

No. 869,607.

PATENTED OCT. 29, 1907.

J. S. WEYL.
STEREOTYPE PLATE HOLDER.
APPLICATION FILED DEC. 28, 1906.

Fig: 1.

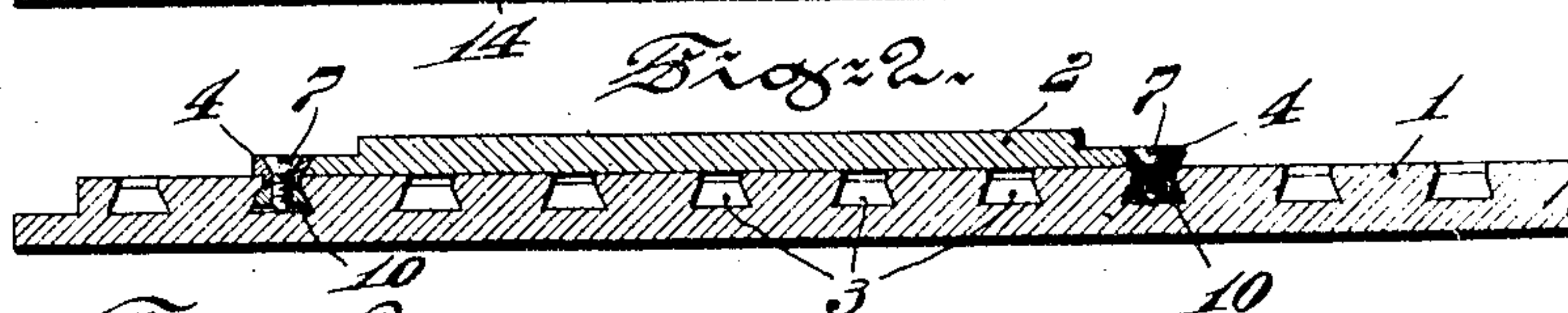
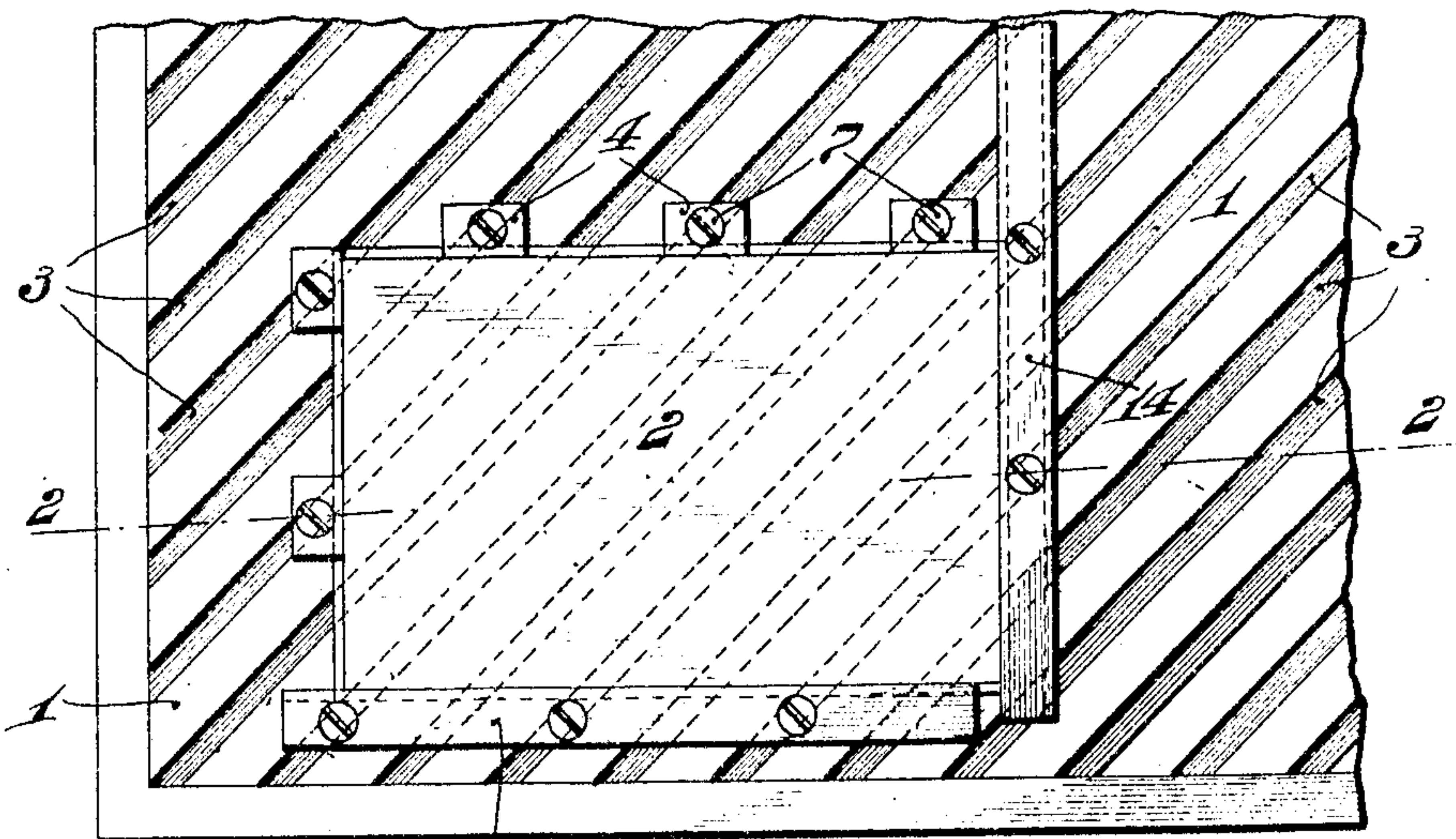


