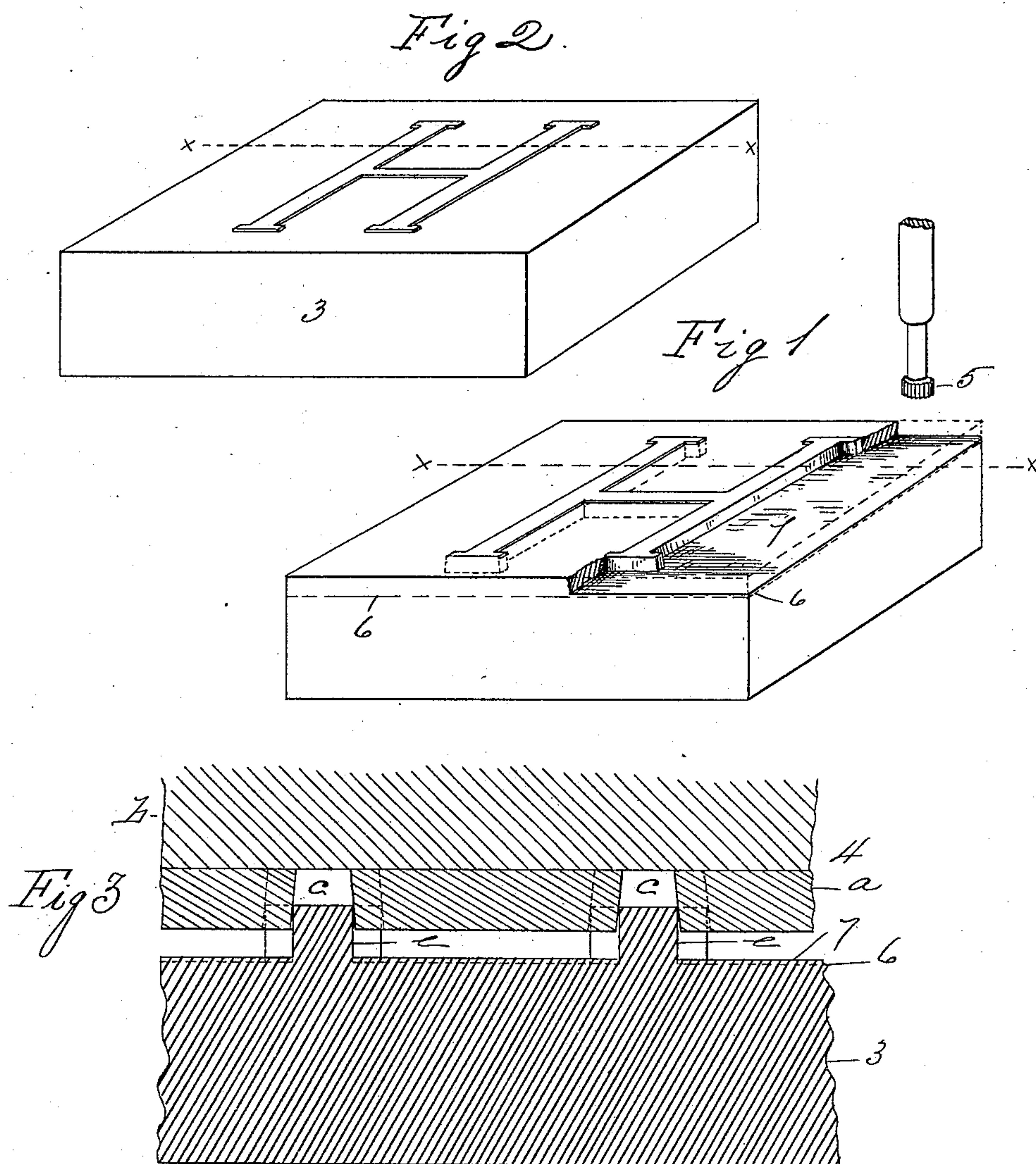


(No Model.)

M. G. MERRITT.
PROCESS OF MAKING WOOD TYPE.

No. 387,527.

Patented Aug. 7, 1888.



Witnesses
Wm. Chapin
G. M. Chamberlain.

Inventor
Mortimer G. Merritt
By his Attorneys *Chapin & Co.*

UNITED STATES PATENT OFFICE.

MORTIMER G. MERRITT, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO
ALFRED H. NOBLE AND GEORGE B. NOBLE, OF NEW MILFORD, CONNEC-
TICUT.

PROCESS OF MAKING WOOD TYPE.

SPECIFICATION forming part of Letters Patent No. 387,527, dated August 7, 1888.

Application filed April 25, 1887. Serial No. 236,014. (No model.)

To all whom it may concern:

Be it known that I, MORTIMER G. MERRITT, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in the Process for Making Wood Type, of which the following is a specification.

This invention relates to improvements in the manufacture of wood type, the object being to provide an improved process for making said type; and the invention consists in the various steps pursued in said manufacture and in the means employed to carry out the invention, all as hereinafter fully described, and pointed out in the claim.

