J. R. BLAINE.

SHIFTING PLATE CLAMP.

APPLICATION FILED MAY 24, 1918.

1,350,488. **Patented Aug. 24, 1920.**

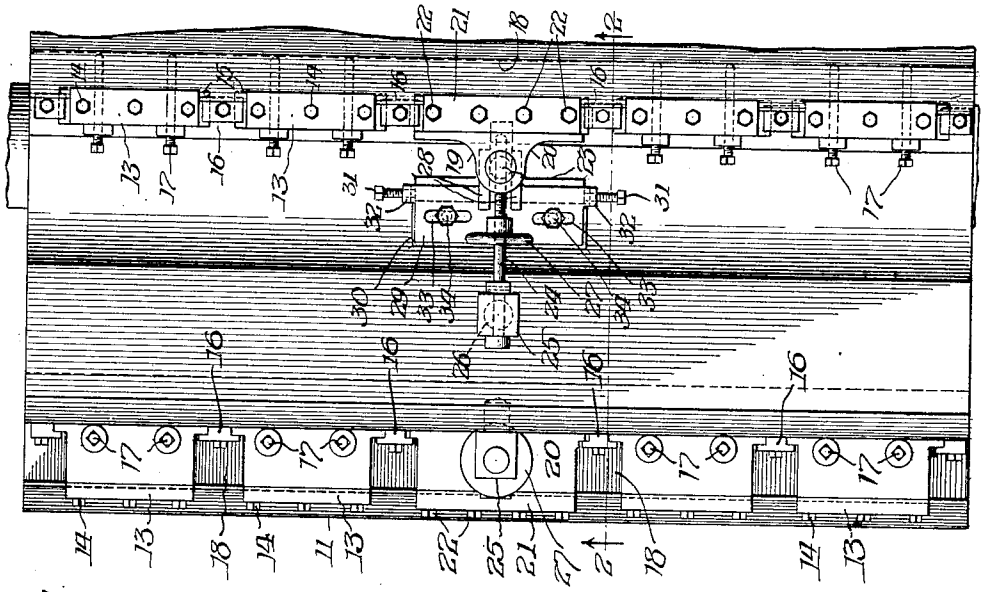

Fig. 1.

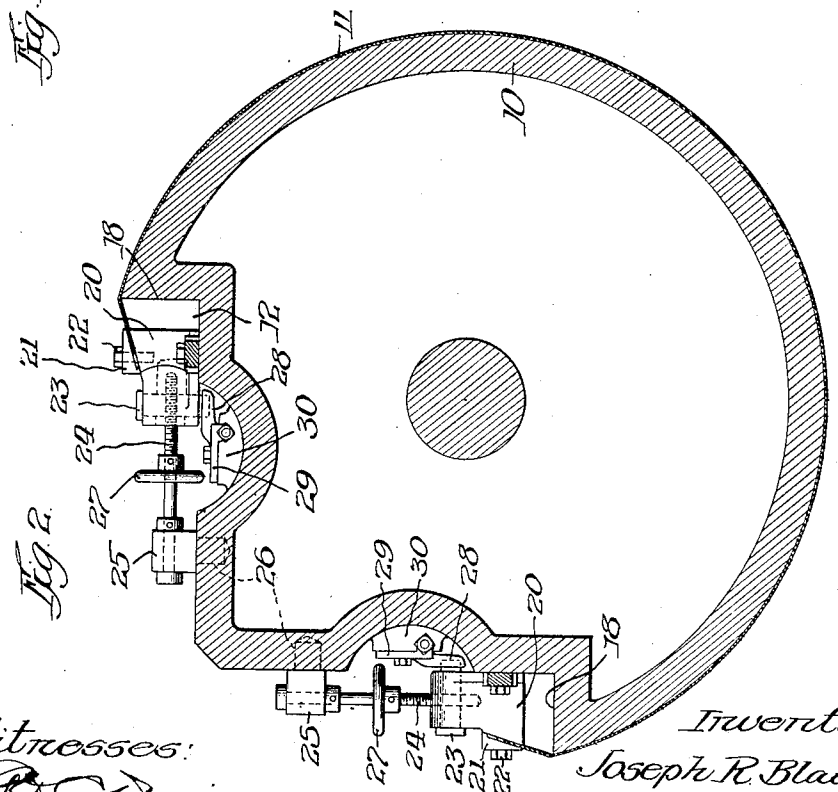

Fig. 2.

