(No Model.)

S. H. HORGAN.

COMPOSITE PRINTING PLATE AND METHOD OF MAKING SAME.

No. 604,472. Patented May 24, 1898.

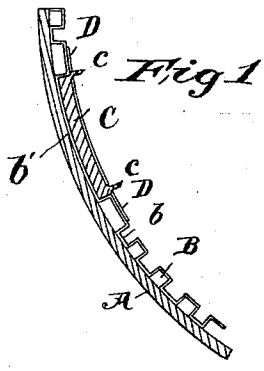


Fig. 1.

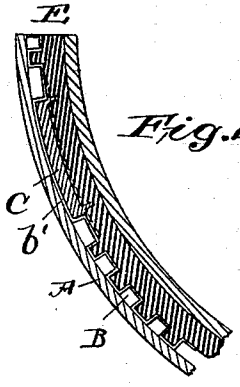


Fig. 2.

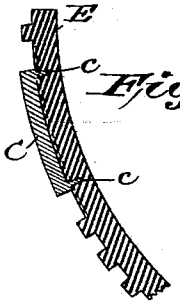


Fig. 3.

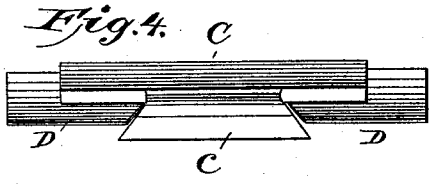


Fig. 4.

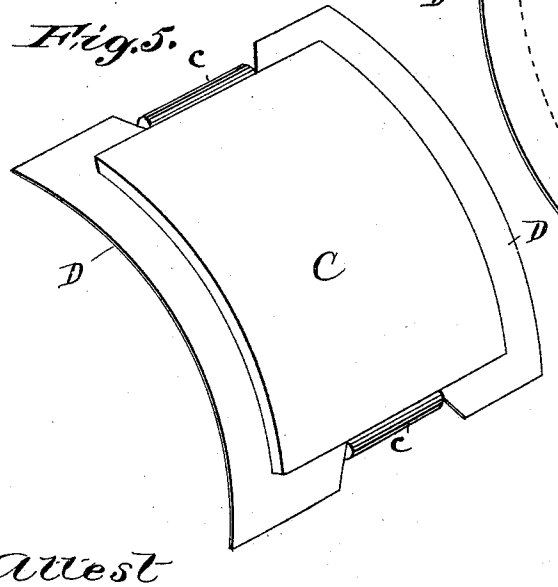


Fig. 5.

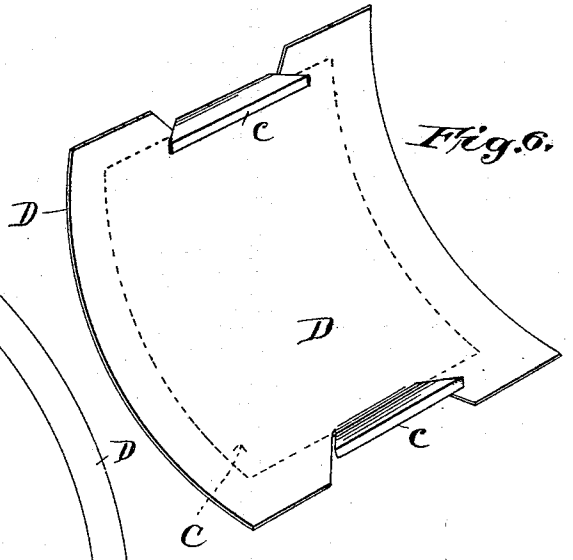


Fig. 6.

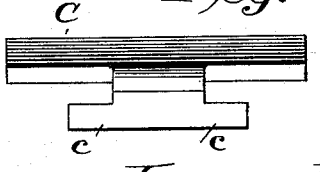


Fig. 7.

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COMPOSITE PRINTING-PLATE AND METHOD OF MAKING SAME.

SPECIFICATION forming part of Letters Patent No. 604,472, dated May 24, 1898.

Application filed March 10, 1897. Serial No. 626,855. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN H. HORGAN, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented a certain new and useful Improvement in Original Half-Tone Plates and in the Method of Securing Them to Stereotypes, of which the following is a specification.

I will first describe my improvement in detail, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a partial sectional view of a casting-box, a matrix, and a plate in position previous to the pouring of stereotype metal into the casting-box. Fig. 2 is a partial view of the same after the stereotype metal has been poured into the casting-box. Fig. 3 is a view of a stereotype and a plate "anchored" thereto. Fig. 4 is an end view of a plate with solder-foil attached thereto. Fig. 5 is a face view of a plate and solder-foil extending beyond the edges thereof. Fig. 6 is a rear view of a plate and solder-foil extending beyond the edges thereof, and Fig. 7 is a modification of the anchorage-lug shown in Fig. 6.

Similar letters of reference designate corresponding parts in all the figures.

