T. L. EGNOR.

SOLE PLATE FOR CYLINDERS.

APPLICATION FILED APR. 17, 1912.

1,047,771.

Patented Dec. 17, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

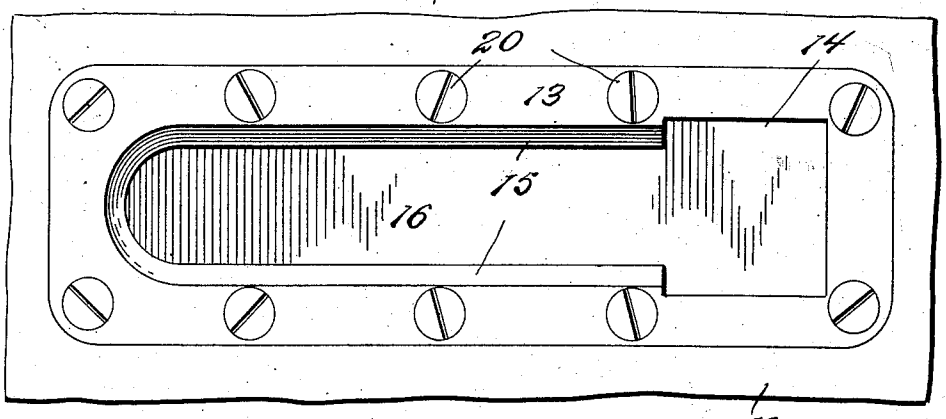
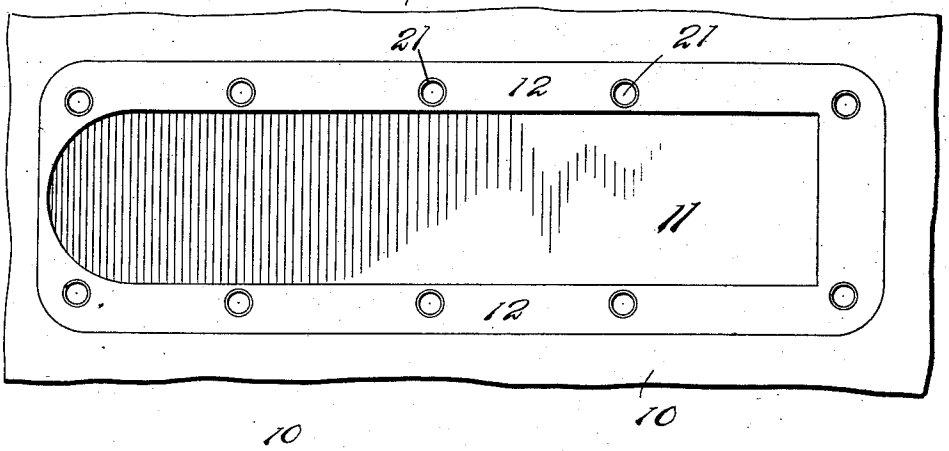


Fig. 2.



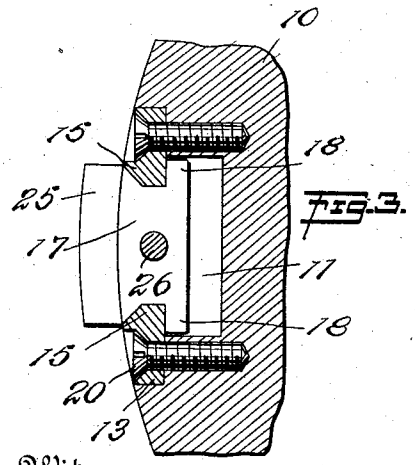


Fig. 3.

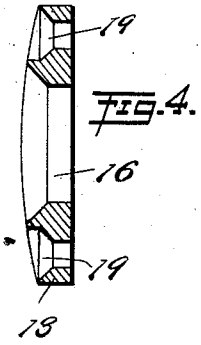


Fig. 4.

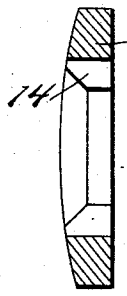


Fig. 5.

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2 SHEETS—SHEET 2.

FIG. 6.