Witnesses:
Geo. C. Dorsey
Chas. L. Byron

Inventor
Joseph R. Blaine
By Wilkinson & Huxley
Attys.

UNITED STATES PATENT OFFICE.

JOSEPH R. BLAINE, OF OAK PARK, ILLINOIS, ASSIGNOR TO MIEHLE PRINTING PRESS AND MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SHIFTING PLATE-CLAMP.

1,350,488. Specification of Letters Patent. Patented Aug. 24, 1920.

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To all whom it may concern:

Be it known that I, JOSEPH R. BLAINE, a citizen of the United States, and resident of Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Shifting Plate-Clamps, of which the following is a specification.

This invention relates to the printing press art and more particularly to a shifting flexible printing plate clamp.

One of the objects of this invention is to facilitate the shifting of a flexible printing plate for properly positioning the same.

Another object is to provide a simple and novel clamp mechanism whereby the plate may be readily shifted without actually releasing same.

These and other objects are accomplished by means of the arrangement disclosed on the accompanying sheet of drawings, in which—

Figure 1 is a fragmentary plan view of a printing cylinder, equipped with my plate clamping means; and,

Fig. 2 is a tranverse sectional view taken in the plane of line 2—2 of Fig. 1.

The various novel features of my invention will be apparent from the following description and drawings and will be particularly pointed out in the appended claims.

Referring to the figures of the drawings, it will be noted that I have shown my invention as applied to a printing member 10, in this particular instance being a cylinder printing member, on which is mounted a flexible printing plate 11. This invention has to do primarily with means for clamping the plate to the coöperating printing member.

Arranged longitudinally of the printing cylinder 10 and in a recessed portion 12 thereof, are a plurality of clamps 13, having upper and lower clamping members, between which the ends of the plate 11 are held, when the clamping screws 14 are tightened. The lower member of each of these clamps 13 has on its ends guide portions 15, which lie under suitable longitudinally spaced guide members 16, whereby the clamps 13 may be guided in a transverse movement. The clamps 13 may be shifted transversely with respect to the cylinder for tightening or loosening the plate with respect to the cylinder 10, by set screws 17 which pass through the lower members of the clamps 13 and the ends of which engage a wall 18 of the recess 12.

When it is desired to angle or otherwise shift the plate 11, as a whole, the same is done by means of a central or main clamp 19, one at each end of the plate and each including a lower clamping member 20 and an upper clamp member 21 between which the ends of the plate are secured when the clamping screws 22 are drawn tight.

The lower member 20 of this clamp 19 has guide portions at its outer extremities, which coöperate with the guide members 16, permitting a predetermined amount of movement transversely and longitudinally with respect to the cylinder 10.

The rear portion of the lower clamp member 20 is bifurcated and is provided with a radially extending pin 23. This pin 23 is provided with a transversely threaded aperture through which extends a threaded member 24, which is anchored to a pivot pin 25 rotatably mounted at 26 in a portion of the printing cylinder 10. Secured to the threaded member 24 is a control hand wheel 27 whereby the threaded member may be actuated to draw the clamp 19 toward or away from the control handwheel 27 for tightening or loosening the plate 11 upon the cylinder 10.

