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A PAPER READ BEFORE THE ROYAL PHILATELIC SOCIETY, LONDON,  
ON OCTOBER 20TH, 1910.

By THE EARL OF CRAWFORD, K.T.



[1911.]



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8 copies were pulled for me of this paper  
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| 1. H. M. The King  | 5 Miss E. Cooper        |
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REPUBLICAN PARTY



## Benjamin Cheverton.

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BY THE EARL OF CRAWFORD, K.T.

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It may be in the memory of the Fellows that the *Daily Mail*, on the 31st May, 1910, printed an illustrated article on some of the stamps belonging to our late President. Some few days later (on the 9th June, 1910) a letter appeared in the column called "Correspondence," which I copy:—

" To Editor *Daily Mail*.

" Sir,—Seeing in the *Daily Mail* an interesting account of the King's Postage Stamp collection, mentioning the early adhesive stamps sketched by Rowland Hill, I may say that a relation of mine—the late Mr. Benjamin Cheverton—designed the first penny postage stamp suggested by Rowland Hill.

" There were four competitors, and Mr. Cheverton's design was accepted as the most original. At Mr. Cheverton's death the letters from the Treasury came into my possession, and these I have still.

" ELIZA COOPER."

I at once wrote to Miss Cooper to learn a little more on a subject which would be of such interest to us all, as, though it was known that Mr. Cheverton had received one of the prizes offered by the Treasury, yet nothing was known of his suggestions or of the reasons which influenced the Treasury in their award. Again, so far as I am aware, this is the solitary instance of the survival of an original essay for the competition, though of course we know of many of the designs which were tendered at that time.

Miss Cooper was most kind in responding to my request for further information, and in granting the permission that I should be allowed to communicate the papers to our Society; and I feel confident that you will all unite with me in asking her to accept our most sincere thanks for the liberal spirit displayed toward the Society.

The documents placed in my hands were the corrected draft of the communication to the Treasury and the letter from Rowland Hill informing him of the award of the £100 prize.

At first it seemed a little difficult to reproduce the final letter from the draft, as there were many erasures and many interlineations; also whole paragraphs were found at the end with the general heading "Interpolations."

I think I have been successful in reconstructing the draft into a harmonious whole without any omissions or change.

The letter itself will be better read in type, so I will now give a short summary of the proposals.

It may be divided into two main heads—*Administration* and *Technical Details*.

The first of these is the development of a system by which the State Revenue should be efficiently guarded against forgery or dishonest dealing

with stamps from the moment of *production* throughout the period that they *remain* in the hands of the officials of the Post Office—that is, until their purchase by the public to be used—and thus indicating a sound and economical system of distribution throughout the kingdom, each link of the chain with its check and counter-check.

The possibility of forgery is discussed and precautions indicated, and incidentally design, size, paper, watermark, are treated upon.

The Technical side describes the form which he advocated and the use of his invention for the identical reproduction of design. He proposes that the stamps should be printed, or, I should say, embossed, on a special machine on paper in the form of a tape, and the embossing to be effected by passing the tape between two rolling cylinders, the one engraved in relief, the other sunken in counterpart.

Estimates of initial cost and production are given, details of gum, etc.

My impression is that the £100 prize was given for the scheme of Administration and Distribution, rather than for the Technical suggestions put forward. I was in great hopes that some of the actual labels sent in as "Essays" would be found among the papers, but it was not so; on the other hand, Miss Cooper found a little soft metal die which was used, and I have been permitted to take casts from it—one for our Patron, one for the Society one for Miss Cooper, one for the British Museum, and one for myself.

#### PROPOSALS AS TO THE MODE OF MANUFACTURING, USING, AND DISTRIBUTING THE STAMPS INTENDED FOR THE PENNY POST.

There are only three methods of employing a stamp for the use of the post, namely, stamped letter paper, stamped covers, and separate stamps.

##### *Disadvantages of the Stamped Papers and Covers.*

To the two first modes there exist insurmountable objections.

Considering that a million of stamped papers would be required daily, the magnitude of the operations would occasion many difficulties, both at the Stamp Office and in the subsequent distribution of the stamps. Monopoly or favouritism, or at least imputations of that kind, could scarcely be avoided, and a most inconvenient interference in and disturbance of the usual modes of transacting the stationery business would necessarily take place.

