April 10, 1928. 1,665,305

W. M. KELLY

DROP GUIDE

Filed April 15, 1927

FIG. 1.

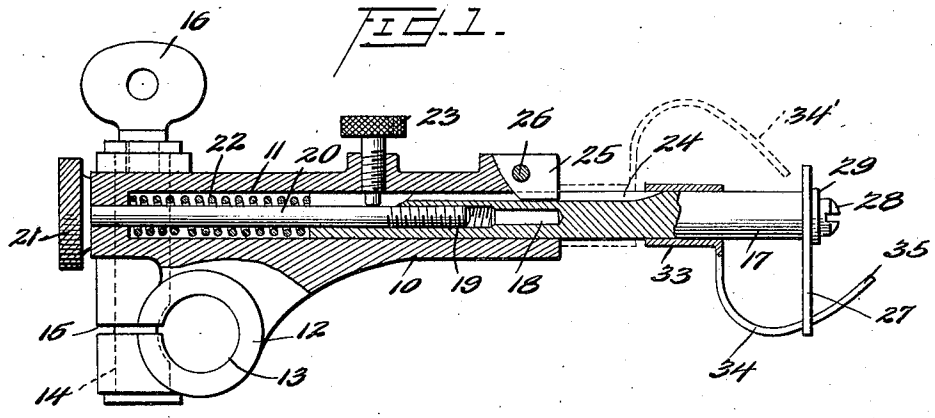


FIG. 2.

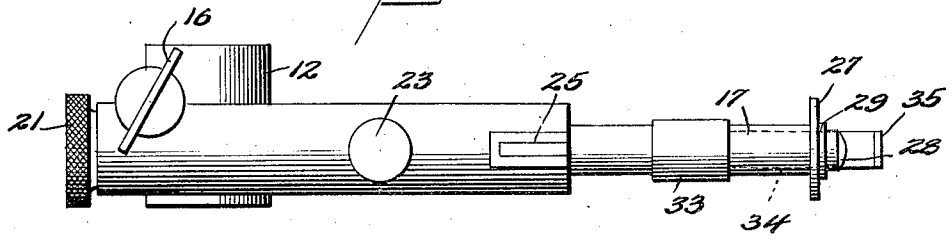
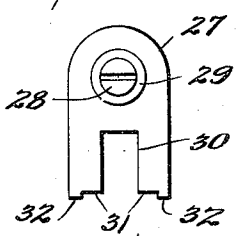


FIG. 3.



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UNITED STATES PATENT OFFICE.

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DROP GUIDE.

Application filed April 15, 1927. Serial No. 184,119.

This invention relates to drop guides for cylinder printing presses, and more particularly to a drop guide adapted for use with such presses having an automatic sheet feeding mechanism, in which the feeding mechanism may be removed to permit hand feeding.

It is an object of the present invention to provide a drop guide which will cooperate with an automatic sheet feeding mechanism in a cylinder printing press, and which may be also readily adapted for hand feeding, when the automatic sheet feeding mechanism is removed.

A further object of the invention is to provide a drop guide, which may be adjusted to an operative position for hand feeding, and which may be readily removed to its inoperative position when an automatic sheet feeding device is used.

A still further object is to provide a drop guide top guide which is movable into a position to hold the sheet down when it is hand fed, but which is movable out of the way of the sheet slow down finger when the automatic feed is used.

Still another object of the invention is to provide a drop guide which will be cheap to manufacture, speedy and convenient in operation, and also quite simple in construction.

Other objects and features of novelty will be apparent as the description proceeds when taken in connection with the accompanying drawings which form a part of this specification, in which

Figure 1 is a longitudinal, vertical section of the drop guide according to this invention;

Figure 2 is a top plan view of the structure shown in Fig. 1; and

Figure 3 is an elevation of the front plate of the front stop.

Automatic cylinder printing presses have been heretofore provided with automatic sheet feeding mechanism, together with front stops to cooperate therewith effecting an accurate front register of the sheet to present it to the cylinder grippers which carry the paper during the impression stroke, and present it to the delivery mechanism when this stroke is completed. Such presses have been provided with automatic sheet feeding mechanism which may be removed from the press proper to permit hand feeding. However, when this is done, the guide structure, such as for example the slow down finger, of the automatic sheet feeding mechanism is also removed, so that accurate register by hand feeding is quite difficult. It is an important feature of the present invention, therefore, to provide a drop guide suitable for hand feeding, and which may be readily adjusted for automatic feeding, when the automatic sheet feeding mechanism is replaced in operative position with respect to the press.

Front stops normally comprise a body member mounted on a rock shaft, and a projecting stem. At the end of the stem is a sheet stop part, which varies in form. The sheet is advanced against the stop part and is positioned to be taken by the cylinder grippers. Then the shaft is rocked, which raises the sheet stop part out of the way of the sheet, so that it may be taken by the grippers.