It will be noted that the lower end of the pin 23 extends between spaced arms 28 on a longitudinally movable bracket 29 mounted upon a table 30, formed in the cylinder recess 12. Adjusting screws 31 extend through ears 32 of said bracket 29 and engage the ends of the table 30. If it is desired to shift the bracket 29 longitudinally with respect to the cylinder 10 the same may be accomplished by loosening one of the adjusting screws 31 and tightening the other. The bracket 29 is slotted at 33 and is held in place by shoulder bolts 34, the set screws 31 clamping the bracket 29 in adjusted position. In view of the fact that the pins 23 and 25 are free to rotate, the plate 11 may be shifted to the desired position, either to be parallel or at an angle with respect to the edges of the cylinder 10 without cramping the adjusting screw 24, by means of which the plate 11 is stretched over the cylinder 10.

It will be understood that when the plate

11 is to be shifted, all devices for holding the plate other than the clamps 19 herein described, are loosened and when the plate has been shifted to its proper position by means of the clamps 19, the auxiliary devices may be tightened in accordance with requirements.

By means of this arrangement the plate may be readily shifted or positioned transversely, longitudinally and angularly on its coöperating printing member.

There may be various modifications of the invention and it is my intention to cover all such modifications which do not involve a departure from the spirit and scope of the following claims.

I claim:

1. A clamp for positioning a flexible printing plate upon its supporting member, including a clamping member, a pin pivotally mounted therein, a pivotally mounted anchor pin, and a threaded member associated with said pins for adjusting the position of the plate.

2. A clamp for positioning a flexible printing plate upon its supporting member, including a clamp member, a pin pivotally mounted therein, a pivotally anchored pin, a threaded member associated with said pins whereby the plate may be adjusted in one direction, and means for adjusting the clamp member in another direction for shifting the position of said plate.

3. A clamp for positioning a flexible printing plate upon its supporting member, including a clamp member, a pin pivotally mounted therein, a pivotally anchored pin, a threaded member associated with said pins whereby the plate may be adjusted in one direction, and means associated with one of said pins for shifting the clamp member in another direction for shifting the plate.

4. A clamp for positioning a flexible printing plate upon its supporting member, including a clamp member, a pin pivotally connected thereto, an anchored threaded member extending through said pin whereby the plate may be adjusted in one direction, means operatively engaging said pin for shifting the clamp member in another direction for further shifting the position of the plate.

5. A clamp for positioning a flexible printing plate upon its supporting member, including a clamp member, a pin pivotally connected thereto, a threaded member associated with said pin for shifting the position of the plate in a given direction, a shiftable bracket having arms on opposite sides of said pin, and means for shifting said arms for transmitting a further shifting movement to the plate.

6. In combination, a printing member, a flexible printing plate mounted thereon, a plurality of auxiliary plate clamps carried by said member, and a main clamp for said plate whereby the latter may be shifted with respect to the cylinder, the auxiliary plate clamps being ineffective when the main clamp is being adjusted for shifting the plate.

7. In combination, a printing member, guide members secured thereto, auxiliary plate clamps mounted on said member and having portions coöperating with said guide members whereby the clamps may be moved a predetermined amount in a given direction, and a main clamp also having portions in coöperative association with said guide members.

8. In combination, a printing member, guide members secured thereto, auxiliary plate clamps mounted on said printing member and having portions coöperating with said guide members whereby the clamps may be moved a predetermined amount in a given direction, an associated main clamp also having portions in cooperative association with said guide members, and means for shifting the main clamp in a plurality of different directions for positioning the plate on the printing member.

9. In combination, a printing member, guide members secured thereto, auxiliary plate clamps mounted on said printing member and having portions coöperating with said guide members whereby the clamps may be moved a predetermined amount in a given direction, an associated main clamp also having portions coöperating with said guide members, means for shifting the main clamp in a plurality of different directions for positioning the plate on the printing member, and means associated with the auxiliary clamps for acting upon the plate.

Signed at Chicago, Illinois, this 16th day of May, 1918.

JOSEPH R. BLAINE.

Witnesses:
A. G. FISCHER,
A. G. JACOBSON.