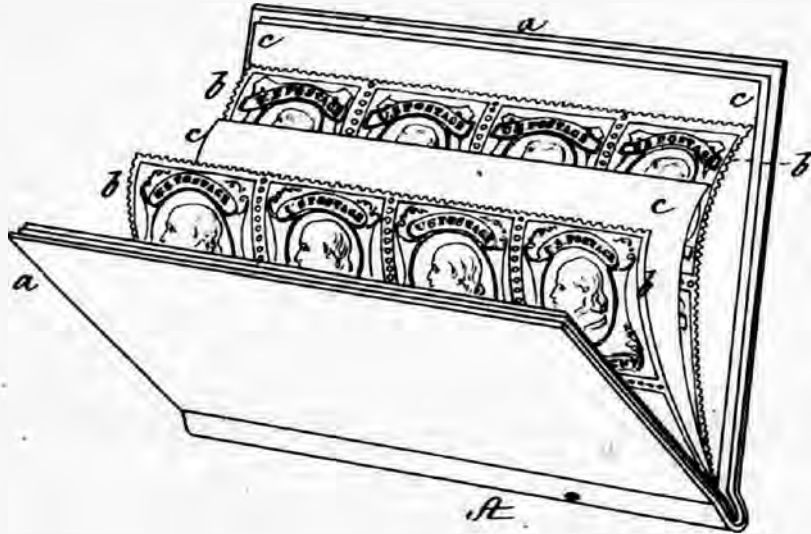


Fig. 2.

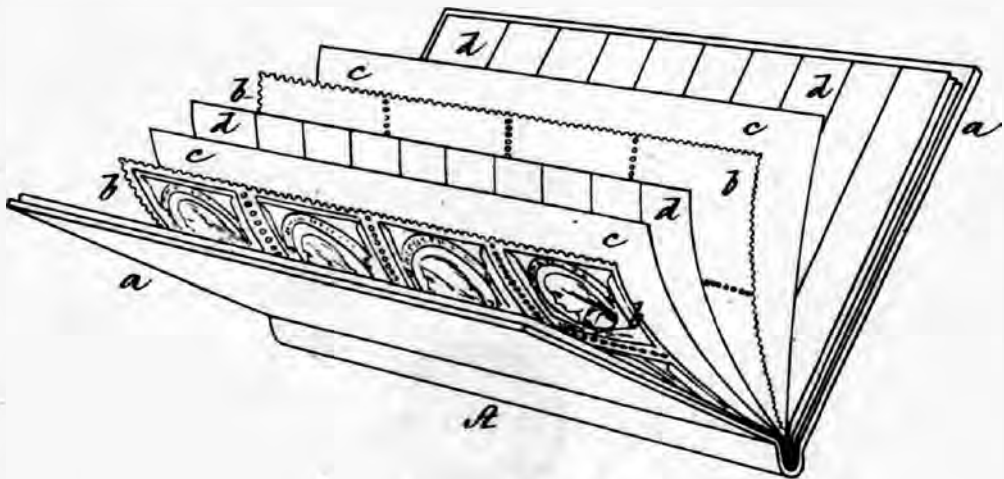


Fig. 3.

Witnesses,
A. P. Knapp
C. C. Richmond

Inventor,
Albert W. Cooke,
per Norman W. Stearns,
Attorney.

UNITED STATES PATENT OFFICE.

ALBERT W. COOKE, OF BOSTON, MASSACHUSETTS.

BOOK FOR HOLDING POSTAGE AND OTHER STAMPS.

SPECIFICATION forming part of Letters Patent No. 306,674, dated October 14, 1884.

Application filed April 17, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALBERT W. COOKE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a Book for

5 Holding Postage and other Stamps, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

10 Figure 1 is a perspective view of my said book for holding stamps, with a non-adhesive leaf interposed between two sheets of stamps. Fig. 2 is a perspective of the same, with the addition of ruled leaves for memoranda.

15 Postage and other stamps, being necessarily supplied with a coating of mucilage or other gummy substance to enable them to be attached to envelopes or other articles to which they are to be applied, when carried about

20 the person, are exposed to heat and moisture, which, if they are unprotected, frequently cause them to adhere together or to other objects in such manner as to render them unfit for use. I overcome this difficulty by my

25 present invention, which consists in a book provided with leaves or sheets of paper or other suitable material having one side of each coated with an adhesive substance and its

30 other side non-adhesive, in combination with and located between leaves or sheets of non-adhesive material, each adhesive sheet being preferably perforated in such manner as to admit of the ready removal of a portion there-

35 of when desired for use, each perforated adhesive leaf consisting of a sheet of postage or other stamps, or of blank or printed seals bearing the monogram or address of the individual using the same, the adhesive side of such sheet having the non-adhesive leaf located

40 adjacent thereto, whereby the sticking of the stamps, &c., together or to other objects is entirely avoided.

To enable others skilled in the art to understand and use my invention, I will proceed to

45 describe the manner in which I have carried it out.

In the said drawings, A represents a book having covers *a a*, and of a size preferably small, to admit of its being conveniently carried

50 in a vest-pocket.

b b b are a series of leaves, consisting of

sheets of postage, revenue, or other stamps, one side of each sheet bearing the design of the denomination it represents, and the other side being coated with mucilage or other

55 gummy substance, said sheets having their stubs either bound directly into the back of the book or with their stubs attached to narrow slips bound therein, each sheet *b* being so made that the stamp is inclosed by four lines

60 of perforations, in order that when required for use its separation and removal from the remainder of the sheet will be facilitated.

c c c are a series of leaves of paper or other suitable fabric, each of which has been treated

65 with wax, paraffine, or other substance in a well-known manner to endow both of its sides with the ability to resist the attachment of adhesive surfaces thereto. These non-adhesive leaves *c c c* are bound into the book, and

70 are so located therein that each leaf *c* occupies a position next to and in contact with the adhesive side of each leaf *b*, thereby precluding any liability of the latter adhering thereto.

Instead of sheets of postage, revenue, or

75 other stamps, the adhesive sheets *b b b* may each have printed or otherwise delineated upon its non-adhesive side the initials, monogram, coat of arms, or address of the individual carrying said book, the perforations enabling

80 the user to readily detach a slip or portion of the sheet bearing the required character. Furthermore, the said sheets *b* may simply have one side adhesive and the other side blank, (*i. e.*, without printing-matter,) and

85 portions of these sheets may be utilized as seals for closing envelopes, &c., and the perforations may be omitted, if desired, without departing from the spirit of my invention.

In Fig. 2 the book is represented as con-

90 taining, in addition to the sheets or leaves *b c*, one or more ruled sheets or leaves, *d*, which may be found convenient for recording memoranda thereon.

If desired, I may print upon the sheets *d*, or

95 upon the inside or outside of one or both covers *a* of the book, Fig. 2, the name and style of the business of an individual or firm who may wish to advertise goods in this way.

I claim—

100 1. A book having bound therein leaves or sheets *b*, one side of each of which is coated

with adhesive material, and leaves or sheets *c*, of non-adhesive material, arranged adjacent to the coated sides of leaves *b*, substantially in the manner and for the purpose set forth.

- 5 2. A book the body of which is composed of sheets *b*, of postage or other stamps, and leaves *c*, of non-adhesive material, bound therein, with a non-adhesive leaf located at the side of and in proximity with the adhesive

side of a sheet *b*, as and for the purpose described.

Witness my hand this 12th day of April, 1884.

ALBERT W. COOKE.

In presence of—

N. W. STEARNS,
A. H. DEXTER.

Grawford 1185(54)

444 344

60.

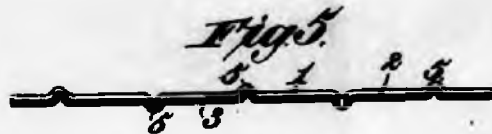
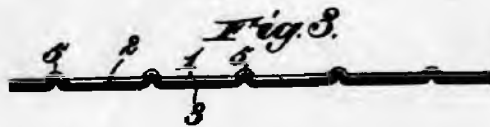
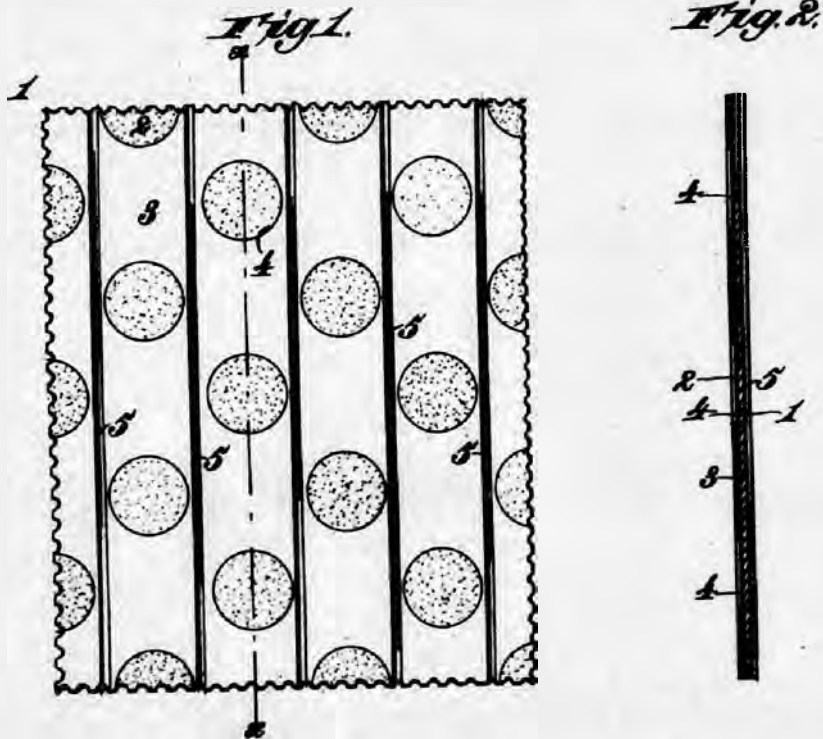


(No Model.)

A. C. FLETCHER.
STAMP OR LABEL.

No. 444,344.

Patented Jan. 6, 1891.



Witnesses.
Robert Gruntt,
Dennis Sumbly.

