Dec. 11, 1928. 1,694,638

R. W. BORROWDALE

ATTACHMENT FOR PRINTING PRESSES

Filed May 28, 1927 2 Sheets-Sheet 1

Fig. 1.

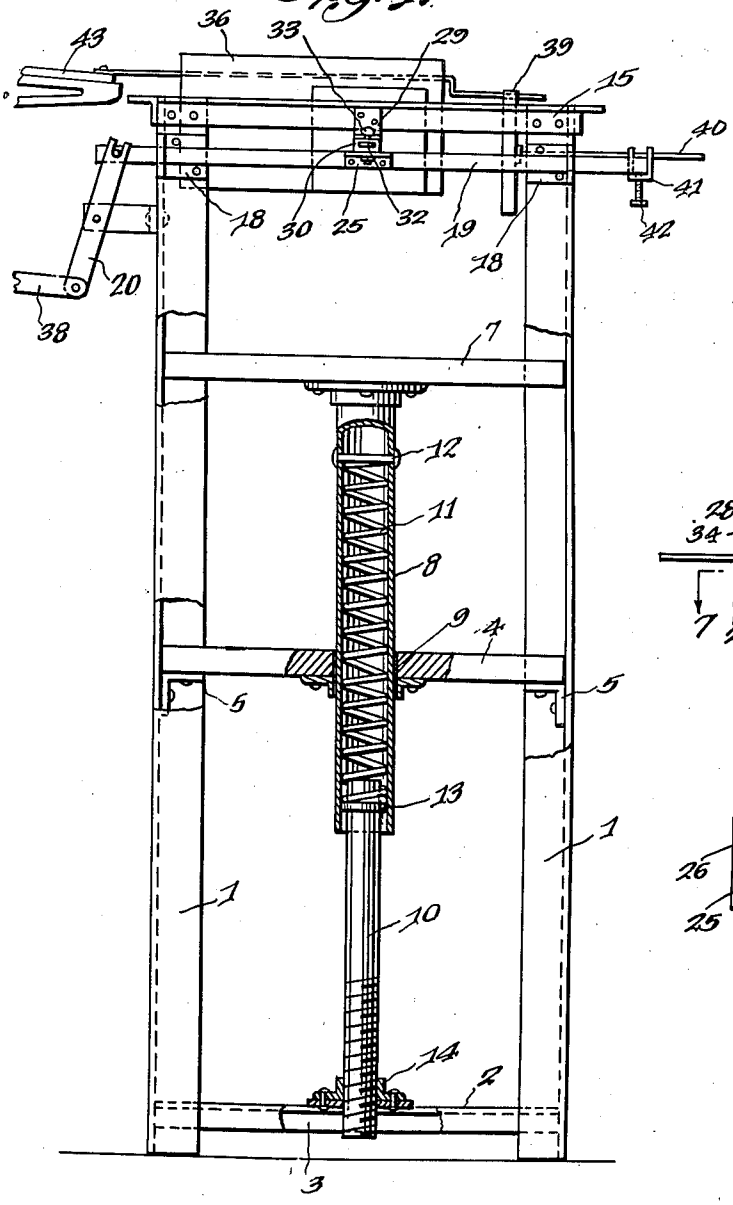


Fig. 5.

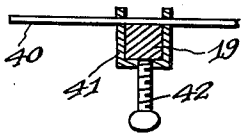
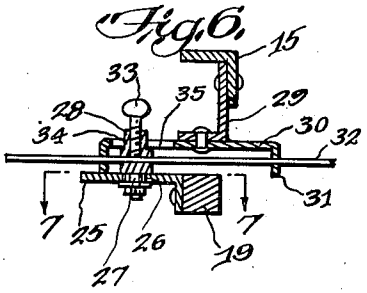


Fig. 6.



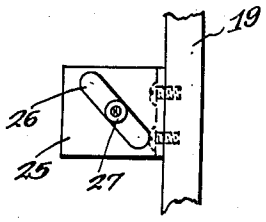


Fig. 7.

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1,694,638

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ATTACHMENT FOR PRINTING PRESSES

Filed May 28, 1927 2 Sheets-Sheet 2

Fig. 2.

