(No Model.)

L. GROSSMAN.

PRINTING PLATE.

No. 539,221. Patented May 14, 1895.

Fig. 1.

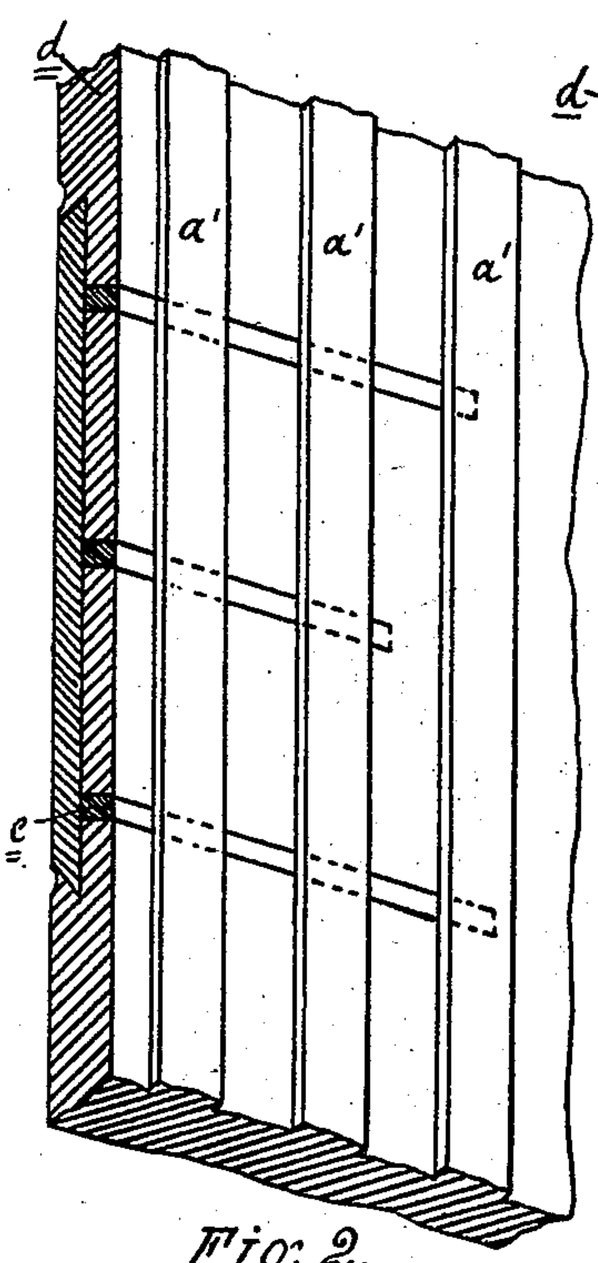

Fig. 2.

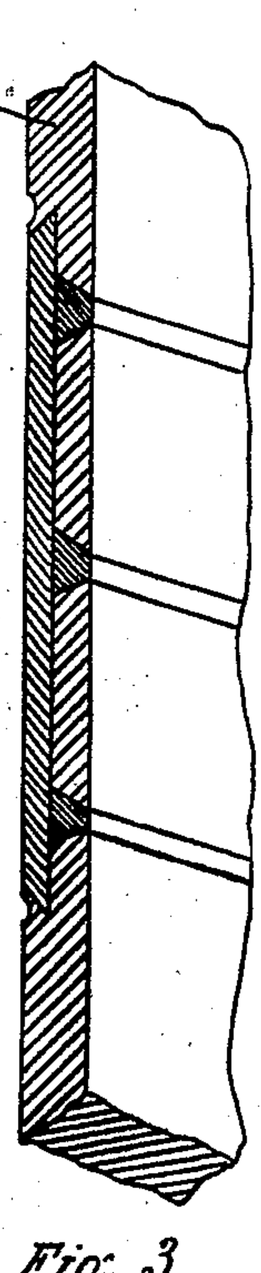

Fig. 3.