Inventor.
Addison C. Fletcher.
By *James L. Norrig,*
Atty.

UNITED STATES PATENT OFFICE.

ADDISON C. FLETCHER, OF NEW YORK, N. Y.

STAMP OR LABEL.

SPECIFICATION forming part of Letters Patent No. 444,344, dated January 6, 1891.

Application filed October 10, 1890. Serial No. 387,693. (No model.)

To all whom it may concern:

Be it known that I, ADDISON C. FLETCHER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Stamps or Labels, of which the following is a specification.

This invention relates to certain improvements in the construction of postal and other stamps, as well as adhesive labels and other similar devices, wherein a series of duplicate prints or similar representations are adapted to be attached by any previously-applied adhesive material to a letter, box, bottle, or other package.

It is the purpose of my invention to provide a stamp, label, or other similar article capable of being attached to any package, such as a letter-envelope, box, or other containing device, said stamp having such construction that it shall not only not have adhesion to adjacent stamps or sheets of stamps in any climate or under any conditions, but shall also be readily separated therefrom by the fingers with the least possible danger of sticking thereto, while at the same time an ample adhesive surface, properly gummed, shall be provided and used in the ordinary well-known manner.

It is my further purpose also to provide a postage or other stamp having such formation as to preclude the liability of the adhesion of sheets containing a greater or less number of such stamps, or of two or more stamps sticking together when separated from such sheet, a novel method of gumming such stamps being a part of my invention, which is applicable also to other devices having an adhesive gum previously applied, such, for example, as druggists' labels, and those used for various other purposes.

The invention consists to these ends in the several novel features of construction and new combinations of parts hereinafter fully set forth, and then definitely pointed out in the claims following this specification.

To enable others skilled in the art to understand and use my said invention, I will proceed to describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a view of the rearward or gum-

med face of a stamp or other equivalent device, illustrating one form in which my invention is embodied. Fig. 2 is a longitudinal section of Fig. 1 upon the line $x x$. Fig. 3 is an end elevation of the device shown in Fig. 1. Fig. 4 is a transverse section of a stamp or other equivalent device, showing a modified construction and a manner of applying the gum thereto. Fig. 5 is an end elevation showing a modification of the construction illustrated in Fig. 3.

In the said drawings, the reference-numeral 1 denotes a postage or other stamp, manufactured in the usual well-known manner, and having a coating upon its rear face of dextrine or other suitable adhesive material 2. If the invention is applied to postage-stamps, the lines of division between the individual stamps will be perforated, but when applied to other devices, such as druggists, and other labels, this feature may be employed or omitted, as desired. To this rearward, gummed surface I apply a slightly moistened or dampened sheet of very light thin tissue-paper 3, which is pressed equally upon the adhesive face by suitable means. In this thin paper at suitable points I form a series of openings 4, which, as shown, are of circular form, but which I may construct of any other shape—such, for example, as polygonal, rectangular, triangular, star-shaped, or of any form preferred—and of such size as may be required by the necessities of the case. As illustrated, moreover, these openings are shown as being arranged in a number of longitudinal series, the openings in one series alternating in position with those of the two adjacent series; but this arrangement may be varied in different ways without departing from my invention. In one respect, however, the arrangement is not capable of variation—viz., upon each of the four lines of division or separation of the stamp or label are arranged a series of said openings, through which the lines of separation or of perforation pass diametrically, in order that there may be a suitable number of points of adhesion along the four edges, as shown in Fig. 1. The stamp or sheet of stamps or other devices being thus prepared, I emboss the same by any suitable mechanism to throw up parallel ribs 5, which preferably lie between the several longitudi-

nal series of openings 4 in the tissue-sheet 3. These ribs appear in extremely low relief upon the rearward or gummed face of the stamp, and it will be seen that with this construction an intimate contact between the adhesive faces of the stamps or sheets of stamps is practically impossible, unless a very considerable pressure is brought to bear thereon. Thus a number of stamps or sheets of stamps may be piled one upon the other or carried in a similar relative position in the pocket or in a portable stamp-receptacle without material liability to adhere in a solid mass during very damp weather or in high temperatures where the perspiration from the body is excessive, thus avoiding the disagreeable necessity of soaking the sticky mass in water until the gum is removed, after which each stamp must be gummed separately as it is used.

Instead of embossing the stamp with parallel ribs in the manner set forth, I may form in each stamp simultaneously with the application of the dextrine or other adhesive gum, a number of series of embossed figures 6, having suitable arrangement and rising in very low relief from the outer or printed face of the stamp, as shown in Fig. 4. Within the intaglios formed upon the rear face of the stamps the gum is applied at the time that the embossed figures are formed by any proper mechanism, and in such manner that the surface thereof shall be substantially in or perhaps a little below the plane of the rearward face of the stamp between the embossed figures. In the latter form of construction there will be no material danger of adhesion between the adjacent sheets of stamps, but where the adhesive surface is substantially in the plane of the surfaces not embossed, I may form longitudinal ribs 7, embossed to appear in low relief upon the rearward face of the stamp, thereby preventing contact of the series of adhesive wafers in the intaglios with an adjacent sheet or with the stamp-receptacle or pocket-book. I may, however, use these ribs in either or both the forms of construction last set forth.

In the construction shown in Figs. 1 and 3, I may, if preferred, emboss the ribs 5 in such manner that they appear in relief upon each side of the stamp alternately, as shown in Fig. 5. These ribs also may be formed transversely to the length of the stamp as well as longitudinally.

My invention, as already stated, may be applied to any kind of material formed in sheets, either individually or in series, wherein an adhesive material is applied to the rearward face and adapted to be moistened at the moment it is applied or attached to any article, such as a letter, paper, bottle, or other package. The invention possesses, however, a further advantage, which is peculiar to postage and other stamps, which are canceled when used.

It has long been known that the removal of

anceled stamps, the obliteration of the canceling-mark, and the sale of the stamps thus cleansed for further use, has been an industry in the larger cities of this country productive of a considerable revenue, of which the government is defrauded. Now it will readily be seen that an embossed stamp having the construction described hereinbefore may be readily applied to an envelope in the usual manner and without any special care, without breaking down the low relief of the embossed ribs or figures, the soft and yielding pressure of the fingers not being sufficient to deface this relief. When the metallic canceling-stamp is applied, however, it will inevitably follow that by its stroke or blow the embossed edges will be more or less crushed and broken, and in the attempt to cleanse the stamp afterward by the use of warm water and soap or other solvents of the canceling-ink, this fracture of the perfectly-formed outlines of the embossed figures will become more apparent, and it will be practically impossible to restore the stamp to a condition in which it can be used again without immediate detection.

It will be noted that one advantage of my invention is found in the fact that the postal and other stamps manufactured in sheets for Government use, may, when embossed in the manner shown in Figs. 1 and 3, be filed one sheet upon the other with the lines of embossing crossing each other, thus affording an additional safeguard against adhesion and enabling the sheets to be accumulated in this manner in large quantities, either before or after the dextrine or other gum is entirely dry, or during transportation from one point to another.

For the tissue backing of the stamps of various kinds, as well as for other equivalent devices, I may employ thin sheets of various tints or colors, whereby a highly ornamental effect can be produced without any sensible increase in the cost of manufacture.

What I claim is—

1. A postage-stamp or other equivalent device having applied to its adhesive face a thin sheet of tissue having formed therein a number of openings through which the adhesive surface is exposed, substantially as described.

2. A postage-stamp or equivalent device having applied to its rearward or adhesive face a sheet of thin tissue having openings at suitable intervals through which the adhesive surface is exposed, said stamp thus prepared being embossed with ribs appearing in low relief upon the face alternately, substantially as described.

3. A postage-stamp or other equivalent device having a number of embossed figures appearing in low relief upon its outer or printed face and having the intaglios of said figures filled with a suitable adhesive gum, substantially in the same plane as to their surfaces with the unembossed rearward face of said stamp, the latter being also provided with ribs embossed in low relief upon the

rearward face of the stamp and between said adhesive surfaces, substantially as described.

4. A series of postage-stamps or other equivalent devices having their rearward or
5 adhesive faces covered by a sheet of thin tissue adhering thereto and provided with successive series of openings of any suitable form and size, whereby the adhesive material is exposed, arranged in such manner that
10 the lines of separation or perforation between

said stamps shall diametrically intercept four separate series of said openings to give adhesion to the edges, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

ADDISON C. FLETCHER.

Witnesses:

JAMES L. NORRIS,

JAMES A. RUTHERFORD.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author outlines the various methods used to collect and analyze the data. This includes both manual and automated techniques. The goal is to ensure that the information gathered is both reliable and comprehensive.

The final part of the document provides a detailed analysis of the results. It shows how the data points correlate with the initial hypotheses and identifies any areas that require further investigation. The conclusion highlights the overall findings and their potential implications for future research.

Brawford 1185(55)

Return address stamp

not postal



(No Model.)

D. SKUTSCH.
SAFETY ADDRESS STAMP.

No. 464,085.

Patented Dec. 1, 1891.

Fig. 1.

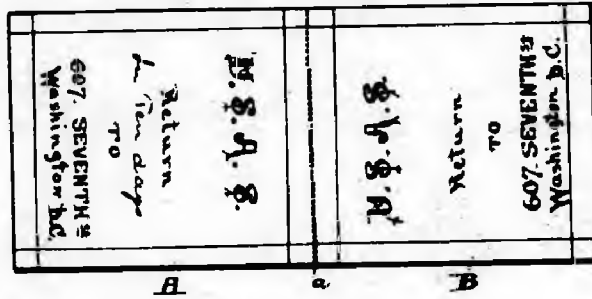


Fig. 2.

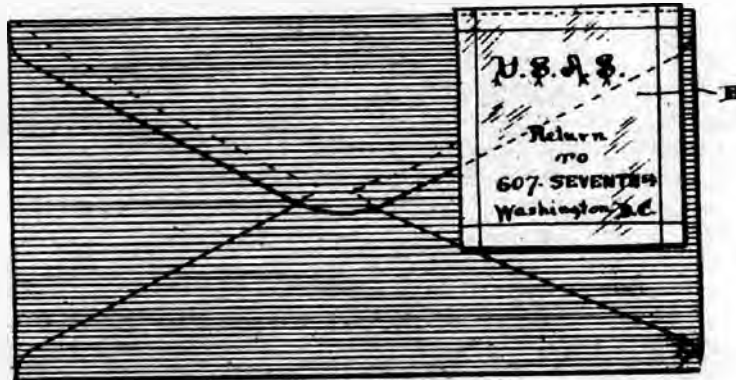


Fig. 2.



