

S. W. MARVIN.
 PLATE HOLDER FOR PRINTING PRESSES.
 APPLICATION FILED SEPT. 16, 1903.

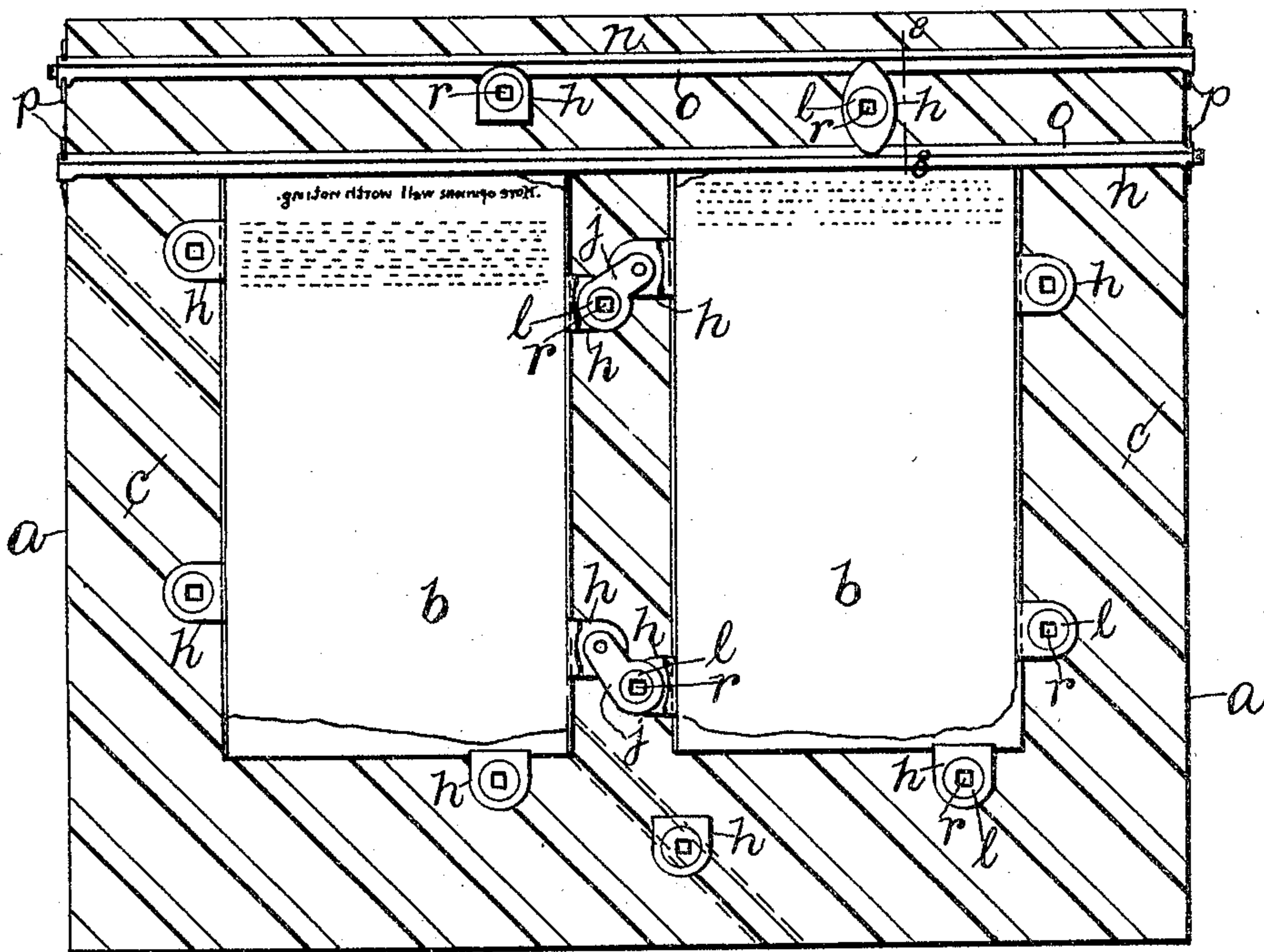


Fig. 1.