This supposes that the Post Office agents are not to take any part in the distribution of the stamped papers, from which deficiency in the procuring of them the public would be exposed to innumerable inconveniences; but if they *are* to be distributors, though in common with the trade, then a partial monopoly at least would be an unavoidable *fact*.

Assortments of the various kinds of letter and note paper, and impressed with the different stamps, *must* be kept by the distributors, and ought to be kept by individuals if they would not have imposed on them trouble to which at present they are not subject.

The being *deprived* of the convenience of using any paper at hand would be generally felt as an evil, and in regard to the great mass of the people

would act to a very considerable extent as a positive check on their communications. Without anticipating too much, it may be stated here that no *necessity* would exist of keeping stamps, for as all letters must be taken to the Post Office, the stamp could then be bought and affixed.

In respect to stamped covers, there exists a peculiar and fatal fiscal objection. The envelopes will cost something, even if the duty is remitted. If not paid for independent of the stamp, the expense will be too great, namely, one-twelfth of the gross amount of the Post Office receipts (see Mr. Dickinson's evidence, page 41, Third Report).

But the great loss to the Revenue would be occasioned by the disuse of the duty on writing paper, for in innumerable instances the letter would be written on the inside of the cover. To prohibit it would be vexatious, and would subject the letters to that prying investigation which it is so desirable to avoid, both in regard to prudential considerations and the additional trouble of the Post Office.

If, on the other hand, the duty be not remitted on the envelopes, and consequently with the cost of the paper be charged to the public, then an additional tax not anticipated, and not intended, is imposed, with the further disadvantage that it would fall heaviest on those who can least afford it, on the purchasers of single covers, *for to them* the cost could not in practice be less than five farthings, or one farthing additional, whereas to others one-twelfth of a penny extra, or eleven covers for a shilling, would suffice to pay the cost of and duty on the covers. Besides which, this inequality of the tax to the amount of 300 per cent would not profit the revenue.

*Advantages of having separate Stamps.*

For many reasons, which it is not necessary to state, it is desirable that the charge to the public for postage should not by any indirect means be made more than one penny.

To avoid expense therefore, if for no other reason, it is necessary to resort to the third plan proposed, which is that of separate stamps.

The cost of them, according to the mode of manufacture hereafter suggested, is so inconsiderable as not to deserve attention. The convenience of the public would be better consulted. Any paper may be taken for a letter.

If by inadvertence the writer were without stamps, he could still write his letter and affix the stamp at the Post Office, where it is part of the present proposal that they may be procured. Even the London billmen [? bell men] may be required to carry them. Persons travelling need not take the precaution nor the trouble to be provided with envelopes or stamped paper. It is not necessary even first to procure the stamp. To provide for these emergencies the stamp is affixable by means of the back of it being coated with a composition which is smooth and firm when dry, but which becomes extremely glutinous when wetted with the finger. The most refined need not scruple to use the tongue, as in wafers, for the substance is "the jujubes" as prepared for lozenges. It is singularly adapted for the purpose by its firm yet elastic qualities. The manner of charging the paper with it will be seen in another place. A solution of gum will also answer the same purpose, but not quite so well.

The convenience of those who propose to send numerous circulars by the post is best consulted by the separate stamp. Covers would give more trouble, and if the plan of stamped papers were decided on, these printed or lithographed circulars must be stamped on purpose for them, which to persons in the country would be extremely troublesome; or else, in addition to all the rest, different kinds of printing paper, both as to quality and size, must be stamped and distributed for their particular accommodation—a difficulty which would not be felt so much by the Stamp Office as by distributors; indeed, the variety of demand which the exigencies of the public would occasion would convert its supply into a business of itself, unsuitable to Post Office keepers and incompatible with that widely extended means of distribution which the public convenience requires. The stock on hand must be considerable; some capital would be required, and a profitable percentage must be conceded, a drawback to which separate stamps would not be liable, as will presently be more fully explained. Another convenience peculiar to separate stamps is, that it would not be absolutely necessary for persons to be provided with distinctive stamps for the different rates of postage according to weight. The affixing of two or three stamps may be allowed to pass for a twopenny or threepenny postage. Indeed, distinctive stamps may with great convenience be dispensed with altogether.

