No. 740,310. PATENTED SEPT. 29, 1903.

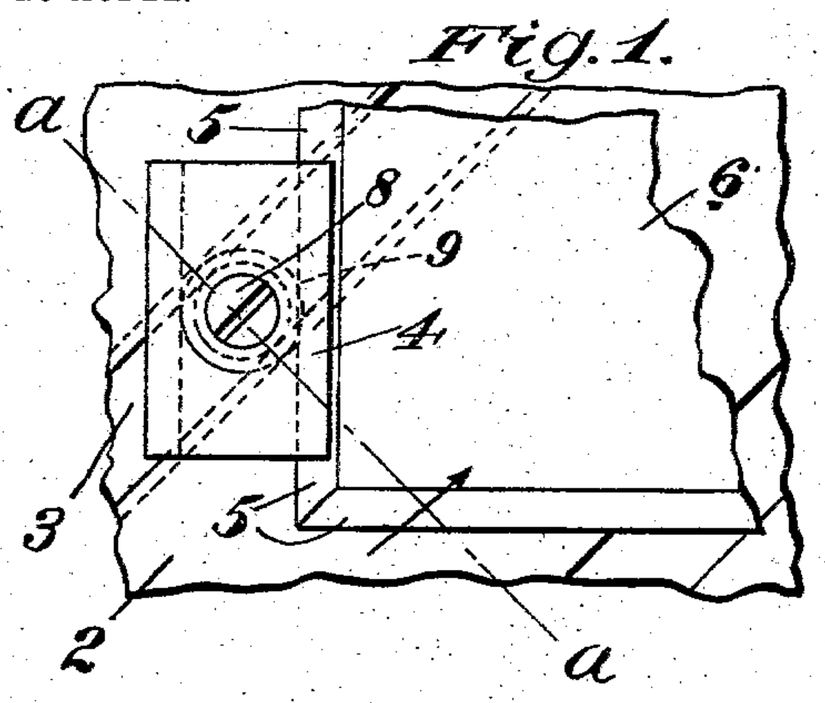
R. W. PITTMAN & G. C. ANDREWS.

HOLDER FOR PRINTING PLATES.

APPLICATION FILED MAY 13, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



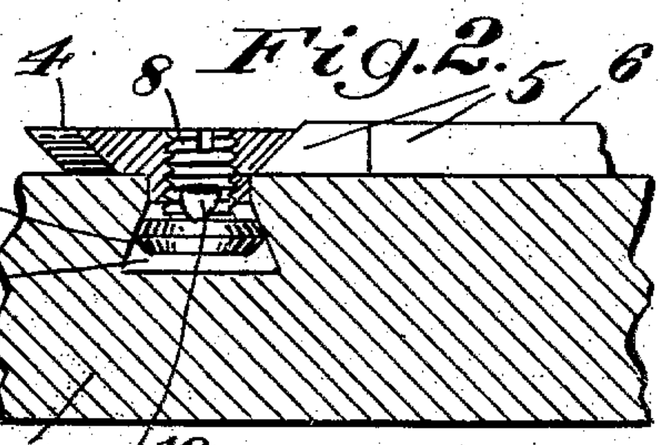


Fig. 2.

Fig. 3

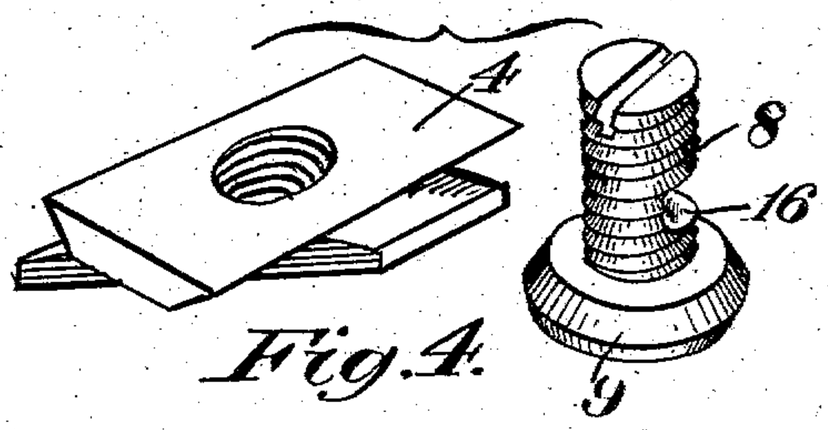


Fig. 4.