Witnesses

John Mansfield
Arthur E. Dowell

Inventor

D. Skutsch

By his Attorney *W. Alexander*

UNITED STATES PATENT OFFICE.

DAVID SKUTSCH, OF ST. LOUIS, MISSOURI.

SAFETY ADDRESS-STAMP.

SPECIFICATION forming part of Letters Patent No. 464,085, dated December 1, 1891.

Application filed January 3, 1891. Serial No. 376,667. (No model.)

To all whom it may concern:

Be it known that I, DAVID SKUTSCH, of St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Safety Address-Stamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a face view of my improved safety address-stamp. Fig. 2 is a transverse sectional view of an envelope with a stamp applied. Fig. 3 is a rear view of an envelope with stamp attached.

My invention is an improved address-stamp to be used in connection with the general means of intercommunication, notably letters, packages, and other matter transmitted through the mails. Its objects are, first, to afford additional assurance to safe delivery to party addressed or otherwise increased certainty of return to the sender of the matter transmitted without unsealing thereof; second, to furnish additional security against any unauthorized opening or tampering with such matter.

This invention consists in a stamp of flexible material, preferably of two or more connected parts, readily attachable to any card, envelope, package, &c., and which bears an impression, imprint, design, lettering, or other suitable information on one surface in the manner and substantially as hereinafter set forth. Both parts may be suitably enlarged, so as to cover the face of the envelope or package entirely and covering other portions sufficiently to give room for all necessary information to be printed thereon and to insure at the same time absolute safety against surreptitious opening of any part of the same without danger of detection.

In the accompanying drawings the stamp consists of a strip or piece of flexible material adapted to be folded upon itself, forming two parts A B. The part A has printed upon it the name and address of sender or any design, &c., by which the safe return of the letter to the writer, if not delivered to the addressee, is insured, and on part B is printed the same or similar matter or directions.

Parts A B are connected, but distinguishable, by a division-line on which the stamp is folded, preferably a line of perforations, so that the parts can be separated and also more readily folded. The printed matter on parts A B preferably face in opposite directions, though on the same side of the strip, and the opposite face of the strip is gummed, like ordinary stamps.

Where a stamp is intended to entirely cover one side of the matter transmitted, blank spaces for any suitable inscription are left upon its surface.

The use of said stamp in ordinary correspondence is in the following manner: A stamp, to be placed by the party addressed upon the envelope containing his reply to original writer, having been inclosed in the letter, or partly attached to one of the sheets of the same, the letter is sealed and a safety address-stamp moistened and affixed to any suitable part of the envelope, part B being attached, say, to the back of the envelope at the flap side thereof and part A being turned over the edge and attached to the front face of the envelope. Thus the stamp serves both as a seal and as a precaution against unauthorized opening of the letter and also as a means for conveying the desired information exhibited thereon. In the event of the removal, change of address or name, death, or any other cause—such as illegible address, error in statement in place of destination, street-number, business, or other conceivable reason for the non-delivery of the letter thus provided with a safety address-stamp—the letter will be returned to the correct address of the sender or disposed of as directed upon the stamp, and at all events, if sent to the Dead-Letter Office it will be returned in accordance with the address or designation indicated on the stamp attached or inclosed. The importance of the arrangement here indicated lies principally in the fact that it overcomes successfully the main cause of the loss, miscarriage, or erroneous disposition of letters caused by the haste with which the vast masses of letter-writers dash off carelessly illegible or incomplete addresses, such as a supposed full name or confused figures on their letters.

Having thus described my invention, I claim—

5 A duplex stamp for the purpose specified, consisting of a strip of flexible material entirely gummed over one of its faces and adapted to be attached to an envelope or sheet by folding it upon itself over the edge of the envelope, so that its folds embrace the envelope and the gummed surfaces of the folds ad-
10 here to the opposite faces of the envelope, and having on the opposite outer faces of the

15 folds printed addresses or directions which will thus appear on the front and back of the envelope and be permanently attached thereto, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

D. SKUTSCH.

Witnesses:

C. W. SEVILLE,
J. R. MANSFIELD.

Crawford 1185(56)

~~492912~~

61.

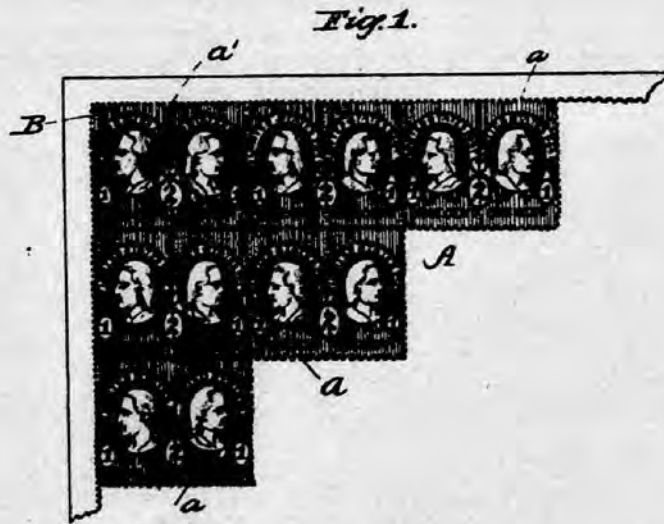


(No Model.)

G. M. BRIGHT.
POSTAGE STAMP.

No. 492,912.

Patented Mar. 7, 1893.



WITNESSES.
Victor J. Evans.
W. J. McMahon

INVENTOR.
George M. Bright.

By *J. P. Little*
his Attorney.

UNITED STATES PATENT OFFICE.

GEORGE M. BRIGHT, OF ABINGDON, VIRGINIA.

POSTAGE-STAMP.

SPECIFICATION forming part of Letters Patent No. 492,912, dated March 7, 1893.

Application filed September 14, 1892. Serial No. 446,839. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. BRIGHT, a citizen of the United States, residing at Abingdon, in the county of Washington and State of Virginia, have invented a new and useful Postage-Stamp, of which the following is a specification.

My invention relates to a new and improved postage stamp designed for governmental postal service, and so constructed and arranged as to be more convenient, efficient and economic than the stamps heretofore provided. It is well known that the public demand for the "one" and "two" cent stamps is much greater than for any other denomination, and that, since in business and other correspondence ordinary letters coming under the head of "first class matter" now require the "two cent" stamp, the latter is in greater demand and usually present in greater quantities than the "one cent" stamps or stamps of higher denomination. It also frequently happens that a person requiring a "one cent" stamp to cover postage on "second class matter" is for various reasons, such as extreme distance from a point of stamp distribution, unable to secure a stamp of the required denomination and is forced to affix a "two cent" stamp instead, thus occasioning personal loss, and when the stamp is canceled, swelling "the percentage by cancellation" of the postmaster to the amount of excess postage. Furthermore, where a person only has a supply of "one cent" stamps on hand and needs a two cent stamp, there may be said to exist a popular prejudice against the use of two of the former, as this is practically objectionable, for obvious reasons. Accordingly it is the object of my invention to overcome all such objections and deficiencies, and to reduce the expense and complexity of the manufacture and distribution of postage stamps in general, by providing what I specifically term "a divisible stamp" of a prescribed denomination as a whole yet manually divisible or separable into two equal independent parts, each half or part being a stamp of half the valuation of the unit stamp. Thus, for instance, with two cents as the value of the whole or unit stamp, it is so formed as to be readily divided by the consumer into two independent one cent stamps.

For the attainment of the above objects my invention consists, substantially, of a unit stamp of prescribed denomination or valuation printed, impressed, or otherwise formed on a suitable unit sheet of paper or other material of desired shape and size, said unit sheet being rendered centrally divisible and separable by spaced perforations arranged in a straight line forming the central divisional line of the unit sheet.

My invention consists further in providing some identifying symbol or figure on the unit sheet coincident with the divisional line and overlapping or overlying both sides of said line in such manner that when said unit sheet is torn apart into two stamps smaller in size and valuation, there will remain on each half or sub-stamp a fragment of said symbol or figure to show that it had formerly been one half of an uncanceled unit-stamp of higher valuation.

My invention further comprises certain other auxiliary details of construction and arrangement of parts, all of which will be more fully described hereinafter, and specifically pointed out in the appended claims.

In the accompanying drawings I have shown several forms to which my invention is adapted, any of which can be employed, as desired.

Referring to the accompanying drawings, forming a part of this specification—Figure 1 is a plan view, with parts broken away, of a stamp-sheet showing a number of unit stamps separably united in one large sheet. Fig. 2 is a detail plan view of a single unit stamp detached from the sheet. Fig. 3 is a similar view showing the unit stamp divided into its two equal sub-stamps; and Fig. 4 is a plan view of a modified form of unit stamp.

Like letters and numerals of reference indicate corresponding parts in the several views of the drawings.

Referring to Fig. 1, A indicates a large stamp-sheet comprising, as is usual, a number of single stamps, B, separately and divisibly united at their marginal lines by a series of spaced perforations, *a a*, whereby any number of unit-stamps B may be readily torn from the sheet as occasion may demand. The back of each stamp is suitably mucilaged, in the ordinary manner.

In carrying out my invention, the unit-stamp B may approximate in size and design the well known "two-cent" stamp, with this difference, that, although its superficial area is about equal, it is centrally divided by spaced perforations, a' , arranged in a straight line, into two independent sub-stamps, C and C', each having its individual design, or color, and valuation mark, and connected together at their mutual boundary line, b , thus constituting a unit-stamp of a valuation double the valuation of each portion C or C'.