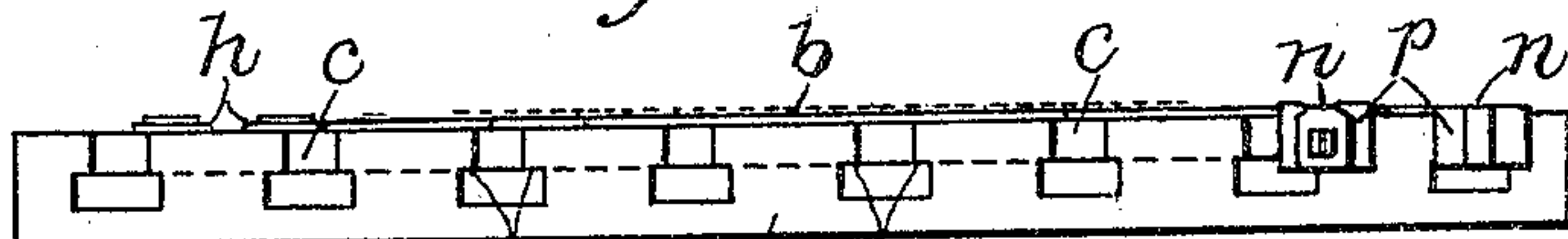


Fig. 2.

