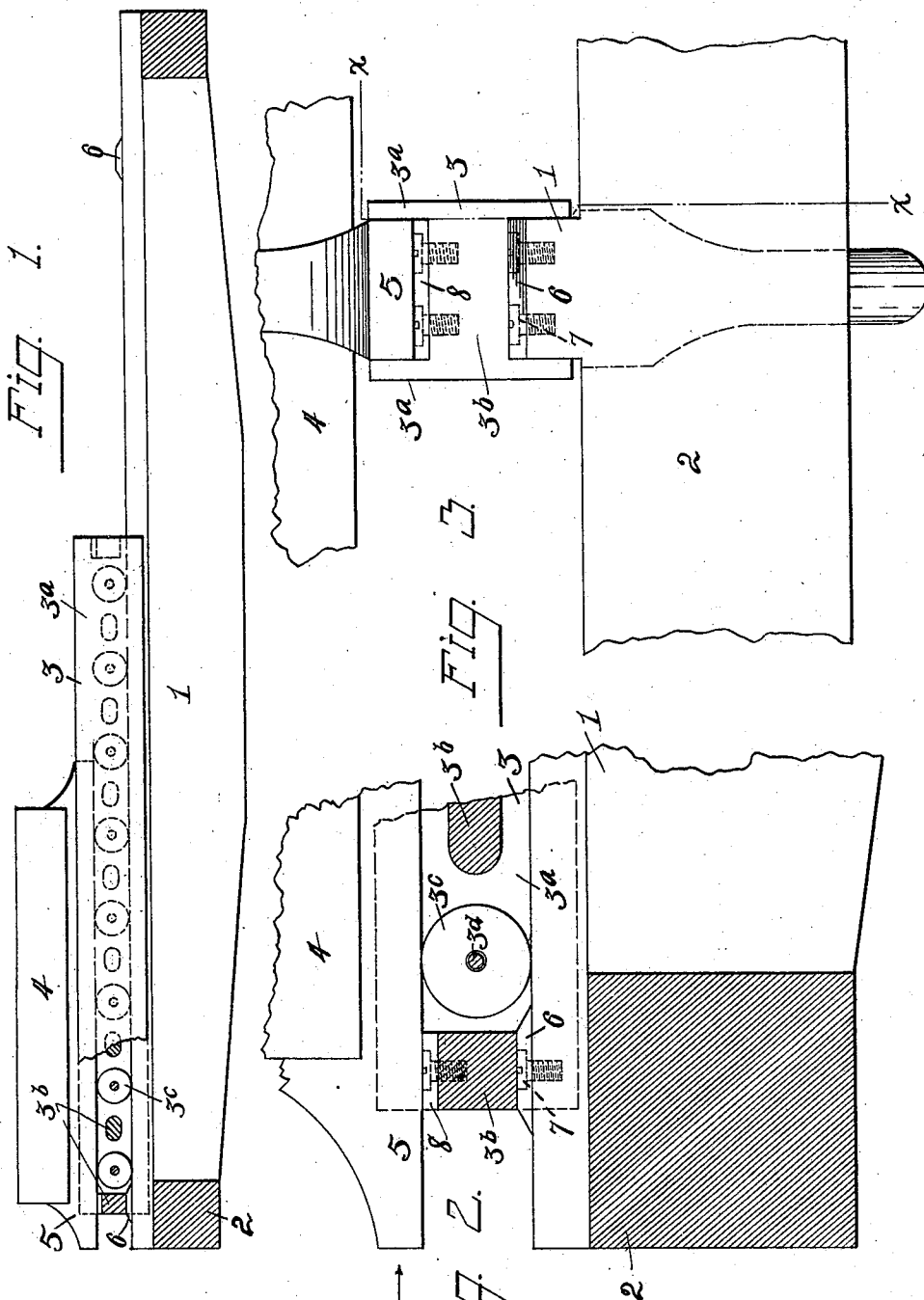


980,850.