Having established the great superiority of the plan of separate stamps—having shown, in fact, that any other is wholly impracticable—I now proceed to develop fully the system according to which it ought, as I conceive, to be conducted, offering my observations under two distinct heads corresponding to the two departments into which it naturally divides itself, namely, the *Administration* of the system and the *Manufacture* of the stamps. In entering upon the details, the following objects will be steadily kept in view, and be considered in truth as indispensable conditions:—

1. *Simplicity*, and consequently economy, in forming the establishment and in conducting the operations.
2. *Expedition*, or such facility in establishing the means that no delay may be experienced beyond the time expected for the commencement of the penny post.
3. *Convenience*, in respect to the public, and no extra charge or payment beyond the penny.
4. *The Interests of the Revenue* as it regards security from forgery, facility of detection, and prevention of a second use of the stamp.

#### *The Administration of the System.*

Much will depend on a proper mode of conducting the administrative details, not only in respect to most of the before-mentioned conditions, but in reference especially to the prevention of forgery.

Whatever Art may devise or execute, the like display of Art is possible, and although when chance is introduced as a principle concurring in the production of the results (as in some cases of engine-turning), it may be on the verge of impossibility to produce the same by means precisely the same, yet the effect can always be imitated by similar means, and very often a facsimile can be obtained by the improved and daily improving modes of trans-



ference. If to prevent the latter extreme delicacy and minuteness of execution is introduced, the plan becomes inapplicable to the subject in hand, not only on account of the close inspection necessary to detect the fraud, but because the care required in the manipulation would not be compatible with those rapid processes required for economy and the fulfilment of those other leading conditions already laid down.

It becomes highly necessary then to introduce into the administration of the system those measures which will *prevent* the circulation of forged stamps by establishing such a supervision upon their distribution as will render it impossible at any point to introduce the stamps in a wholesale manner except under the cognizance of the Stamp Office.

The inducement to attempt forgery would then be wanting, for no penny advantages, however great the individual demand, would warrant the trouble and expense of the undertaking, although it should be a work of but moderate difficulty. On the other hand, if the inducement and the opportunity be given of effecting large sales, no difficulty in the execution which would be at all suitable to the subject would be insurmountable to ingenuity, either in this or other countries.

#### *Primary Distribution.*

Assuming, therefore, that to the Stamp Office, or to some separate department of it, the production and distribution of the stamps will be confided, it is proposed that the primary class of distributors shall be solely the Post Office keepers of the Metropolis and the postmasters in the Post Office towns, or those which are marked with the black dot (●) on the Post Office map, their number for England and Wales amounting to about five hundred. It is proposed that with these only the Stamp Office shall correspond and keep account, or supply with stamps, and which shall in all cases be had direct from the Stamp Office, no interdealing or mutual supply among the Post Office keepers being allowed.

Further, to remove all inducement on the part of the Postmaster to be supplied with a greater amount of stamps than is required by the natural demand of their respective localities, it is proposed, for this as well as for other reasons, not to allow any commission or percentage on their sale, it being supposed that they are already adequately remunerated by the Post Office; or, if not, that they ought to be in the shape of a fixed allowance.

#### *Exclusion of Forgeries.*

Under this arrangement it would be impossible for forgers to introduce their stamps in sufficient quantity to make the speculation profitable unless in collusion with the Postmasters, and scarcely then, for the quantity required by any one Postmaster would not be considerable. Beside which, the fraud would be instantly detected at the Stamp Office, inasmuch as the usual average supply of stamps required by that Postmaster would be diminished. In addition to which, they would at all times be liable to have their stocks examined by the Stamp Office inspectors.

*Secondary Distribution.*

But the public convenience would require a more extensive distribution of the stamps than could be afforded by the Postmasters.

It is proposed, therefore, that while the Stamp Office is the centre of the primary distribution, the Postmasters should be centres for a secondary distribution embracing all the keepers of the Penny Posts and sub-offices. These places are marked in the Post Office map with a circle. These persons should be required to keep stamps, which, being all of one kind and of one price, would demand no variety or extent of stock, and they should also be required to procure their supply only from the Postmaster assigned by the regulations.

It is not proposed that they should have any percentage or remuneration other than what they now receive from the Post Office, for being almost in every instance shopkeepers, the selling of stamps would be, in fact, a boon to them, as being the means of drawing custom to their shops. This, indeed, is the principal motive for their becoming Post Office keepers, but the privilege of selling stamps would constitute a far greater inducement, inasmuch as persons in the other case seldom enter the shop. With the facilities which they would possess of obtaining ready supplies from their respective Postmasters, the capital required for so limited a purpose is not worth mentioning, particularly as the stamps would all be of one kind and value.

