

(No Model.)

W. PATHIE.

METHOD OF AND MEANS FOR CASTING LETTERED PLATES.

No. 360,905.

Patented Apr. 12, 1887.

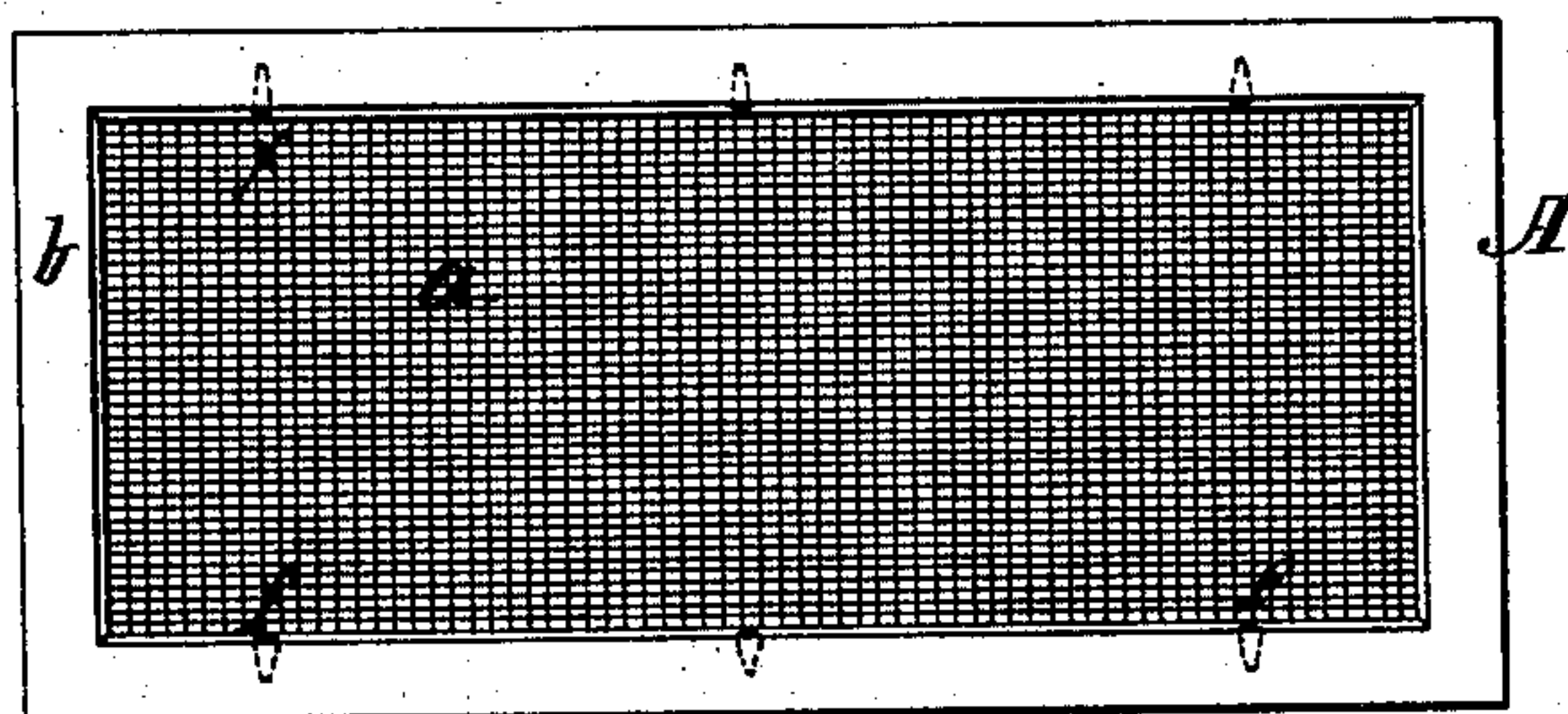


FIG. 1

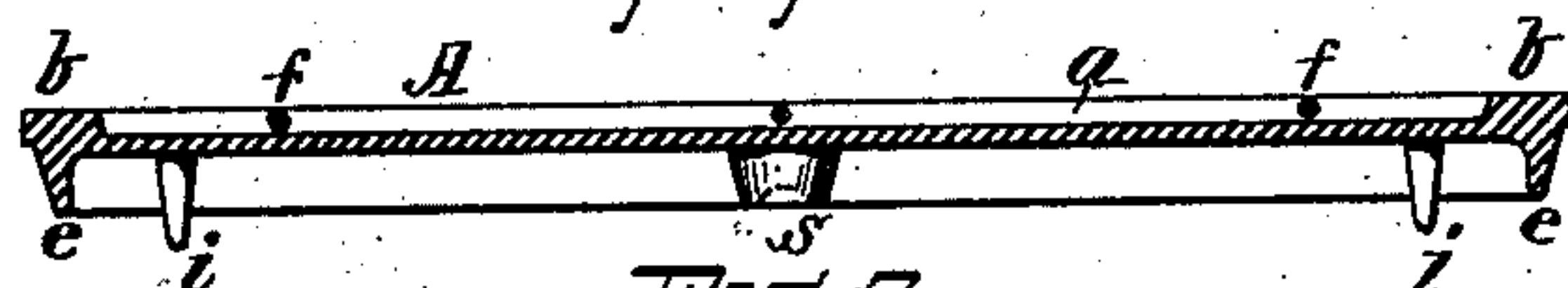


FIG. 2



FIG. 3

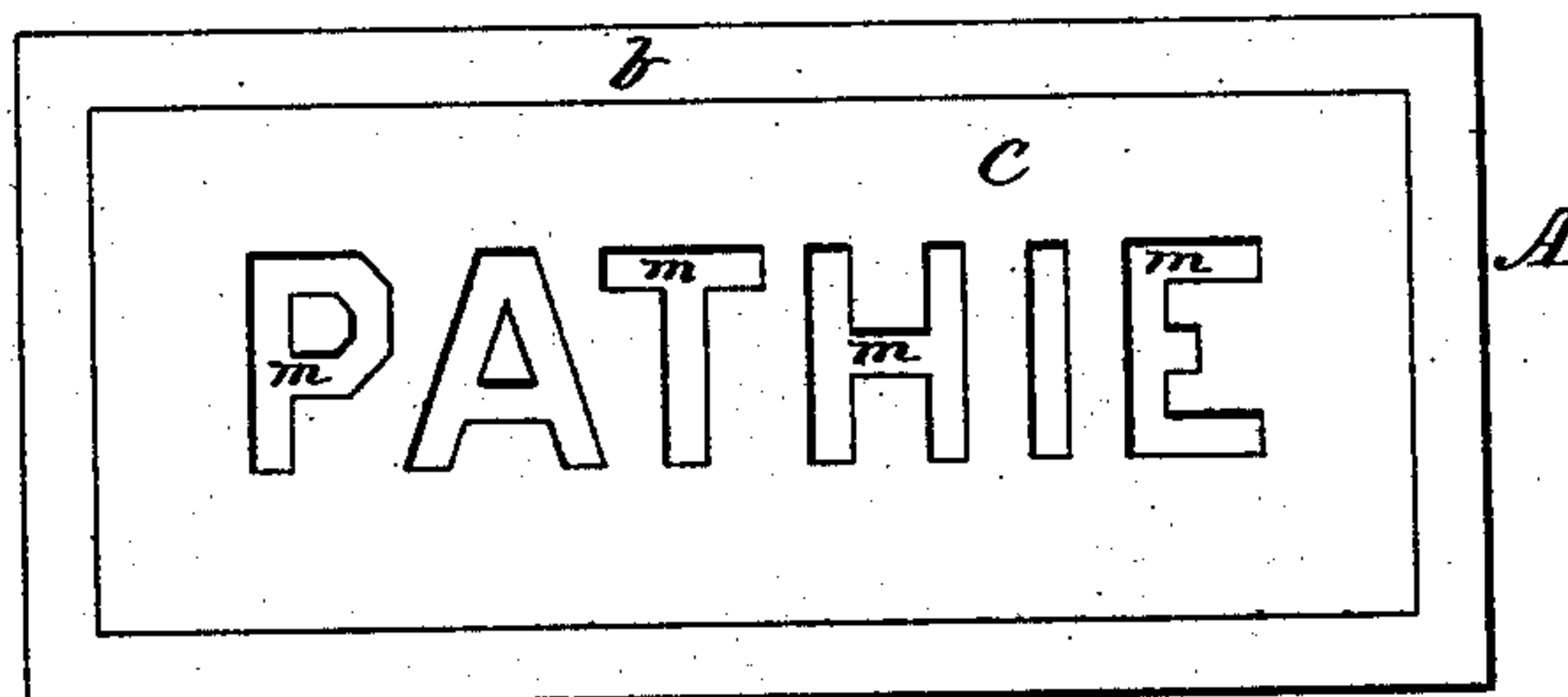


FIG. 4

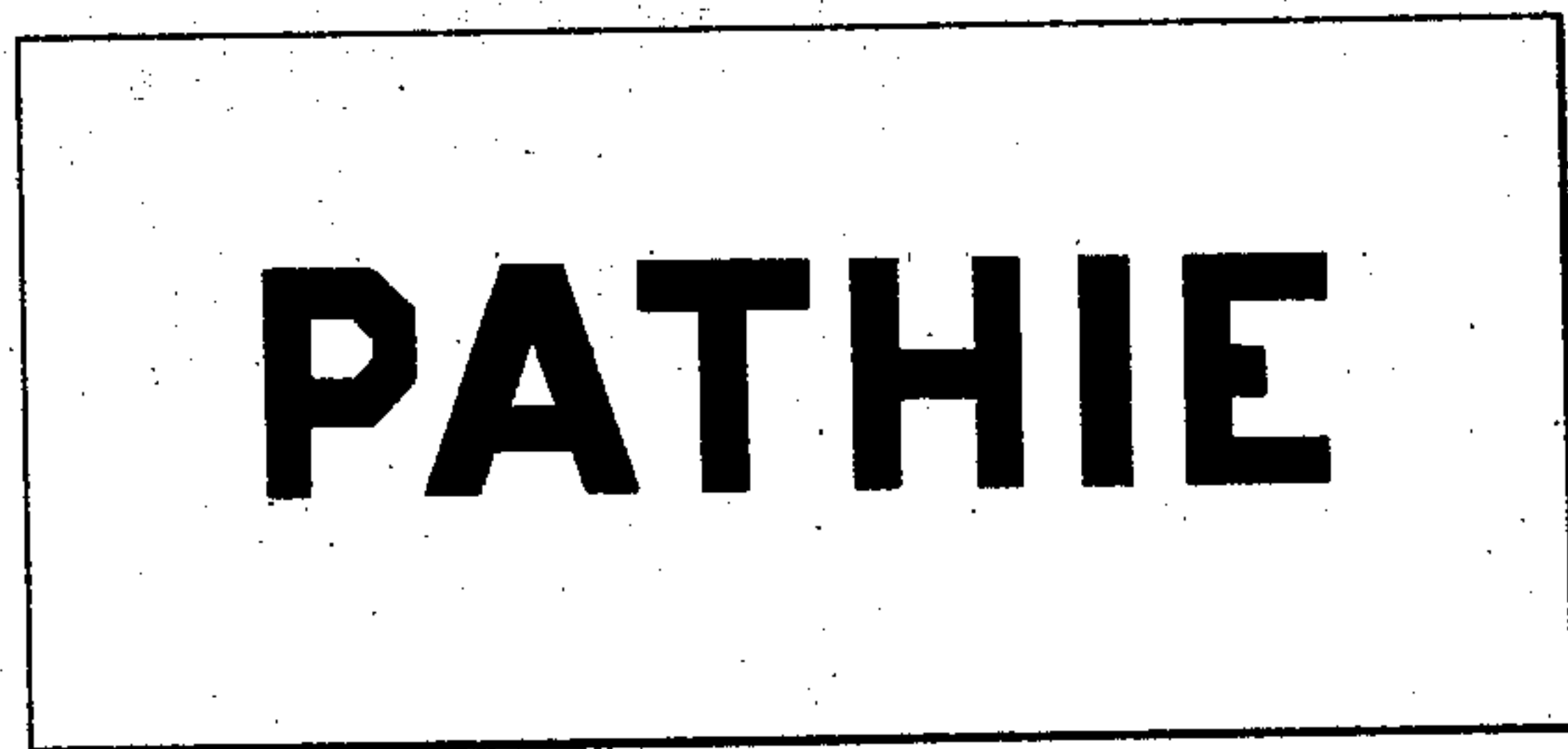


FIG. 5

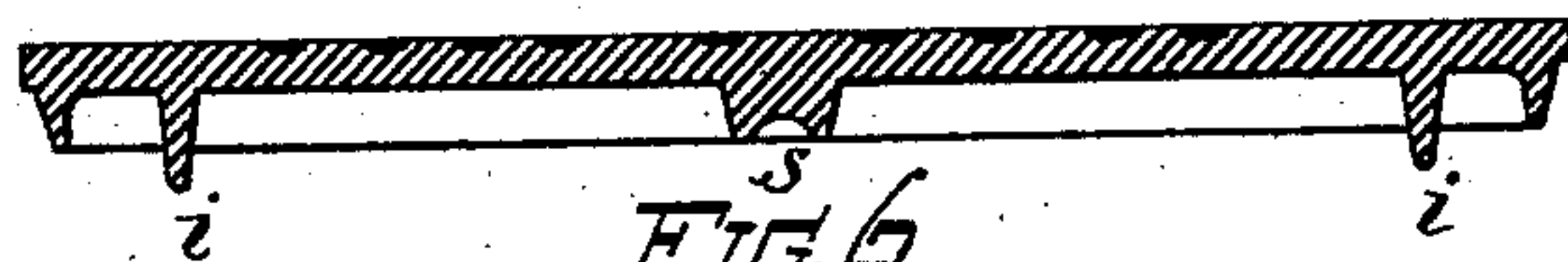


FIG. 6

WITNESSES

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# UNITED STATES PATENT OFFICE.

WILLIAM PATHIE, OF WORCESTER, MASSACHUSETTS.

## METHOD OF AND MEANS FOR CASTING LETTERED PLATES.

SPECIFICATION forming part of Letters Patent No. 360,905, dated April 12, 1887.