Fig: 3.

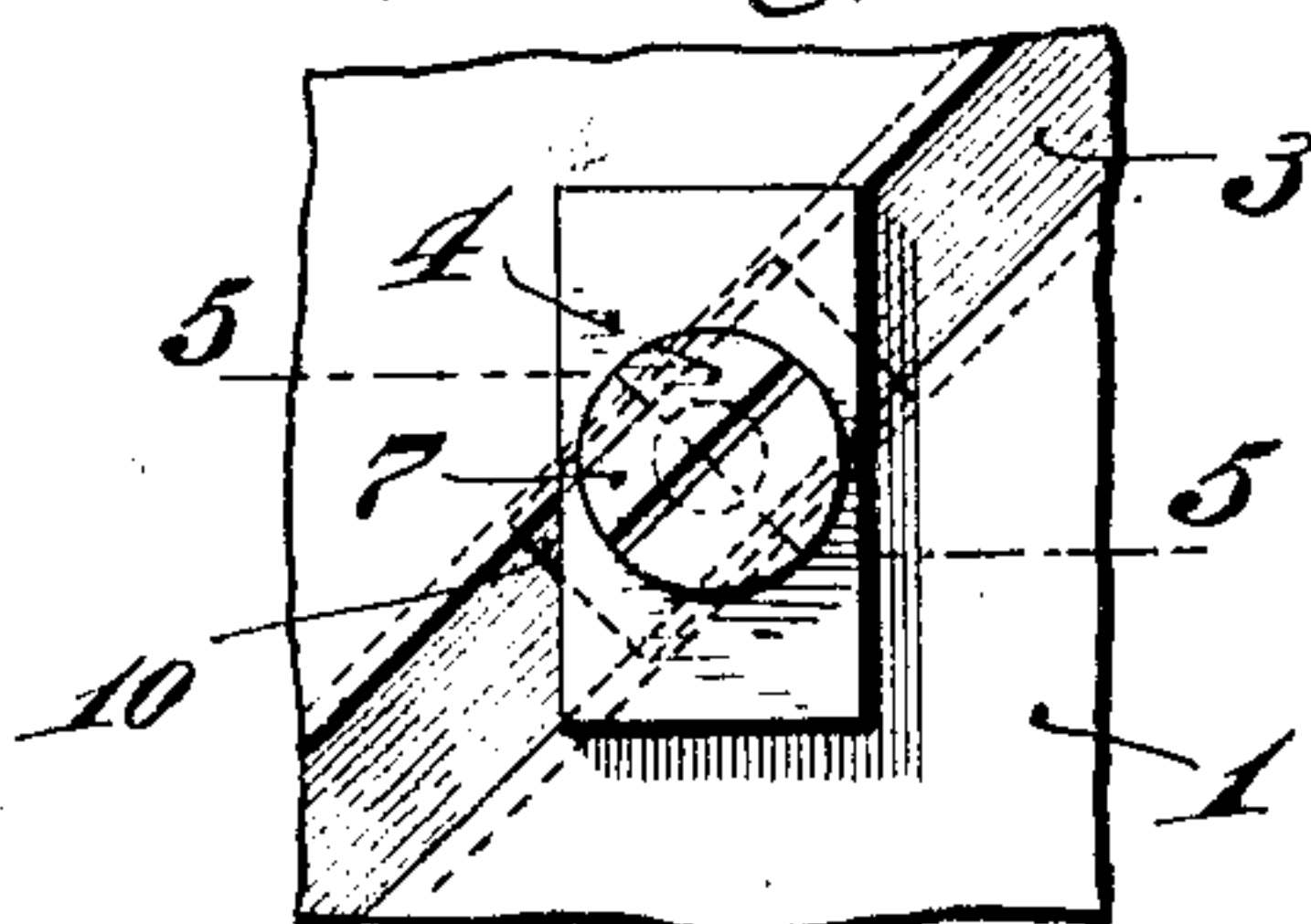


