

(No Model.)

J. O. CLEPHANE.

TYPE FOR MATRIX MAKING.

No. 311,412.

Patented Jan. 27, 1885.

Fig. 1.

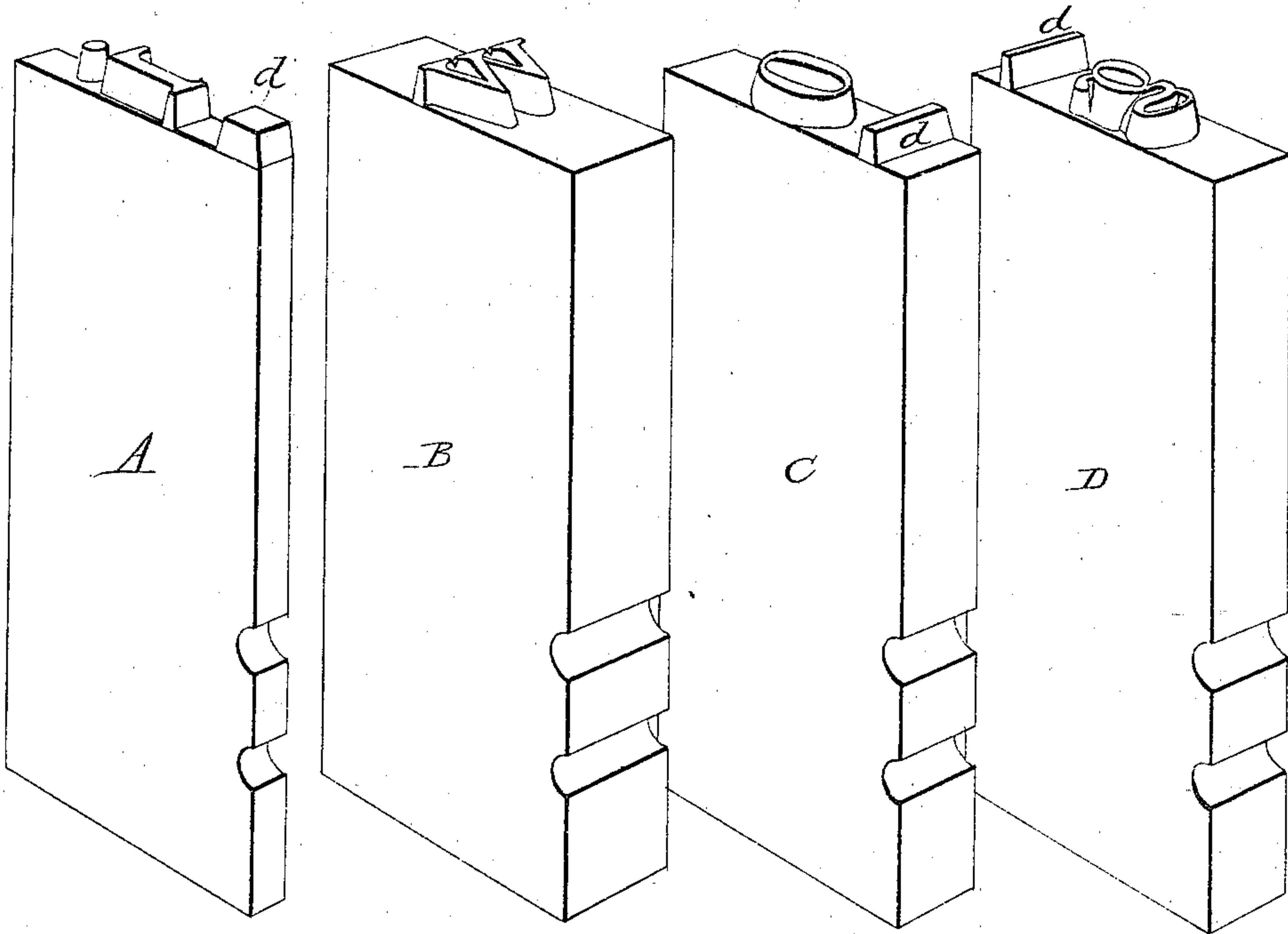