In the drawings forming part of this specification, Figure 1 is a perspective view illustrating a type-block having a letter partially formed thereon by the employment of certain steps in my improved process, said figure also illustrating a surface-mill or "router," as it is sometimes called, used in producing said type. Fig. 2 is a perspective view of a type-block having a slightly-raised letter thereon. Fig. 3 is a sectional view of said two type-blocks about on lines *xx*, Figs. 1 and 2, showing the position of a letter-forming die relative to the letter when completing the same.

The above-referred-to steps in the within-described improved process for the manufacture of wood type are taken in the following order:

First, taking a block, 3, of wood of suitable quality to be used for making type, and submitting it to the action of a die, 4, in a suitable press, said die having the form of a letter—as H, for instance—(shown in Figs. 1 and 2) sunken in its face. The said die 4 in this first step in the process is forced against the face of the type-block 3 only with sufficient force to clearly cause said letter to be outlined on the face of the type-block, leaving the face of the letter projecting slightly above the surrounding surface of the block, as shown in Figs. 1 and 2.

The second step in said process consists in placing the type-block 3, on which said letter is raised in outline, as above set forth, in a machine of the class known as "edging-machines," in which said block is held in a fixed

position, and which is adapted to rotate a cutting-tool, 5, standing in a position at right angles to the face of said block, said tool being sometimes called a "router." Machines of said edging-machine class, as is well known, are adapted to manipulate a piece of work like said block and the cutting-tool which they carry, so that the cutting end of said tool is brought against the face of the block, and the latter and the tool are given such horizontal movements as enable the operator to cut or mill off such portions of the block as may be desirable.

The above description of the use of said machines relates to one means for removing the face of the type-block which surrounds the outlined form of the letter thereon for the purpose below described, for, if desired, said surface may be removed by the use of a chisel or similar cutting-tool, but with the expenditure of much more labor than when done in a machine. The said surface of the type-block surrounding the outline of the letter thereon is not removed to the whole depth of the finished letter, but to such a degree as will permit of the solidifying and hardening of said surrounding surface of the block by die-pressure, as below described.

In Fig. 1, the dotted line 6 indicates about the position of the finished face of the block surrounding the letter relative to the surface of the latter, and the plane of the cut-away portion 7 of said block the face thereof after the partial removal of its surface, as above described, the space between the face 7 and said line 6 representing about the degree of compression which is effected against said face by the last action of the die, as below described.

The die 4, a section of which is shown in Fig. 3, consists of a metal block, *b*, preferably of steel, to the face of which is secured a steel plate, *a*, through which the desired letter is formed, as shown at *c*, Fig. 3.

The third step in said process consists in replacing the type-block 3 in the press, which holds said die after the surface of said block has been partially removed, as described, and again forcing the die against said block; but this time the partially-finished upstanding letter on the block enters the sunken letter-form in the face of the die, as shown in Fig. 3,

wherein the die is shown as at the beginning of its downward movement, and illustrating its first engagement with the letter on the block, *e* in said figure indicating parts of said letter.

As above set forth, the surface of the type-block 3 is so far removed by cutting as to leave the full height or more of the finished letter thereon, and hence when said die is moved from the position shown in Fig. 3 against the block 3 the part *b* of the die is brought against the upper side or face of said letter, and the face of part *a* of the die against the surface 7 of the block, and by the forcible movement of the die the face of the letter and of the surrounding portions of the type-block are solidly compressed and finished and are brought to the proper form. The sides of the letter-form *c* in the face *a* of the die are slightly inclined to said face, thereby producing a letter having its face narrower than its base. The block 3, either before or after the said letter-forming process, is treated with any suitable oily material to fill the pores of the wood and render it non-absorbent of moisture or ink.

Wood type have heretofore been made by the formation of the letters thereon by die-pressure on the face of a block without first outlining the letter and then removing a portion of the face of the block surrounding said outline; but type-blocks so treated have to be subjected to such a great pressure to depress the surface

around the letter that the type so made does not retain its proper form, and great inconvenience results therefrom, and, furthermore, presses of great power have to be employed in their manufacture.

The above-described process for manufacturing wood type provides for the production thereof in such a way that such die-pressure as is requisite to the proper finishing and hardening of the face of the letter can be effected without working against the said great resistance of the block to such a great degree of reduction, and the type retains its form and is not likely to warp. The first outlining of the letter on the type-block may, if desired, be done by printing, stenciling, or marking the same thereon.

What I claim as my invention is—

The within-described process for making wood type, which consists in first delineating a letter on a block by suitable lines, substantially as described, then removing the surface of the latter which surrounds said outlined letter, and finally subjecting said block to pressure under a die, whereby the surface of the block and of the letter thereon are suitably compressed and finished, substantially as set forth.

MORTIMER G. MERRITT.

Witnesses:

H. A. CHAPIN,

G. M. CHAMBERLAIN.