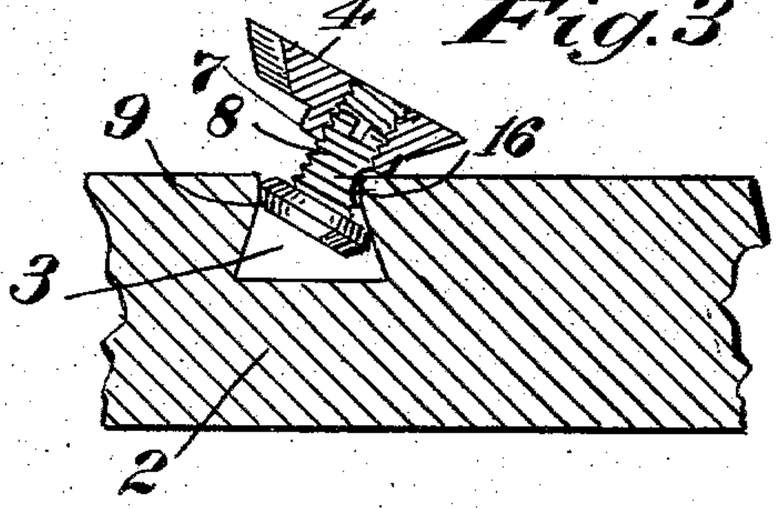


Fig. 5.

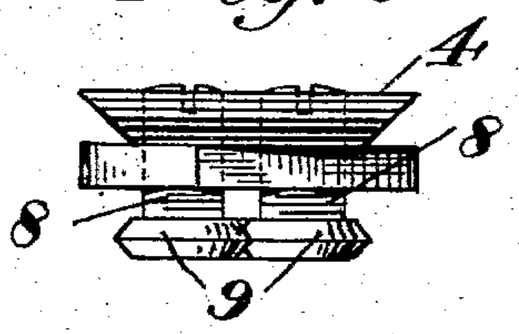


Fig. 7.

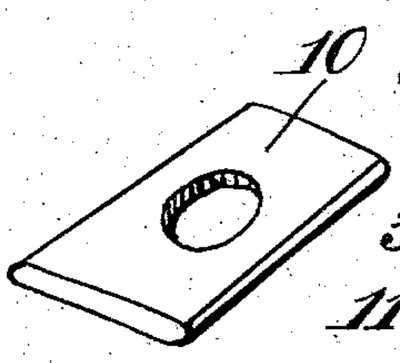


Fig. 9.

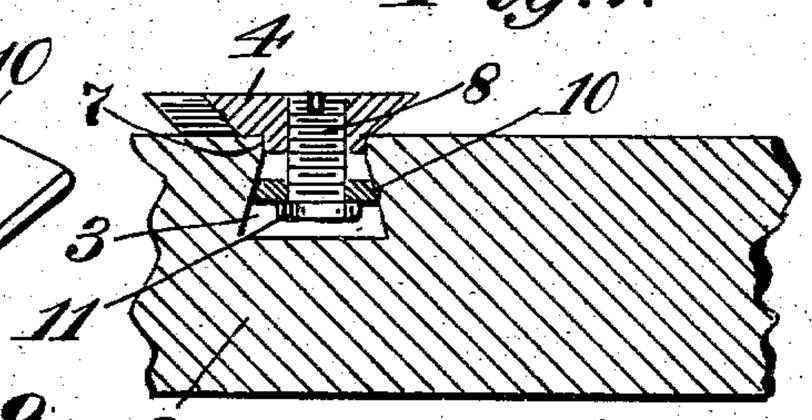


Fig. 8.

Fig. 6.

