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C. G. WELLS & S. W. MARVIN.

PLATE HOLDER FOR PRINTING PRESSES.

APPLICATION FILED DEC. 23, 1903.

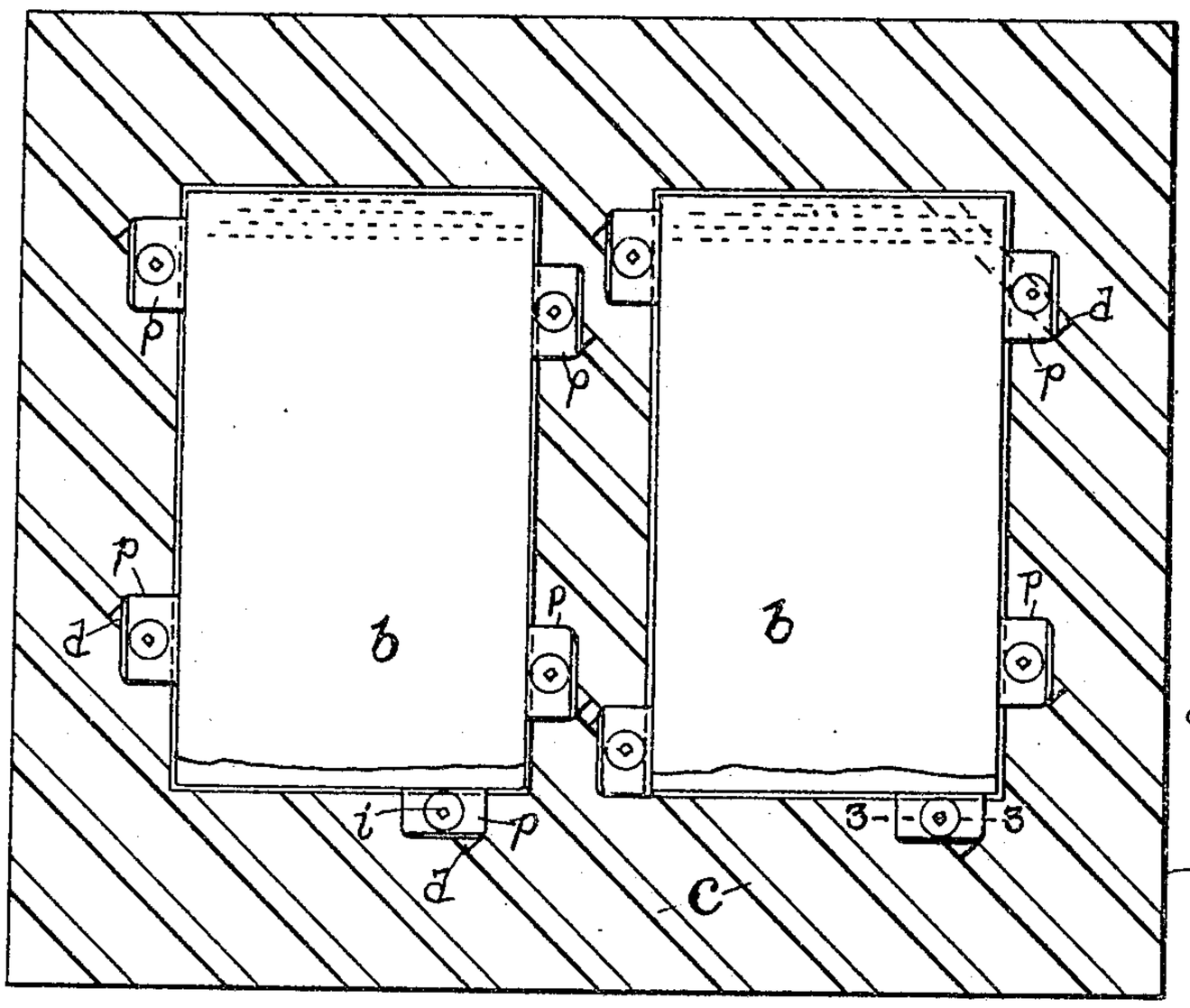

Fig. 1.