Fig: 5.

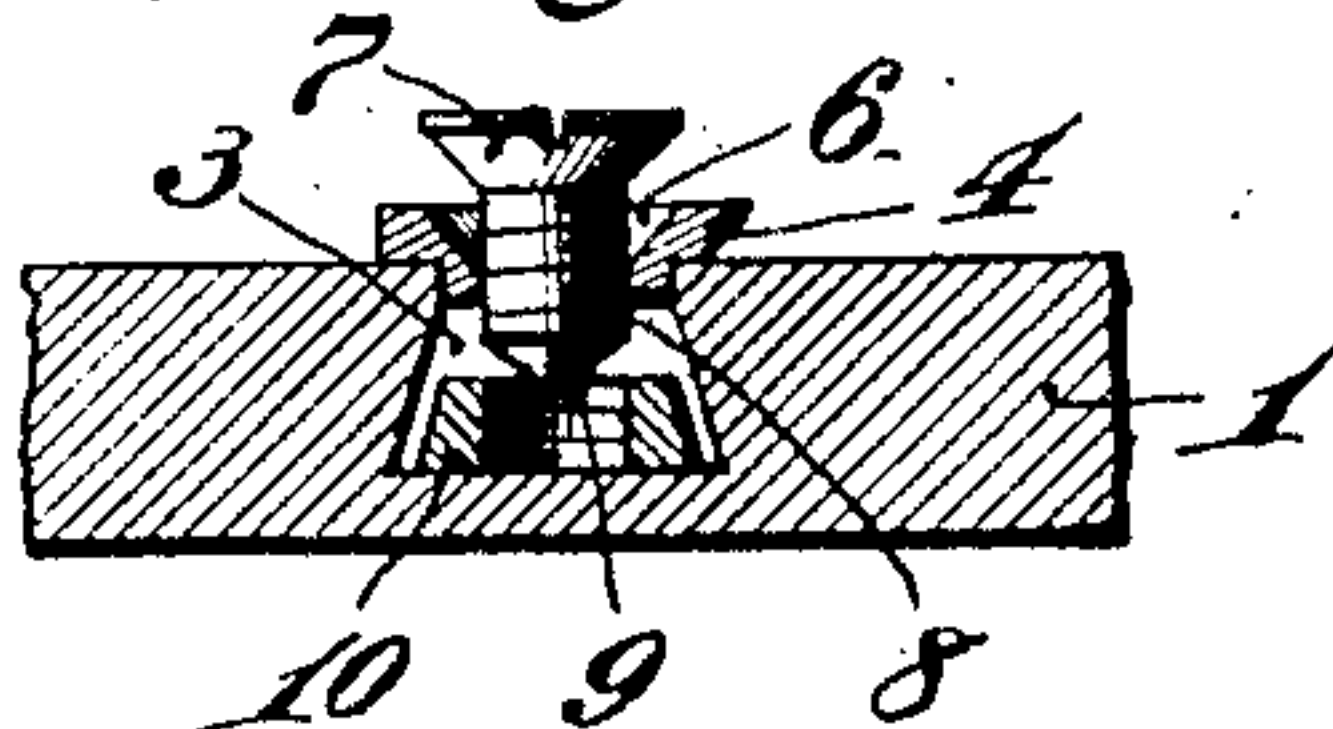


Fig: 7.

