(No Model.)

C. SCHWARTZ.

EMBOSSING PLASTIC MATERIAL.

No. 332,444. Patented Dec. 15, 1885.

Fig. 1.

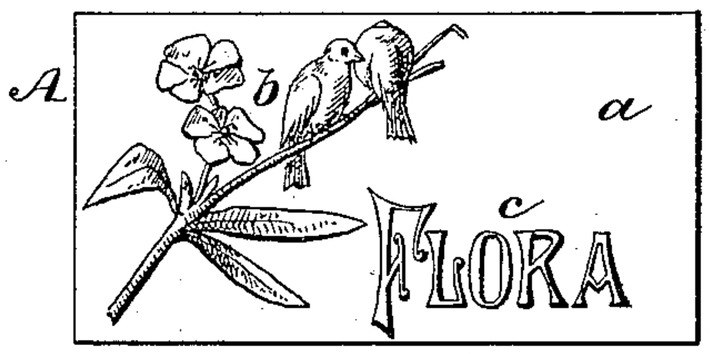


Fig. 2.

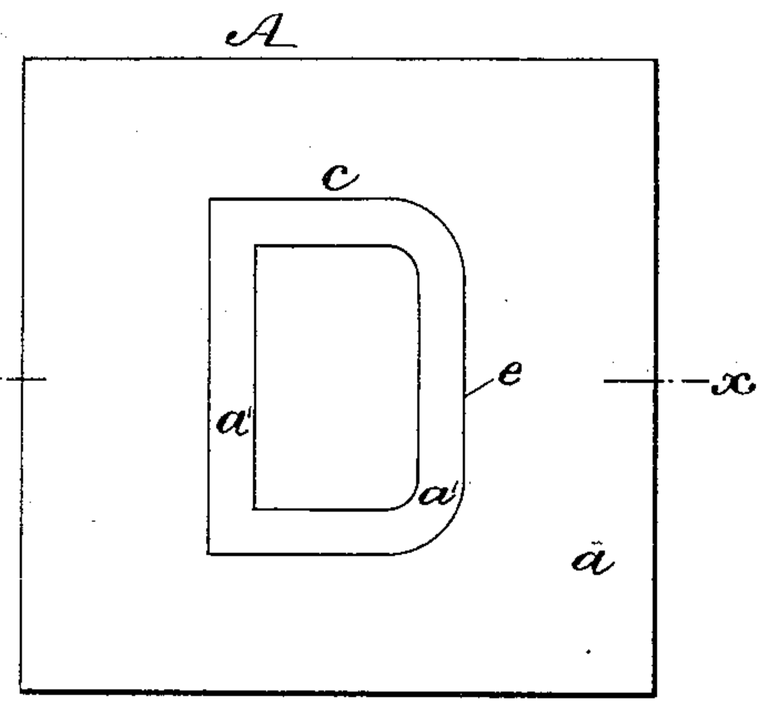


Fig. 3.

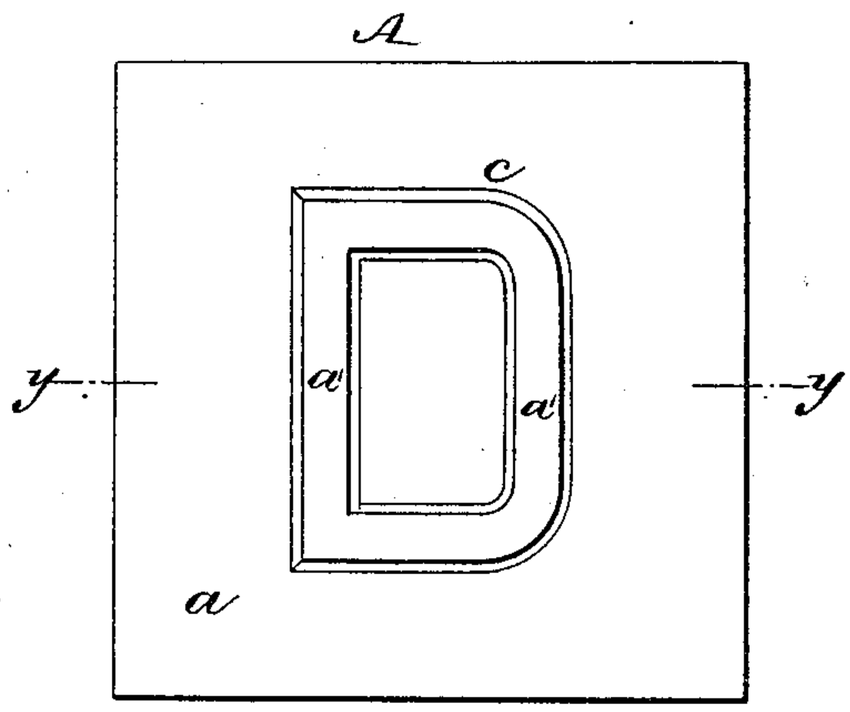


Fig. 4.

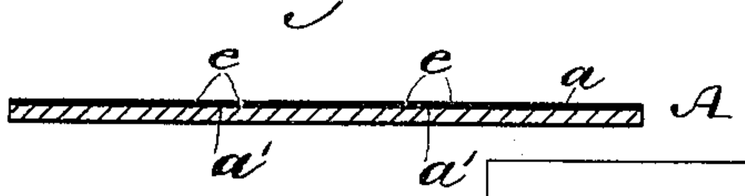


Fig. 5.