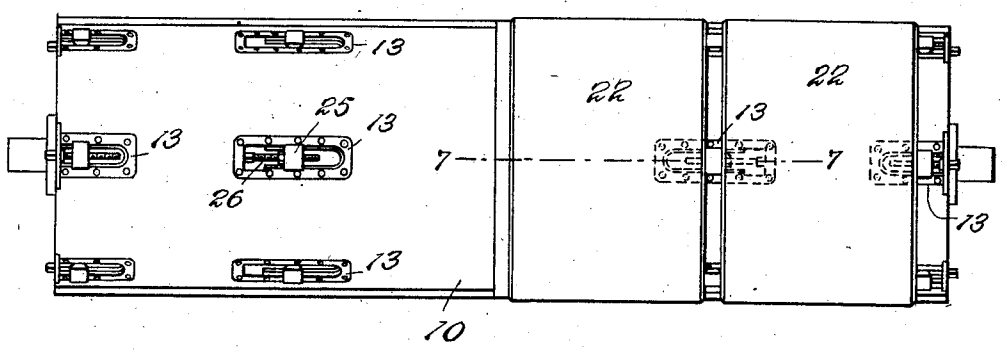


FIG. 7.

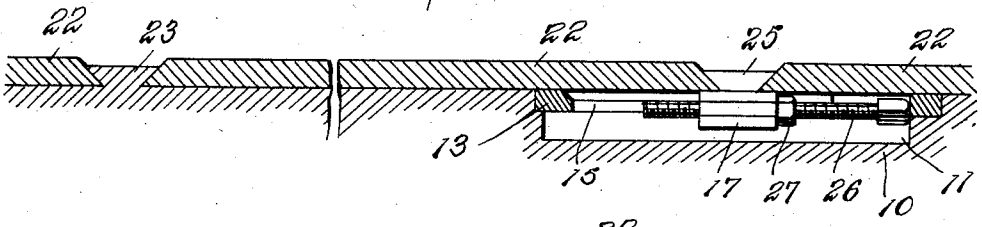
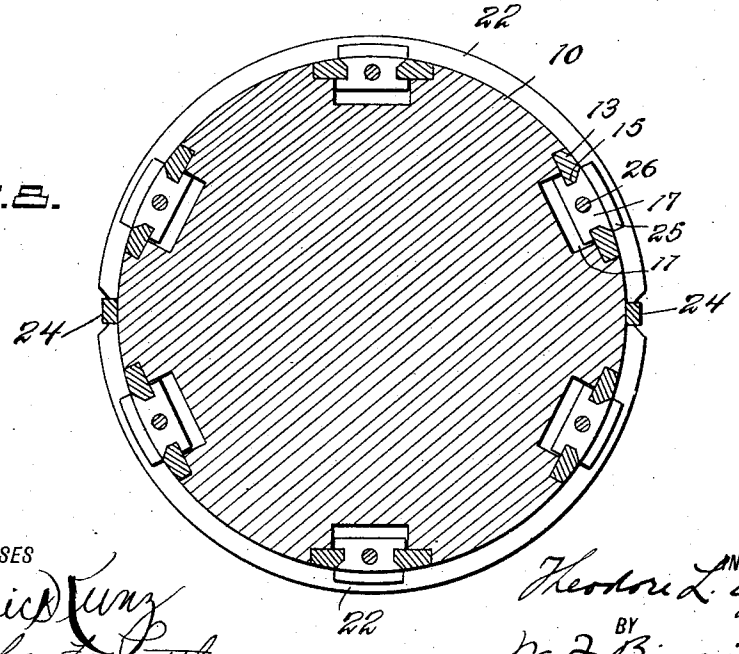


FIG. 8.



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SOLE-PLATE FOR CYLINDERS.

1,047,771. Specification of Letters Patent. Patented Dec. 17, 1912.

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To all whom it may concern:

Be it known that I, THEODORE L. EGNOR, a citizen of the United States, residing in Jersey City, county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Sole-Plates for Cylinders, of which the following is a specification.

This invention relates to means for carrying and guiding the sliding clips or screw-operated blocks which clamp the stereotype plates on the form cylinders of rotary printing-presses.