D designates a valuation symbol, mark, or figure for the unit stamp, which is so arranged at the line b as to overlap and project on both sides of said line leaving a fragmental portion on each sub-stamp C or C', so that when the unit stamp B is torn into two sub-stamps C, C', each of the latter will retain thereon a fragment of said valuation mark, figure or symbol D, as clearly shown in Fig. 3. In Figs. 1, 2 and 3, the mark D is a figure "2" showing the value of the unit stamp to be "two cents," while in said figures each sub-stamp C or C' has an independent valuation mark "1" showing each sub-stamp to be valued at one cent. In Fig. 4, however, I have shown the valuation mark D as a line of letters, and also an additional symbol in the form of two leaves mounted on diverging stems united at the line b . This arrangement would be equivalent to the figure "2" in Figs. 1, 2 and 3.

On the surface of the unit stamp B I have illustrated the conventional design comprising a likeness surrounded by the approved ornamental design and lettering; and furthermore, I have arbitrarily illustrated the unit stamp as a "two cent" stamp and each sub-stamp as a "one cent" stamp. It will, however, be understood that I do not restrict myself to such arbitrary arrangement, since each sub-stamp may be of any higher denomination and any unit stamp of double the value of a sub-stamp, as shown in Fig. 4 wherein the sub-stamp is a "two cent" stamp and the unit stamp a "four cent" stamp. If preferred, the perforations $a a$ between any two adjacent unit stamps B in the sheet A can be formed slightly larger, or different in shape, than the perforations $a' a'$ between the sub-portions C and C' of the unit stamp. By such relative difference of perforations $a a$ the unit-stamp can be readily torn from the sheet without any danger of subdividing any stamp B, which might happen if both series of

perforations were of the same size and shape. This construction is clearly shown in Figs. 2 and 3.

In Figs. 1, 2 and 3, I have shown the divisional line b between the sub-portions C and C' as a perpendicular line, but said line b can be a horizontal line as shown in Fig. 4. Under some circumstances the latter arrangement might be preferred inasmuch as it serves to and more equally divide the superficial area of the unit stamp B.

My improvement will be found to simplify the cost and labor of manufacture, distribution and sale of stamps, will be more convenient and economical to the consumer, and will fulfill a recognized postal want.

It is obvious that my invention is applicable to any kind of stamps by simple change of design and valuation marks.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A divisible postage-stamp of prescribed valuation, shape and design, divisible and separable into two independent sub-stamps of independent design, each equal in value to one half of the whole or unit stamp, as set forth.

2. A divisible unit stamp for revenue purposes of approved material, shape, design and valuation centrally divisible by spaced perforations into two independent sub-stamps, each sub-stamp being equal in valuation to one half the valuation of the unit stamp, said unit stamp having a valuation mark, symbol or figure so arranged that a fragment of said mark, symbol or figure will remain on each division or sub-stamp when the unit stamp is divided, as set forth.

3. A divisible postage stamp comprising a sheet of paper of prescribed size provided with an approved design, and rendered centrally divisible into two equal portions by a series of spaced perforations, and a valuation mark or figure upon said sheet intermediate the two portions, so that when the unit stamp is divided a fragment of said valuation mark or figure will be on each portion, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE M. BRIGHT.

Witnesses:

GEORGE STUART,
JOHN R. LYON.

Brawford 1185(57)

S20339

Not postal



(No Model.)

A. F. PURDY.
BOOK FOR STAMPS.

No. 520,399.

Patented May 22, 1894.

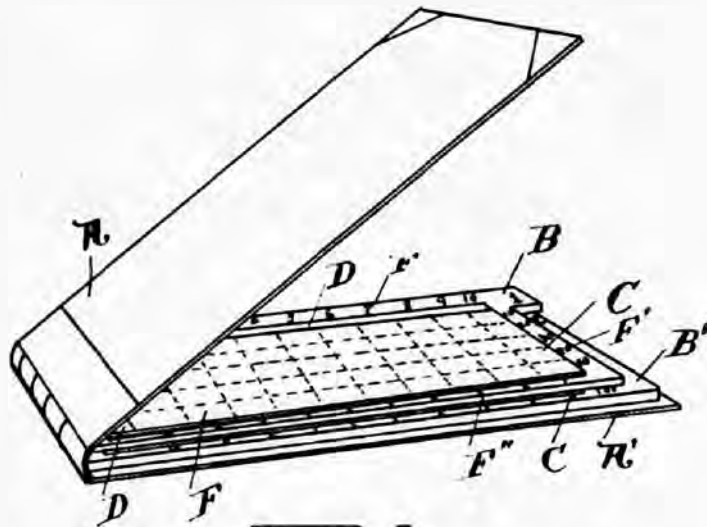


Fig. 1

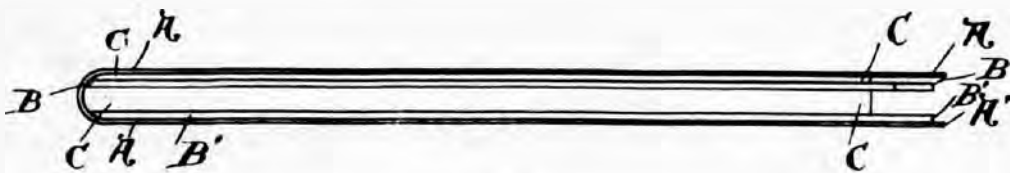


Fig. 2

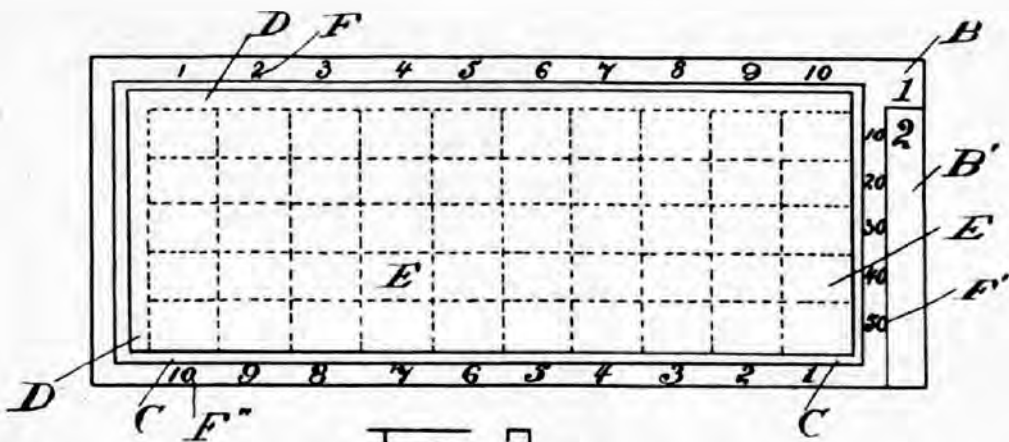


Fig. 3

WITNESSES
M. W. Kincaid.
A. E. Synan

INVENTOR
Arthur F. Purdy
by Geo. F. Kincaid
his Attorney

UNITED STATES PATENT OFFICE.

ARTHUR F. PURDY, OF LAWRENCE, CALIFORNIA.

BOOK FOR STAMPS.

SPECIFICATION forming part of Letters Patent No. 520,399, dated May 22, 1894.

Application filed May 1, 1893. Serial No. 472,605. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR F. PURDY, a citizen of the United States, residing at Lawrence, in the county of Santa Clara, State of California, have invented a new and useful Book for Stamps, of which the following is a full, clear, and exact description.

This invention relates to an improved form of book for the preservation of postage stamps, and it has for its object to provide a device of this class which shall possess superior advantages in point of simplicity of construction, as well as inexpensiveness and general efficiency.

Heretofore no successful simple means have been invented for the proper preservation of postage stamps in the sheet form, therefore, to enable postmasters and others to keep such stamps dry, and to prevent them from curling and adhering together, and at the same time to make it possible to refer readily to the stamps of the required denomination, is the prime object of my invention.

Further novelty resides in the peculiarities of construction and the combinations, arrangements and adaptation of parts, all as more fully hereinafter described, shown in the drawings and then particularly pointed out in the claims.

It will be seen from the accompanying drawings, and following description that the salesman can readily compute, by reference to the book, the number of stamps removed, and therefore the exact amount of sales.

In the accompanying drawings, in which similar letters of reference designate corresponding parts: Figure 1 is a perspective view of the book in a partly open position. Fig. 2 is a longitudinal section, and Fig. 3 is a plan view of the book with the cover removed.

Reference being had to the above figures, A A' represent the cover of the book, which is made of card-board or other suitable light material. Situated between the faces A and A' are the index sheets B B', made preferably of card board, but of a thinner quality than that composing the cover, the number of sheets corresponding to the number of different denominations of stamps. Between the cover A and the first index sheet B, are secured to the book by means of metal staples or other suitable means, a number of thin

sheets C preferably of oiled paper or paper containing a small amount of oil, the blank margins D of the stamp sheet E being fastened to the said sheets C. On the upper surface of each oiled sheet C, a sheet of stamps is secured, as above therefore each of the latter sheets is separated from, and prevented from adhering to, the adjacent one by means of the oiled sheet, the oil in the latter preventing the stamps from adhering to it. The object of the indexed sheets B B' is to separate the stamps of different denominations and to enable the postmaster to refer readily to the particular stamps which he desires to remove.

It is my intention to manufacture the book of a size sufficiently large to accommodate sheets of one hundred ordinary one or two-cent stamps, or fifty of the Columbian issue. For the principal postoffices, books of a larger size may be deemed necessary. In order to enable the salesman to compute readily the amount of sales, I have the series of numerals F, F' and F'' placed on the margins of the index sheet B, F—F'' being an increasing arithmetical series, the common difference of which is the denomination of the stamp, and the series F' having a common difference equal to the denomination of stamp multiplied by the number of stamps in a horizontal row; therefore, it will be readily seen that if the number of stamps sold be less than one horizontal row, the amount of sales is ascertained by reference to the series of numerals F or F'', while if one or more horizontal rows be removed, the salesman refers to the vertical series of numerals F'.

I do not desire to confine my invention to any particular number of oiled or index sheets composing the book, as the number of the former is regulated by the number of stamps of each denomination required, while the latter is regulated by the number of denominations of stamps. For the sake of simplicity, I have represented in the drawings a book capable of holding merely one and two-cent stamps.