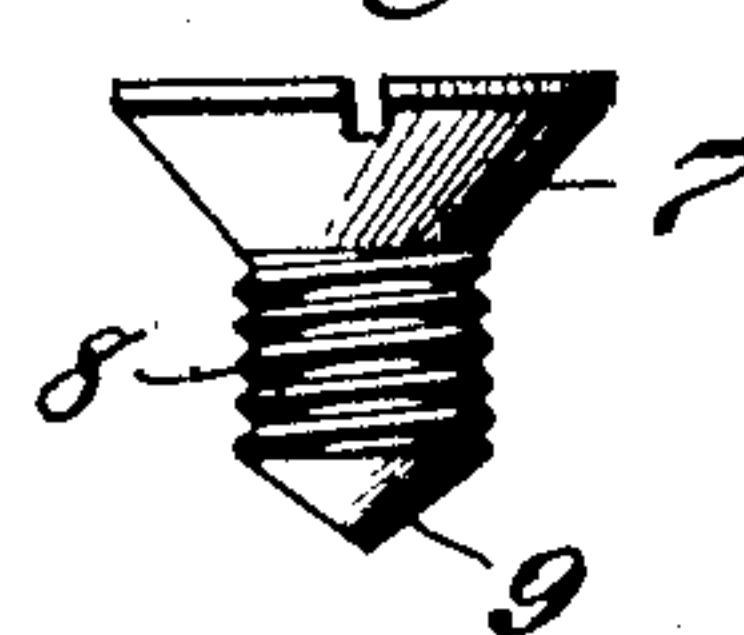


Fig: 4.