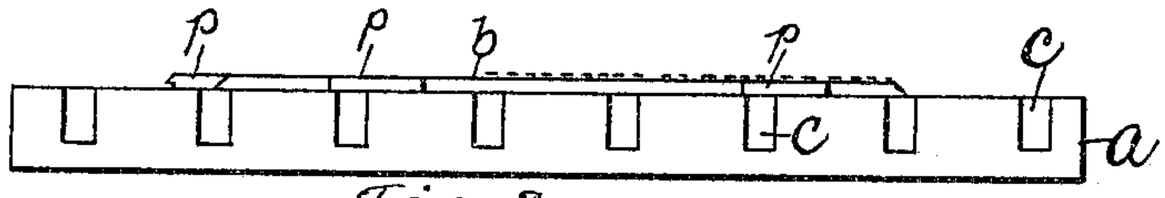

Fig. 2.

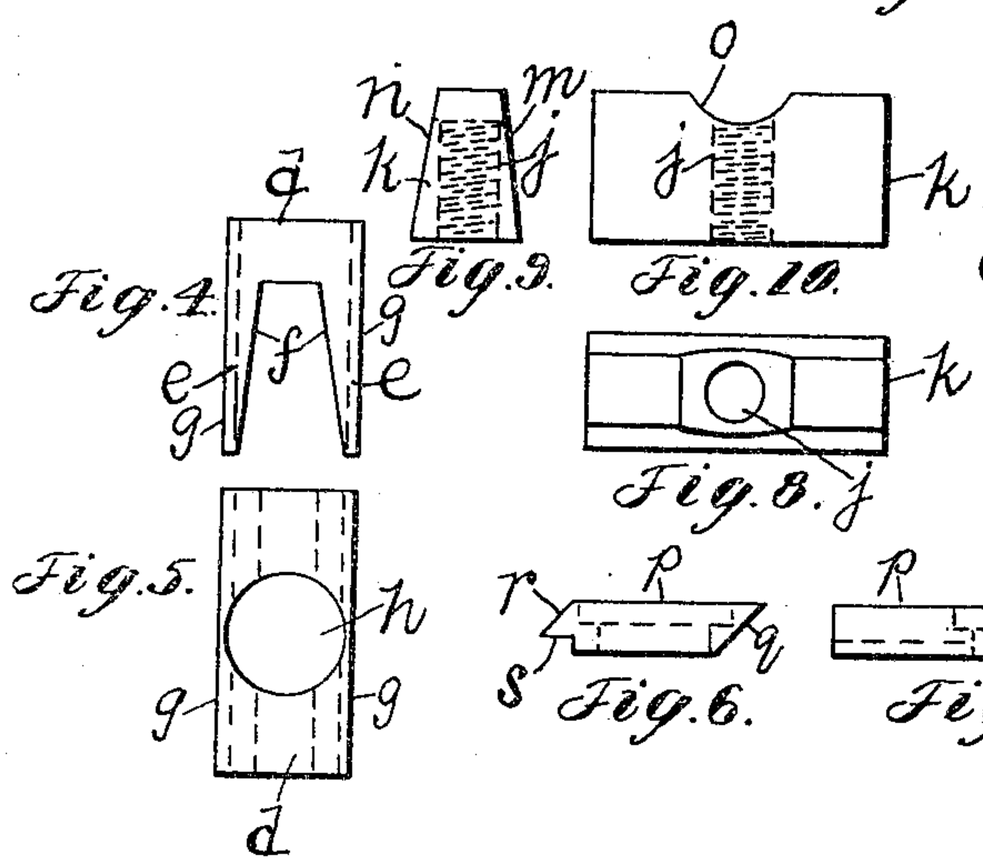

Fig. 4. Fig. 9. Fig. 10. Fig. 8. Fig. 5. Fig. 6. Fig. 7.

