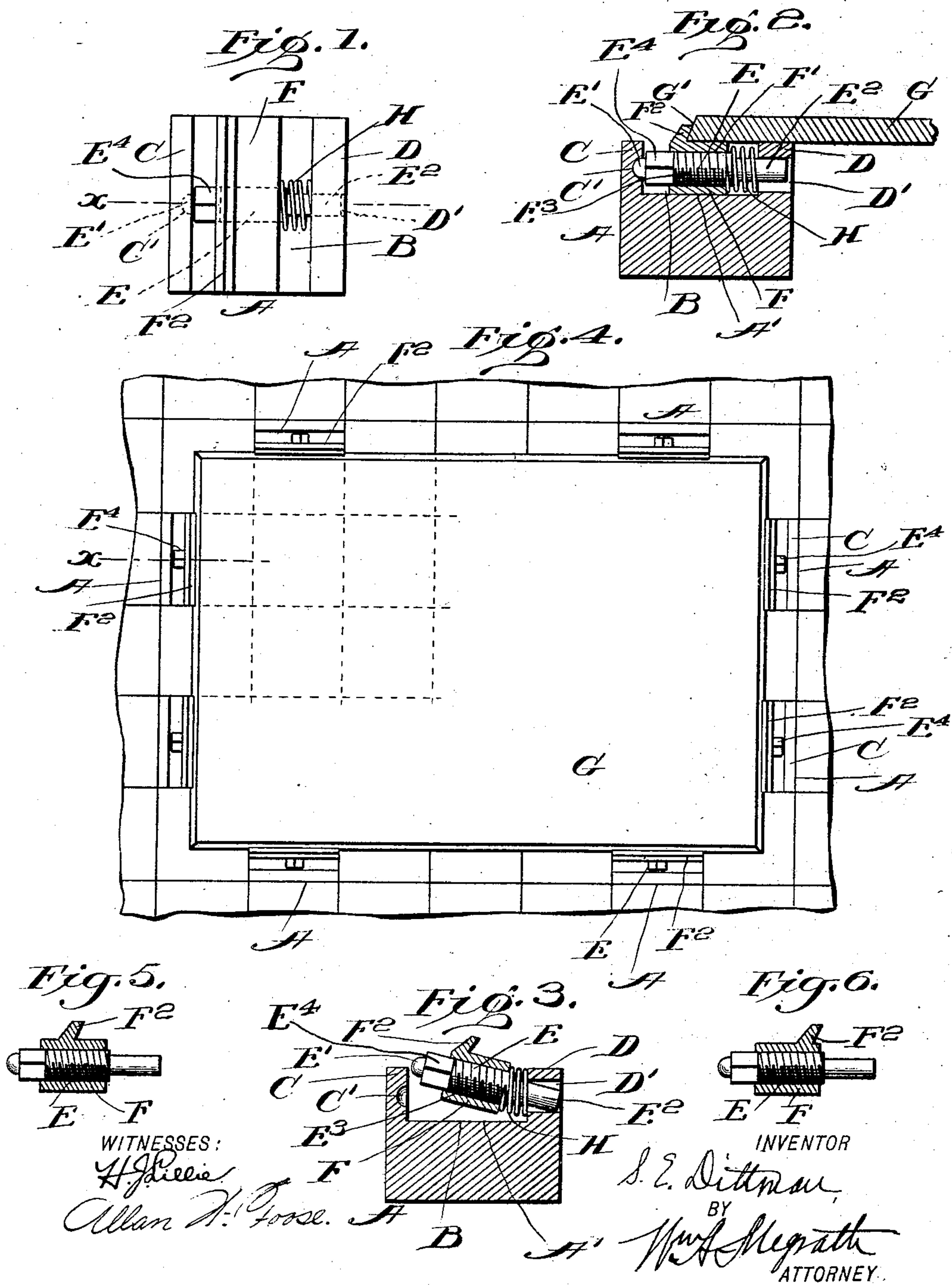


No. 873,736.

PATENTED DEC. 17, 1907.

S. E. DITTMAN.  
CLAMP FOR PRINTING PLATES.  
APPLICATION FILED MAR. 8, 1906.





# UNITED STATES PATENT OFFICE.

SAMUEL E. DITTMAN, OF NEW YORK, N. Y.

## CLAMP FOR PRINTING-PLATES.

No. 873,736.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed March 8, 1906. Serial No. 304,871.

*To all whom it may concern:*

Be it known that I, SAMUEL E. DITTMAN, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Clamps for Printing-Plates, of which the following is a description.

My invention relates to adjustable clamps for holding printing plates.