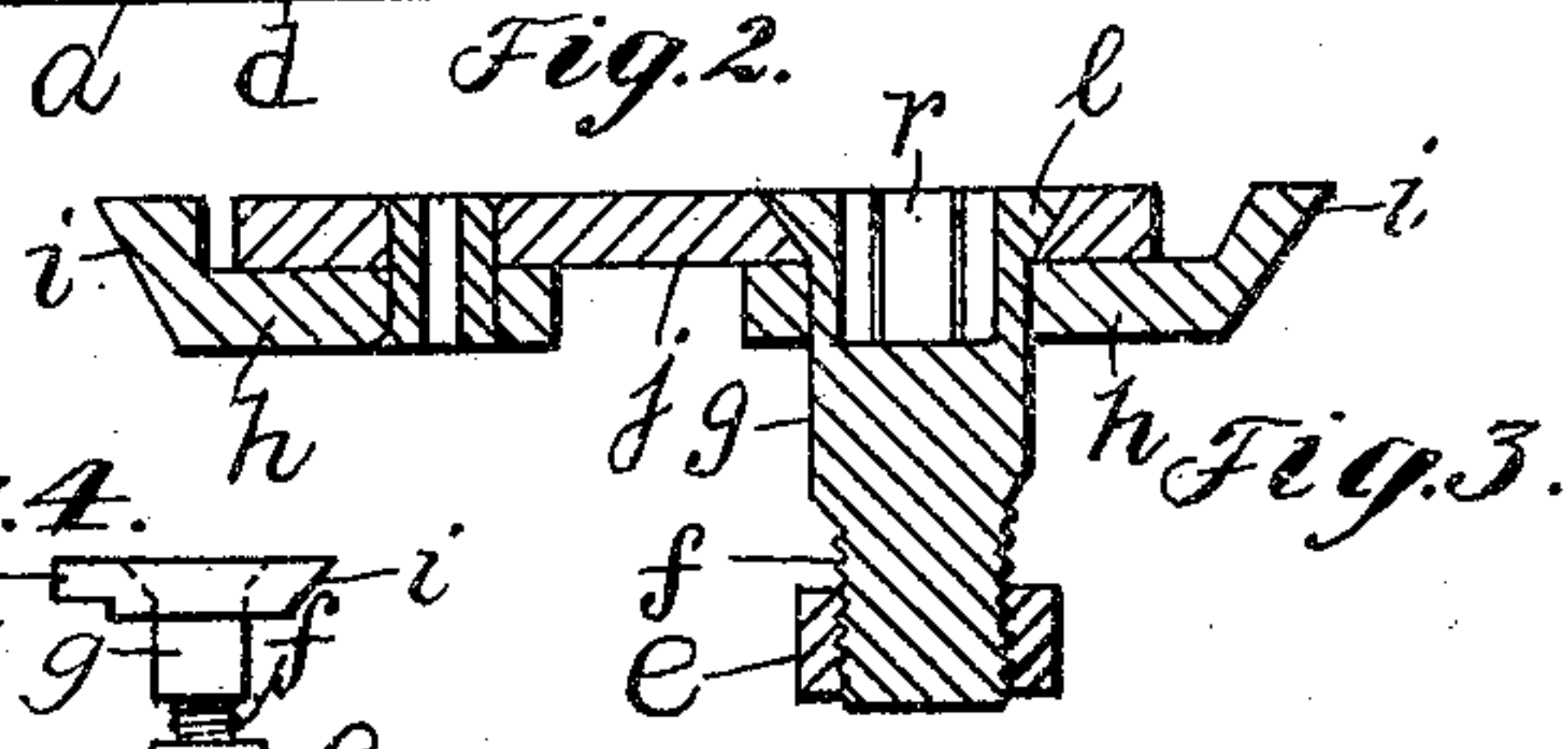
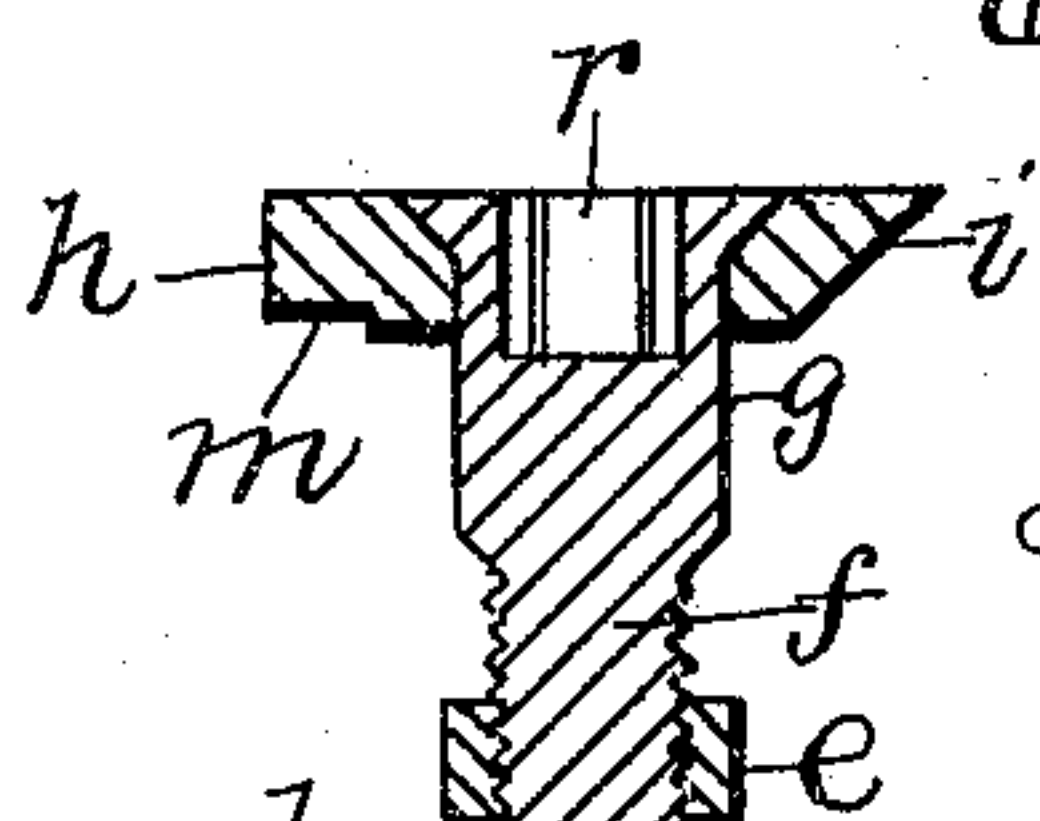