C. B. SWINK.  
PRINTING PRESS.  
APPLICATION FILED MAY 13, 1910.

Patented Jan. 3, 1911.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

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Fig. 6.

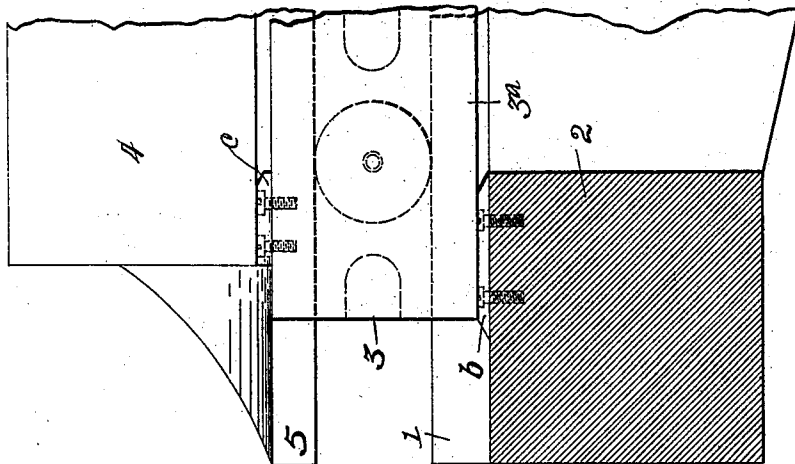


Fig. 5.

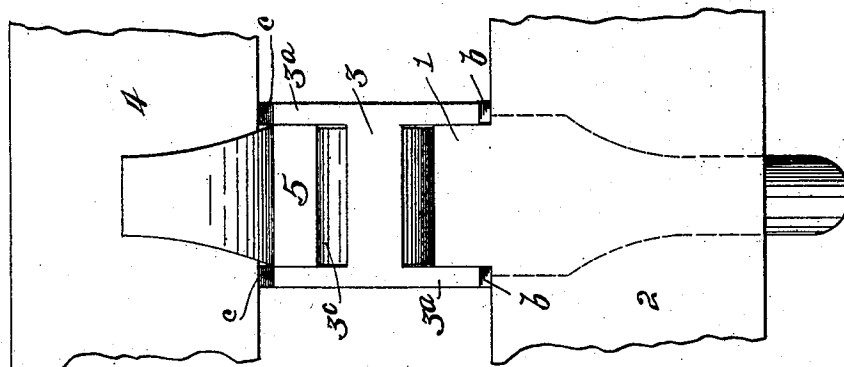
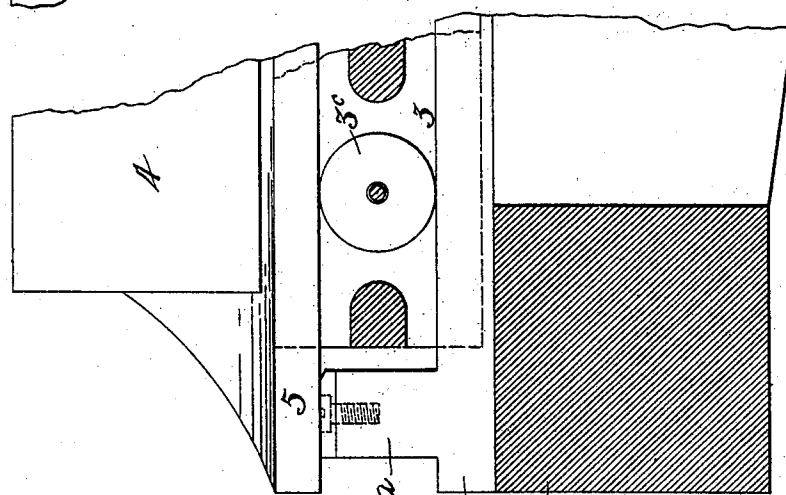


Fig. 4.



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# UNITED STATES PATENT OFFICE.

CHARLES B. SWINK, OF DELPHOS, OHIO.

PRINTING-PRESS.

980,850.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed May 13, 1910. Serial No. 561,164.