One of the objects of my invention is to produce a clamp which shall be simple and inexpensive in construction, effective in operation, and permit of great pressure being applied without liability of any of the parts becoming injured or broken.

Another object is to provide a clamp whereby the printing plate may be quickly adjusted with the greatest degree of accuracy, and another very important object is to provide a clamp which may be easily taken apart for cleaning when the working parts become clogged with ink or other material, which frequently occurs during the use of the clamp, and also to provide a clamp which can be readily interchanged for another with a clamping jaw nearer to or further away from the plate while the printing plate is on the press and without inlocking.

Another object is to provide a clamp with the jaw extending clear across the block so as to make a stronger jaw and one which will more securely hold the printing plate without liability of the jaw being broken from the block.

Other objects will appear from the hereinafter description.

My invention is fully set forth in the following description, taken in connection with the accompanying drawing, which forms a part of the same.

Referring now to the drawing, in which the same reference character indicates the same parts in the different views: Figure 1 is a top plan view of my improved clamp. Fig. 2 is a section of the same on the line X of Figs. 1 and 4, showing an edge of a printing plate engaged by the clamp. Fig. 3 is a section on the same line showing the position of the parts as the adjustable block is being removed from or inserted in the main block of the clamp. Fig. 4 is a top plan view showing a printing plate secured to the printing bed by a number of my improved clamps. Fig. 5 is a longitudinal section of an adjustable block with the clamping jaw about the middle of the same. Fig. 6 is another modi-

fication showing the jaw on the block near the inner end thereof.

The part marked A on the drawing represents the main block of the clamp which may be of steel or any other suitable material. The top of this block is recessed at B transversely across the same, leaving the two upwardly projecting side walls C D. The inner face of the wall C is provided with a recess C' into which fits one end E' of a shaft or rod E. This end of the shaft may be rounded and the recess C' may be correspondingly shaped, as shown in the drawing. The wall D has an opening D' therein into which fits the other end E<sup>2</sup> of the shaft E. This opening D' is preferably elliptical in shape with the longest axes thereof vertically of the block. The middle portion of the shaft E is provided with screw thread E<sup>3</sup> which engages the screw thread provided in the hole F' of the adjustable block F. The shaft near the end E may be formed with polygonal sides E<sup>4</sup> to receive a wrench by which the shaft may be turned to adjust the block F longitudinally thereof. It is clear that the shaft at this point may also be provided with openings, instead of polygonal faces into which a rod may be inserted to turn the shaft. The block F is provided on its upper face and at its outer end with a jaw or hook F<sup>2</sup> which is under cut or beveled to fit against the beveled edge G' of the printing plate G. The upper face of the block F is on the same plane with the upper face of the side wall D so that the printing plate may rest evenly thereon. The lower face of this block rests against the upper face A' of the recessed part of the block A, as shown in Fig. 2 of the drawing, and it extends transversely of the block as shown in Figs. 1 and 2.

H is a spiral spring surrounding the shaft E with one end bearing against the inner face of the side wall D, and the other end against the inner face of the traveling block F. This spring exerts a pressure lengthwise of the shaft E and keeps the head E' thereof seated in the recess C' of the wall C. Another type of spring than spiral may be used if desired, and the spring may be differently placed from that shown in the drawing. The spring may also be dispensed with, if desired, but it is useful, as before stated, to keep the end E' of the shaft seated and the shaft and jaw in proper position when the jaw F<sup>2</sup> is not in engagement with the printing plate G.

In Fig. 2 I have shown the position of the



parts assembled, with the jaw  $F^2$  in engagement with the edge of the printing plate. If it is desired to adjust the block and jaw, it is only necessary to turn the shaft E by the use of a wrench or rod, whereupon the block F will be moved transversely of the shaft in one direction or the other and the proper adjustment made. This adjustment may be as minute or fine as desired, depending on the pitch of the threads  $E^3$  on the shaft.

In Figs. 5 and 6 I have shown the jaws  $F^2$  placed at different positions along the top surface of the traveling block F so as to permit the said jaws to come into engagement with the ends of the printing plate without very much adjustment of the screw, it being only necessary to substitute one of the shafts or rods E carrying the traveling block J for other screws and blocks.

To remove the rod and traveling block for the purpose of replacement by one carrying a jaw in a different location or to separate the parts for cleaning or for the purpose of replacing broken parts or for any other purpose, it is only necessary to move the shaft E longitudinally of the block A, against the tension of the spring H, if the spring is used, until the end  $E'$  is unseated from the recess  $C'$ , when this end of the rod may be raised, as shown in Fig. 3 of the drawing, and the rod carrying the traveling block and the spring may be separated from the main block A, the hole  $D'$  into which fits the end  $E^2$  of the shaft E being enlarged vertically as above described, so that the shaft E may be tilted in a vertical direction without causing this end of the shaft to bind and prevent its easy removal from the block.