Their dealings, therefore, with the Postmaster, it is proposed, shall always be in ready money. For this reason, and also because the Stamp Office would allow a short credit to their own agents the Postmasters, these persons also would not require any capital. Thus there is already existing a cheap and efficient machinery for the distribution of the stamps and commensurate to the wants of the public, for the plan of separate stamps being adopted, a letter need never fail of being written or being despatched for the want of one, for, as the letter *must* be carried to a Post Office, *there* are the means (if they had not been before provided), on the very spot where they are required, to enable it to be sent, and also to furnish a supply for future occasions. Nevertheless, there is nothing to prevent the shopkeepers generally from obtaining stamps from the Postmasters and selling them, to which they would be incited by the wish to attract other custom, but it is submitted that as the public convenience is otherwise fully consulted, this privilege should be granted exclusively to the Post Office keepers and the Postmasters, which would render it more valuable to the former class of persons, and also to the latter in all cases where they too are shopkeepers.

In a few places of commercial importance it is probable that the annual returns of the Postmaster, if he is the only primary distributor, might be too great consistent with a proper division of the responsibility, and yet it is not to be supposed that the trust reposed in him will be greater in a *pecuniary* point of view than it is at present. It may, however, be made a regulation that when the annual supply of stamps exceeds the amount of £ , persons from among the class of sub-distributors shall become primary distributors, for which additional trouble remuneration in the shape of a fixed allowance may be necessary.

If the Postmasters by this great change in the Post Office business should be deprived of any advantages more than equivalent to the trouble from which they will be released, it will become a subject of consideration whether the primary distributors generally should not have a fixed remuneration for the distribution of the stamps. It need, however, be but small, for, as before observed, to all who are shopkeepers it would be a valuable boon.

*Exclusion of Forgeries.*

It would be yet more difficult to introduce forgeries into the secondary than into the primary distribution of the stamps, for here the Postmasters would check the usual average amount of supply to the sub-distributors in the same manner as the Stamp Office would act with him. The amount of sale, however, in these cases would be so small that no opportunity would exist for introducing forgeries in that wholesale manner which alone would afford sufficient inducement. But these arrangements not only secure the prevention or the detection of frauds, but also the detection of the offender, for if the forgery be not that of the utterer, the sub-distributor, or else the Postmaster, must unavoidably either be in collusion with the forgers or he must be the forger himself. There can be no shifting of the responsibility to unknown persons, as might be the case in indiscriminate sales of stamps. The offering to sell stamps to distributors would be the act of a forger—and the reward of £100 for the conviction of such an offender would deter from the attempt, for no such sum could be gained by the profit on such a fraudulent transaction in the case of the sub-distributor, and only during a long career of successful fraud in the case of the Postmaster.

It will not be altogether out of place to remark here that the returns of the Postmasters would form valuable statistical documents, and put on record the comparative progress of communication in the several localities. It may be remarked also that the sub-distributors would act as a check on the Postmaster to the extent of preventing the introduction of forged stamps in any other *than* a wholesale manner, for they would be supplied to him in that form, as will be seen further on, which would show at once that they are manufactured by means of a paper-making *machine*. For the same reason also all purchasers of stamps to the amount of one pound's worth could check the introduction of forgeries produced by any means short of a wholesale manufacture. Thus the forger would be forced into the expense of establishing a manufacture on a large scale—rendering himself liable to the greater risk of detection—and at the same time be debarred the opportunity of introducing his forgeries in a wholesale manner.

With respect to petty forgeries, no apprehension of their being attempted need be entertained; for even in the rare case of a combination of the varied talent required, the trouble and expense, although of a very moderate character, to say nothing of the risk attending it, will be sufficient to make it not worth the while to commit so profitless a fraud.

Besides this, the detection of the offence would be instantly followed by the detection of the offender, for the letter itself affords the means.

Although it will not be improper to adopt a plan which shall render forgery a matter of the utmost difficulty, yet these administrative measures,

by taking away all inducement to commit it, allow us the opportunity, in devising a protective stamp, to pay primary attention, if need be, to those other objects that are to be kept in view, and which otherwise would be of subordinate importance, such as economy in the manufacture, expedition in getting up the requisite machinery, and facility of recognition at the Post Office. I hope, however, in the following plan to combine with these conditions a difficulty of execution so great as shall not only put an effectual stop to the petty frauds just referred to, but shall deter the more enterprising forger, with ample capital at command, from making the attempt.