Fig. 2

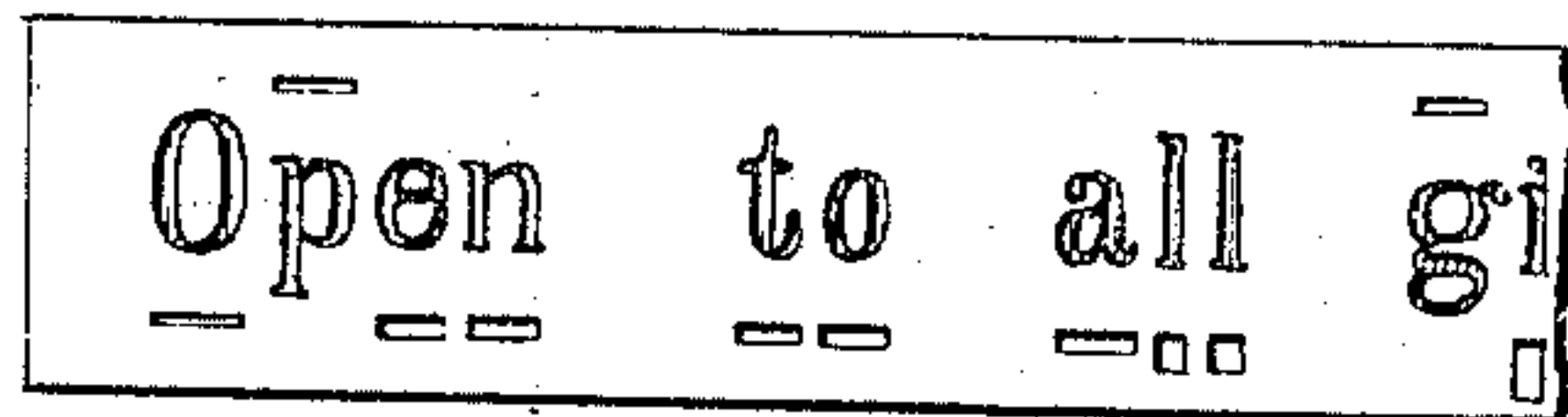
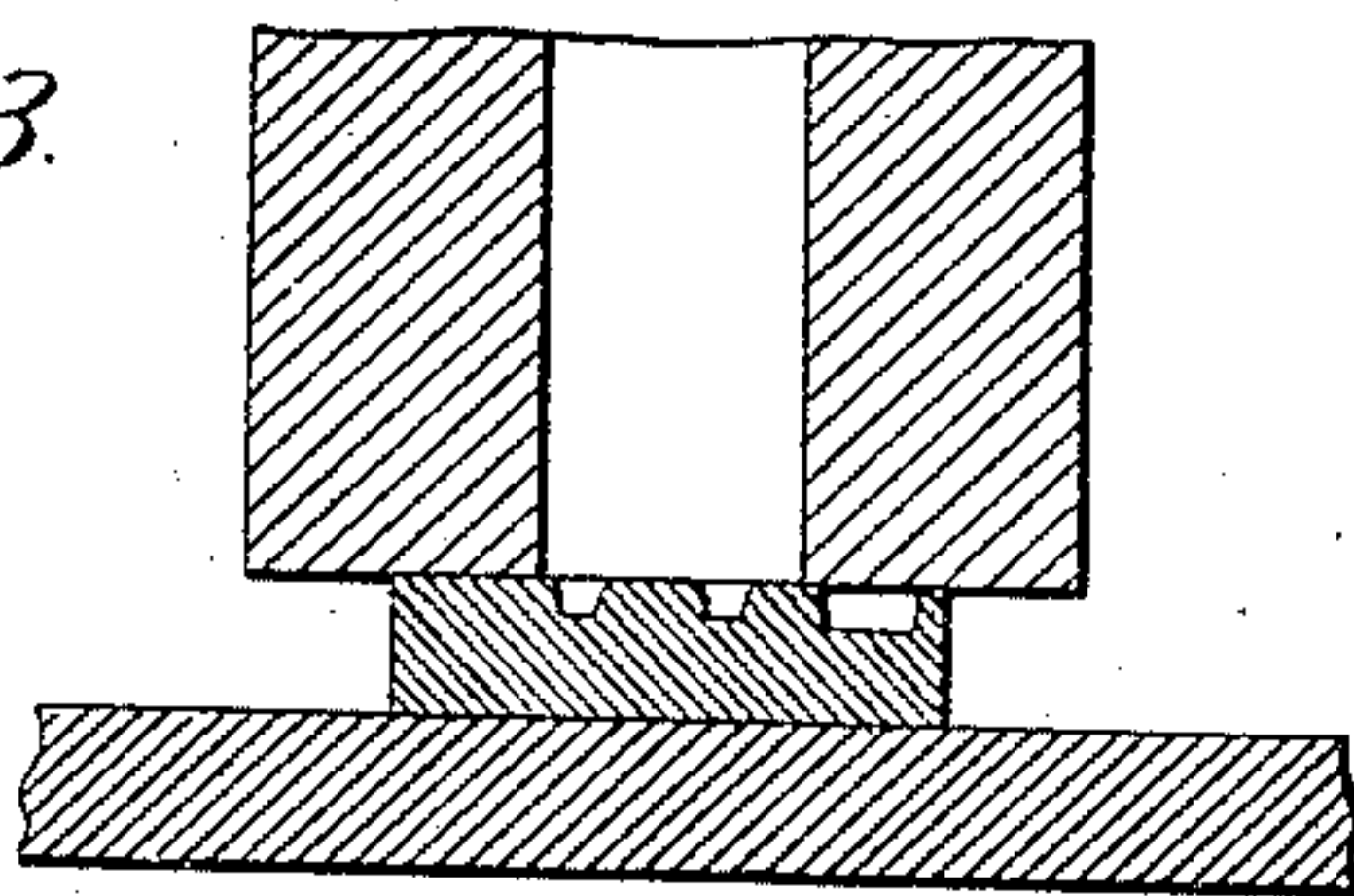


Fig. 3.