Application filed January 24, 1887. Serial No. 225,295. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM PATHIE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in the Method and Means for Producing Lettered or Figured Plates, Signs, and Similar Articles, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my present invention is to provide a practical method of making lettered plates—such as metal door-plates, signs, &c.—whereby such plates in their great variety of lettering can be made economically, and differently-lettered designs can be produced cheaply and with ease, facility, and dispatch; also, to afford a method of producing castings for door-plates and similar lettered plates in which different lettered designs can be produced from a single casting-frame, the frame being provided with a temporary surface of an easily-worked composition or material upon which the letters can be painted or delineated and engraved with ease and little labor, and after the cast has been made the surface can be melted out and removed and replaced for another style of lettering, name, or figure; also, to provide a pattern for use in the production of lettered or figured plates having a removable temporary surface in which the lettering can be easily wrought, and which can be renewed for different lettering or figures. These objects I attain by the method and means herein explained, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a view of the pattern, body, or casting-frame, showing the panel or recessed front portion thereof. Fig. 2 is a longitudinal section of the same. Fig. 3 is a similar section showing the temporary lettered surface filled in to the recessed portion. Fig. 4 is a front view of the pattern as prepared with the temporary surface lettered complete and ready for making the mold for casting the plate. Fig. 5 is a front view of a finished door-plate, and Fig. 6 is a longitudinal section of the same.