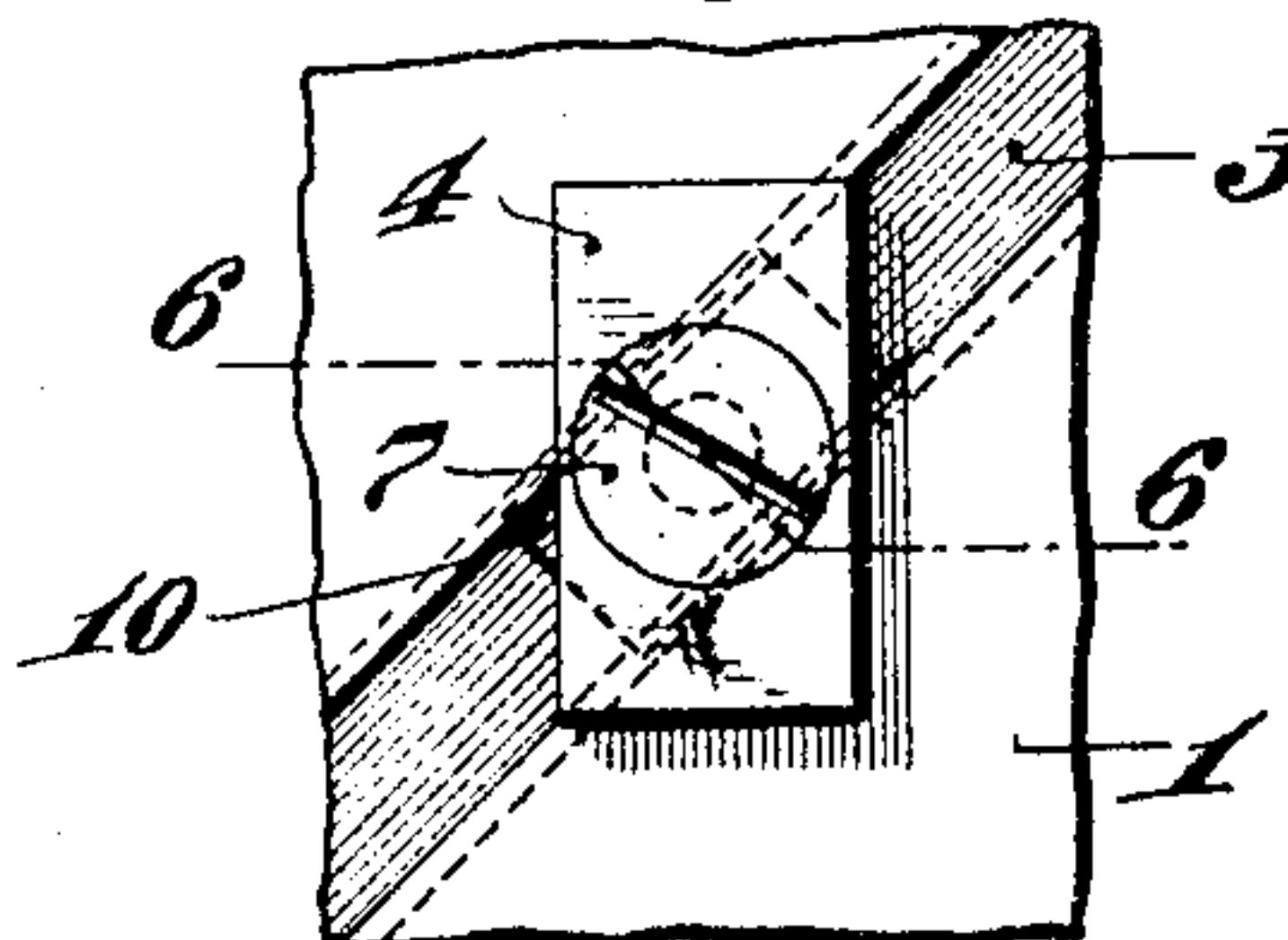


Fig: 6.

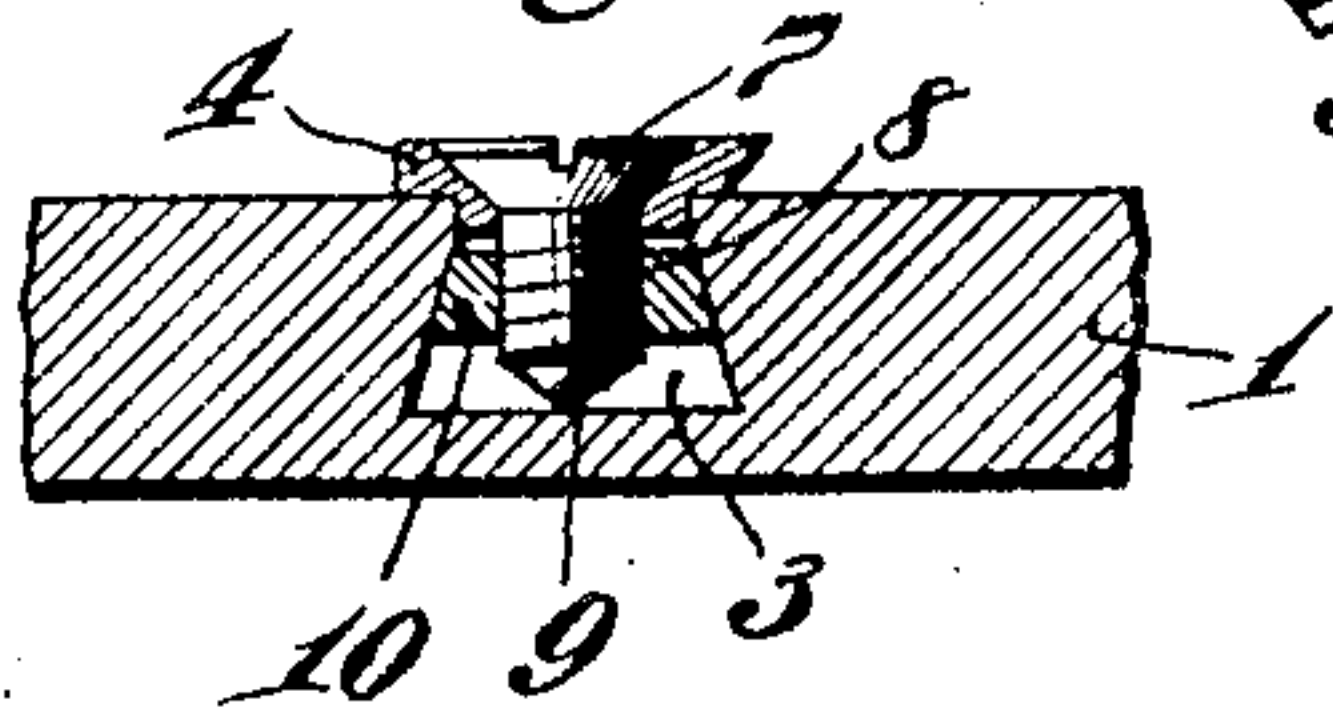


Fig: 8.