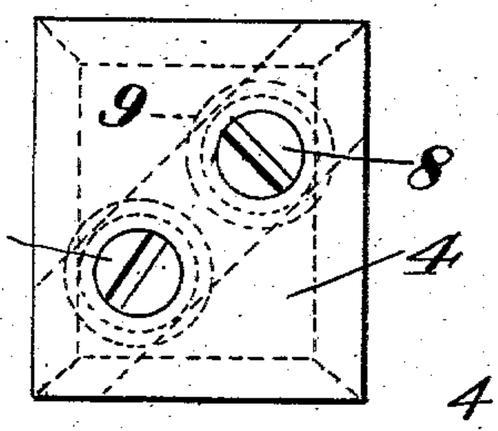
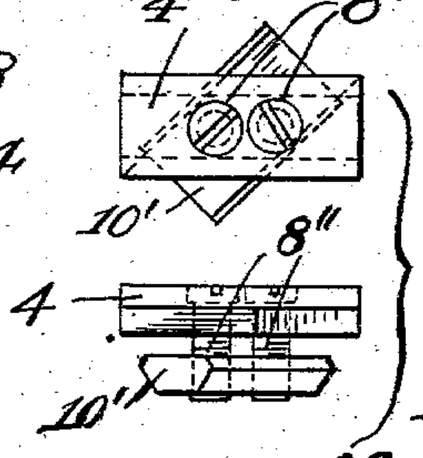


Fig. 6c



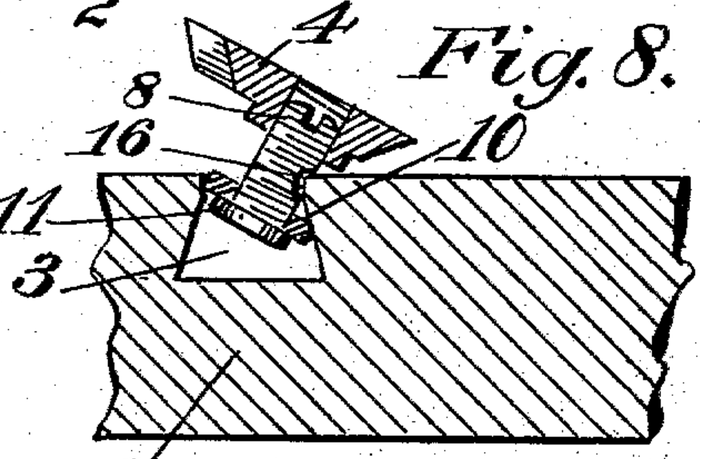


Fig. 6b

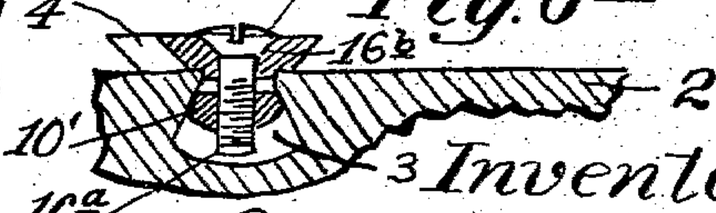
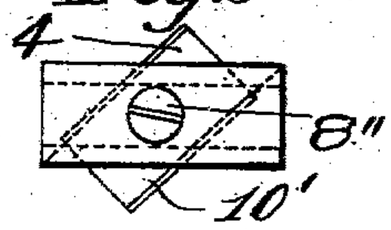


Fig. 6a



Witnesses:
C. A. Jarvis
Fred. E. Maynard.

Inventors:
Reinhart W. Pittman
G. C. Andrews

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Fig. 10.

