

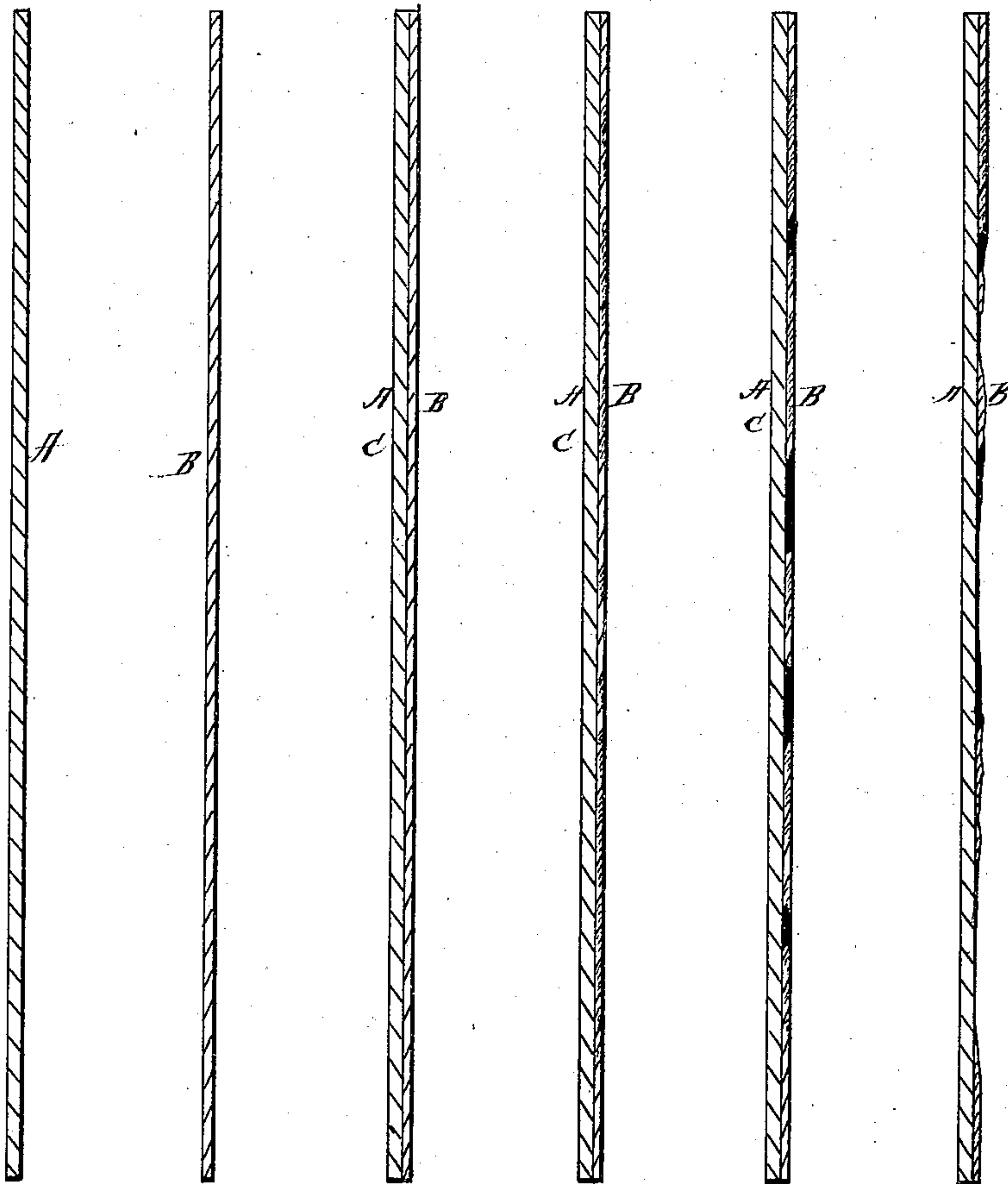
C. F. Steel.

Postage Stamp.

Nº 86,952.

Patented Feb. 16, 1869.

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



Witnesses,
Wm C Dey
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Inventor.
Charles F Steel
by his attorney J L Sedgwick

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.