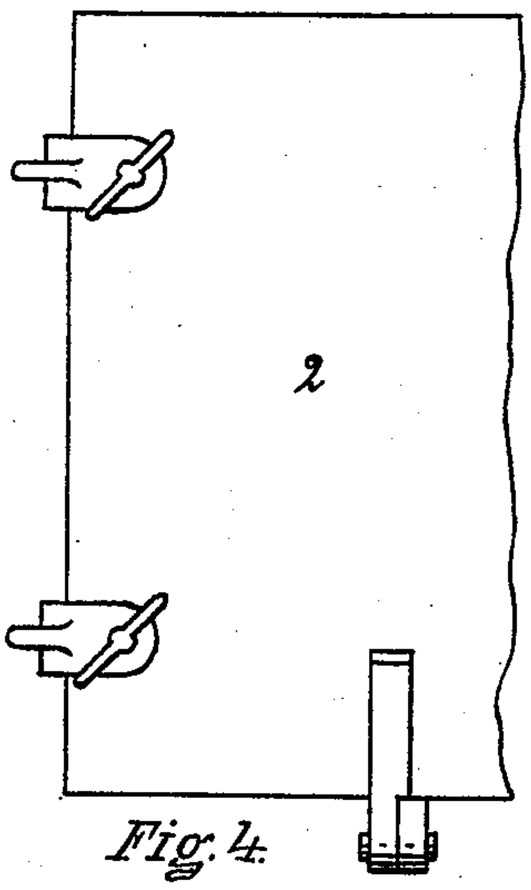

Fig. 4.

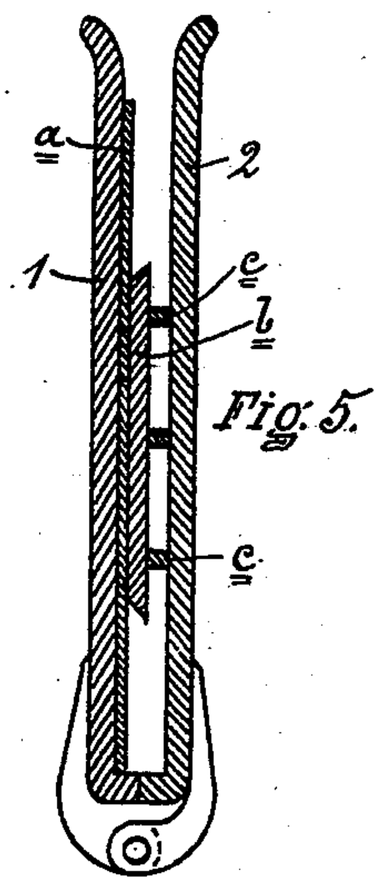

Fig. 5.

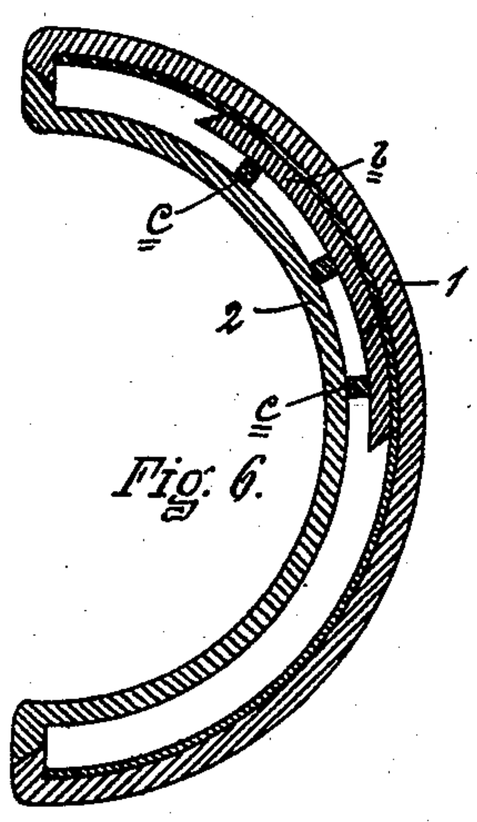

Fig. 6.

WITNESSES.
Rich. A. George.
E. G. Munson.

INVENTOR
LEO. GROSSMAN.
BY
Risley, Robinson & Love,
ATTORNEY'S

UNITED STATES PATENT OFFICE.

LEO GROSSMAN, OF UTICA, NEW YORK.

PRINTING-PLATE.

SPECIFICATION forming part of Letters Patent No. 539,221, dated May 14, 1895.

Application filed April 5, 1894. Serial No. 506,374. (No model.)