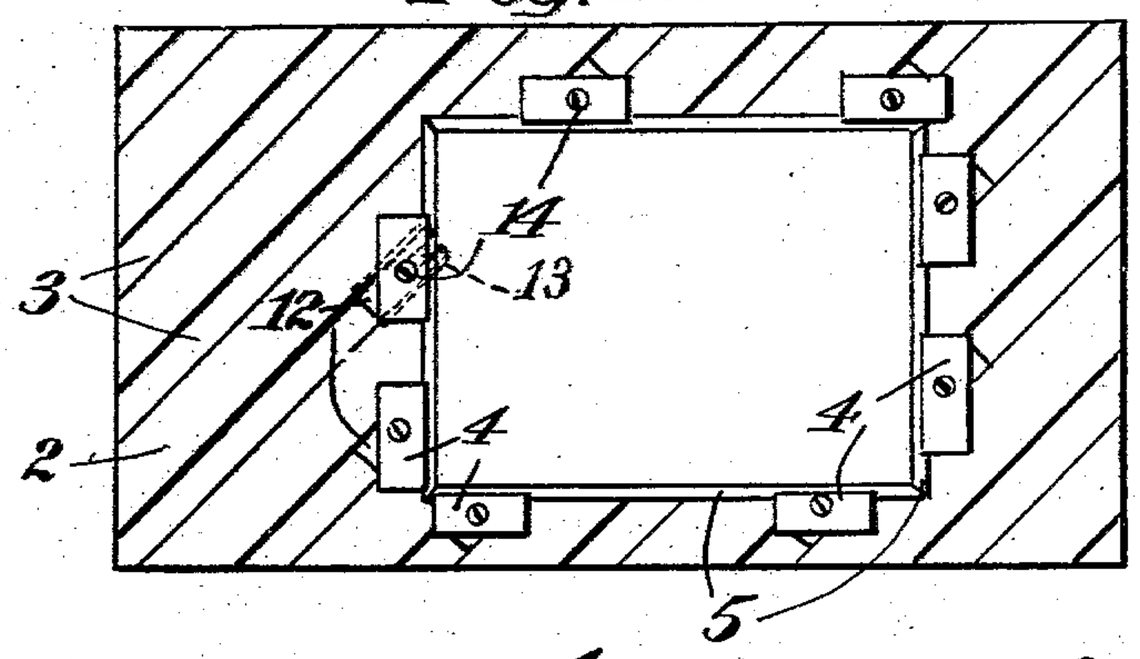


Fig. 11.

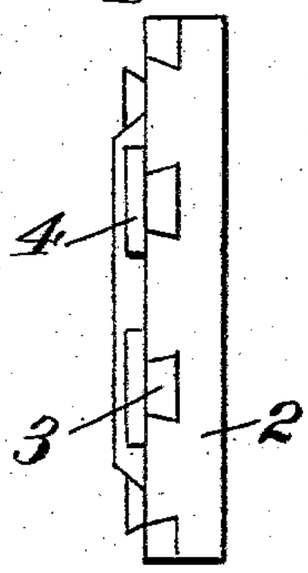


Fig. 12.

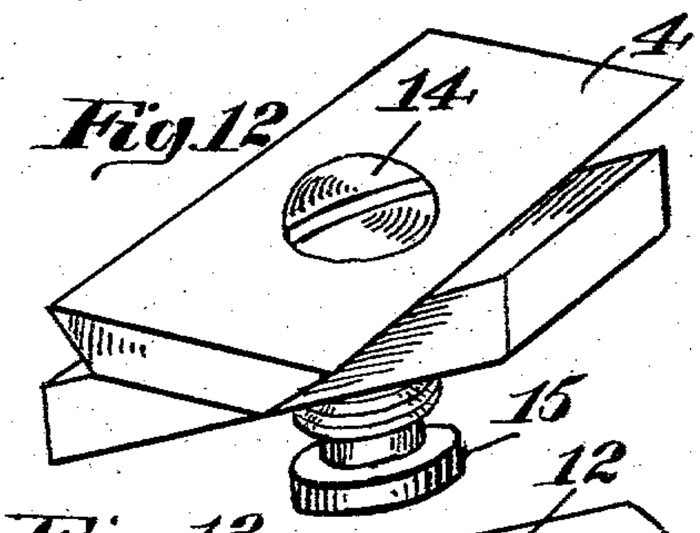


Fig. 14.

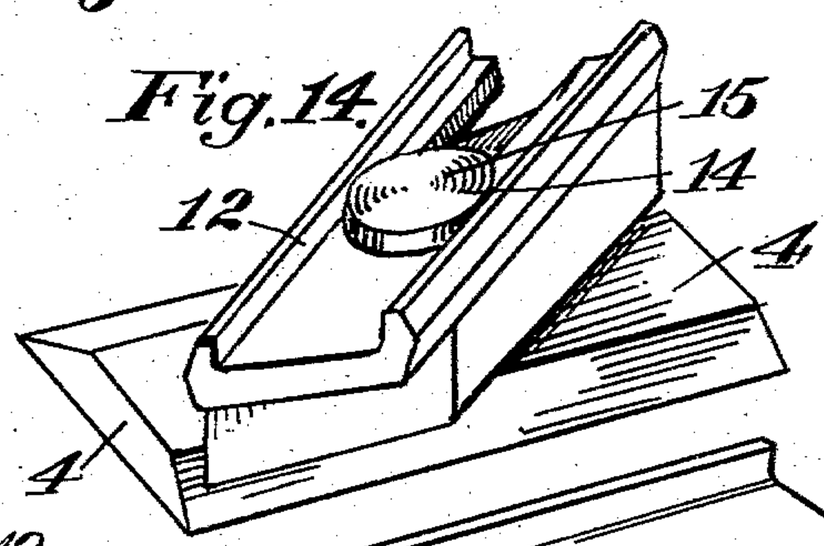
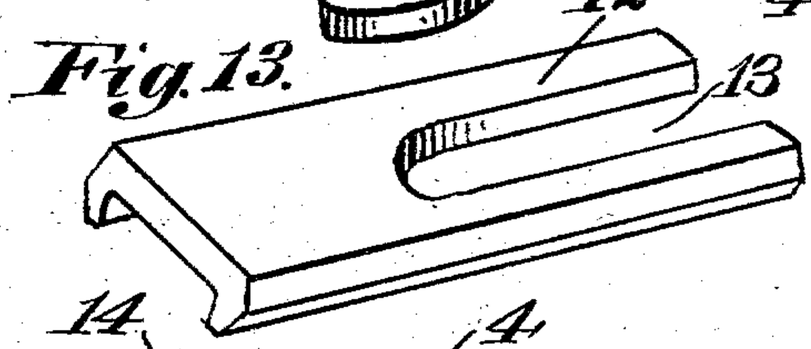