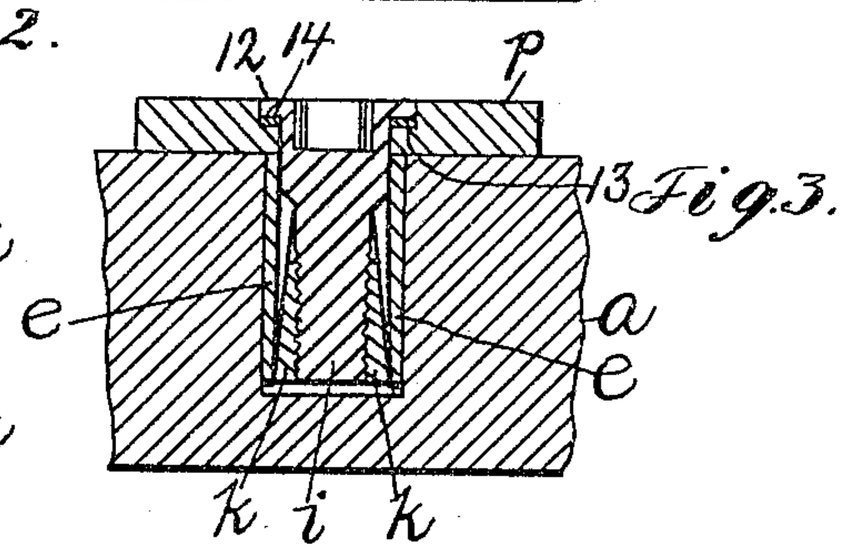

Fig. 3.

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UNITED STATES PATENT OFFICE.

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PLATE-HOLDER FOR PRINTING-PRESSES.

No. 801,491. Specification of Letters Patent. Patented Oct. 10, 1905.

Application filed December 23, 1903. Serial No. 186,268.

To all whom it may concern:

Be it known that we, CHARLES G. WELLS, residing in Jamaica Plain, in the county of Suffolk, and SAMUEL W. MARVIN, residing in Cambridge, in the county of Middlesex, State of Massachusetts, citizens of the United States, 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, electrotype, or other printing plates, and has for its object to provide a clamp of novel construction, as will be described, which is capable of being applied to and removed from the holder substantially in an instant and which enables the base-plate or block to be made stronger and cheaper, as will be described.

The particular 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; Fig. 3, a sectional detail, on an enlarged scale, taken on the line 3 3, Fig. 1; Fig. 4, an enlarged detail, in end elevation, of the expansible member shown in Fig. 1; Fig. 5, a plan view of the member shown in Fig. 4; Figs. 6 and 7, enlarged details in elevation of the clamp shown in Fig. 1; Fig. 8, an enlarged detail in plan of the preferred form of expander or nut; Fig. 9, an end elevation of the nut shown in Fig. 8, and Fig. 10 a side elevation of the nut shown in Fig. 8.

Referring to the drawings, *a* represents the block or base-plate, 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* may be provided with straight or parallel walls, which enables the block or base to be made at a minimum cost, and said walls have coöperating with them a clamping device having a laterally-movable member, which may be made as herein shown (see Figs. 4 and 5) and consists of a top piece *d* and side pieces or arms *e*, extended from said top piece. The arms *e* may and preferably will be provided with inclined inner walls *f* and straight outer walls *g*, which latter are adapted to be forced laterally into engagement with the straight side walls of the slot *c*.

The top piece *d* of the expansible member is provided with a hole or opening *h* for the passage of a screw *i*, having the upper part of its shank smooth and the lower portion of smaller diameter and provided with screw-threads to engage a threaded hole or opening *j* (see Figs. 8, 9, and 10) in an expanding member or nut *k*, which may be made of the shape herein shown, and consists of an elongated block or piece having beveled or inclined sides *m n*, which coöperate with the inclined inner walls *f* of the arms *e*. The upper surface of the nut *k* may be provided with the recess or concavity *o* for the reception of the enlarged upper portion of the shank of the screw. The screw *i* has loosely mounted upon its smooth upper portion a clamping-plate *p*, which may be made as herein shown and is provided with beveled sides or edges *q r*, the edge *r* being shown as cut away on its under side, as at *s*, (see Fig. 6,) to permit the clamp to be used with margin-bars. The clamping-plate *p* is provided with an opening through it for the passage of the shank of the screw *i*, and said opening is provided with an enlarged portion of a depth substantially equal to the thickness of the head 12 of the screw, so that the upper surface of said screw may be substantially flush with the upper surface of the clamping-plate. The enlarged portion of the opening in the clamping-plate forms a shoulder 13, upon which rests a thin washer 14, which enables the screw to be turned or revolved without liability of turning the clamping-plate.