#### *Manufacture of the Stamps.*

It is indispensable, I conceive, that the manufacture should possess a practical, business-like character, that the process should at once be simple, economical, and rapid, and that the produce of it should be in a form suited to public convenience in its use.

There is no scope in the subject, as well as no necessity, for introducing extreme refinements, which, besides being slow of execution, and consequently expensive, are not adapted for hasty detective recognition at the Post Office. Such devices, however difficult or even impossible to forge, may admit of *imitative* frauds passing very readily.

I propose, as sufficiently protective measures, that the stamp shall carry on the face of it peculiar distinctive marks of every step taken in its manufacture; that the execution shall at each of these steps be difficult in itself by reason either of the skill or of the capital required—the difficulty augmenting indefinitely on the whole by their combination—and that each parcel of stamps as delivered to the principal or to the sub-distributors, which should never be less in value than a pound sterling, shall bear proof in the very form of it such as cannot possibly be evaded or imitated that it is the result of a manufacture conducted on a grand scale.

#### *Manufacture of the Paper.*

We commence, therefore, with the making of the paper. I propose that it shall be made in long narrow slips of the exact width of the stamp—say three-quarters of an inch. Each length may be a mile long, which will form a coil of convenient size, to be wound on spindles to serve as axes of rotation for after purposes. Now these slips of paper will have the rough edges as naturally formed in the manufacture, and which it is impossible to counterfeit. To possess them, the paper must be made on purpose, and it must be made by means of a *paper-making machine*, and this machine must be adapted to the express purpose. In addition to which a strong and peculiar zigzag watermark may be introduced along the middle of the paper. Both of these would form very distinguishable marks for recognition of the Post Office, and every single step would possess them. If thought necessary, Mr. Dickinson's paper may be used for the purpose, in which lines of thread or silk are stretched through it, but it must be manufactured in the mode proposed, for it is by this simple expedient of every pound's worth of stamps being in a roll containing a length of about sixteen feet that hand-made paper manufac-

tured by the forger for the purpose of introducing any peculiarity in the paper itself would offer no resource to him.

Indeed, the peculiarities which I have suggested could scarcely be introduced at all into hand-made paper—there would be no facility in the production of such narrow slips in necessarily short lengths, whilst in a paper-making machine many of these slips would be proceeding from the vat at the same time. Thus the peculiarity in the texture of the paper would be a check upon the petty forger for the case of single stamps, whilst the peculiarity of form would check an enterprising fraud which had in contemplation a more wholesale disposal of them.

The extent of establishment and machinery for machine-made paper to which the forger must be driven is too well known to require further notice, neither is it necessary to insist on the consequent risks and ultimately inevitable detection. That protective measures should extend to the manufacture of the paper will readily be allowed, but if any description of printing be allowed, the peculiarity in the texture of the paper will be obscured by it, and its recognition at the Post Office be prevented, for there is not the means, as in bank-notes, to examine it before a light.

#### *Process of Stamping.*

The security already provided is very great, and in a very cheap and ordinary manner, but as the paper must bear some kind of device, additional protection should be introduced herein. But we must first inquire what is the simplest and most rapid manner of marking paper with a device. This is unquestionably by the process of stamping, especially when regard is had to the form of the paper to be operated on; but this very form, though most unsuitable for typography, lithography, or copper-plate printing, is most appropriate for stamping if produced through the medium of rollers. The immense number of impressions which may be made in a day by means of a rolling-press would be incredible, if it were not attested by an experiment which I instituted for the purpose. I passed a slip of paper between the cylinders taking medallion portrait impressions from the raised and hollow dies or matrices on their surfaces, and, without the least detriment to the goodness of the impression, produced a series of them at the very moderate velocity which is usually allowed to mechanical motions, viz. 220 feet per minute. This would give us twenty-five miles of stamps in a working day of ten hours, or rather more than 2,000,000 in number. [2,112,000.—C.]

The same number of impressions produced by fly-presses would require an establishment of one hundred working men each striking off 20,000 a day.