Fig. 13.



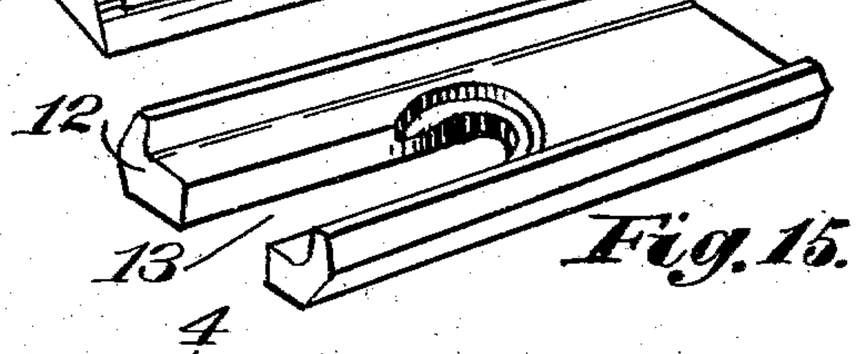


Fig. 15.

Fig. 16.

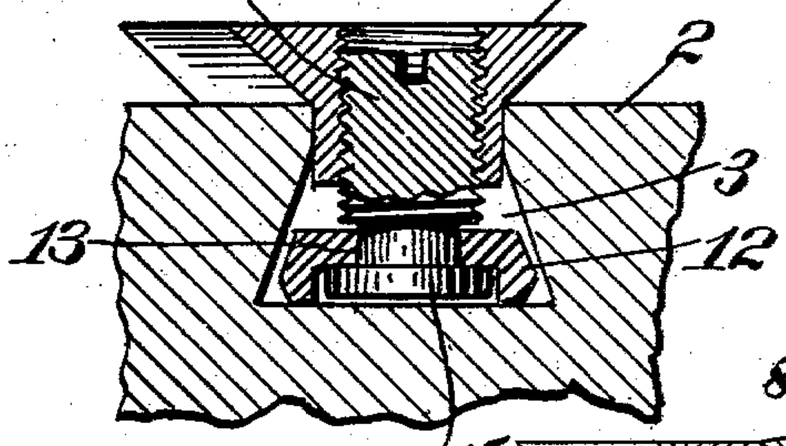


Fig. 17.