Attest.

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JAMES O. CLEPHANE, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
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TYPE FOR MATRIX-MAKING.

SPECIFICATION forming part of Letters Patent No. 311,412, dated January 27, 1885.

Application filed July 26, 1883. Renewed November 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES O. CLEPHANE, of Washington, in the District of Columbia, have invented certain Improvements in Type for Matrix-Making, of which the following is a specification.

This invention has reference to that method of producing printing-surfaces in relief which consists in impressing or indenting the letters or characters successively, by a suitable machine, into papier-maché or equivalent material, from which a cast is subsequently taken.

The invention has particular reference to the letters or characters employed to produce the mold or matrix, the aim of the invention being to cause the various types or characters to be embedded into the material to a uniform depth, in order that the cast taken therefrom may have its raised characters or letters of uniform height.

To this end the invention consists in a series of types or dies the surfaces of which are rendered of uniform area by applying to or combining with the type having comparatively small areas supplemental projections or surfaces arranged to enter the matrix strip or surface in such position that no cast will be taken therefrom.

In operating what are commonly known as "stereotyping-machines," in which the respective type are indented or embedded into the material in the order of succession desired through the medium of a key-board controlled by the operator, it has been found that there is a liability of the type to sink into the material to different depths corresponding with the extent of area of their raised surfaces and the consequent variation of the resistance which is offered to their entrance therein. For example, it has been found that the letters i and l, which have a less area than the letters m and w, will sink into the material to a greater depth, and consequently that the cast or printing-surface produced will have the letters i and l of greater height than the letters m and w, the effect of which is to destroy the uniformity of the impression and prevent the production of satisfactory work. It is to avoid this difficulty that I use in connection with the smaller types supplemental raised surfaces, which serve in entering the material to

give an increased resistance, so that the type of small area will sink only to the same depth as those of great area. The extent of the supplemental raised surfaces is to be graduated on the respective type in such manner as to render the areas or surfaces of all the type of one series of the same or substantially the same area. The form of the supplemental raised portion and the manner in which the same is applied may be modified at will, provided, however, it is disposed in such relation to the characters proper that the depression formed thereby shall not receive the type-metal or other material employed to produce the cast, or in such position that if they do receive the type-metal the resulting elevations in the cast may be readily removed.

Referring to the accompanying drawings, Figure 1 represents a perspective view of a number of type or characters provided with my improvement. Fig. 2 represents a face view of the matrix or mold produced by the use of a series of these type. Fig. 3 is a vertical section illustrating the manner in which the type-bars or printing-surfaces are cast from the matrix or mold covering the depressions formed by the supplemental surfaces to exclude the type-metal therefrom.

Referring to Fig. 1, A, B, C, and D represent four type or dies, each having, as usual, upon one end a raised letter or character adapted to form a corresponding depression in a suitable material from which to take a cast. The letter w, having a maximum area or surface, remains in the ordinary form. The letter i, having a surface much less than that of the letter w, is provided on its upper end with a supplemental projection or raised surface, d, which should be made of an area equal to the difference in area between the letters i and w, so that in the act of impressing the letter i into the material the projection d, entering the material at the same time, will give to said letter or type the same resistance that is offered by the letter w. The type o, having an area greater than that of i, but less than that of w, is provided in like manner with a raised projection, d, which will of course be less in area than the corresponding projection on the type i. The type g, having an area greater than that of either i or o, is provided

with a projection, d , less in area than that upon either of the other type mentioned. Owing to the fact that the letter g has a depending tail, the supplemental surface or projection is applied above instead of below the letter.

The above are illustrations of the manner in which the projections are to be applied. They will be used in like manner upon all the types of the series or system, each type having its projection of such size, shape, or form that all the types shall sink under a given pressure to the same depth into the material forming the mold or matrix.

The type being constructed as above and suitably operated will produce a matrix of the character represented in Fig. 3. The result of this arrangement will be the production of a type-bar having thereon characters of uniform height, and without projections or elevations of any kind other than the characters.

While I have represented my improvement

as applied to separate or removable type, it will be understood that it may be applied with equal facility to those type-wheels which are made complete in one piece with the characters engraved in relief thereon.

Having thus described my invention, what I claim is—

1. A series of type for producing stereotype molds, having their surfaces equalized in area by supplemental projections or surfaces applied to or combined with those of small area.

2. A raised type for producing a mold or matrix, having on its operative end a supplemental raised portion, substantially as described, to increase the resistance offered to the impression or indentation of the type into the material from which the cast is to be taken.

JAS. O. CLEPHANE.

Witnesses:

ALBERT HARPER,
A. S. WORTHINGTON.