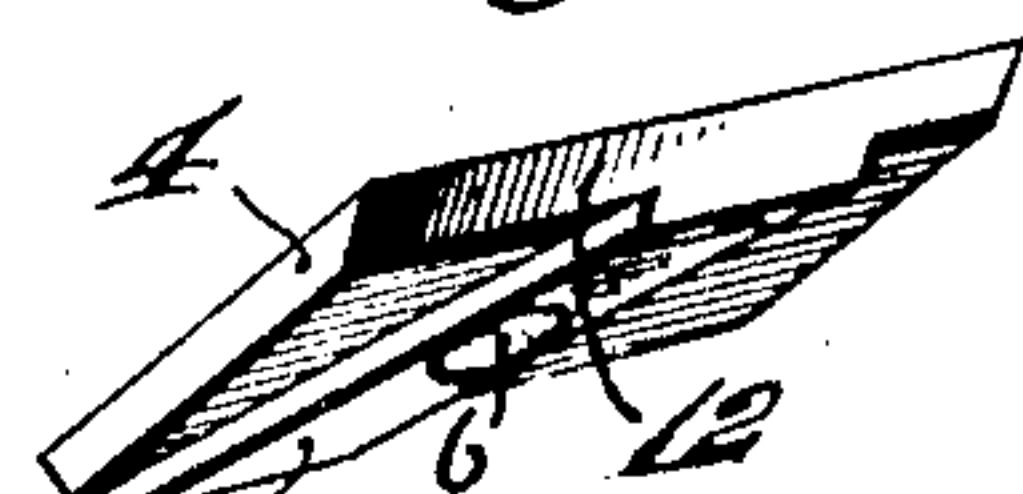
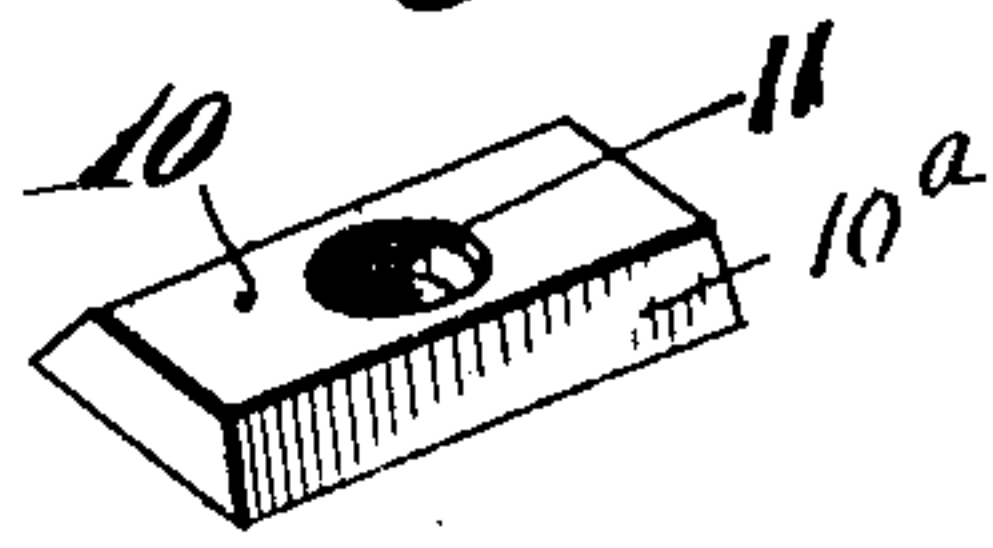


Fig: 9.



WITNESSES

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STEREOTYPE-PLATE HOLDER.

No. 869,607.

Specification of Letters Patent.

Patented Oct. 29, 1907.

Application filed December 28, 1906. Serial No. 349,767.