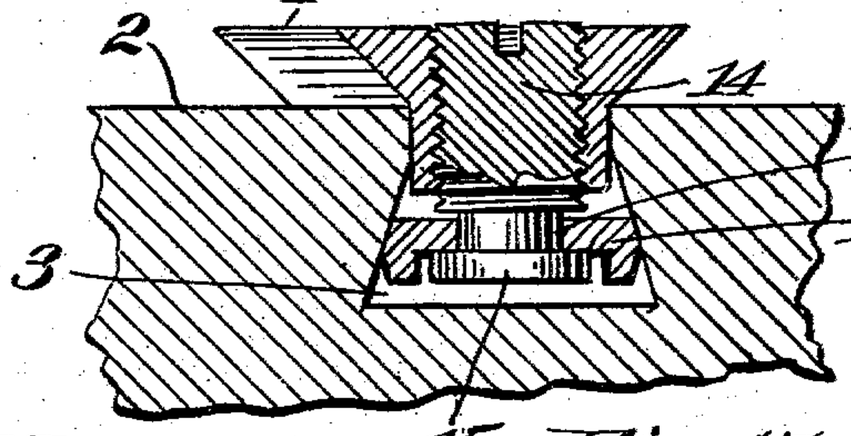
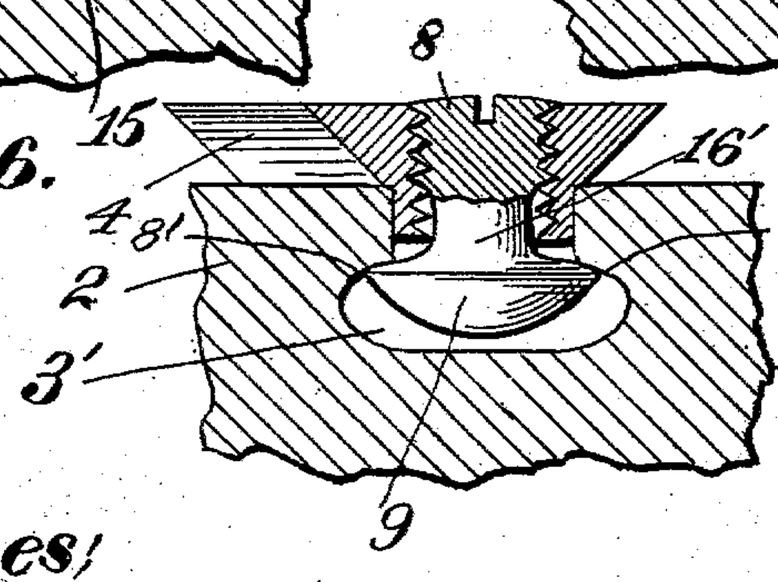


Fig. 18.



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G. C. Andrews

No. 740,310. Patented September 29, 1903.

UNITED STATES PATENT OFFICE.

REINHART W. PITTMAN AND GEORGE C. ANDREWS, OF NEW YORK, N. Y.

HOLDER FOR PRINTING-PLATES.

SPECIFICATION forming part of Letters Patent No. 740,310, dated September 29, 1903.

Application filed May 13, 1903. Serial No. 157,008. (No model.)

To all whom it may concern:

Be it known that we, REINHART W. PITTMAN and GEORGE C. ANDREWS, of the borough of Manhattan, city and State of New York, have invented a certain new and useful Improvement in Holders for Printing-Plates, of which the following is a specification.

The present invention relates more particularly to the construction of clamps which are designed to be removably attached to the face of a holding plate or block for the purpose of securing a stereotype or other printing-plate thereon. Such clamps are usually fastened down to the holding or base plate against the edges of the printing-plate in order to hold the latter firmly in position.

The present improvements include a plate-clamp of the foregoing general description and which possesses the further capacity of being engageable with the walls of the clamping or receiving groove in the face of the holding-plate (a common construction of such plates) at any point therealong. The construction of the present clamp enables this engagement to be effected by tilting the clamp (the parts thereof being in their assembled positions) over sidewise, whereupon by bringing the screw of the clamp upright and tightening it up the retaining-head of the clamp is caught under the overhanging side edges or walls of the slot and the clamp fixedly secured in place.

In the drawings accompanying the present specification there is set forth an embodiment of our present invention, and in these drawings—

Figure 1 is a plan view of a portion of a base plate or block, fastened to the face of which by our improved clamp is a printing-plate, a fragment only of which is indicated. Fig. 2 is a sectional view on the plane of the line *a a* looking the direction of the arrow. Fig. 3 is also a sectional view illustrating the manner in which the clamp is engaged with the base-plate. Fig. 4 is a perspective view, upon a somewhat-enlarged scale, of parts of the clamp separated from each other. Fig. 5 is an edge view of a form of clamp in which a plurality of holding-screws is employed to obtain increased holding power. Fig. 6 is a plan view of Fig. 5. Figs. 6^a and 6^b are plan and sectional views, respectively, of a clamping device embodying a threaded head with which the clamping-screw engages, the end of the screw being swaged over to prevent their accidental separation. Fig. 6^c shows a double screw construction of this kind. Figs. 7 and 8 are views similar to Figs. 2 and 3, respectively, illustrating, however, a form of clamp in which an elongated retaining head or washer is employed. Fig. 9 is a perspective view of such head or washer. Figs. 10 and 11 are plan and elevational views, respectively, of a base-plate to the face of which a printing-plate is indicated as attached by a full complement of clamps of somewhat different construction. Fig. 12 is a perspective view, looking at the upper face thereof, of a clamp embodying such modified construction, the scale of the figure being somewhat enlarged. Fig. 13 is a similar view of the detachable head. Figs. 14 and 15 are views similar to Figs. 12 and 13, but looking at the under faces of the respective parts; and Figs. 16 and 17 are cross-sectional views, the former figure indicating the head as disengaged from the side walls of the slot in the base-plate. Fig. 18 is a sectional view illustrating a modified form of slot-retaining head and clamping-screw.