In my improved method of manufacture I use a pattern-frame, A, of the size and shape desired for any number of door-plates or signs. The front portion of said frame has a sunken panel or recess, *a*, about one-eighth inch (more or less) in depth and covering the entire area or portion to be lettered, figured, or decorated, or the entire front except a marginal rim or border around the edges. This pattern-frame A, which is best made of metal, is preferably provided upon its back with projections *i* and center screw-boss, S, and about its edge has a strengthening rim or flange, *e*, as indicated. Small undercuts, indents, or holes, as *f f*, may be formed for holding the temporary surfacing in place. Upon this pattern-frame, to produce a plate of any required letters or figures, I form a temporary surface by filling the recess or panel *a* with an easily-wrought compound or substance, C, in which the letters or figures can be cut, preferably a substance that can be readily melted at moderate heat, and which will give a fine, moderately-firm, and easily-wrought ground when cooled, and of a texture that will engrave or carve with sharply-defined lines and angles, so that the letters can be clearly and accurately formed. The temporary surface may be applied in plastic form or melted condition, as desired. I prefer the substance melted or insufficiently liquid condition to flow into the recess. For this surfacing compound I prefer a mixture of paraffine and white lead, mixed in the proportion of about one-eighth part (more or less) of fine white lead to one part of paraffine. This gives a comparatively clear white surface that can be lettered and worked with facility and good practical results. After the panel is filled with the compound of paraffine and lead its surface is dressed off flush and smooth with the border surface *b*. The letters or figures are then painted or delineated upon the prepared surface, and the surface is then engraved, carved, or otherwise wrought to sink the letters to a moderate distance below the level of the surrounding surface, or vice versa, thereby giving the required relief between the letter surface *m* and the surrounding surface. After the letters have been carved in the temporary surface, it is beneficial to dust the surface over with graphite to obviate any liability of the molder's sand adhering to the



fine depressions. A mold, or any desired number of molds, can be taken from this prepared pattern in molder's sand and casting made therein, as in the ordinary manner of founding metals, said castings having the letters similar to the prepared pattern-plate. For finishing the plate the face of the casting is ground off, polished, and then silver-plated or plated with other metal, and the letters or sunken portions may then be filled with a colored pigment cement, or other suitable material, as desired.

After the prepared pattern has been used for making the mold or molds for one name, number, or set of lettering, the temporary surface can be melted out or removed from the recess of the pattern-frame A, and a new temporary surface formed thereon for receiving a new name or different set of lettering or figures, to be prepared in similar manner to that above described.

The compound of which the temporary lettering surface is formed may be remelted and reused as often as desired.

This invention is applicable to the manufacture of metal door-plates, house-numbers, sign-plates of various kinds, and work of similar nature wherein a variety of letters, figures, or ornamental lines are to be produced on panels or plates of uniform shape and body configuration.

Door-plates with perforated letters may, if desired, be made by carving the letter completely through the temporary surface C, and then introducing into the mold a stop-off plate or core of sufficient thickness to fill the space in the mold from its back to the bottom level of the letters while the casting is being made. This stop-off plate or core may be of the ordinary core sand or material, shaped substantially like the back part of the panel of the frame, with spaces for allowing the metal to run through and form the bars and pins. It should be of the same thickness as the panel of the frame before the temporary surface is placed therein, so that when the core is placed in the mold and the mold closed after the pattern is taken out the part of the mold corresponding to the letters will rest against the core and prevent the flow of metal across the bottom of the letters when the casting is made.

By the above process lettered or figured plates for the purposes named can be produced which have all the desirable qualities and durability of finely-engraved metal plates, and much more economically as regards time, labor, and cost, as the cutting of the letters or figures in the temporary surfacing compound C is quick and easy work as compared to the engraving of them in a metal plate.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. The within-described method of making lettered or figured plates for door-plates, signs, and similar purposes, which consists in forming a temporary lettering surface in a recessed or paneled pattern-frame, painting or delineating the letters or figures on said surface, cutting out or sinking portions of the temporary surface to give the depression or relief desired for the letters or figures, molding and casting the plate from this prepared pattern, and finishing the face thereof by polishing and plating the same, substantially as described.

2. The improvement in the process of making lettered or figured plates for door-plates, signs, and similar purposes, which consists in producing a temporary surface of easily wrought or carved composition upon a paneled or recessed pattern-frame, painting or delineating the letters or figures upon said temporary surface, working the same into relief or depression by engraving or carving out portions of said surface, producing a mold or molds from said prepared pattern-plate, and then removing and reforming the temporary surface for other lettering or figures, substantially as set forth.

3. A pattern for door-plates, signs, and similar lettered or figured plates, consisting of a paneled or recessed frame provided with a temporary letterable surface formed of a composition of paraffine and fine white lead having letters or figures formed therein, substantially as and for the purpose set forth.

Witness my hand this 21st day of January, A. D. 1887.

WILLIAM PATHIE.

Witnesses:

CHAS. H. BURLEIGH,  
ELLA P. BLENUS.