Now it is probable that a million of stamps will be required per day, and there should be power to produce more than merely just the demands, say, one million and a quarter. The establishment, therefore, must actually consist of seventy-five working men. The expense, inconvenience, and liability to pilfering from such a state of things need not be dwelt upon. The same would arise if any description of printing were adopted.

Thus one machine [as suggested above] would be all that would be required, though two should be provided in case of accident or repair to the other.

These could be got up with great expedition : the first outlay would be inconsiderable, and the current expense of working the press, either by manual labour or by a very small steam engine, would be so little as not to require notice. It would be infinitely less than by any other plan that could be suggested. As an appendage to the press I propose to have a register recording the number of revolutions that it makes, and consequently the number of stamps that has been impressed every day, which would afford a useful check in all the departments of the office.

*Nature of the Device and Security from Forgery.*

The point now for consideration is the nature of the protective measure which can be introduced into the stamping process and more particularly as effected by the rolling-press. I propose that it shall arise out of a combination of the following conditions: talented design, skilful execution, and perfect identity of effect in all the impressions however numerous they may be.

Now talent can have no scope for its display except in a work of art, and the only field for its exercise suitable to the subject would be on the human face—and this, therefore, I propose as the device.

It should be executed in the original by one of our best sculptors, in a fine, bold, and massive style of relief. The subject to be a head of Mercury, and the design, if need be, may be changed every year. To reproduce the same in a die would require the utmost skill of an eminent medallist.

Now artists of this description are very few, and hence the check that would be given to the forger—we have many skilful die-sinkers quite adequate to the imitation of any trite or mere mechanical device, but to impart all the spirit of a fine work of art, and at the same time to preserve a *perfect identity of effect* with the authorized design, is only just possible to any artist. If slight deviations were allowable even in the way of improvement the task would be comparatively easy. Now it so happens that the eye being educated to the perception of differences in the features of the face, the detection of any deviation in the forgery would be more easy—the difference of *effect* would strike an observer more readily than in the case of letters or any mere mechanical or ornamental device, although he may be unable, perhaps, to point out where the difference lies, or in what it consists. Thus we should have a very distinguishable means of recognition at the Post Office, and the inspectors by use would attain to a more than ordinary sharp perception of discrepancies.

To assist this object, as well as to afford effect when seen embossed on paper, the relief should be modelled rather high in respect to the ground, which would give opportunity in the various quantities of projection for greater deviations by the forger. At the same time for several reasons, which not to be too minute we need not detail, the relief should on the *whole* be *flat*, and in that respect different from the specimens which accompany this communication.

But the advantages to be derived from this plan cannot be realized unless a perfect identity be preserved in the authorized design—everything depends on that. A device of any kind would serve only the purpose of a mere

ornament unless this object can be secured—but it is not to be secured by ordinary means. The most skilful medallist could not guarantee an exact resemblance in a great number of steel dies unless assisted mechanically. Now I have to propose in this emergency the use of my peculiar machine, by which I am known as having executed various works of mechanical sculpture



in ivory which are exact copies of both busts and statues. I have long contemplated the application of this machine to medallic engraving in steel, and last year prepared a specimen of the kind in order to show its powers and valuable qualities for this sort of work, but have been prevented by other occupations from following up the design.

I propose, then, by means of this machine to guarantee facsimiles in steel dies of any work of art that may be fixed, and of any number that may be required, all of them, preserving the sharpness of originals—each of them, in fact, being itself an original—for no one would be a transfer from another. My works in ivory exist as proofs of the utmost fidelity of my copies, and therefore the different dies would not only preserve all the merits of the original work of art, but would at all times produce an exact identity of effect. I have also to state that they may be got up with great expedition, much greater than could be accomplished by hand, so that no fear of the undertaking being delayed on that account need be entertained. The expense also would be less.

It is very easy to propose that the stamping process should be effected by means of the rolling-press, but proof of its practicability may be fairly required. There are certainly some mechanical difficulties in the way of a *highly raised* impression being thus produced. The dies on the cylinders, which are counterparts of each other, must exactly coincide on the completion of a revolution, consequently the relief die must be formed in its place from the intaglio die, and this must be effected without forcing the cylinders more distantly apart. There is no difficulty in this in the case of very low impressions admitting a comparatively soft material for the die in relief, but this is inadmissible in the present instance, when a strong and full, as well as a highly raised, impression is required.