Similar characters of reference designate corresponding parts in all figures.

The base plate or block upon which the printing plate or plates are mounted and to the face of which they are adapted to be secured by the present clamp is one having a series of undercut slots extending, preferably, at an oblique angle to the edges of the plate. In the present instance the base-plate is designated by 2, the clamp-receiving slots 3 in which are undercut to form overhanging walls, with which the clamps are adapted to engage. While the particular cross-sectional form of such slot illustrated in most of the figures is that of an inverted V with substantially parallel walls adjacent to the mouth of the slot, other cross-sectional forms are equally adapted for coöperation with the present clamp, provided an undercut reaction-surface exists. Thus in Fig. 18 the receiving-slot 3′ in the plate has its reaction-faces 8′ (on each side of the mouth of the slot) more nearly parallel to the upper face

of the plate than in the other form of the slot illustrated.

Referring now to the clamp and its construction, this latter embraces a contact portion, such as 4, adapted to contact with the face of the base-plate, and whose opposite edges (either two or four) are beveled or undercut to engage with the oppositely-beveled edge 5 of the printing-plate, (designated by 6.) Extending from the contact portion of the clamp is a guide portion 7, having a width substantially equal to that of the mouth portion of the receiving-slot in the base-plate and a depth sufficient to act as a substantial guide in confining the clamp to movement longitudinally of the slot when the guide portion of the clamp is engaged therewith. The angular relation between the guiding edges of the guide portion and the clamping edges of the contact portion is such as to establish the general relation of the parts as set forth in Fig. 1.

For the purpose of fixedly fastening the clamp to the face of the base-plate at the desired point thereon we conveniently employ a screw, such as 8, (see the figures other than Figs. 6^a, 6^b, and 6^c,) which engages with a threaded opening in the clamp and carries at its lower end means in the nature of a retaining-head for engaging with the overhanging walls or edges of the receiving-slot. Such retaining-head may be of various forms and constructions. Thus, for instance, the head may be permanently connected to the screw or integral therewith, as in Figs. 1 to 6, inclusive, in which the head is designated by 9, or the head may be in the nature of an elongated washer, such as 10, (see Figs. 7 to 9, inclusive,) separate from the screw and held in place on the shank thereof by a collar 11 on the screw, and, again, as an alternative construction to that described as embodying a washer that set forth in Figs. 10 to 17, inclusive, may be adopted, in which an elongated washer 12 (providing, as in the former case, a longer bearing lengthwise of the slot than the circular head of Figs. 1 to 6) is slotted for some distance from one end (see the slot 13) to slip over the shank of the screw 14. A collar 15 on the screw prevents the washer from disengagement therefrom when in use, while the under face of the washer may be channeled, as indicated, to receive such collar.

Instead of a construction embodying a threaded engagement of the screw with the contact and guide portions one in which such engagement is had with the head may be adopted. This is illustrated in Figs. 6^a, 6^b, and 6^c, in which the screw is designated by 8′. The shank of this screw passes through the unthreaded bore of the opening in the guide and contact portions. Its upper end 16^a is seated in a countersunk recess in the upper face of the contact portion, while its threaded lower end engages with a threaded opening in a loose retaining-head 10′. The enlargement at the upper end of the screw and which enters the countersink permits ample surfaces to be provided for engagement with a wrench. The threaded shank of the screw is made sufficiently long to permit the head to be run down far enough so that by tipping the screw over the head may enter and be engaged with the walls of the slot or be by a similar tipping movement removed therefrom. If desired, the lower end of the screw may be headed or swaged over, as at 16^b, to preclude the accidental disengagement of the parts.