To all whom it may concern:

Be it known that I, LEO GROSSMAN, of the city of Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Methods of and Means for Uniting Electrotype and Stereotype Plates; 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, reference being had to the accompanying drawings, and to the letters and numerals of reference marked thereon, which form part of this specification.

My invention relates to improved means and methods of uniting electro-type or half tone plates with stereotyped or electrotype plate.

In the making of stereotype plates, as now usually practiced, an impression or matrix is taken from the form on papier-maché or similar semi-plastic material, from which the stereotype plates are afterward cast. In taking the matrix, the papier-maché or plastic is incapable of taking any impression from an electrotype or half tone cut that is of any practical use in printing or that can be practically reproduced in the stereotype plates.

The object of my invention is to provide for using the electrotype or half tone cut in the stereotype plate, and the method of securing it, and it is also adapted for use with electrotypes as hereinafter explained.

In the drawings, Figure 1 is a sectional view of the stereotype-plate and the electrotype-plate secured therein. Fig. 2 shows the same from the back of the plate. Fig. 3 shows a modified form of construction from the back. Fig. 4 shows a portion of a plain casting-box. Fig. 5 shows a vertical section of the casting-box in position to cast, showing in section the electrotype in position before casting. Fig. 6 shows a section taken on a horizontal line of a semicircular casting-box for a rotary perfecting-press.

In forming the matrix, I mount the electrotype plate on a temporary base to bring its face in the same plane with the type in the form and place it in the desired position in the form of type and take the matrix therefrom. The matrix (shown at *a*) is then placed in the casting box of the desired form and the electrotype plate *b* is removed from the form and placed in position in the casting box in the impression in the matrix which it made when in the form. If the electrotype plate is to be used in a circular stereotype, it is bent or rolled to a corresponding curvature on a form before being placed in. In placing the matrix and electrotype in the casting box, the box is preferably placed on its side and the matrix laid on the side 1 thereof. There is then placed on top of the electrotype two or three pieces or strips *c*, *c*, *c* of yielding or compressible (soft wood is preferable) blocking. I prefer to place these crosswise of the grooves in the back of the casting box which form the ribs *a'* on the back of the stereotype plate, although this is not entirely essential. These blockings are at least of a thickness to fill the space between the back of the stereotype plate and the opening side 2 of the casting box, and preferably a little more. When the parts are in position as stated, the opening side 2 of the casting box is closed and secured and the box placed in vertical position for casting. The molten metal is then poured into the space *e* in the casting box forming the stereotype plate *d*, and surrounding the electrotype plate *b* securing it in position therein by engaging on the face side behind the beveled edges *b'* of the plate and backing the plate by metal enough, as shown at *d'* to make the plate of uniform thickness and strength throughout.

By placing the blocking pieces crosswise of the grooves in the back of the casting box, as before stated, the ribs *a'* are formed over the blocking pieces retaining them in place and strengthening the plate.

An electrotype, as commonly in use, consists of a thin copper facing on a thin plate or backing as *b*, the edges of which are beveled, as shown, to retain the electrotype in the stereotype plate. Half-tone cuts are also made on zinc, and are used only as a thin plate without any backing to the plate itself. In that case, the edges are turned back on a bevel, as shown at *m*, after the matrix is

formed, and the metal of the stereotype plate fills the whole back. In that case, the blocking pieces are made enough thicker to compensate for the reduced thickness of the stereotype plate.

In the modified form of construction shown in Fig. 3, the blocking pieces are made wider on the side next to the electrotype so as to retain their places. The half-tone cut may also be used with an electrotype shell by cutting a hole in the shell to expose the face of the half-tone, and backing with a body of metal in the usual manner. The hole, however, is not cut until the backing is on and the half-tone is pounded or pressed down to make it face with the rest of the electro, and to compensate for the thin shell removed from its face. The backing is placed in the electro shell and the half-tone cut held in place in the same manner as hereinbefore described with reference to stereotypes.

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

The combination type-plate herein described, consisting of a half-tone plate b having beveled edges b', a stereotype plate d in which the half-tone is embedded, and having integral ribs a' on its back and the embedded semi-elastic strips c transverse to the ribs a' and held between the back of the half-tone plate and the ribs a', as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

LEO GROSSMAN.

Witnesses:
J. B. CRABTREE,
M. A. KELLER.