Fig. 3.

Fig. 4.

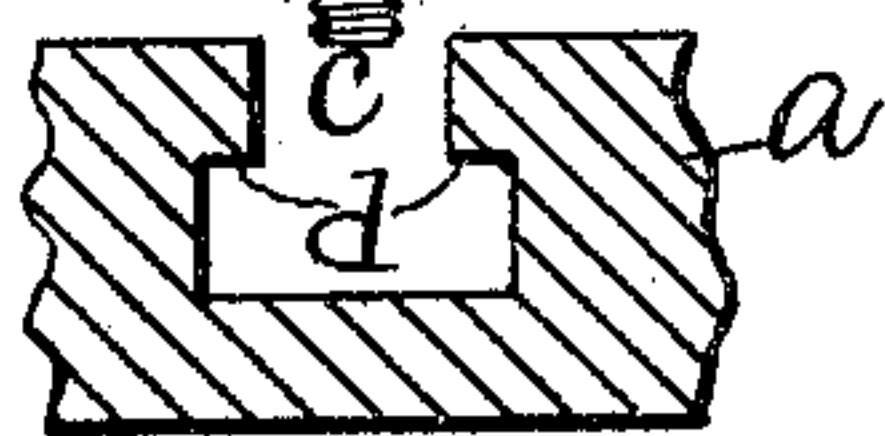
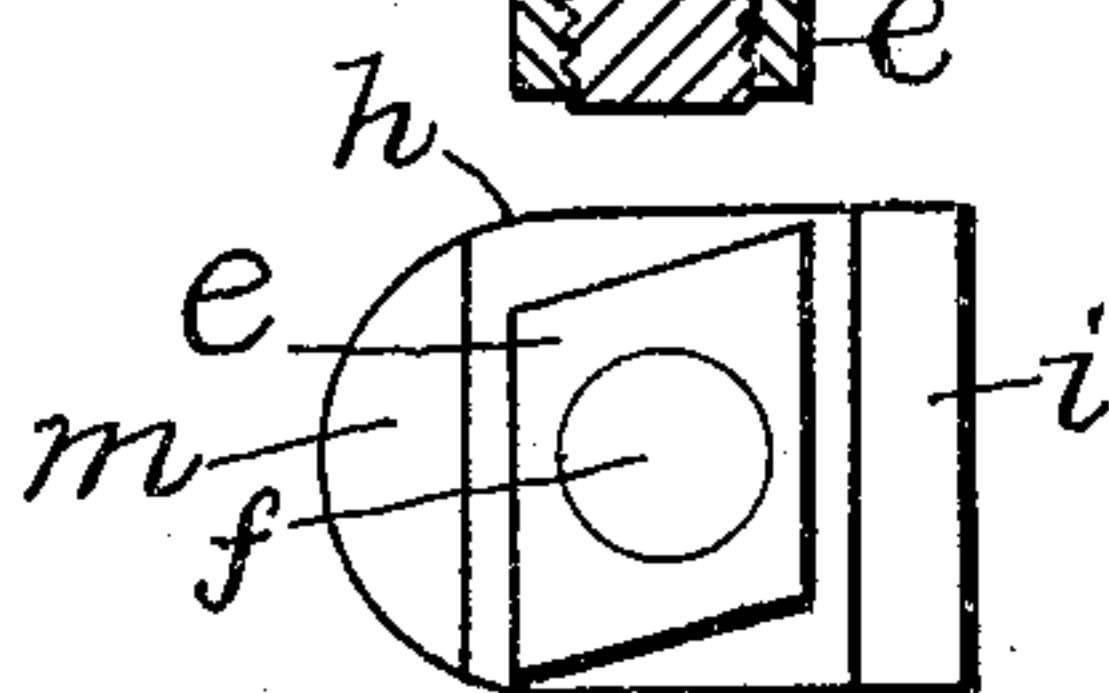


Fig. 5.

Fig. 6.