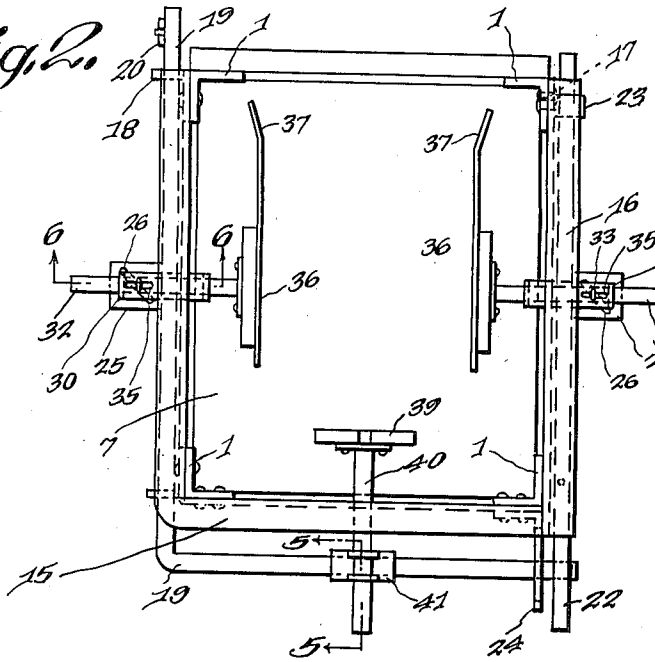


Fig. 9.

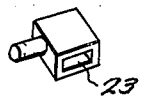


Fig. 3.

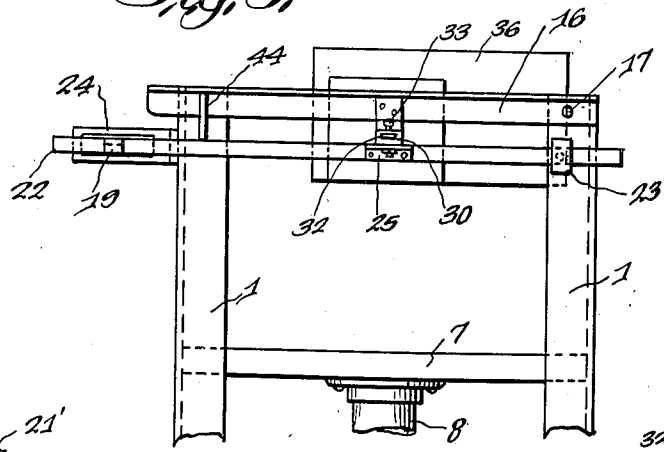
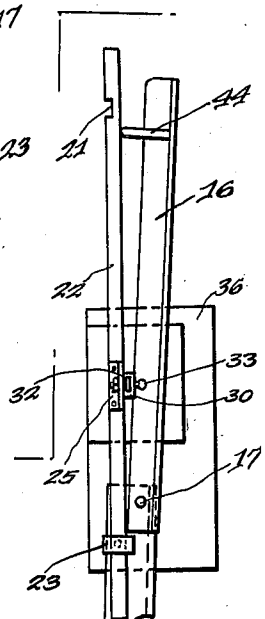


Fig. 4.



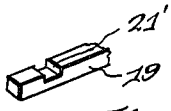
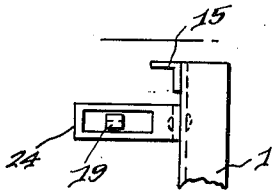


Fig. 8.



Russell W. Borrowdale
INVENTOR

BY Arnold Hubbard

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Patented Dec. 11, 1928. 1,694,638

UNITED STATES PATENT OFFICE.

RUSSELL WIER BORROWDALE, OF CHICAGO, ILLINOIS, ASSIGNOR TO JOHN TOMAN, OF CHICAGO, ILLINOIS.

ATTACHMENT FOR PRINTING PRESSES.

Application filed May 28, 1927. Serial No. 195,050.

This invention relates to new and useful improvements in attachments for printing presses, and more particularly to an attachment which especially is adapted for use in connection with printing presses which are used for job printing, although it may be used in connection with different types of presses.