By reference to Fig. 3, it will be seen that I have constructed the oiled sheets C smaller than the index sheet B, in order that the series of numerals F, F' and F'' may be visible at the margin of the sheet C.

I am aware that changes in the size, loca-

tion and proportion of the parts of the invention herein shown and described can be made without departing from the spirit, or sacrificing the advantages thereof, and I therefore reserve the right to make such changes and alterations as fairly fall within the scope of my invention.

It will be readily seen from the foregoing description, that I have provided a very simple, effective, and inexpensive device, by the use of which postage stamps, in the sheet form, may be prevented from curling and adhering together in warm and moist weather, and from being accidentally detached from the sheet, the invention further affording a simple means for preserving an exact record of the number of stamps removed and the stock on hand.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a book for the preservation of postage stamps, the combination of the indexed sheets B B' with the oiled sheets C, said indexed sheets being made of a material heavier than said oiled sheets, said oiled sheets being secured to said indexed sheets, substantially as and for the purpose described.

2. In a book for the preservation of postage stamps, the combination of the indexed sheets B B' with the oiled sheets C, said indexed sheets being made of a material heavier

than said oiled sheets and having a margin extending beyond two or more edges of said oiled sheets, said margins being adapted to bear numerals or other characters substantially as and for the purpose set forth.

3. In a book for the preservation of postage stamps, the combination of the indexed sheets B B' with the oiled-sheets C, said indexed sheets having a margin projecting beyond one or more edges of said oiled-sheets, said oiled-sheets being secured to said indexed-sheets, substantially as and for the purpose set forth.

4. In a book for the preservation of postage stamps, the combination of the indexed sheets B B' with the oiled sheets C, said indexed sheets having the series of numerals F F' F'' printed on their margins substantially as and for the purpose set forth.

5. In a book for the preservation of postage stamps, the combination of the indexed sheets B B' with the oiled sheets C, said indexed sheets bearing the series of numerals F F' and F'', said oiled sheets being smaller than said indexed sheets, and secured to said indexed sheets substantially as and for the purpose set forth.

ARTHUR F. PURDY.

Witnesses:

I. HARRINGTON,
J. A. LOWELL.

521177
62

Brawford
1185(58)

UNITED STATES PATENT OFFICE.

WALLACE M. POPE, OF CINCINNATI, OHIO, ASSIGNOR TO THE AULT & WIBORG COMPANY, OF OHIO.

COMPOSITION OF MATTER.

SPECIFICATION forming part of Letters Patent No. 521,177, dated June 12, 1894.

Application filed April 7, 1894. Serial No. 506,747. (No specimens.)

To all whom it may concern:

Be it known that I, WALLACE M. POPE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Composition of Matter to be Used for Canceling or Stamping Paper and other Like Purposes, of which the following is a specification.

The object of my invention is to produce a canceling or stamping ink which shall be indelible, and which in process of attempted erasure or removal will cause a change in the color of the paper on which the stamp is placed, and thus prevent a re-use of stamps, documents, &c., which have once been canceled with this ink irrespective of the solvent used in attempting to remove the same.

My composition consists of the following ingredients combined in the proportions stated, namely: rosin oil one hundred pounds; lamp black ten pounds; rosin soap five pounds and a coal tar acid, preferably picric acid, five pounds.

In manufacturing the ink I usually add to the above named ingredients five pounds of basic aniline blue. While the basic aniline blue adds to the effectiveness of the composition I do not consider it an essential ingredient and do not wish to limit my invention

to a composition of matter containing this ingredient.

The canceling inks heretofore used can be readily removed and the papers and documents upon which the cancellation was placed can be reclaimed and re-used.

By the use of my composition an ink is produced for canceling or stamping papers; postage stamps and other similar articles which cannot be erased or removed without changing the color of the paper upon which such composition is placed.

I claim—

1. The herein described composition of matter to be used for canceling or stamping purposes consisting of rosin oil, lamp black, rosin soap and a coal tar acid in substantially the proportions specified.

2. The herein described composition to be used for canceling or stamping purposes consisting of rosin oil, basic aniline blue, lamp black, rosin soap and a coal tar acid in substantially the proportions specified.

WALLACE M. POPE.

Witnesses:

ED. J. INLOES,
BEN. F. WRIGHT,
L. J. OGBORN.

UNITED STATES DEPARTMENT OF THE INTERIOR

1880

1880

UNITED STATES DEPARTMENT OF THE INTERIOR

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UNITED STATES DEPARTMENT OF THE INTERIOR

Crawford 1185(59)

of postal



(No Model.)

R. S. WILLIAMS.
RETURN POSTAGE STAMP.

No. 522,037.

Patented June 26, 1894.

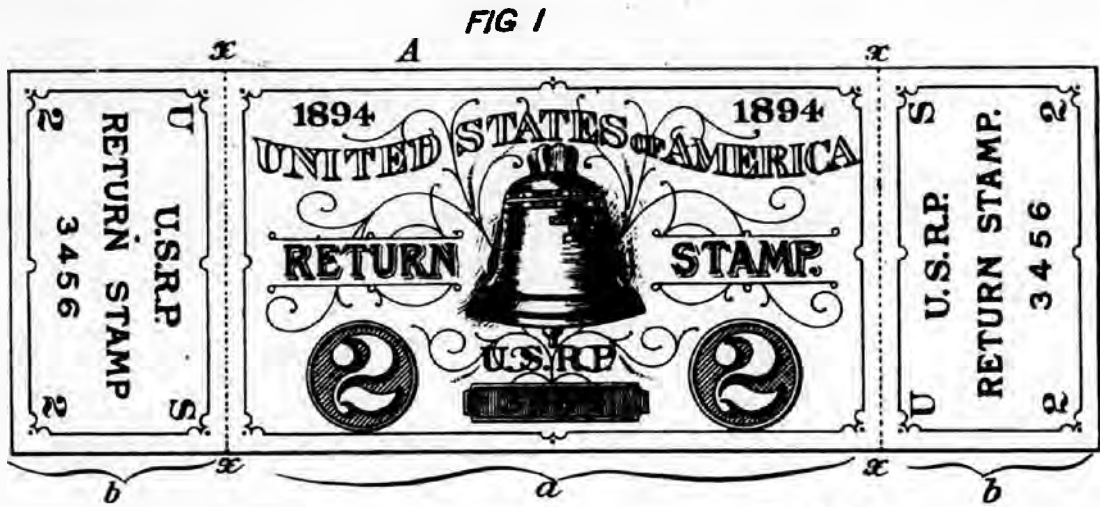


FIG 2

FIG 3

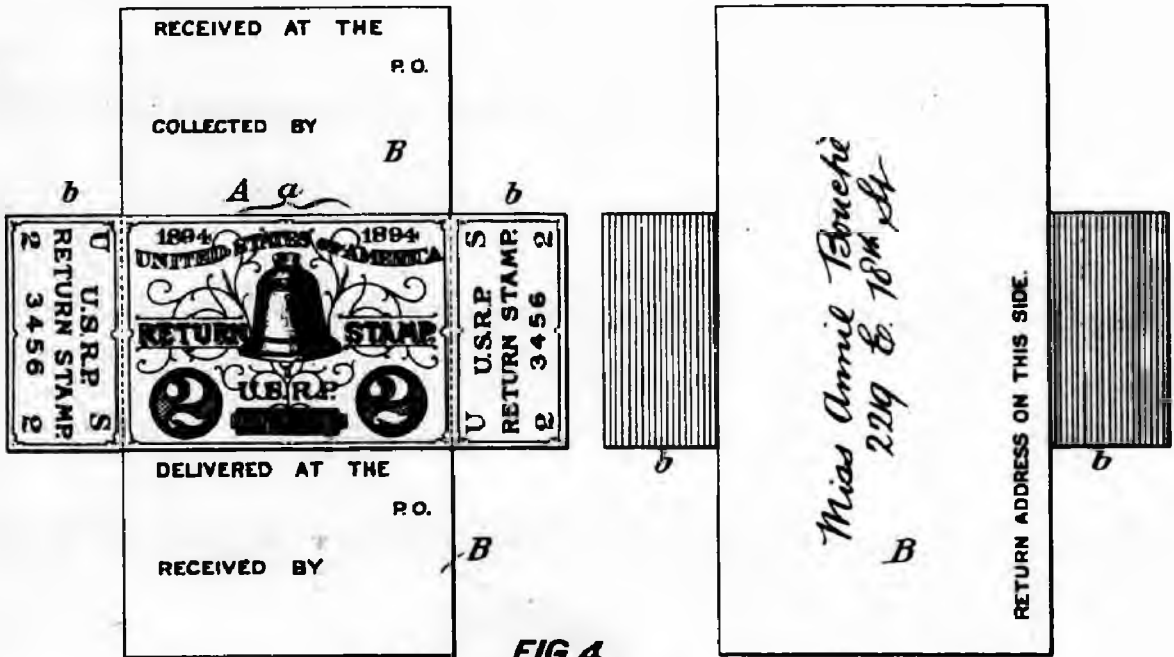


FIG 4

WITNESSES
Chas. Ammon.
Will. A. Burr.



FIG 5

INVENTOR
Robert S. Williams
By his Attorneys
Hanson & Lowson

UNITED STATES PATENT OFFICE.

ROBERT S. WILLIAMS, OF MERCHANTVILLE, NEW JERSEY, ASSIGNOR TO
CHARLES V. WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA.

RETURN POSTAGE-STAMP.

SPECIFICATION forming part of Letters Patent No. 522,037, dated June 26, 1894.

Application filed March 3, 1894. Serial No. 502,188. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. WILLIAMS, a citizen of the United States, and a resident of Merchantville, New Jersey, have invented certain Improvements in Return Postage-Stamps, of which the following is a specification.

The object of my invention is to provide a letter sent by the ordinary mail with a return receipt card and stamp; the stamp being of such a form that it will attach the card to the letter and be utilized to return the card to the sender of the letter.

In the accompanying drawings:—Figure 1, is a view of my improved return stamp. Fig. 2, is a view showing the stamp attached to the back of the return card. Fig. 3, is a face view of the card showing the ends of the stamp overlapping. Fig. 4, is a view of a letter with the return card and stamp attached; and Fig. 5, is a sectional view on the line 5—5, Fig 4.