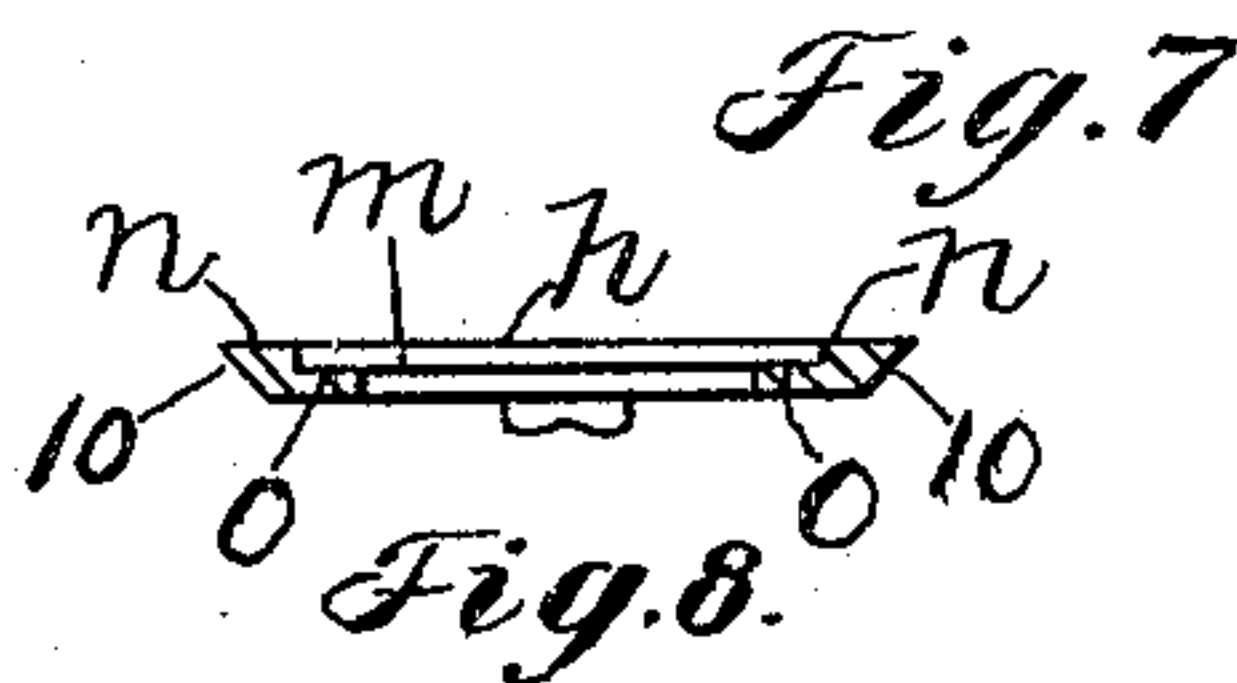


Fig. 7.

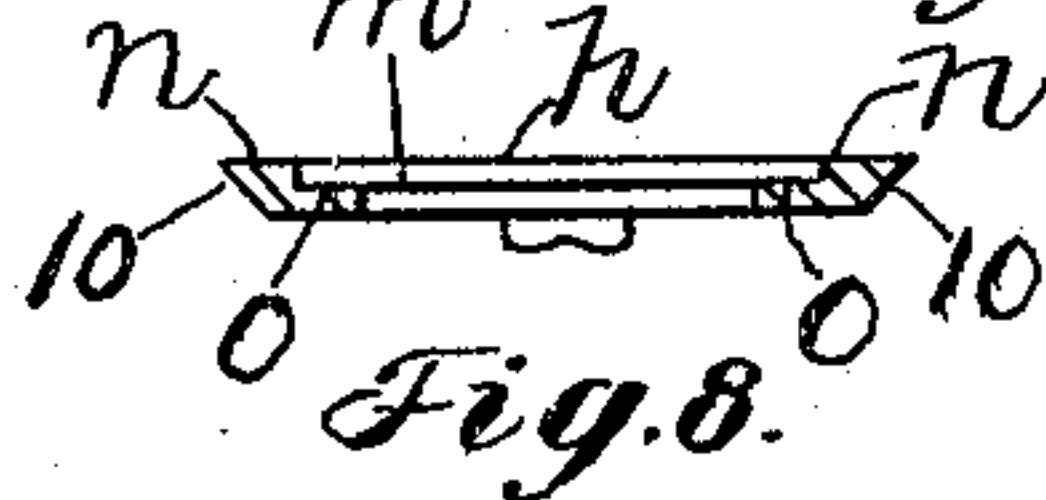


Fig. 8.

Witnesses.

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PLATE-HOLDER FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 791,038, dated May 30, 1905.

Application filed September 16, 1903. Serial No. 173,393.

To all whom it may concern:

Be it known that I, SAMUEL W. MARVIN, a citizen of the United States, residing in Cambridge, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Plate-Holders for Printing-Presses, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a holder for stereotype, electrotpe, or other printing-plates, and has for its object to provide a plate-holder by means of which the printing-plates may be secured to and detached from the holder in a minimum time.

The invention also includes a novel clamp for the printing-plate, which is capable of being applied to and removed from the holder as one piece.

Another feature of the present invention consists in providing a double adjustable clamp which is operated by a single device, as will be described.

Other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 is a plan view of a plate-holder embodying this invention; Fig. 2, a side elevation of the plate-holder shown in Fig. 1 looking toward the left; Fig. 3, an enlarged detail, in longitudinal section, of the double clamp shown in Fig. 1; Fig. 4, an enlarged sectional detail of a single clamp to be referred to; Figs. 5 and 6, details in section and elevation to be referred to; Fig. 7, an under side view of the single clamp shown in Fig. 4; and Fig. 8, a sectional detail on the line 8-8, Fig. 1.

