

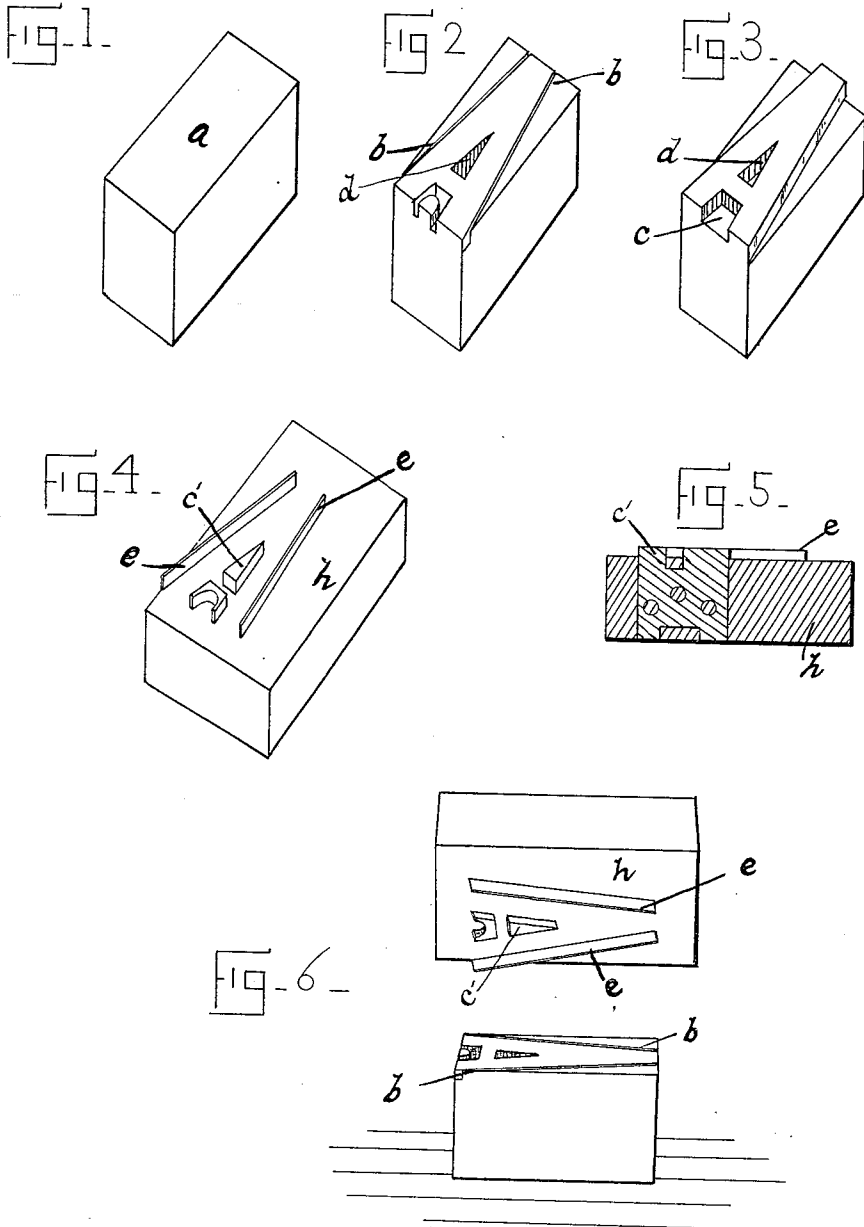
(No Model.)

G. C. SETCHELL.

METHOD OF MAKING WOOD TYPE.

No. 389,112.

Patented Sept. 4, 1888.



Witnesses,

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UNITED STATES PATENT OFFICE.

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METHOD OF MAKING WOOD TYPE.

SPECIFICATION forming part of Letters Patent No. 389,112, dated September 4, 1888.

Application filed March 19, 1887. Serial No. 231,483. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. SETCHELL, a citizen of the United States, residing at Norwich, New London county, Connecticut, have made a certain new and useful Improvement in Methods of Making Wood Type, which improvement is fully set forth and described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a block of type-wood; Fig. 2, the same after having received an impression from an outlining-die, which I shall describe hereinafter; and Fig. 3, the finished type ready for printing. Fig. 4 is a perspective view of the impression-die above referred to, and Fig. 5 is a longitudinal sectional view taken on line *xx* of Fig. 4. Fig. 6 represents said die and a block of type-wood as in the act of being separated after the block has been in contact with said die.

Wood types have been most commonly produced heretofore by means of so-called "pantograph-machines" having swiftly-revolving cutters, which shape the type by cutting away the surplus stock to a considerable depth below the printing-surface, while a corresponding traveler moves within or around a form or pattern and controls the movement of said cutter, producing a perfect fac-simile of said pattern, or an enlarged or reduced counterpart, as desired. Such a method would be eminently satisfactory were it not for the many acute angles required to be made in most forms of type, and which must be trimmed out by hand, for the simple reason that it is impracticable to use a machine-cutter small enough to perform such work.

The object of this invention is to produce wood type in a cheaper and quicker manner than heretofore, preserving at the same time the sharpness of outline obtainable in machine-cut type. I attain the desired result by punching or indenting certain portions of the type and by employing the pantograph-machine to rout off with coarse cutters the surplus stock left by the impression-die.

In order to explain more fully the manner of producing my new form of type, I will describe, briefly, the preferred method of producing my impression-dies. As the type-blocks, after having certain portions punched or pressed back from the printing-face, are to

be placed in a pantograph-machine and finished by having the surrounding stock removed, it is necessary that the impression-dies register accurately with said pantograph-machine patterns, so that the machine-cutter shall not disturb the sharp outline left by the die. When about to make a new die, I place in the pantograph-machine an enlarged pattern of the desired letter and a block of type-wood, *a*, and proceed as if about to cut the letter in the ordinary manner; but instead of completing the type I simply run a very small cutter around the letter, outlining it, as at *b* in Figs. 2 and 6, and then cut away the center portions, *c d*. A punch, *e*, of steel or similar metal, one of whose edges conforms in shape and size to said center portions, is then forced down into the depressions *c d*, and sections of sheet-steel *e* are cut and shaped to conform to the outline of the letter and are forced into the outline channels *b* above mentioned. The device thus formed is placed in a flask and molten metal is poured in to form a solid block, *h*, around the steel portions, which, when the wooden block is pulled off, project above the face of the metal block, as shown in Figs. 4 and 6. This new form of impression-die is fully illustrated and described in detail in a separate application for a patent of even date with this.

It will now be understood that if the projecting steel portions of the die are forced into a block of type-wood depressions will be made in said block identical in size, shape, and relative position with those first made by the machine in the block which supported the steel punches in the act of pouring the molten metal which forms the body of the die. The unfinished type thus quickly formed may then be placed in the cutting-machine and the surplus stock quickly removed, the result being a perfect type, as in Fig. 3, fully equal to those heretofore produced and without the expensive operation of hand-trimming.

I do not wish to confine myself exclusively to the use of dies of the construction herein described, as it would be, in a measure, practicable to use hand-cut steel dies to punch or impress the centers of the letters and then cut the outline and remove the surplus stock by a pantograph-machine.

I have used the initial letter of the alphabet to illustrate my invention; but the more com-

plex forms may be as easily produced by properly shaping the steel center punches and by bending the rib-sections to conform to the outline of the letter.

5 Having thus described my invention, I claim—

The within-described method of making wood type, consisting of, first, pressing back

on end wood the outline and center portions, and, second, of reducing the height of the sur- 10 rounding stock by cutting back from the face, substantially as herein described.

GEORGE C. SETCHELL.

Witnesses:

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