The type-form is first prepared as ordinarily, except that where a half-tone plate is to appear in the stereotype a half-tone block or a "dummy" to take the place thereof is inserted. From the type-form thus prepared a stereotype papier-mâché matrix is made in the ordinary manner. B designates this matrix, *b* representing the letter-press portion of the matrix and *b'* an indentation made in the matrix by a half-tone block or a dummy. The matrix after having been prepared is placed in the casting-box and rests on the lower part A thereof.

I prefer to prepare the half-tone plate which is to be secured to the stereotype in the following manner: After the picture is photo-engraved the plate is reduced to a proper size by means of a saw or other proper device. In the process of reducing the plate C to the proper size flanges, as *c*, are left either at the two ends or on all four sides, and these flanges may be one or more in number on each side, as may be desired. These flanges are so shaped that the outside edge is wider than the edge by which the flange is attached to the plate of which it is part. In Figs. 4 and 7 I have shown two different styles of flanges. I then prefer to cut half-way through the thickness of the metal at the junction of the flanges with the plate with a router or other proper instrument.

Solder-foil is fastened to the back of the half-tone plate with a portion of the foil extending beyond the edges of the plate. The foil I prefer to use is known as "electrotyper's" foil, and the method of fastening the foil to the back of the plate can be that known in the art as "sweating." The half-tone plate being curved to conform to the curve of the casting-box, the flanges are bent downward at an angle to the plate and are so disposed as to be substantially in axial alinement with the stereotype, and a little adhesive is spread on the face of the portions of foil extending beyond the edges of the half-tone plate. The plate is then inserted face downward in the depression made in the matrix by the half-tone block or dummy in the operation of preparing the matrix before referred to.

D designates the solder-foil on the back of the plate.

When the plate has been inserted in its place in the matrix, the portions of the foil D which extend beyond the edges of the plate are pressed into contact with the papier-mâché matrix, and the adhesive which has been spread on the face of these portions of the foil will cause the flanges of foil to adhere firmly to the matrix and prevent the plate from getting out of place in the process of casting the stereotype.

When the stereotype metal E in a molten state is poured into a casting-box containing a matrix with a half-tone plate attached, as described, the molten metal detaches the foil flanges from the matrix and fuses them, and at the same time it fuses the remainder of the foil on the back of the half-tone plate. The molten metal will entirely surround the flanges on the half-tone plate, and as these flanges are wider at their outside edges than at the points of their attachment to the plate the plate will be so firmly anchored in the

curved stereotype as to prevent its accidental removal.

In order to prevent the molten stereotype metal from flowing between the face of the half-tone plate and the matrix, I may place pieces of cork or other preferably-slightly-elastic material at the back of the half-tone plate, so that the inner surface of the casting-box will rest on these pieces of cork or other slightly-elastic material and press the plate firmly against the matrix.

By disposing the end flanges of the plate in substantial axial alinement with the stereotype or at any angle less than a right angle the reading matter can be located immediately adjacent to the half-tone plate. In the claims therefore the term "in substantially axial alinement with the stereotype" means that the flanges of the plate that are located at the end thereof are to be disposed from said plate at any angle less than a right angle.

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

1. A combined stereotype and half-tone plate, said plate being provided at opposite edges with flanges in substantial axial alinement with the stereotype, said flanges being wider at the outside ends thereof than at the points of attachment with said plate.

2. A half-tone plate having a solder-foil fastened to the back thereof, said foil extending beyond the edges of the plate so as to form overlapping flanges.

3. A half-tone plate provided with flanges at the ends or sides thereof, said plate having a solder-foil fastened to the back thereof, which foil extends beyond the edges of the plate so as to form overlapping flanges.

4. The method of securing an original half-tone plate in a matrix, consisting in indenting the matrix at the place where the plate is to be secured, inserting in such indentation face downward a half-tone plate to which is attached on the back thereof a solder-foil which extends beyond the edges of said plate, and then pasting or otherwise securing to the matrix the portions of solder-foil which extend beyond the edges of the plate.

5. The method of securing an original half-tone plate in a stereotype, consisting in inserting in a matrix a half-tone plate having downwardly-projecting flanges at the ends or sides thereof, said flanges being disposed in substantial axial alinement with the stereotype and wider at the outside ends thereof than at the points of attachment with said plate, and then pouring over the face of the matrix the molten metal of which the stereotype is made.

6. The method of securing an original half-tone plate in a stereotype, consisting in inserting in a matrix face downward a half-tone plate to which is attached on the back thereof a soldering-foil which extends beyond the edges of said plate, pasting or otherwise securing to the matrix the portions of solder-foil which extend beyond the edges of the plate, and then pouring over the face of the matrix the molten metal of which the stereotype is made.

7. The method of securing an original half-tone plate in a stereotype, consisting in inserting in a matrix a half-tone plate having downwardly-projecting flanges at the ends or sides thereof and having attached to the back thereof a solder-foil which extends beyond the edges of said plate, pasting or otherwise securing to the matrix the portions of solder-foil which extend beyond the edges of the plate, and then pouring over the face of the matrix the molten metal of which the stereotype is made.

S. H. HORGAN.

Witnesses:
J. R. BOWEN,
MARY E. BOWEN.