Referring to the drawings, *a* represents the block or base, to which the printing plate or plates *b* are secured by clamps, as will be described. The block *a*, of metal or other suitable material, is provided with a series of substantially parallel slots, grooves, or channels *c*, arranged substantially close together and extended at an angle to the sides of the block. The slots *c* in accordance with this invention are provided with an enlarged lower portion which forms

shoulders *d* on opposite sides of the narrower upper portion of said slots and with which co-operates an elongated nut *e*, which is adapted to engage a screw *f*, forming part of the clamp employed to secure the plate *b* to the block *a*. The nut *e* is made longer than it is wide, as represented in Fig. 7, and its width is such as to permit the said nut to be inserted into the slot *c* from above the base or block *a*, while its length is greater than the width of the slot *c* at the face of the block, so that the nut may be engaged with the shoulders *d*, and is longer than the width of the lower portion of the slot, so as to prevent the nut being turned completely with the screw *f* when the latter is turned to engage the nut with the shoulders *d*. (See Fig. 6.) The screw *f* may be provided with a smooth cylindrical portion *g*, upon which is fitted to turn a single or a double clamping-plate, as will be described.

In Figs. 1 and 3 the screw *f* has fitted to turn on it a clamping-plate *h*, provided with a beveled upturned edge *i*, and also has fitted on it a link or bar *j*, which has pivotally secured to its opposite end a second clamping-plate *h*. The link or bar *j* is countersunk to receive the head *l* of the screw *f*, so that said head lies substantially flush with the upper surface of the link or bar *j* and with the upper surface of the beveled edges *i* of the clamping-plates *h*. The clamping-plates *h* and the connecting-link *j* are preferably made thin, so that when used to secure adjacent printing-plates *b* to the block, as shown in Fig. 1, the upper surfaces of the clamping-plates *h* and link *j* are in substantially the same plane and below the printing-surface of the plates *b*. The double clamp is highly useful for engaging the adjacent edges of two printing-plates after the manner shown in Fig. 1.

In Fig. 4 the screw *f* has loose on it a single clamping-plate *h*, which may be made of a thickness substantially equal to the thickness of the link or bar *j* and the clamping-plate co-operating with it, said single plate having the beveled edge *i*, and on its opposite side said single plate is preferably reduced in thickness to form a shoulder *m*, which enables the said

single clamping-plate to engage a clamping strip or bar n , which is likewise reduced in thickness at one edge to form a shoulder o , which coöperates with the shoulder m on the clamping-plate, so that the upper surfaces of the single clamping-plate and the clamping-bar are below the printing-surface of the plates b . The clamping-bars n are provided with beveled edges 10 and may be provided at their opposite ends with flanges or pieces p , which are adapted to engage the opposite sides of the block a . The clamping-plate h may be made substantially elliptical, as represented in Fig. 1, so as to permit two clamping-bars n to be adjusted toward and away from each other and secured in their adjusted positions by the same single clamping-plate. It will be observed that the clamping device employed for securing the bar or bars n in position on the block is separate from said bar or bars, which enables two clamping-bars, each of a length equal to one dimension of the block—as, for instance, its width—to do all kinds of margin-work on one size of block.

25 The printing-plate b may be firmly secured to the block a in its proper place thereon by the conjoint use of the clamping-bar, and the single and double clamps, as represented in Fig. 1, or the single clamp alone may be used; but I prefer to use single clamps for engaging the outside edges of the printing-plates and to use the extensibly-adjustable double clamp for engaging the inside or adjacent edges of the printing-plates. It is also to be observed that the component parts of the double clamp are connected together to form practically a one-piece clamp, as are also the parts of the single clamp, and that either clamp can be secured in its adjusted position on the block in a minimum time and with a minimum amount of labor, inasmuch as it is only necessary to insert the nut e down through the slot c and give the screw a partial turn, so as to cause the longer dimension of the nut to extend across the slot c and engage the side walls thereof, as shown in Fig. 6, after which the clamping-plate is turned on the screw so that its beveled edge engages the edge of the printing-plate, which may be correspondingly beveled, and the screw is then turned to cause the ends of the longer dimension of the nut to engage the shoulders d . To release the clamping-plate, the screw f is turned in the opposite direction to disengage the nut from the shoulders d , after which the said screw is partially turned until the narrower dimension of the nut is in line with the slot c , and when in this position the clamping device can be disengaged from the block as one piece.

60 It is to be noted that after the nut e is inserted into the slot c it can be moved longitudinally in said slot to adjust the clamping-plate to the edge of the printing-plate.