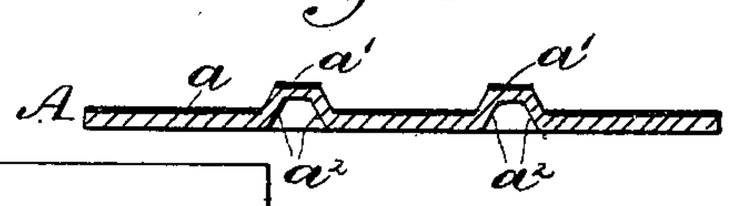
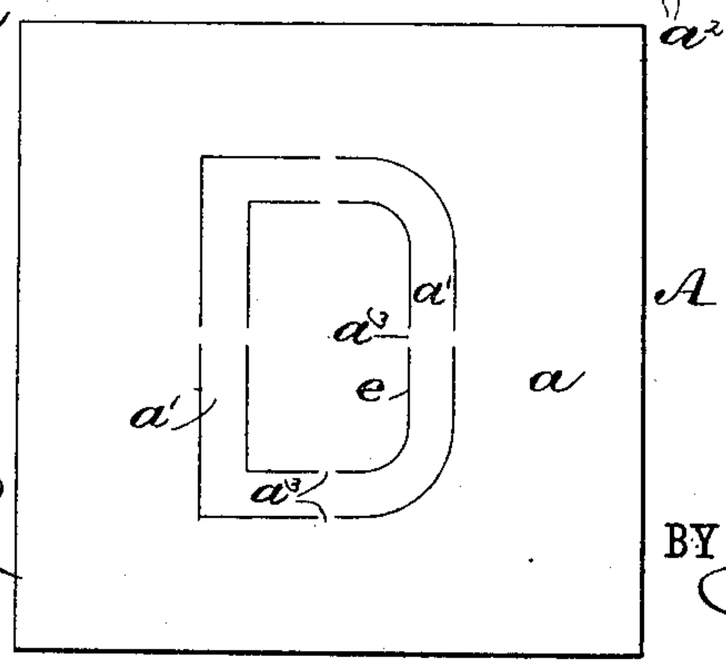


Fig. 6.



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CHARLES SCHWARTZ, OF BROOKLYN, NEW YORK.

EMBOSSING PLASTIC MATERIAL.

SPECIFICATION forming part of Letters Patent No. 332,444, dated December 15, 1885.

Application filed July 14, 1885. Serial No. 171,604. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SCHWARTZ, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Embossing Plastic Material, of which the following is a full, clear, and exact description.

My invention relates more especially to a new method of embossing paper, and it has for its object to prevent the surface of the raised portions of the paper from cracking, as with the ordinary method, which gives the work a ragged and unfinished appearance.

The invention consists in incising the upper surface of the sheet or card to be embossed with the outline of the letters or figures to be raised, the incisions being made relatively to the dies, and of sufficient depth only to pass through the upper layer or surface of the sheet, so that when the sheet or card is submitted to pressure between the dies the stretching of the fibers will not break or tear the surfaces encompassed by the incisions.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 shows a card embossed according to my invention. Fig. 2 is an enlarged plan view of a sheet of card-board to be embossed with the letter "D," the board being incised ready to be pressed in the dies. Fig. 3 is a similar view of the sheet of card-board after it has been embossed. Fig. 4 is a sectional view taken on the line *x x* of Fig. 2. Fig. 5 is a similer view taken on the line *y y* of Fig. 3, and Fig. 6 shows a modification.

The sheet, A, to be embossed has a thin facing-sheet, *a*, usually of ornamental paper. Before submitting the sheet of card-board to pressure between the embossing-dies I outline with a sharp instrument on the facing-sheet *a* the figures, *b*, or letters, *c*, to be raised in embossing the sheet. By the use of the sharp instrument the facing-sheet *a* is cut through, as shown at *e e*, Figs. 2 and 4, so as to sever from the remainder of the sheet *a* the portion, *a'*, of the sheet *a* which will be raised in embossing, as shown in Fig. 5. In this manner the stretching of the fibers at a^2 when the sheet is embossed does not break or tear the portions *a'* of the sheet *a*, as by the old method, but leaves them flat and continuous, so that they form a perfectly smooth and continuous surface or finish for the raised faces of the letters or figures.

In some cases the facing-sheet *a* may be cut or incised, as shown in Fig. 6, before it is pasted to the card-board A, the incisions being stopped at intervals, as shown at a^3, so that the outlined portions will not be entirely severed from the sheet *a*.

By the method described paper may be embossed in high relief, and the surface of the letters or figures will always be entire and present a perfectly smooth finish.

My invention is applicable to embossing leather and other plastic substances.

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

The method herein described of embossing paper and other plastic substances, which consists in incising the upper surface of the sheet to be embossed in outline of the figure to be raised, and then subjecting the sheet to pressure in embossing-dies, and raising the material along the lines of incision, substantially as and for the purposes set forth.

CHARLES SCHWARTZ.

Witnesses:
H. A. WEST,
C. SEDGWICK.