One of the objects of my invention is the provision of an attachment which is particularly adapted for use in receiving the printed sheets as they are discharged from the press and is so constructed as to permit a great number of printed sheets to be deposited thereon before it is necessary to remove them, thus an ordinary printing job can be run through the press before it is necessary to remove the printed sheets from the receiving table.

Another object of my invention is the provision of a receiving table provided with improved jogging means whereby the printed sheets may be evenly stacked and retained in this manner until removed from the table.

A further object of my invention is the provision of a receiving device wherein the jogging members and the movable parts attached thereto are so arranged that they may be raised upwardly from the table to permit ready removal of the printed sheets.

A still further object of the invention is the provision of a simply constructed device which can be quickly and readily placed in position and attached to the delivery mechanism of a printing press to receive the printed sheets in great numbers and neatly stacked, so that at times an ordinary job of printing may be completed before it is necessary to empty the table.

With the above and other objects in view, the invention consists in the novel features of construction, the combination and arrangement of parts hereinafter more fully set forth, pointed out in the claims and shown in the accompanying drawings, in which

Figure 1 is a side elevation of my improved device with parts thereof broken away and shown in section.

Figure 2 is a top plan view.

Figure 3 is a detail side elevation, looking at the side opposite that shown in Figure 2.

Figure 4 is a view similar to Figure 3, with parts thereof in raised position.

Fgure 5 is a sectional view taken on the line 5—5 of Figure 2.

Figure 6 is a sectional view on the line 6—6 of Figure 2.

Figure 7 is a sectional view on the line 7—7 of Figure 6.

Figure 8 is a detail perspective view of one end of one of the movable side bars, and

Figure 9 is a detail perspective view of the pivot socket for one of the movable bars.

As stated heretofore, the device is particularly adapted for attachment to the delivery end of a printing press, but it may be used wherever found efficient. The device is supported by a suitable frame which comprises the upright angle bars 1, one at each corner of the frame, which are connected at the lower ends by the plate 2, which has downturned flanges 3 adapted to be bolted or otherwise secured to the bars 1. Intermediate the ends of the bars 1 is positioned a stop platform 4 held in place by the angular brackets 5 which are secured to the under surface of the platform and the angle bars.

A movable platform 7 is arranged in the frame and guided in its vertical movement by the angle bars 1. Attached to the lower face of the platform 7 is a cylinder member 8 which is movable through an opening 9 in the stop platform 4 and received through its lower end is an adjustable guide plunger 10. Arranged in the cylinder member 8 is a coil spring 11, the upper end of which is attached to a cross pin 12 and its lower end bearing upon an annular flange 13 at the upper end of the guide plunger. The tension of the spring 11 may be readily adjusted by threading the lower end of the guide plunger in a bearing collar 14 on the plate 2.

Three sides of the frame at the upper end thereof are closed by an angular angle bar 15, secured to the bars 1 by suitable brackets and an angle bar 16 pivoted to one of the angle bars 1 at 17. Arranged beneath the bar 15 and movable in guides 18 on the bars 1 is a movable angle bar 19, one end of which is pivotally connected with a rocking link 20 while the other end rests in a transverse recess 21 formed in a movable bar 22, which is slidably mounted in a pivoted guide collar 23. This guide collar 23 is pivoted to one of the angle bars 1 at a point adjacent the pivot 17 of the bar 16. The outer end of the angle bar 19 is movably mounted in a slotted guide plate 24 attached to one of the bars 1 so as to support the outer end of the bar 22 and maintain the end of the bar 19 in the recess 21

whereby the bar 22 will be moved with the bar 19.

Secured to the outer side of the longitudinal part of bar 19 and the bar 22 are the angular plates 25, the horizontal portions of which are formed with angularly disposed slots 26 in which ride the rollers 27 carried by the movable blocks 28. Attached to the longitudinal portion of the bar 15 and the bar 16 are the brackets 29 which support longitudinal plates 30, each having downturned ends 31 formed with apertures to slidably receive the bars 32. The blocks 28 are each formed with a transverse opening to receive the bars 32 and the blocks carry thumb screws 33 for binding engagement with the bars 32 to retain them in various adjusted positions. The upper ends of the blocks are formed with reduced parts 34 movable in the slots 35 in the longitudinal plates 30 so that as the roller 27 moves in the slot 26 the part 34 will move in the slot 35.