The main object of my invention is to provide a substitute for the ordinary registry of letters in which the sender of the letter has to register the letter at a post office. Often this is very inconvenient and consequently letters that should be receipted for are sent in the ordinary manner, but if stamps can be procured which can readily be attached to a return card and to a letter and the letter receipted for on the return card by the receiver in the presence of the postman and the receipted card returned to the sender it will be of great convenience to the public at large.

Referring to the drawings, A is a stamp which can be of any suitable design and extending from each side of the body *a* of the stamp are wings or coupons *b b*; these wings as well as the body of the stamp are preferably gummed at the back so that the stamp can be readily attached to the return card and to an envelope. On the body of the stamp as well as on the wings is a number, in the present instance number "3,456;" this number is preferably printed on the stamp the same as on bank notes the stamp being consecutively numbered. By this means the receiving post office as well as the delivery post office can keep an account of all mail matter

having return stamps so that the letters become practically registered.

The stamp is secured across the back of the return card B in such a manner that the wings *b b* extend beyond the edges of the card, as clearly shown in Figs. 2 and 3 and after the stamp has been secured to the return card it is secured to the envelope D, as shown in Figs. 4 and 5 by the overlapping wings.

The return card may have on the back the words "Received at," "Collected by," "Delivered at" and "Received by" so that the card will indicate the post office from which it was mailed, the postman who collected it, what post office it was delivered at, and who received it, so that when the card, which is addressed on its face, is returned to the sender it will give to the sender the information desired. When the letter is received and after the return card is signed by the recipient the stamp is severed on the lines *x x* so as to leave the wings or coupons *b b* on the envelope and the body *a* of the stamp on the return card; thus when the return card is received by the sender of the letter he has a receipt for the letter in the hand writing of the person to whom the letter was addressed and the number on the receipt corresponds with the number on the letter without any labor on the part of the postal authorities.

Thus while my invention does not cover the same ground as the ordinary registered letter in which a receipt is given by the post office authorities, still it covers sufficient ground to answer ordinary purposes, that is where a sender of a letter simply wants a receipt from the person receiving the letter.

The return card may be supplied by the post office with the printed matter as indicated in Fig. 2 and with the stamp printed thereon or attached thereto; or other printed matter may be used.

The card may be simply an ordinary card with the address written on the face and room left at the back for the stamp and for the recipient to sign.

I claim as my invention—

1. A return postage stamp for attaching to letters consisting of a body portion, with

wings or coupons at each side adapted to be attached to the letter and severed from the body of the stamp, in combination with a return card to which the body of the stamp is secured, substantially as described.

2. A return postage stamp for letters consisting of the body portion having a number thereon, with wings or coupons at each side to be secured to a letter, one or both of said coupons having numbers thereon corresponding to the numbers on the body of the stamp, in combination with a return card to which the body of the stamp is adapted to be secured, substantially as described.

3. The combination with a return card of a return postage stamp, consisting of the body portion secured to the return card, a number

thereon, wings or coupons at each side of the stamp and having numbers corresponding to the numbers on the body, the wings or coupons of said stamp being gummed at the back so that the wings can be attached to an envelope or parcel sent by mail, whereby the body of the stamp and return card can be readily severed from the letter or other parcel, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT S. WILLIAMS.

Witnesses:

S. W. REEVES,

HENRY HOWSON.

Granford 1185(60)

Not Postal



(No Model.)

3 Sheets—Sheet 1.

F. G. FARNHAM.
STAMP HOLDER.

No. 596,656.

Patented Jan. 4, 1898.

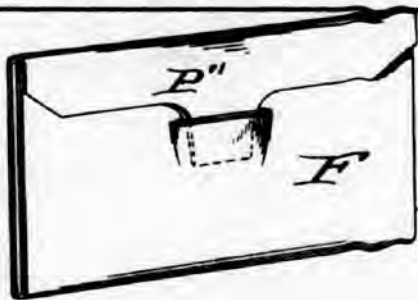
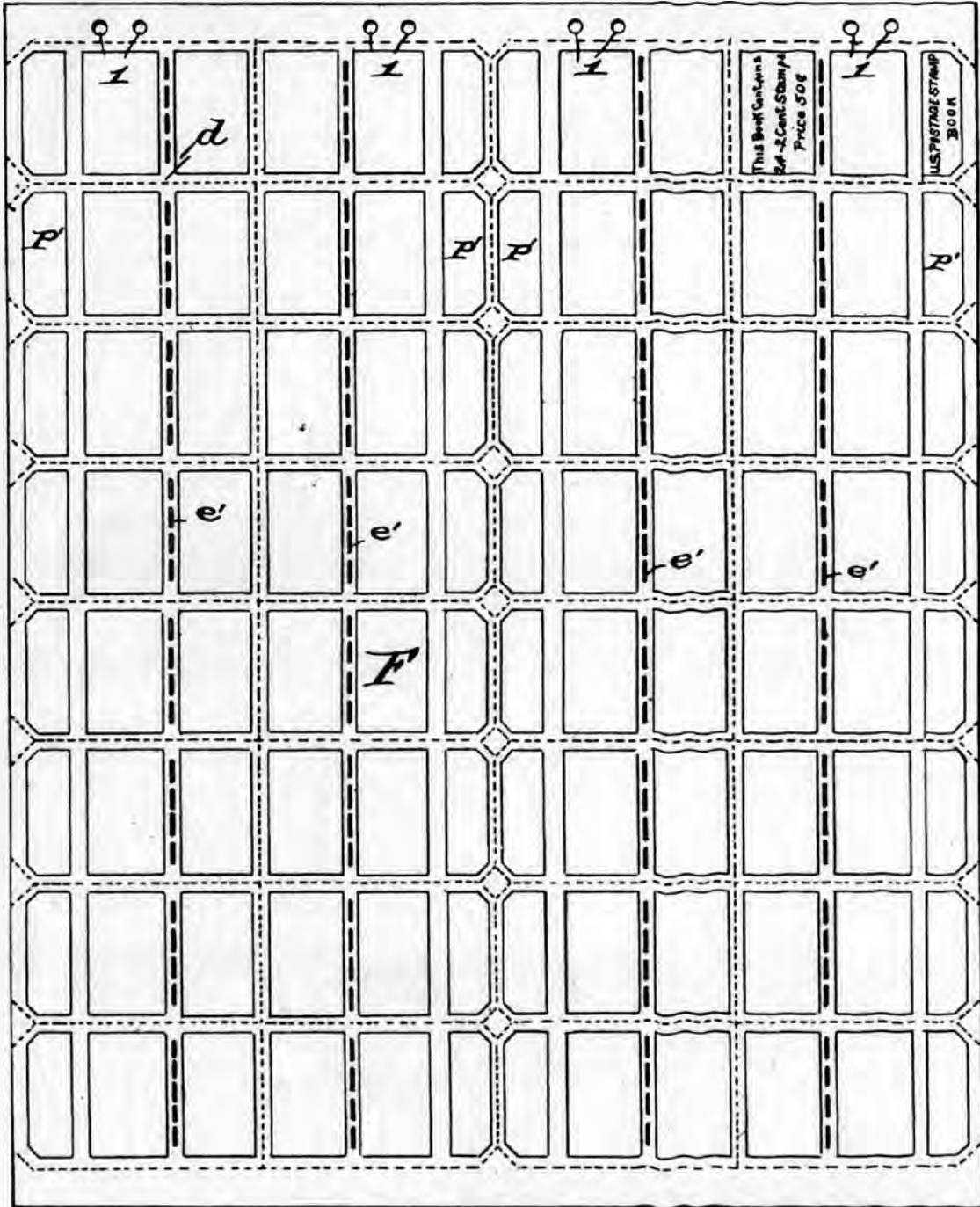


Fig. 1.

Inventor

Frank G. Farnham

by His Agent

1898

Attest Fig. 6.

F. L. Middleton
C. S. Middleton



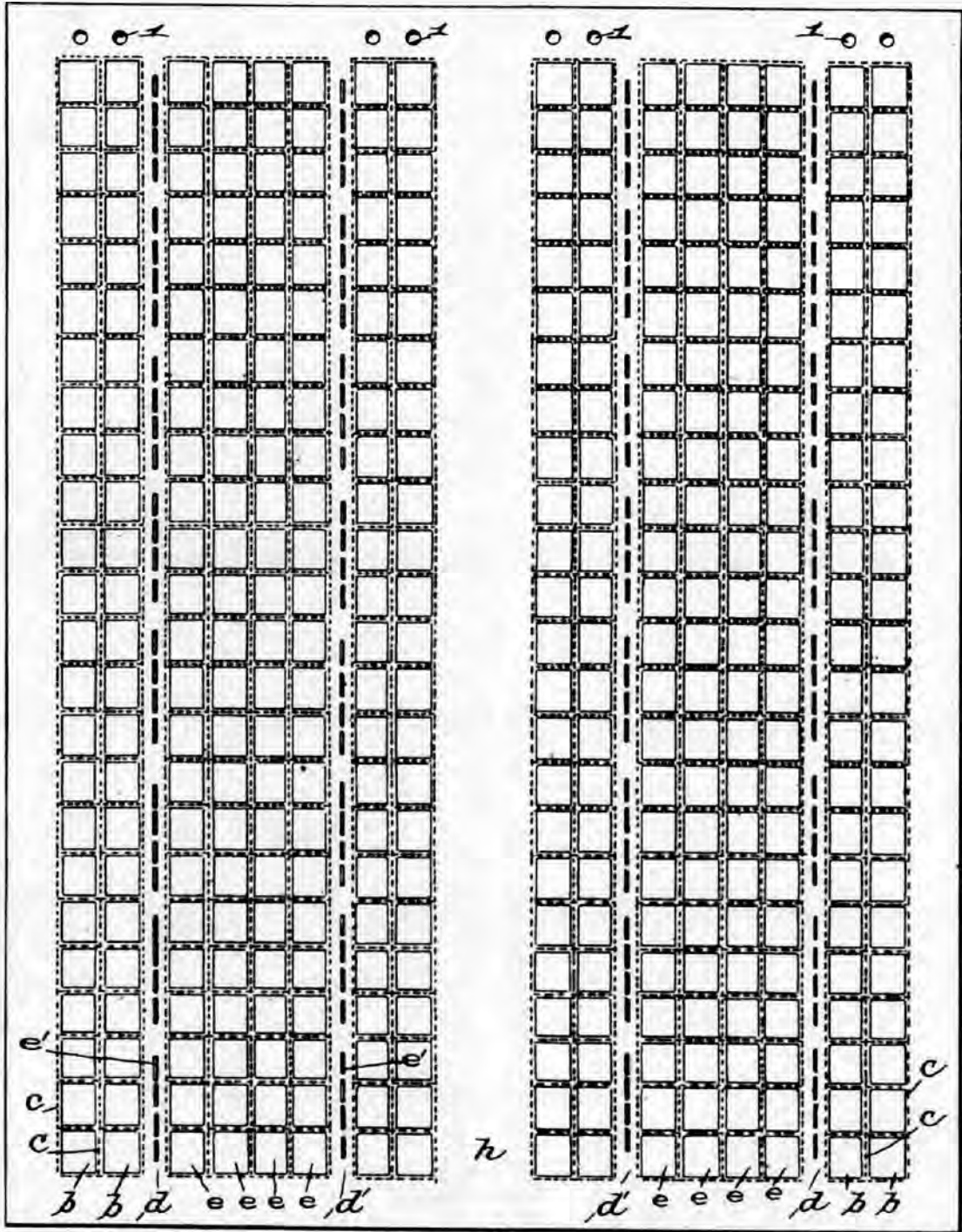
(No Model.)