To all whom it may concern:

Be it known that I, JULIUS S. WEYL, a citizen of the United States, residing in the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Stereotype-Plate Holders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to holders for printing plates, and has for its object the improvement of such devices now in use, in those particulars in which they have been found, in practical use, to be defective or inadequate for the purpose intended. Devices of this class are of the nature of clamps coacting with a diagonally grooved supporting-block, the ultimate result sought being to clamp a printing plate securely on the supporting block. Such devices are used by printers in making up "forms" for the printing press, and it is essential, from a practical standpoint, that the clamping elements, one of which is hidden from sight in the groove in the block, should be of such character, as to be guided with certainty into register when sought to be assembled, and also that the clamping should be secure against liability to accidentally become loose, which can only be effected by means operating to "lock" the beveled clamping nut to the corresponding shaped walls of the groove, when the elements are brought into clamping position relatively to the grooved supporting-block and the printing-plate to be fixedly held thereon in making up the "form."

My improved holder is predicated upon a type of such devices as shown in the U. S. Patent dated November 18, 1900, No. 661,780 to Ferdinand Wesel, and it is designed to improve such device in those features and mode of operation in which, in practical use by me I have found it to be defective or inadequate for the purposes intended. The supporting-block having a series of parallel dove-tailed grooves, extending diagonally from edge to edge of the block, with nuts adapted to rest in the grooves and complementary screws adapted to register with the nuts and hold an interposed clamping plate against the underlying printing plate, have long been used in the printers' art; and the Wesel device before referred to embodies specific forms of such clamping plate and nut, having considerable utility, but inadequate in two respects, namely, the nut being hidden from view when the printing plate is placed upon the supporting-block, it was difficult to cause the screw to find the screw-threaded hole in the nut and thread therewith, and also in that device no means were provided to secure the nut in locked position and prevent it returning into unlocked position; the tendency of the heavy press rollers passing over the printing-plate clamped on the block, straining and frequently loosening the clamping means.

My invention consists in providing means, in such a

device, to overcome these defects, and hence consists in the combination with a supporting-block having a series of parallel grooves larger at the base than at top, preferably dove-tail in form, extending diagonally across the block, of a lock-nut somewhat less in thickness than the depth of the groove, slightly less in cross-section than the width of the groove at its base, and of a form in cross-section adapted to coincide with the vertical walls of the groove, and adapted to enter and slide in the same, and of a suitable length preferably twice that of its width, and having a central vertical screw-threaded slot through it; a clamping-plate of corresponding length approximately, with one or more of its longitudinal walls beveled and sufficiently wide to overlap the groove, and having a diagonally arranged shallow rib on its under face adapted to freely enter the groove in the block and operate as a guide for the clamping plate, a central vertical countersunk slot passing through it and extending through its said rib; and a locking screw having a threaded shank adapted to register with the slot in the ribbed clamping-plate and with the screw-threaded slot in the lock-nut, and having a pointed end below its shank adapted to reach beyond the under face of the lock-nut when the parts are assembled and extend to and bear against the base of the groove in the supporting block, and operate to force the bevel edges of the nut into coincidence with the bevel walls of the groove in the supporting block.

In the accompanying drawings illustrating my invention:—Figure 1 is a plan view of a portion of the grooved supporting block, and the clamping devices holding the printing plate in position on the block, and constituting the plate-holder; and Fig. 2 is a vertical section thereof on the line 2—2 of Fig. 1. Figs. 3 and 4 are plan views of a section of the block and cooperating clamping devices, the former showing the locked and the latter the unlocked position. Figs. 5 and 6 are vertical sectional views of the same parts, on lines 5 and 6 of Figs. 3 and 4 respectively and also intended to illustrate the locked and unlocked positions; and Figs. 7, 8 and 9 are respectively elevations of the screw, the clamping-plate and the lock-nut.

In said drawings: 1 indicates the usual supporting-block for a series of printing plates 2, and it is provided with a series of parallel grooves 3 extending diagonally across the face of the block, at an angle of about forty-five degrees. These grooves are wider at base than at top, and preferably of dove-tail form in cross-section. In conjunction with said grooved block the plate-clamping device consists of a clamping plate 4 which is a flat oblong plate, rectangular in planular outline, with one or more of its longitudinal edges 12 inwardly beveled, it is preferably of a length approximately twice its width and sufficiently wide to overlap the groove 3 on both sides and rest by its bevel edge on the reverse corresponding bevel edge of the interposed

printing plate 2. On its underface the clamping plate 4 is provided with a like diagonally-arranged shallow rib 5 adapted to freely enter the groove 3 in the block 1, and operate as a guide for the plate, and said plate 4 has a centrally counter-sunk opening 6 extending through it, and through the rib 5 on its underface.