The shaft and movable block are assembled or connected to the main block by first inserting the end  $E^2$  of the shaft in the opening  $D'$  when the shaft will drop into position, the end  $E'$  thereof being forced into the recess  $C'$  by the pressure of the spring H, and the block F will rest on the upper surface  $A'$  of the recessed portion of the block A, as shown in Fig. 2 of the drawing.

From the above description it will be seen that my clamp is simple in construction, is made of few parts, is easily and quickly operated; the traveling block with the jaw secured in one place thereof may be quickly removed from the main block so as to permit another traveling block with its jaws closer to or farther from the edge of the printing plate to be inserted. The parts can be quickly separated from each other for cleaning and other purposes, without the necessity of using screw drivers, wrenches or other tools other than the hand, and by extending the jaw which engages the edge of the printing plate clear across the face of the traveling block, there is not as much liability of the jaw being broken off and the plate is more securely clamped by the jaws.

I do not wish to confine myself to the exact construction herein shown and described, as many modifications and variations may be made without departing from the spirit of my invention.

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

1. In a clamp for a printing plate, a main block, a movable block and a rod or pin to which the movable block is secured intermediate of the ends of the rod or pin, the main block having a recess or opening to receive said movable block, said movable block being so connected to the main block by the rod or pin as to permit it and the rod or pin to be removed from the main block and connected thereto upon a longitudinal movement of the rod.

2. In a clamp for a printing plate, a main block having a recess therein, a shaft, an adjustable block carried by the shaft, the shaft and the block carried thereby being fitted in the recess in the main block, and the shaft so connected to the main block that it may be removed therefrom by moving the shaft longitudinally and lifting it out of the main block.

3. In a clamp for a printing plate, a main block having a recess therein which forms two side walls, an opening in one of the walls, a shaft having one end thereof fitted in said opening, and the other end bearing against the other wall, a block carried by the shaft, the shaft and block being removable from the recess by moving the shaft longitudinally of its length and lifting it from the said recess.

4. In a clamp for a printing plate, a main block having a recess therein, said recess forming two walls, an opening in one of the walls and a recess in the face of the other, a shaft having one end resting in said opening and the other end in the recess, said shaft being screw threaded on a portion thereof, and an adjustable block having a jaw secured to said recessed portion, as and for the purpose set forth.

5. In a clamp for a printing plate, a main block having a recess therein, said recess forming two walls to the block, one of the walls having an opening therein, said opening being larger vertically than transversely, the other wall having a recess on the inner face thereof, a shaft having one end fitted in said opening and the other end resting in the recess, a portion of said shaft being provided with screw threads, an adjustable block having an opening therein provided with screw threads which mesh with the screw threads of the shaft, and a spring between one of the walls of the main block and the face of the movable block.

6. In a clamp for a printing plate, a main block having a recess therein, said recess forming two walls to the block, one of the



walls having an opening therein, said opening being larger vertically than transversely, the other wall having a recess on the inner face thereof, a shaft having one end fitted in said opening and the other end resting in the recess, a portion of said shaft being provided with screw threads, an adjustable block having an opening therein provided with screw threads which mesh with the screw threads of the shaft, and a spiral spring surrounding that end of the shaft which is inserted in the opening in the wall, one end of said spring resting against the inner face of said wall and the other end resting against the movable block.

7. In a clamp for a printing plate, a main block, a screw removably secured to the main block by an endwise movement of said screw, a movable block on the screw, and a jaw adapted to engage the edge of a printing plate, said jaw extending transversely across the top surface of said movable block.

8. In a clamp for a printing plate, a main block, a shaft or rod connected to said block, an adjustable block carried by the shaft, a jaw connected to the adjustable block, the

shaft being so connected to the main block that the adjustable block and the shaft may be removed from the main block by an endwise movement of the shaft, and another shaft and adjustable block with a jaw differently located thereon may be inserted in the main block by a longitudinal movement of said shaft.

9. In a clamp for a printing plate, a block made of one piece of metal, a shaft secured in said block, an adjustable block carried by the shaft, a jaw connected to said adjustable block and extending transversely across the same, the said shaft being so connected to the main block that it may be removed therefrom without loosening any of the parts by moving the said shaft longitudinally and lifting it out from the main block.

In witness whereof I have hereunto set my hand at the city, county and State of New York, this 5th day of March, 1906.

SAMUEL E. DITTMAN..

In presence of —  
WARREN C. MESEROLE,  
NILS. G. SANDVIG.