3 Sheets—Sheet 2.

F. G. FARNHAM.
STAMP HOLDER.

No. 596,656.

Patented Jan. 4, 1898.



Attest
F. L. Michtm
G. S. Madden

Fig. 2.

Inventor
Frank G. Farnham
by Geo. L. Spru
Atty



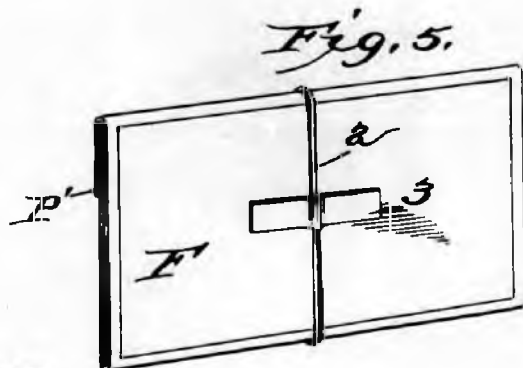
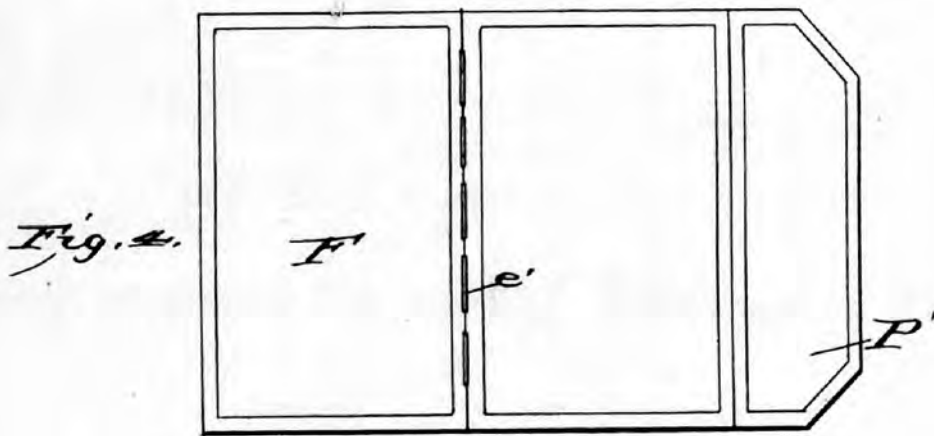
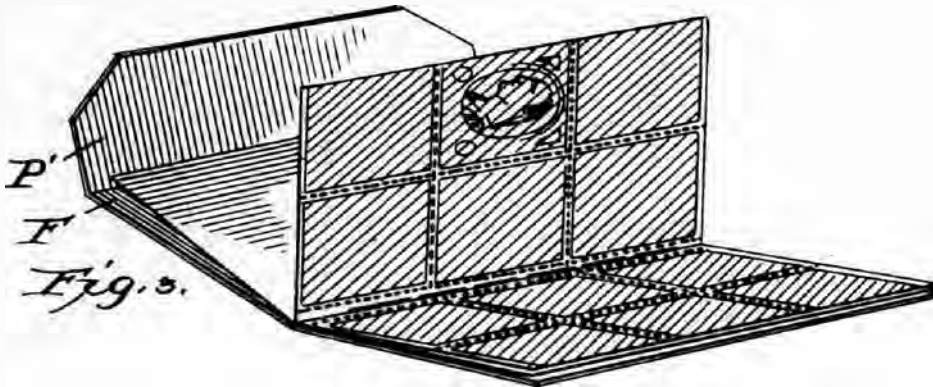
(No Model.)

3 Sheets—Sheet 3.

F. G. FARNHAM.
STAMP HOLDER.

No. 596,656.

Patented Jan. 4, 1898.



Attest
F. L. Middleton
C. S. Middaam

Inventor
Frank G. Farnham
by Geo. Spru
JH74

UNITED STATES PATENT OFFICE.

FRANK GUNN FARNHAM, OF HONESDALE, PENNSYLVANIA.

STAMP-HOLDER.

SPECIFICATION forming part of Letters Patent No. 596,656, dated January 4, 1898.

Application filed March 17, 1896. Renewed September 14, 1897. Serial No. 651,877. (No model.)

To all whom it may concern:

Be it known that I, FRANK GUNN FARNHAM, a citizen of the United States of America, residing at Honesdale, in the county of Wayne and State of Pennsylvania, have invented certain new and useful Improvements in Stamp-Holders, of which the following is a specification.

My invention relates to stamp-sheets and books for containing stamps, whereby they are securely held for transportation and handling without sticking together or to other surfaces.

The object of my invention is to provide a cheap form of cover in which the stamps may be readily and cheaply secured to form a book which may be subsequently divided into a number of smaller books of varying sizes, according to the number and value of the stamps desired by the purchaser.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a view of the outside of the cover before folding or cutting. Fig. 2 is a view of the opposite side with a sheet of stamps secured thereto. Figs. 3, 4, 5, and 6 are views inside and out of one of the small books formed by dividing the main holder.

A sheet of stamps as now printed has a margin all around the outside. The sheet of stamps shown and which is one of the forms I desire to use for making small books of the value of twenty-five cents, fifty cents, and one dollar has also a margin all around the outside and is sixteen stamps wide and twenty-four stamps long, making a sheet of three hundred and eighty-four stamps; but it may be printed any convenient width or length and of any desired denomination. Next the side margins there are two rows of stamps *b b*, separated by the ordinary rows of perforations *c c*, and next to the second row occurs an unprinted and imperforate space *d*, running lengthwise of the sheet and about five-sixteenths of an inch wide. Next to this there are four rows of stamps *e e e e*, separated by the ordinary rows of perforations, which reach to another unprinted space *d'*. Then follow two more rows of stamps, which reach to an unprinted space *h* in the middle of the sheet, which is about one and one-half

inches wide, the purpose of which will be hereinafter explained.

The cover *F*, in which the stamps are to be held, is preferably of a prepared paper to which stamps will not adhere and which when spread out flat is the full size of the sheet of stamps before the margins have been removed from the latter. If the cover be not of prepared paper, a sheet of paraffin-paper of the same diameter as the sheet of stamps is used, which is interposed between the same and the cover. The back of the cover is printed to indicate the lines on which it is to be divided to form the smaller books, also the number, kind, and value of the stamps contained in each small book.

The cover is scored or indented longitudinally at proper intervals to facilitate binding into book form. Flaps *P'* are provided at the sides corresponding to the side margins on the sheet of stamps and also on the cover of the inside books corresponding to the unprinted space *h* in the middle of the sheet of stamps, so that when the book is subdivided the flaps will fold over and cover the edges of the book, as shown in Figs. 3 and 4. The flaps on the outside and on the inside of the cover *F* may be dispensed with, if desired, in which case the wide space *h* in the middle of the sheet of stamps and the flap *P'* need not be provided. I prefer, however, to use the flaps.

In making the book the end margin of the stamp-sheet and the corresponding parts of the cover-blank and paraffin-paper are first perforated simultaneously or separately, as shown at 1, any number of these perforations being employed. The stamp-sheet is then laid upon the cover, with the paraffin-paper interposed, and the package thus formed placed upon a suitable carrier provided with pins which pass through the perforations and hold all of the sheets in alinement. The package is then fed beneath a suitable sewing or stapling machine and the fastenings, as at *e'*, applied. The large book thus formed is now subdivided into smaller books on the lines indicated. These are then trimmed and all superfluous parts removed and folded along the line *d* in the center of the imperforate space, when they are ready for distri-

bution among the post-offices throughout the country. For example, a sheet of three hundred and eighty-four two-cent stamps when divided will make thirty-two small books of
 5 the length of three stamps and a width of four stamps before folding or cutting, containing one sheet of twelve two-cent stamps of the value of twenty-four cents and will cost the purchaser a small advance over this
 10 sum. A larger book would contain two sheets of the same size as above, with a thin sheet of prepared paper between, and a still larger book four sheets, with two sheets of prepared paper between, on which the purchaser would pay a proper advance.

If the cover F is not of a previously-prepared paper, then the assembling would begin with a sheet of prepared paper laid first upon the inside of the cover or its equivalent,
 20 and a sheet of stamps is laid with the gummed face down on the inside of cover-blank. The spaces *d* and *d'* offer a strong surface by which the stamps may be bound to the cover and act also as hinges for folding and holding
 25 the two halves of each sheet together, so that should all the stamps on one side of a single leaf in a book be removed those on the opposite side would still remain in the book. I do not confine myself to this size of sheet, as
 30 it will be seen that the unprinted spaces on the cover and the corresponding ones on the sheet of stamps and the number and denomination of the stamps may be varied.