*To all whom it may concern:*

Be it known that I, CHARLES B. SWINK, a citizen of the United States, and a resident of Delphos, in the county of Allen and State of Ohio, have invented a certain new and useful Printing-Press; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to printing presses of the class employing a reciprocatory bed-plate and has for its object the provision of simple and efficient means for preventing the guttering of the bed-rail and under bed surface at points of reversal of the movements of the bed-plate, as will be hereinafter more fully explained.

The invention is fully described in the following specification, and a few of the preferred forms of the same illustrated in the accompanying drawings, in which,—

Figure 1 is a side elevation of the bed-plate and associated supporting parts of a printing press with portions of such parts in section and with the preferred form of my invention associated therewith. Fig. 2 is an enlarged view of a portion of the same in section on the line *x x* in Fig. 3. Fig. 3 is an enlarged end view of a portion of the bed-plate and supporting parts. Fig. 4 is a side elevation of a modified form of the invention and associated parts, and Figs. 5 and 6 are end and side views, respectively, of still another form of the invention and associated parts.

Referring to the drawings, 1 designates one of the longitudinally extending bed-plate supporting rails of a printing press, the ends of which are attached to the end or cross-beams 2, 2 of the press frame. A slider-bar 3 is mounted for longitudinal reciprocatory movements on each rail, and in turn supports the bed-plate 4 for longitudinal reciprocatory movements thereover.

The slider-bar 3, which is of customary form and construction, except as hereinafter described, is shown as comprising the opposed sides 3<sup>a</sup> which are connected at intervals longitudinally thereof by cross or tie-bars 3<sup>b</sup> and have their lower edges projecting down on opposite sides of the rail and

their upper edges projecting up on opposite sides of a runner 5 on the under surface of the bed-plate 4 to guide the movements of the slider-bar relative to the rail and runner. The slider-bar 3 is also provided with rolls 3<sup>c</sup> intermediate the tie-bars 3<sup>b</sup> and coact with the rail 1 and bed-plate runner 5 to rollingly support the latter upon the former, as indicated. The rolls 3<sup>c</sup> are held within the bar 3 for limited lateral movements relative thereto by pins 3<sup>d</sup>.

It is found in the use of a slider-bar of this type that the last, and usually the two last rolls, at each end of the bar will gradually wear the portions of the associated rail 1 and bed-plate runner 5 with which such rolls coact at the points of reversal of their movements, thus effecting a guttering of the bearing surfaces at such points. Such guttering, however, only occurs at the outer ends of movements of the bar, or, in other words, the two last rolls at one end of the bar act to gutter the track when at the limit of their outward movements and the two last rolls at the other end of the bar to gutter the track when at the limit of their outward movements. The reason for this is that the weight of the bed-plate is at the outer ends of the slider-bar when at its respective points of reversal, thus causing such ends to have a hammering action on the bearing surfaces. To obviate this guttering action each rail 1 is provided on its top adjacent the limit of outward movement of each end of the slide-bar with a raised portion 6, which preferably constitutes a block secured to the rail by screws 7 to adapt it to be shimmed up to compensate for wear, but may be in any other suitable form, as desired. The cross or tie-bars 3<sup>b</sup> at the ends of the slider-bar 3 are preferably formed with flat under surfaces which move over and contact with the raised portions 6 at the limits of outward movements of the respective ends of the slider-bar and cooperate with such raised portions to assist the adjacent rolls 3<sup>c</sup> in supporting the load. The slider-bar ends move into engagement with the bearing parts 6 without jar due to the bearing surfaces of such parts being in the plane of entire reciprocatory movements of the coacting surfaces of the slider-bar. The top surfaces of the end tie-bars are also adapted to have sliding contact with the associated bed-plate runner 5 to assist in supporting the same at the points of reversal

of the movements and for such purpose each is shown in the present instance as having its top surface faced with a removable block 8 to adapt a shimming up of the same to compensate for wear. It is thus apparent that the end bars 3<sup>b</sup> and raised portions 6 provide solid supports at the ends of movement of the slider-bar, which supports take the hammer thrusts between the runner of the bed-plate and the rail at the points of reversal of the movements of the bed-plate, thereby relieving the roller 3<sup>c</sup> of such hammering action and preventing the objectionable guttering of the runners and rails which would otherwise occur. The coaction of the bearing parts 3<sup>b</sup> and 6 does not, however, release the bearing contact of the rollers with the supporting rails, but merely serves to take up the hammer thrusts of the bed-plate at the reversal points thereof, the rollers remaining in constant contact with the rails to insure a smooth running of the bed-plate.