It is desirable to make the execution as fine as possible; however, without entering into an exposition of mechanical details, it is sufficient to state that a very hasty trial occasioned by the limited time that has been afforded has proved that the plan I have devised has answered the purpose, the evidence of which is in the specimens sent herewith.

[These, unfortunately, no longer exist.—C.]

*Description of Specimens.*

I however most earnestly request it to be understood that they are not to be taken as specimens of execution, but only to show the practicability of the principle of rotating stamping, and of the mode devised for procuring the counterpart die.

[This seems to me to have been omitted.—C.]

For the fact is that having no time to make an intaglio die in steel, from which, of course, the *embossed* impression on the paper is received, I was obliged to use a head in relief that I had formerly executed, and from this to obtain the intaglio die in soft metal, which, of course, yields to the paper, fails to give a sharp impression of details, and does not compress the *surface* of the paper, the proof of which is the absence of any gloss or polish upon it.

For the same reason I was obliged to content myself with only one impression instead of a dozen. The spaces between are supposed to be filled up, having small intervals at every twelfth head to point out a shilling's worth of stamps, and the whole roll is to represent the form in which, to the amount of one pound's worth, they are to be sent to the distributors, in order to fulfil that particular purpose heretofore explained. I have, of course, been obliged to join slips of paper, not having the means of obtaining one continuous length; also for want of a paper-making machine at command, I have been able to have on only one side of the roll that natural rough edge to the paper which is produced in its manufacture. The difference, however, is seen by contrast. The other peculiarities in the paper that have been proposed it has been equally out of my power to produce. The coating of jujubes was given to the paper before the stamping was effected, by which it will be seen that it does not interfere in the least with that process, a circumstance that will be found to be of great convenience.

*The General Routine of the Manufacture.*

The paper, being made in mile lengths by the paper machine, will be wound in coils upon proper spindles prepared with guides, and all made to one pattern. These will be used as axes of rotation in passing through the coating and stamping machines. The machine for coating the paper with the jujubes or the gum should consist of a vat containing the composition, a cylinder to be supplied with it all over its surface by distributing rollers as in the inking apparatus of a printing machine, and hot cylinders to dry the composition. The paper will then be made to pass through this machine, unwinding from one coil whilst being wound up on another, getting in its progress a coating of composition by rubbing on one cylinder and being dried on the others.

Here the motion must be much slower than in the stamping machines, but to make amends several coils of paper are to be in progression at the same time and in the same machine.

The number of coils required per day is assumed to be about sixteen, or sixteen miles of paper, each mile affording about 77,440 stamps, the supply in the whole being about one million and a quarter per day, to meet an



assumed demand of one million per day. The diameter of these coils will be about feet. [Left blank in MS.]

They are then to be sent to the Stamp Office, where in the process of being unwound from their spindles to be wound on others they pass between the stamping [embossing] rollers. They are now taken to the apartment where they are to be cut into lengths. For this purpose a coil is placed in a frame and an operator running out the end to the distance of fifteen feet, another standing at the coil cuts it with a scissors at the parting between the dozens which presents itself, and the length, which is a pound's worth, drops into a carriage on wheels beneath.

This when full is run away to the winding apartment, where the lengths are separately wound in rolls in the same manner and by the same means as rolls of ribbons, except that it would be advisable, perhaps, to leave out the block of wood. These, again, being packed in parcels of five and ten pounds' worth, are delivered at the conclusion of the day to the storekeeper, who, comparing his tallies with the register attached to the machine, checks the whole of the operations.

*Expense of the Stamps.*

On this head little need be said, for it will be perceived at once from the review of the whole of the operations which has been just taken, that it will be so unimportant as by no means to require that the public should be charged with it in addition to the payment of the postage. Mr. Dickinson says that he can deliver twelve half-sheets of paper, with the duty remitted, but the stamping included, for one penny (Report, p. 41). Not knowing what he considers to be the cost of stamping, I shall assume that he would include the *labour* of coating the paper with gum or jujubes in the same estimate, instead of the stamping. Now a half-sheet of paper contains sufficient material for 100 stamps; he would therefore deliver the stamps, so far as the paper and the *labour* of coating it is concerned, at the rate of 1200 for a penny, or a million for £3 10s.

But as the expense of coating will probably be greater than what Mr. Dickinson assigned to the stamping, each half-sheet having but one stamp, and, as a paper of a fuller and better quality will be required than what was intended for covers—paper, in fact, expressly designed and adapted for embossing—I shall double the above estimate and make it £7.