The small books may be made up of one-cent stamps or two-cent stamps, or of ones
 35 and twos in combination, to secure a certain value and of a size adapted for the vest-pocket or purse and for convenience in remitting small amounts by mail. The cheapness of the cover admits of them being thrown away
 40 after the stamps have been used.

For use in large business and banking institutions I prefer to use a book of the value of five and ten dollars, made up of sheets of the value of one dollar each or five two-cent stamps long and ten wide before folding.

In order to keep the books closed, I may use an elastic band 2, held to the back by a strip 3.

Instead of the flap P' and the rubber-band
 50 fastening above described I may employ the construction shown in Fig. 6, in which the flap P'' is made of reduced size and is provided with an extending tongue which is fitted to a slit made in the folded part of the
 55 cover.

Having described my invention, what I claim is—

1. A stamp-sheet having one series of narrow unprinted spaces in the body thereof, a
 60 second series of spaces wider than the first along which said sheet is adapted to be stitched, a third series of spaces wider than the first and second series extending around the edges and centrally of said sheet, sub-
 65 stantially as described.

2. A stamp-sheet having unprinted spaces at intervals in the body thereof and a backing cover for said sheet adapted to be divided into sections to form books, substantially as
 70 described.

3. A stamp-sheet having unprinted spaces in the body thereof to provide for the folding of the sheet on said lines and wider spaces centrally of the sheet combined with a back-
 75 ing sheet adapted to be divided with the stamps into a series of covers, the wider spaces providing for the formation of flaps on the cover, substantially as described.

4. A stamp-book comprising the cover-
 80 blank, the perforated stamp-sheet, the interposed sheet, and the corresponding detachable margins formed on the cover-blank, stamp-sheet and interposed sheets, said margins each being provided with corresponding alin-
 85 ing openings, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK GUNN FARNHAM.

Witnesses:

F. C. FARNHAM,
 ROBT. A. SMITH.

UNITED STATES PATENT OFFICE.

FRANCIS B. HALL, OF PLATTSBURG, NEW YORK.

PRINTING-INK.

SPECIFICATION forming part of Letters Patent No. 606,542, dated June 28, 1898.

Application filed January 20, 1898. Serial No. 667,323. (No specimens.)

To all whom it may concern:

Be it known that I, FRANCIS B. HALL, a citizen of the United States, and a resident of Plattsburg, in the county of Clinton and State of New York, have invented a new and useful Printing-Ink, of which the following is a specification.

My invention has reference particularly to a composition to be used for printing postage-stamps or other stamps which are not to be used more than once, and it is designed to produce a composition which while adapted in all respects for printing purposes yet is very sensitive to the action of water or other liquids—such as alcohol, ether, or the like—which are employed either for removing the canceling-mark from the stamp or, in conjunction with other ingredients, for putting over the stamp a washable film which will receive the canceling-mark and will protect the stamp from the same. The latter expedient is one which is not infrequently used to defraud the Government—as, for example, in the case of a stamped envelop the stamp is covered with a thin film of gelatin, then a thin film of pyroxylin is applied to the envelop, whose stamp is protected from the action of the pyroxylin by the previously-applied gelatinous film, and then over all is applied a film of gelatin. This film of gelatin receives the canceling-mark as well as the written address, the ink being prevented from penetrating to the paper by the underlying pyroxylin film. The receiver of the envelop with a moist brush can remove the gelatin film, carrying with it the ink used for cancellation as well as for addressing, and after subsequent manipulation and treatment, which it is not necessary here to enter into the details of, the envelop with its stamp is ready for another use. This is a scheme which I am informed and believe is made use of not infrequently in the case of stamped envelops, and in the case of stamps separate from the envelop the same expedient is availed of—that is to say, the stamp is covered with a thin film of gelatin or pyroxylin, or both, which receives the canceling-mark and prevents it from reaching the ink of the stamp and which can be removed and renewed as often as desired if the operation be conducted with reasonable care. It is my object to provide an

ink for the stamp which will not permit the application of any of the protecting films referred to without being so affected and defaced as to unfit the stamp for further use.

To this end I make an ink or composition of matter the body of which is composed, essentially, of saccharin matter (such as sugar) and salicylic acid. Four ounces of cold water can hold in solution but eight ounces of sugar. The same quantity of hot water will dissolve twenty ounces of sugar. With the addition, however, of salicylic acid the water can be made to dissolve twenty-four ounces and even more of sugar and retain the same in solution at ordinary temperatures. So, too, four ounces of water will dissolve at ordinary temperature but five grains of salicylic acid, and at a temperature of 212° Fahrenheit only about two drams of the acid; but in the presence of the sugar six or more drams of the acid can be dissolved, the same apparently uniting with the sugar to form a new compound which is stable, of opaque snowy-white appearance, and of viscid consistency. These two ingredients—the saccharin matter and the salicylic acid—when dissolved in water and mixed thoroughly together form an admirable vehicle for pigment or coloring-matter, giving distinctive hues or tints. I may add to such solution a small percentage of gum-arabic or any other suitable mordant for the purpose of setting and fixing the composition and preventing the same from smearing or crocking, and, if need be, I can also add a small percentage of glycerin to retard drying. The proportions in which I can take the ingredients may vary considerably. The best results on the whole have been obtained by me by using, say, six drams of the acid to four ounces of water, twelve ounces of sugar, and one ounce of gum-arabic—that is to say, by the use of about four and one-half per cent. of acid to the mass of other materials, estimating the latter at one hundred and thirty-six drams. So far as I have been able to ascertain the percentage of acid must not fall materially below three per cent., or, say, four drams of acid to one hundred and thirty-six drams of the other materials mentioned. One formula which I in practice have used with excellent results is as follows: Water, by measure, four ounces; sugar, by weight,

twelve ounces; gum-arabic, by weight, one ounce; salicylic acid, by weight, five drams; eosin or other desired and suitable coloring-matter, eight ounces and six and one-half 5 drams; glycerin, six ounces and five drams, or as much thereof according as may be needed to retard drying. It will be understood that these figures are not arbitrary. I have used as high as thirteen ounces, by measure, and 10 even more of glycerin, and the percentage, by weight, of the coloring-matter can also vary. As to the main ingredients, it will be noted that the sugar is largely in excess of the water, and the salicylic acid, which renders it possible to make use of this relatively 15 large quantity of sugar, should not for this purpose be materially less than three per cent. of the mass. I first dissolve the gum-arabic in water and place the same in a suitable receptacle, preferably of transparent 20 glass. I then add to the liquid the sugar and salicylic acid and place the said receptacle in a vessel of lukewarm water, wherein it can be heated to a temperature of 212°. The 25 mixture from time to time should be well shaken to make a thoroughly homogeneous solution, and which, when sufficiently heated, is of a syrupy consistency. The mixture in the receptacle after being heated to fully 212° 30 and allowed to rest has a scum upon the top, and, furthermore, additionally, at the bottom of the receptacle a residual deposit of unavoidable foreign matters. Between the scum above and the deposit below is 35 the syrupy mass of the composition, which can be removed from the receptacle through a tap in the side thereof, a little distance above the bottom. Care should be taken in thus separating the liquid not to draw 40 with it the residuum or the scum. The preparation is then transferred into suitable receivers and is there allowed to cool. The same when cool has become a thick viscid body. To this composition is added the coloring-matter or pigment in the proportion of 45 four drams of the coloring-matter to eight drams of the composition. The two are then ground thoroughly together with pestle and mortar and on a slab of plate-glass with a muller, or by other suitable means, and 50 finally the glycerin in small quantity—say three drams, or as much thereof as may be deemed adequate—is added and mixed with the mass should it be needed to retard drying. 55 The product when finished is of the consistency of the paints sold in "collapsible tubes." It may be put in tubes of that kind and can be there kept indefinitely. When required for use, the tube in which the same is held can 60 have its cap removed and contents then pressed out in the usual way through the neck.

Any suitable coloring-matter can be used—for example, eosin in case a carmine tint is wanted, green anilin if a green, blue anilin 65 if a blue, and so on.

When it is attempted to apply a film of gela-

tin or pyroxylin to a stamp whose stamped design is produced by the use of my composition, the alcohol or ether of the pyroxylin solution or the water of the gelatin solution 70 will at once so affect the composition as to efface or obliterate the design to such an extent as to render the stamp unavailable for after use. The same is true if it be attempted 75 by steaming or by the application of water to take the stamp from the surface to which it is adhered. It is also impractical to remove canceling-marks from such a stamp without effectually and beyond remedy effacing the design on the latter. 80

I am aware that salicylic acid has been employed in various compounds as an antiseptic or preservative, and this I do not claim; but I am not aware that it has ever before been 85 combined as an essential ingredient with sugar to form a compound such as and possessing the characteristics hereinbefore described, and this I believe to be new with me.

Having described my invention and the best way now known to me of carrying the 90 same into effect, what I claim herein as new, and desire to secure by Letters Patent, is as follows:

1. A vehicle for pigment or coloring-matter, consisting essentially of sugar and water 95 and salicylic acid, in substantially the proportions specified, the sugar being largely in excess of the water, and the acid being not materially less than three per cent. of the mass, substantially as hereinbefore set forth. 100

2. A vehicle for pigment or coloring-matter consisting essentially of sugar, gum-arabic, water and salicylic acid in substantially the proportions specified, the sugar being 105 largely in excess of the water and gum-arabic and the acid being not materially less than three per cent. of the mass, substantially as hereinbefore set forth.

3. A composition of matter consisting of water, sugar, gum-arabic and salicylic acid 110 in substantially the proportions stated, the sugar being largely in excess of the water and gum-arabic and the salicylic acid being not materially less than three per cent. of the mass, in conjunction with a suitable pigment 115 or coloring-matter, substantially as hereinbefore set forth.

4. A composition of matter consisting of water, sugar, gum-arabic and salicylic acid 120 taken in the proportions substantially as specified, the sugar being largely in excess of the water and gum-arabic, and the acid being not materially less than three per cent. of the mass, in conjunction with a pigment or coloring-matter, and glycerin, substantially 125 as hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

FRANCIS B. HALL.

Witnesses:

FRANCES D. HALL,
CATHERINE DOWLING.