Referring more particularly to the drawings, a front stop according to the present invention comprises an elongated body 10 having a cylindrical bore 11 and a laterally extending boss 12, which is also centrally bored as at 13 to receive a rock shaft of the printing machine. The body 10 also comprises a vertical boss 14 which is bored and tapped to receive the clamp screw 16. The boss 12 is split radially and transverse to the boss 14 and the clamp screw 16 extends through the two portions of the boss 14, whereby the front stop may be clamped to the rock shaft previously mentioned.

The bore 11 is adapted to receive a stem 17, which is the main stem of the front stop. This stem is internally bored as at 18 and tapped as at 19 to receive the threaded end of a smaller stem 20 which is adapted to be operated by the knurled head 21 rigid therewith. Thus by manually operating the knurled head 21 the stem 17 may be ad-

vanced and retracted along the bore 11. When the stem is adjusted to the desired position it may be secured in position by the clamp screw 23 which bears on the stem 20 and clamps the stem 17 between the stem 20 and the bore 11.

To retain the front stop always in a vertical position, the stem 17 is slotted longitudinally at its upper side as at 24 and a key 25 is secured to the body 10 in the position shown, by a transverse rivet 26.

At the outer end of the stem 17 is mounted a plate 27, which is the operative member of the front stop. This plate is secured in position by a machine screw 28 threaded into the stem 17 and clamping the plate 27 between the washer 29 and the end of the stem 17. Referring to Fig. 3, it will be seen that the plate 27 is slotted as at 30, and is also provided with a larger slot 31, having the two extreme lower projections 32.

The plate 27 just described will permit the use of automatic sheet feeding mechanism such as shown in my prior Patent 1,621,788, granted March 22, 1927. The slot 30 may receive the slow down fingers, and the stationary guide tongues projecting from the cylinder end of the feed board may enter the slot 31.

All of the structure described above is old. The present invention consists in the part now to be described, and the combination thereof with the front or drop guide.

Slidably mounted on the stem 17 between the front end of the body 10 and the plate 27 is a sleeve 33, having a laterally extending tongue 34 which is bent back around toward the stem substantially as shown in the drawing. This sleeve may be moved toward or away from the plate 27, and may also be swung about the stem 17 to the operative position shown in dotted lines at 34'.

The operation of the device is as follows:

When the front stop is mounted on the printing press having automatic sheet feeding mechanism, and the automatic sheet feeding mechanism is in operation, the top guide 34 is swung to its inoperative position as at 34', where it is well out of the way, and the front stop cooperates with the automatic sheet feeding mechanism in the manner heretofore known.

When, however, the automatic sheet feed-mechanism is removed from the press proper, the top guide 34 is swung around the stem 17 to its lower and operative position as shown in full lines in the drawing. The sleeve 33 is also moved forward to bring the top guide 34 forward through the slot 30 in the plate 27. The front edge 35 of the top guide therefore projects forward in advance of the plate 27 and prevents the sheet from buckling or otherwise rising out of its proper position to be received by the cylinder grippers. The tongue 34, therefore, takes the place of the guide structure of the automatic sheet feeding mechanism such as the slow down finger, which may project forward through the slot 31. Hence when feeding by hand the tongues 34 assist the operator in accurately positioning the sheet against the front stop plates 27 by preventing the sheets from riding upwardly.

While a single embodiment of the invention has been illustrated and described in detail, it is not intended that the invention should be limited to the exact construction shown, but includes all modifications and alterations thereof which come within the scope of the subjoined claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In combination with a front stop having a stem, a top guide slidably and rotatably mounted on said stem, and adapted to be moved from its operative position below the stem, to an inoperative position above the stem.

2. In combination with a front stop having a front plate provided with a slot, a top guide slidably and rotatably mounted on said stem and adapted to be moved from its inoperative position above said stem to its operative position below said stem to register with said slot and further adapted to be advanced through said slot.

3. A top guide for a front stop of a printing press, comprising in combination, a sleeve, a flat tongue extending laterally from the forward edge of the sleeve at one side, said tongue being curved back toward the axis of said sleeve.

4. A front stop for a cylinder printing press having an automatic sheet feeding mechanism, including in combination a stem, a stop member carried thereby, and a guide element on said stem cooperating with said member to position the front edge of the sheet when hand feeding, said element being mounted on said stem for movement to an inoperative position to permit the use of automatic sheet feeding mechanism.

5. A front stop for a cylinder printing press having an automatic sheet feeding mechanism, including in combination a stem, a stop member carried thereby, and a guide element on said stem cooperating with said member to position the front edge of the sheet when hand feeding, said element being mounted on said stem for sliding and rotative movement to an inoperative position to permit the use of automatic sheet feeding mechanism.

6. A front stop for a cylinder printing press, comprising in combination, a body, a stem carried by said body, a plate secured at the outer end of said stem, a guide element on said stem between the plate and body cooperating with said plate to position

sheets, said guide element being mounted to be retracted to an inoperative position.

7. A front stop for a cylinder printing press including in combination a stem, a plate mounted thereon having a notch in its lower extremity, and a U-shaped guide on said stem having a limb extending through said notch, said guide being mounted for retraction from said notch to an inoperative position.

In testimony whereof I hereunto affix my signature.

WILLIAM M. KELLY.