The cost of the jujubes for the same number would, I have ascertained, be about £5. To this we have only to add the cost of stamping.

I assign six men to the machine, two to attend upon it and three to work it, the other for relays. Here would be sufficient power to stamp two millions a day, but as we assume the demand to be only one million and the establishment would be the same, the charge must be made upon *one* million, and this at 5s. a day to the men would be £1 10s. I assign two men to cut off the paper in lengths, three to wind it in rolls, a storekeeper and three porters—say £2 10s. for their wages per day. We shall then have—

	£	s.	d.
Paper . . . . .	7	0	0
Jujubes . . . . .	5	0	0
Stamping . . . . .	1	10	0
Sundries . . . . .	2	10	0
	16	0	0

This would be the expense per day to supply a demand of stamps to the amount of one million a day. But the establishment of clerks and superior officers to manage the correspondence and financial affairs is not included, as not being properly an expense to be charged exclusively on the stamps, for it would supersede a far more expensive establishment of the same kind at the Post Office.

The annual expense, therefore, upon a supply of 313 millions of stamps would be £5008. Mr. Hill's calculation upon 400 millions of stamps is £104,165, but which, I presume, is for stamped covers, and in which the process of hand-stamping must necessarily be resorted to. The expense, then, of the stamp would be  $\frac{1}{280}$ th of a penny.

*Prevention of a Second Use of the Stamp.*

I propose to meet this difficulty by suggesting that in the operation of facing and hand-stamping the letters at the Post Office, the impression should be made over the stamp, by which it would be defaced and spoiled. They may, indeed, be collected in quantities and bleached by the use of chlorine, but to prevent that it is only necessary to use the following ink for the purpose, which we have the authority of M. Dumas to say is indelible.

[A blank is left here not filled up.]

*Concluding Remarks.*

I have not thought it necessary to encumber this paper with drawings or details of machinery. It will be time to furnish particulars of their kind after the decision has been come to. Enough has been said to show that what I have proposed is practicable. Indeed, the measures which I have suggested, whether of an administrative or executive description, are so plain and practical in their character as to come within the ordinary and established routine of things except in two instances, namely, by my own machine and my proposed stamping machine—in which cases I am ready to afford proof of the powers and capabilities imputed to them. Yet, notwithstanding this simplicity, I flatter myself that these measures are, by their combinations with each other and with the novel and peculiar suggestions just mentioned, thoroughly efficient for securing all the objects proposed to be obtained by them, as comprised in the leading conditions to which I bound myself at the commencement, namely

Economy, Expedition, the Convenience of the Public, and the Protection of the Revenue. [Letter ends. No signature.—C.]

Mr. Rowland Hill presents his compliments to Mr. Cheverton and requests him to call at the Treasury to-morrow, if possible between 10 and 6, with reference to the proposal for the Postage Stamp.

TREASURY CHAMBERS,  
27th November, 1839.

11 DOWNING STREET,  
26th December, 1839.

Sir,—I am directed by the Chancellor of the Exchequer to inform you that your communication on the Postage Stamp is one of the four

selected by the Lords of the Treasury as most distinguished either for originality or completeness, and that their Lordships have decided to award to you the Sum of One Hundred Pounds.

I am, Sir,

Your very obedient servant,

(Signed) ROWLAND HILL.

To Mr. Benjamin Cheverton.

11 DOWNING STREET,

1st January, 1840.

Sir,—I beg to acknowledge the receipt of your letters of the 28th ultimo and to thank you for your offer of assistance, of which, at a future time, I shall be very likely to avail myself.

I am, Sir,

Your obedient servant,

(Signed) ROWLAND HILL.

Mr. B. Cheverton, Camden Town.

TREASURY CHAMBERS,

3rd January, 1840.

Sir,—The Lords Commissioners of Her Majesty's Treasury have directed me to acquaint you that they have issued orders to the Paymaster-General of Civil Services, Mr. Sargent, of this Office to pay to you the sum of One hundred (£100) pounds in full compensation to you for the suggestions made by you for carrying into effect the plan of Uniform Postage.

I am, Sir,

Your very obedient servant,

(Signed) G. T. PENNINGTON.

Mr. Benjamin Cheverton,

72 Prett Street, Camden Town.