The object is to reduce the labor and expense of repairing the form cylinders, to eliminate a large amount of time loss from stoppages and breakdowns of the press, to make it possible to correct wear in the guides on which the clips slide by the simple interchange of removable and replaceable parts without removing the cylinder from the press or requiring the substitution of a different clip, and to prolong very materially the life of the form cylinders.

Heretofore the clips have been mounted directly on the cylinders, which are of cast iron. The portions of the cylinders slidably receiving the clips are susceptible to wear, so that the clips become loose in a comparatively short time. This looseness of the clips in their guides frequently permits the stereotype plates to work loose during the running of the press, necessitating loss of time in stopping the press to tighten the clips or resulting in damage or a breakdown, as when a plate becomes disengaged and gets between the cylinders. When the wear proceeds to a certain extent it is necessary to remove the cylinder and re-mill its guide portions, and then a larger size of clip must be used to correspond to the greater distance between the guides. In time, of course, it is necessary to discard the cylinder because there is a limit to the extent to which its guide portions can be cut back; and naturally any material breaking of any one of the integral guides on a cylinder hastens the date at which the whole cylinder must be discarded, or may at once put it permanently out of commission.

In accordance with the present invention removable and replaceable sole plates are mounted in seats in the form cylinder over recesses therein, and these sole plates are provided each with a slot which is enlarged at one end for the entrance of a clip and with internal guides forming the sides of the narrower portion of the slot, these guides slidably receiving the clip which is afforded clearance in the recess in the cylinder. The two guides for each clip are thus removable and replaceable by merely removing the sole plate and substituting another, and are maintained in permanently fixed relation. The life of the cylinder is unaffected by the wear of the guides, and the replacement of one or more of its sole plates does not necessitate the removal of the cylinder from the press. The sole plates are of different material from the cast iron cylinders, namely, steel, and consequently wear proceeds more slowly than heretofore, so that there are fewer occasions for stopping the press to tighten the clips; and when wear must be corrected it is merely a matter of replacing a quickly removable and attachable sole plate, as against taking out the whole cylinder and putting in a new one and then re-milling the old cylinder, as heretofore. Furthermore, it is not necessary to change the size of the clips on changing the sole plates to secure fresh guide surfaces, because the sole plates may all be of a standard size or sizes. A suitable supply of these plates will be kept on hand in the press room.

In the accompanying drawings illustrating the invention by means of the preferred embodiment thereof: Figure 1 is a face view of a sole plate embodying the invention attached to a form cylinder, the major part of which is broken away; Fig. 2 is a side view of the portion of the cylinder shown in Fig. 1, the sole plate being removed; Fig. 3 is a cross-sectional view taken at right angles to the axis of the cylinder, showing the sole plate, a portion of the cylinder, and the screw for operating the clip in section, the clip and the screws holding the sole plate on the cylinder being in elevation; Figs. 4 and 5 are cross-sections through the sole plate taken at different points; Fig. 6 is a side view of a form cylinder provided with a set of sole plates, stereotype plates being shown mounted on one half of the cylinder; Fig. 7 is a section on the line 7—7 of Fig. 6, on an enlarged scale; and Fig. 8 is a cross-section through the form cylinder and a

circular series of the sole plates, the clips and the stereotype plates held thereby being shown in elevation.

The numeral 10 indicates a form cylinder of cast iron, which is provided peripherally at suitable points with recesses 11, which are elongated in the direction of the axis of the cylinder, and are bordered by narrow seats 12 depressed below the surface of the cylinder. The sole plates are indicated at 13. Each consists of an elongated plate, preferably of steel, occupying a seat 12, and preferably of the same outline as the bounding wall of the seat. The surface of the seat may be flat, and the bottom of the sole plate may be flat to correspond therewith. The face of the sole plate is preferably transversely curved to correspond to the curvature of the form cylinder. The sole plate has an elongated slot formed in its interior, this slot preferably occupying the major or a considerable part of the area of the plate. This slot has an enlargement or head 14 at one end, and the internal edges 15 of the plate forming the sides of the narrower portion 16 of the slot constitute guides on which the clip 17 slides. As shown in Fig. 3 these guide portions 15 overhang the recess 11.