Attached to the inner ends of the bars 32 are the jogger or guide plates 36, the forward ends of which are curved outwardly as at 37 to guide the printed sheets therebetween. Thus it will be apparent that as the rock link 20 is connected to a reciprocating arm 38, which may be connected to a movable part of the press, the plates 36 are moved apart or away from each other prior to the depositing of a printed sheet on the platform 7 and after the sheet has been deposited the plates 36 are moved inwardly toward each other and engage the sheet for properly positioning the same on the platform.

A guide or jogger plate 39 is provided at the end of the frame farthest from the press and acts in conjunction with the plates 36 when straightening the sheets deposited on the platform 7. The plate 39 has an arm 40 attached thereto, the outer end of which is extended through the apertured ends of a U-shaped clamp 41 attached to the horizontal portion of the bar 19. The clamp 41 carries a set screw 42 for binding engagement with the bar 19 so that the arm 40 can be clamped to the bar 19 in various adjusted positions.

It will be apparent from the foregoing that the device is positioned adjacent the delivery end of a printing press and so arranged that the open side of the upper end of the frame is next to the delivery guide bars 43. The bar 19 is operatively connected to the reciprocating arm 38 by means of the pivoted rock link 20 and the movement of the arm 38 is so timed that prior to the delivery of a printed sheet onto the platform 7 the plates 36 and 39 are moved outwardly so as to allow plenty of room for the sheet to be deposited between the plates. After the sheet has been deposited the plates move inwardly to properly position the sheet on the platform and to stack the sheets in a neat uniform pile. It will be apparent that upon movement of the bar 19 the bar 22 will be moved longitudinally in the guide collar 23 so as to impart movement to the plate 36 operatively connected thereto.

As the printed sheets are piled on the platform 7 the increasing weight of the sheets will move the platform downwardly in the frame against the tension of the spring 11, so that a great many sheets may be piled onto the platform 7 before it is necessary to remove them, and in a great many instances an entire job of printing may be run through the press before it is necessary to remove the sheets from the platform.

In order that the sheets may be readily removed from the platform 7 when desired the bars 16 and 22 and the plate 37 together with the operative parts may be swung on their pivots 17 and 23 to a raised position as shown in Figure 4. In raising bars 16 and 22 lifting power is applied to the bar 22 and this bar carries a pin 44 which engages one of the flanges of the bar 16 for raising the two bars simultaneously. Thus one side of the frame is opened to permit removal of the printed sheets.

It will be apparent from the foregoing that I have provided a comparatively simple and inexpensive device whereby a great many printed sheets can be delivered to the receiving table before it is necessary to remove them so as to save considerable time in printing and the necessity of an attendant for removing these printed sheets while operating certain types of presses.

While I have shown and described the preferred embodiment of my invention it will be readily apparent that various changes and alterations may be made in putting my invention into practice without departing from the spirit of the invention or the scope of the appended claims.

I claim as my invention:

1. A device of the class described including a frame, a yieldably mounted movable platform in the frame, reciprocating bars on the frame, angle plates on the bars having slots, jogger plates, having arms movable in guides on the frame, and means carried by the arms and movable in the slots for moving the plates toward and away from the central portion of the platform upon reciprocation of said bars.

2. A device of the class described including a frame, movable bars supported by the frame, plates carried by said bars, having angularly disposed slots therein, brackets on the frame, longitudinal plates supported by the brackets each having downturned apertured ends, jogger plates, having arms passed through the apertured ends, blocks carried by the arms, and rollers carried by the blocks and movable in the slots.

3. In a device of the class described and in combination with a movable part of a

printing press, a frame, a movable platform in the frame, an angle bar fixed to the top of the frame, a single angle bar at one side of the top of the frame and pivoted thereto at one end, a movable angle bar beneath the first angle bar having one end connected to the said movable part, a reciprocably mounted bar on the frame beneath the single angle bar and pivoted to the frame, a jogger plate movably mounted in the frame, means connecting the last named bar and plate, means mounted on the reciprocable bar for reciprocating the same, and operative means between the last two bars, whereby they may be simultaneously moved to a raised position.

In witness whereof I hereby set my hand.

RUSSELL WIER BORROWDALE.