Another simple manner of taking the hammer thrusts of the bed-plate from the rolls 3<sup>c</sup> is to provide the rail or rails 1 at each end thereof with a boss or raised portion *a*, which is located beyond the limits of movements of the slider-bars 3 and is of sufficient height for the ends of the bed-plate runners 5 to ride over and coact with when at or adjacent the points of reversal of their movements. It is thus apparent with this construction that the hammer thrusts of the bed-plate upon the reversal of its movements are directly upon the bosses *a* and entirely removed from the rollers 3<sup>c</sup>. With this form, however, the bars 3 have a slight hammer thrust upon the rails 1 due to their weight, which thrusts may in time gutter the rail surface at the points of reversal of the last roll or two of the bar.

In the modification shown in Figs. 5 and 6 the action is the same as the construction shown in Figs. 1 to 3, except that the bearing or thrust surfaces are differently located. In Figs. 5 and 6 *b*, *b* designate the raised bearing surfaces over which the adjacent end of the slider-bar works when at the limit of its outward movement. These surfaces, however, instead of being located on the face of the rail 1 are located on the frame-work or cross-beam 2 at the sides of the rail in position for the lower edges of the sides 3 3 of the slider-bar to work and engage as shown whereby the hammer thrusts of the bar ends are borne by the surfaces *b* and not communicated to the rail 1 from the rolls 3<sup>c</sup>. The hammer thrusts of the bed-plate are on the sides of the slider-bar 3 instead of on the end portion 3<sup>b</sup> of a bar, as in Figs. 1 to 3, due to the provision of blocks or bearing surfaces *c*

on the upper edges of the slider-bar sides, whereby such blocks coact with the under surface of the bed-plate at the sides of the runners 5 at the limits of movements of the respective ends of the bed-plate, as indicated.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

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

1. The combination with a reciprocatory bed-plate, a subjacent frame, and interposed rolls, of means for cooperating with the rolls to support the bed-plate ends at the points of reversal only of the movements thereof and for taking the hammer thrusts of the bed-plate ends at such points.

2. The combination with a reciprocatory bed-plate, a subjacent frame, and an interposed roller-bearing slider-bar, of means for coacting with such bar only at the points of reversal of the movement of the bed-plate for relieving the roller-bearings of such bar of the hammer thrust of the bed-plate at such reversal points, said means and bar engaging in the plane of entire reciprocatory movement of the means coacting surface of the slider-bar.

3. The combination with a rail, and a roller-bearing slider-bar reciprocally movable thereon, of bearing parts provided at the ends of the slider-bar and on the rail adjacent the ends of the reciprocatory movements of such bar to take the hammer thrusts between the ends of the bar and rail at the reversal points and to cooperate with the roller bearings of the slider bar to support such bar at the reversal points.

4. The combination with a reciprocatory bed-plate, a supporting rail therefor and an interposed roller-bearing slider-bar, of raised portions provided on the rail adjacent the limit of the movements of the slider-bar, parts fixed to the ends of the slider-bar and adapted to have bearing contact with the respective raised portions and with the bed-plate at the points of reversal of the movements of the bed-plate and slider-bar to provide bearings at the ends of the movements of such parts to take the hammer thrusts between the bed-plate and rail at such points.

In testimony whereof I have hereunto signed my name to this specification in the presence of two subscribing witnesses.

CHARLES B. SWINK.

Witnesses:

GEO. S. MEYER,

A. H. LINDEMANN.