The form of the guide edges 15 may be varied in accordance with the formation of the clip, which has notches in its opposite sides receiving and accurately fitting the guides. The laterally projecting portions 18 of the clips are disposed below the guides 15, and prevent the clips from coming out. The recess 11 in the cylinder below the guides 15 on the sole plate affords a free space for the movement of the lower part of the clip.

Suitable means are provided for securing the sole plates to the cylinder and for permitting their ready removal and replacement. This means may be varied, but preferably the sole plate is provided with countersunk screw holes 19 for the reception of screws 20, which have threaded engagement with tapped openings 21 in the seats 12. These screws 20 are covered by the stereotype plates, indicated at 22, so that dislodgment of these screws is guarded against.

The form cylinder may be provided with an annular middle stop or rib 23, undercut at both sides, and with two opposite longitudinal ribs or stops 24. The head 25 of the clip 17 is also undercut at both sides. Thus, the middle stereotype plates 22 are clamped endwise against the fixed rib 23, and the end plates 22 are clamped against the heads 25 of the intermediate clips 17, the edges of the plates being suitably beveled. The clips 17 are operated by screws 26, which have threaded engagement in the clips and bear at their ends against the end walls of the recesses 11. Lock-nuts 27 are provided.

In use the clips 17 are inserted and removed through the enlarged entrances 14 of the slots in the sole plates 13, and are moved back and forth to clamp and release the stereotype plates, by means of the screws 26. It will be seen that it will be a simple matter to remove and replace the sole plates while the form cylinder remains in the press.

What is claimed as new is:

1. The combination with a form cylinder for carrying stereotype forms, said cylinder having a peripheral recess, of a removable and replaceable sole plate of harder material than the cylinder, the face of said plate being transversely curved to correspond to the curvature of the form cylinder, said plate having an elongated slot over said recess, which slot has an enlarged entrance and internal guide edges on the plate forming the sides of its narrower portion, and means for securing said plate removably to said cylinder.

2. The combination of a form cylinder for carrying stereotype forms, said cylinder having a peripheral recess elongated in the direction of the cylinder axis and a seat bordering said recess and depressed below the surface of the cylinder, an elongated sole plate of harder material than said cylinder removably secured to said seat, the face of said plate being transversely curved to correspond to the curvature of the form cylinder and having an elongated slot formed in its interior and located over said recess, and a stereotype plate-holding clip carried by said sole plate, said slot in the sole plate having an enlarged head at one end for the entrance of said clip and the portions of the sole plate forming the sides of the narrower portion of the slot constituting guides overhanging the recess in the cylinder.

3. A removable and replaceable sole plate for holding and guiding a stereotype plate clip on a form cylinder of a printing-press, the same comprising an elongated plate curved transversely on its outer surface and provided with means for securing to the cylinder, said plate having an elongated slot formed in its interior with an enlarged entrance at one end, the face of said plate being transversely curved to correspond to the curvature of the form cylinder, said plate having a flat base, the internal edges of the plate forming the sides of the narrower portion of the slot being formed as guides for the aforesaid clip.

4. The combination with a form cylinder for carrying stereotype forms, said cylinder having recesses in its periphery elongated in the direction of its axis and depressed seats bordering said recesses, of guides of harder material than said cylinder, the face of said guides being transversely curved to correspond to the curvature of the form cylinder, said guides having a flat base and removably

secured to said seats and projecting over said recesses to form the sides of slots receiving stereotype plate-holding clips, said clips being carried by said guides.

5. The combination with a form cylinder for carrying stereotype forms, said cylinder having a plurality of spaced recesses in its periphery, each elongated in the direction of its axis and depressed seats bordering said recesses, of a plurality of interchangeable equal sized, slotted, sole plates each of harder material than said cylinder, the face of said plates being transversely curved to correspond to the curvature of the form cylinder and screws with their heads below the surface of said cylinder for removably securing said plates to said cylinder, said plates projecting over said recesses to form the sides of slots to receive stereotype plate-holding clips, said clips being carried by said plates.

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

THEODORE L. EGNOR.

Witnesses:
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