The screw 7 has a beveled head adapted to fill the countersunk slot 6 in the clamping plate 4, and its shank 8 is threaded as usual, but it is provided beyond the threaded shank with an extended point 9 for the performance of the functions hereinafter stated. The lock-nut 10 is of a thickness somewhat less than the depth of the groove 3, of a width to adapt it to freely enter the groove 3 in the block 1, and of a length approximately twice its width, and having a central vertical screw-threaded slot 11 passing through it. The longitudinal edges 10^a of this lock-nut are beveled so that when lifted in the groove 3 they will be coincident with the upper part of the beveled walls of the groove in the block, and be locked against the same, as well as held by frictional contact therewith.

Marginal plate-bars 14 (see Fig. 1) are commonly used to secure two sides of a printing plate on the supporting-block. In such case I make these with their longitudinal edges beveled as in case of the clamping plate 4, also with diagonal ribs 5 on its underface, and countersunk openings 6 and with extended slots or openings—(see Fig. 8)—so that, when placed in position in the grooves 3 of the block 1, they may be clamped by employment therewith of the screw and lock-nut elements employed with the clamping plate 4 and in like manner.

The operation of the device is as follows: The marginal plate-bars 14, if used, being placed in position on the block 1, and the printing plate being lined up against the same by two of its sides, a proper number of lock-nuts 10 are placed in the grooves 3 of the block, moved up therein against the vertical plane of the edge of the printing plate, then a clamping-plate 4 placed over each of the same, with its bevel edge overlapping the reverse bevel edge of the printing plate, and the screw then applied as shown in Fig. 3 and turned in the direction shown in Fig. 5. The screw by its long point finds with ease and certainty the slotted opening in the hidden lock-nut and the screw-thread therein; whereupon a continuing turn of the screw, its point finds as a

fulcrum the basal wall of the groove 3 and the lock-nut is lifted, bringing its bevel-edges into coincidence with the bevel walls of the groove 3, forcing the lock-nut also into close frictional contact with said corresponding bevel walls of the groove, so that it is impossible for the clamp to become loose save by a reverse turning of the screw.

My invention, simple as it is, has proved of great practical utility not only in the saving of time of employees in making up "forms" but in the prevention of the printing-plate becoming loose in the "form."

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A holder for printing-plates comprising a diagonally-grooved supporting-block, the grooves having a greater width at base than at top, a lock-nut of greater length than width, and having its longitudinal edges beveled, and being slightly less in thickness than the depth of said groove, and adapted to freely enter said groove and slide therein, a clamping-plate having one of its longitudinal edges beveled and provided on its underface with a diagonally-arranged rib, a countersunk opening extending through it and through said rib, and a bevel-headed screw having its threaded shank provided with an extended pointed end adapted to bear against the basal wall of the groove in the supporting-block when its beveled-head is brought into coincidence with the countersunk opening in the said clamping-plate, and operating to lock the nut in the upper portion of said groove.

2. A holder for printing-plates comprising a supporting block having parallel beveled grooves arranged at an angle to the sides of the block, a lock-nut having its longitudinal edges beveled at a corresponding angle, and adapted to freely enter and slide in said grooves, said nut being of greater length than width and slightly less in thickness than the depth of said grooves, a clamping-plate having one or both of its longitudinal edges inwardly beveled and provided on its underface with a diagonally-arranged shallow rib adapted to enter and guide the plate in the groove of the block, said plate having a countersunk slot extending through it and its rib, and a bevel-headed screw having its threaded shank provided with an extended point of a relative length adapted to bear against the basal wall of the groove when the parts are brought into register and lift the bevel edges of the nut into coincidence with the beveled walls of the said groove in the supporting-block.

In testimony whereof, I have hereunto affixed my signature this twenty-first day of December A. D. 1906.

JULIUS S. WEYL.

Witnesses:

H. T. FENTON,
A. M. RIDDLE.