By means of the extensible double clamp I

am enabled not only to economize in the cost of clamps, but also to effect a considerable saving in time in applying the clamps to and removing them from the block. The extensible double clamp between the two printing-plates is adjustable at will within the limits of the size of the clamps.

The screw f is preferably provided within the circumference of the screw-head with an angular socket r for the reception of an angular tool, whereby the latter can be quickly and easily inserted in said socket and considerable time can be saved in applying and removing the clamps without danger of injuring the type on the printing-plates, especially when the block a is of considerable size and a substantially large number of printing-plates are secured thereon, which requires the operator to stretch or lean over to apply the tool to the screw f .

By making the clamping-bars n independent of the fastenings or clamps and providing the said bars with reduced portions forming the shoulders o , (see Figs. 1 and 8,) which coöperate with reduced portions or shoulders m on the clamping-plate, I am enabled to adjust the clamping-bars on the block to obtain margins of different widths and utilize the same clamping-bars for this purpose. The bar n when once positioned furnishes a fixed clamping position against which the printing-plates may be set, and said bar may be of any convenient length, so that when once clamped into position all of the printing-plates engaged by it will be on the same line, and as the said bar is clamped into position by the use of the ordinary clamping-plates employed with the block its position on the block can be readily fixed, changed, or adjusted in any direction. Two of these bars used in connection with each other and at adjustable distance apart enable the operator to set the margins for any job, so that successive forms of plates may be placed on the block with the least possible loss of time, inasmuch as the margins for all forms are determined by the spacing-bars, which remain fixed throughout the run for a particular job. By making the bars independent of the clamping-plates the said bars can be moved longitudinally of the plates and adjusted into any desired position without causing the said bars to project laterally beyond the edge of the plate or block.

I claim—

1. A plate-holding clamp for plate-holders of the character described, comprising a plurality of clamps, a screw upon which one of said clamps is loosely mounted, and a link or bar loosely mounted on said screw and pivotally connected with the other of said clamps, substantially as described.

2. A plate-holding clamp for plate-holders of the character described, comprising a plurality of clamps, and means for pivotally con-

necting said clamps together to permit one to be moved bodily with relation to the other, substantially as described.

3. A plate-holding clamp for plate-holders of the character described, comprising a screw provided with a nut, and a plurality of clamps connected with said screw to turn thereon independent of each other, and means for permitting one of said clamps to be moved bodily with relation to the other, substantially as described.

4. The combination with a base, and a printing-plate supported thereby, of a clamping-bar cooperating with said plate and adjustable on said base in a path substantially at right angles to the length of said bar, and a clamp separate from said bar and adjustable on said base independent of said bar but cooperating therewith to secure said bar in its adjusted position and to permit it to be moved on the base independent of the clamp and while said clamp is secured to said base, substantially as described.

5. The combination with a base or block provided with obliquely-arranged parallel slots, of a clamping-bar movable over said base transversely of said slots and in a path substantially at right angles to the length of said bar, and a clamp separate from said bar and movable longitudinally in said slots independent of the movement of said bar and cooperating with said bar to secure it in its adjusted position on said base, substantially as described.

6. The combination with a base or block, of a clamping-bar movable freely over said base in a path substantially at right angles to the length of said bar, and a clamp separate from said bar to permit movement of said bar independent of its clamp and cooperating

with the said bar to secure it in its adjusted position, substantially as described.

7. The combination with a base or block, of a plurality of clamping-bars, and a substantially elliptical clamping-plate cooperating with said bars, and means to secure said clamping-plate to said base or block, substantially as described.

8. The combination with a base or block, of a plurality of clamping-bars movable freely over the face of said block, and a clamp secured to said base or block between said bars and engaging both of said bars, substantially as described.

9. The combination with a base or block, of a plurality of clamping-bars movable freely over the surface of said block and each provided with a reduced edge forming a shoulder, and a clamp secured to said block between said clamping-bars and provided with a reduced portion forming a shoulder which cooperates with the shoulders on said clamping-bars, substantially as described.

10. The combination with a base or block, of a printing-plate thereon, a clamping-bar engaging one edge of said plate, a second clamping-bar movable on the block toward and from the first-mentioned clamping-bar, and means for securing said clamping-bars to the block, said means being separate from the said bars, whereby the latter may be moved freely over the block to form margin-spaces of different widths, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL W. MARVIN.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.