Whatever be the form and construction of the retaining-head its width is somewhat greater than the width of the receiving-slot in the base plate or block, although its width is not so great as to prevent the head and the screw which carries it from entering the receiving-slot when tilted or canted over in the manner indicated in Figs. 3 and 8. With the proportion and relation of parts as aforesaid the head after the screw has been run down for a way in the threaded opening in the clamp may be caught in the slot and then brought upright and the guide portion of the clamp fitted to the slot, whereupon by tightening up the screw the head may be firmly clamped against the overhanging walls of the slot, with the edge of the contact portion firmly clamped against the edge of the printing-plate.

The width of the retaining-head may be made somewhat greater without thereby precluding its engagement with the receiving-slot in the manner aforesaid if the shank of the screw is cut away or reduced. (See, for instance, the notch 16, into which recess one edge of the receiving-slot enters during the act of inserting the clamp in place.) Of course the screw will be so formed at its end to permit a wrench to be engaged with it, and if the screw is notched as described it may be marked on its upper end to indicate the position of such notch in order to facilitate the manipulation of the clamp.

Figs. 5, 6, and 6^a show a form of double clamp in which for increasing its holding power a plurality of screws, each carrying a head, is employed.

In the modified construction disclosed in Fig. 18 the annular reaction-surface of the head is more nearly perpendicular to the axis of the screw, and somewhat less movement of the screw therefore suffices to secure the clamp in place as compared with the constructions embodying inclined walls. In this instance also the reduced portion is in the nature of an annular groove 16′ around the screw, the reduced portion being at all times in position to permit the screw to be readily inserted, as aforesaid.

Having described our invention, we claim—

1. A clamp for attachment to a slotted base-plate, the same comprising in combination a retaining-head and means for clamping the head against the walls of the slot, the head

having a width somewhat greater than the width of the mouth portion of the slot in the base-plate and no greater width than will enable it when connected to said clamping means, by tipping over to enter and be engaged with the walls of the slot.

2. A clamp for attachment to a slotted base-plate, the same comprising in combination a retaining-head and a screw for clamping the head against the walls of the slot, the head having a width somewhat greater than the width of the mouth portion of the slot in the base-plate and no greater width than will enable it when united with said screw, by tipping over to enter and be engaged with the walls of the slot.

3. A clamp for attachment to a slotted base-plate, the same comprising in combination a retaining-head and a screw for clamping the head against the walls of the slot, the head having a width somewhat greater than the width of the mouth portion of the slot in the base-plate and no greater width than will enable it when connected to said screw, by tipping over to enter and be engaged with the walls of the slot.

4. A clamp for attachment to a slotted base-plate, the same comprising a retaining-head having a width somewhat greater than the width of the mouth portion of the slot in the base-plate and no greater width than will enable it by tipping over to enter the slot, in combination with a screw for clamping the head against the walls of the slot, said screw being reduced to enable it to be tipped over.

5. A clamp for attachment to a slotted base-plate, the same comprising a retaining-head and a screw for clamping the head against the walls of the slot, the head having a width somewhat greater than the width of the mouth portion of the slot in the base-plate and no greater width than will enable it when connected to said screw, by tipping over to enter and be engaged with the walls of the slot, in combination with a contact portion, and a guide portion.

6. A clamp for attachment to a slotted base-plate, the same comprising in combination an elongated washer-like retaining-head and a screw for clamping the head against the walls of the slot, the head having a width somewhat greater than the width of the mouth portion of the slot in the base-plate and no greater width than will enable it when connected to the screw, by tipping over to enter and be engaged with the walls of the slot.

7. A clamp for attachment to a slotted base-plate, the same comprising an elongated washer-like retaining-head and a screw for clamping the head against the walls of the slot, the head having a width somewhat greater than the width of the mouth portion of the slot in the base-plate and no greater width than will enable it when engaged with the screw, by tipping over to enter and be engaged with the walls of the slot, in combination with a contact portion and a guide portion.

In testimony whereof we have hereunto signed our names in the presence of the subscribing witnesses.

REINHART W. PITTMAN.
GEORGE C. ANDREWS.

Witnesses as to Reinhart W. Pittman:
LINCOLN A. STUART,
A. T. KETCHAN.
Witnesses as to George C. Andrews:
FRANK BONNER,
A. T. KETCHAN.