In operation the washer 14 and clamping-plate *p* are placed on the screw, which latter is then inserted through the opening in the top piece *d* of the expansible member and into the threaded opening *j* in the nut, thus assembling the parts together as one piece. The clamp *p* may be secured in its adjusted position on the block in a minimum time and with a minimum amount of labor, as it is only necessary to insert the expansible member in the slot *c*, and after adjusting the clamping-plate *p* to the printing-plate *b* the screw *i* is turned so as to draw the nut *k* up

within the expansible member, the arms *e* of which are forced outward into firm engagement with the side walls of the slot *c*. The expansible member may be released from engagement with the walls of the slot *c* by turning the screw *i* in the opposite direction, after which the clamp may be moved longitudinally in the slot or it may be removed therefrom by lifting it out of said slot.

We have herein shown one form of laterally-movable member and one means for effecting lateral movement of said member, which we may prefer, but we do not desire to limit our invention to the particular construction shown.

It is to be observed that the side walls of the slots in the block or base-plate extend straight down to the bottom of said slots, so that the slot is of the same width at its bottom as at its top, and as a result the base-plate is not only stronger, but is simpler and cheaper to make. Furthermore, it is to be observed that the upper surface of the expansible member fills the slot and may project beyond the edge of the clamping-plate, thereby offering a support for the edge of the printing-plate in some instances.

It is to be noted that the nut *k* forms a wedge which as it is moved up by the screw *i* forces the coöperating member or device laterally into engagement with the block.

We claim—

1. A plate-holder of the character described, comprising a base or block provided with slots having parallel side walls, and plate-holding clamps arranged on said block, said clamps consisting of a plate, a screw upon which said plate is mounted, an expansible member cooperating with the side walls of said slot, and an expander on said screw movable longitudinally thereon and coöperating with said expansible member, substantially as described.

2. A plate-holding clamp for plate-holders of the character described, consisting of a plate, a screw upon which said plate is mounted to turn, an expansible member, and an expanding member movable longitudinally on said screw by rotation thereof and coöperating with said expansible member, substantially as described.

3. A plate-holding clamp for plate-holders of the character described, consisting of a plate, a screw upon which said plate is mounted to turn, an expansible member provided with arms on opposite sides of said screw, and a nut movable longitudinally on said screw and coöperating with said arms to move them away from each other, substantially as described.

4. A plate-holding clamp for plate-holders of the character described, consisting of a plate, a screw upon which said plate is mounted to turn, an expansible member comprising a top piece having an opening through which said screw is passed and side pieces or arms extended from said top piece, and a nut on said screw movable between said side pieces or arms, substantially as described.

5. A plate-holding clamp for plate-holders of the character described, consisting of a plate, a screw upon which said plate is mounted to turn, an expansible member comprising a top piece having an opening through which said screw is passed and side pieces or arms having inclined inner walls, and a nut on said screw provided with inclined sides or surfaces which coöperate with the inclined inner walls of said arms, substantially as described.

6. A plate-holding clamp for plate-holders of the character described, consisting of a plate having an enlarged opening forming a shoulder, a screw extended through said opening and having a head fitted into said enlarged portion, a washer on said screw resting on said shoulder, an expansible member comprising a top piece having an opening through which said screw is extended and side pieces or arms having straight outer surfaces and inclined inner surfaces, and a nut on said screw having inclined outer surfaces which coöperate with the inclined surfaces of said arms, substantially as described.

7. A plate-holding clamp for plate-holders of the character described, consisting of a plate, a screw upon which said plate is mounted to turn, a nut movable longitudinally on said screw and provided with an inclined surface, and a coöperating clamping member provided with a top piece through which said screw is extended and provided with an inclined surface which coöperates with the inclined surface of said nut, said clamping member being separate from said plate and moved laterally by movement of the nut on said screw, for the purpose specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES G. WELLS.
SAMUEL W. MARVIN.

Witnesses:
JAS. H. CHURCHILL,
J. MURPHY.