Aug. 13, 1929. F. S. ENGLISH 1,724,075

INK REGULATING MECHANISM FOR EXTENDED DELIVERY DEVICES OF PRINTING PRESSES

Original Filed March 5, 1925 2 Sheets-Sheet 1

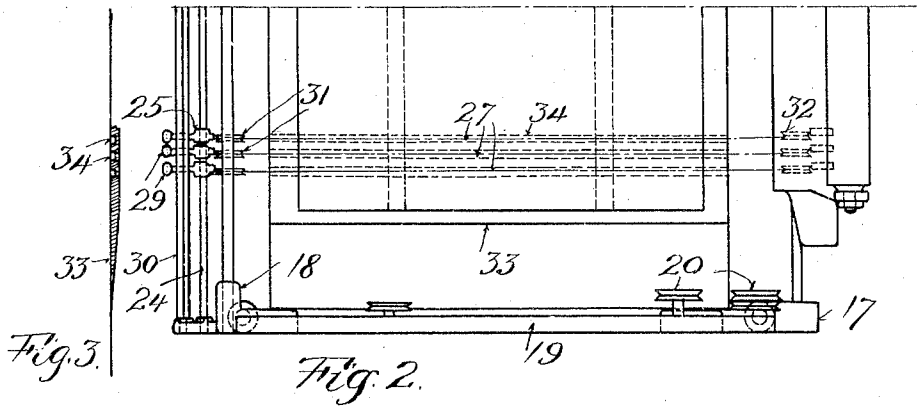


Fig. 3.

Fig. 2.

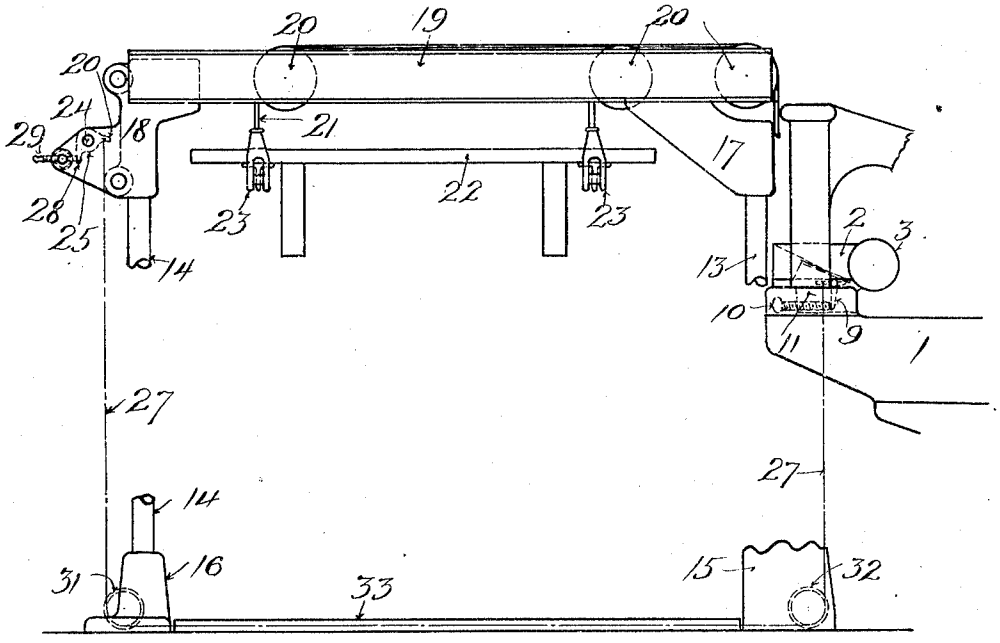


Fig. 1.

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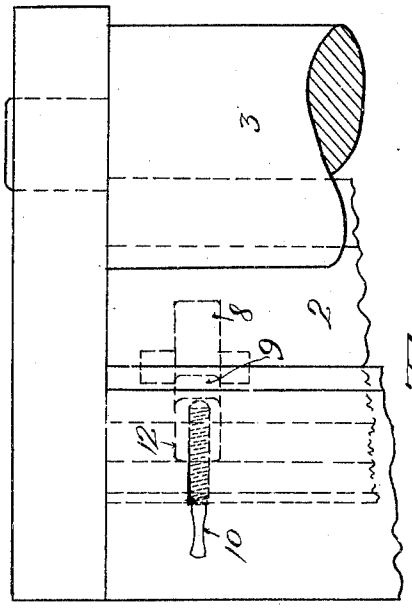


Fig. 7.

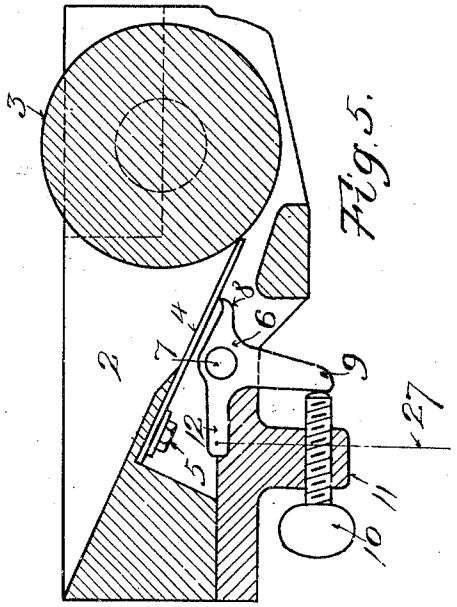


Fig. 5.

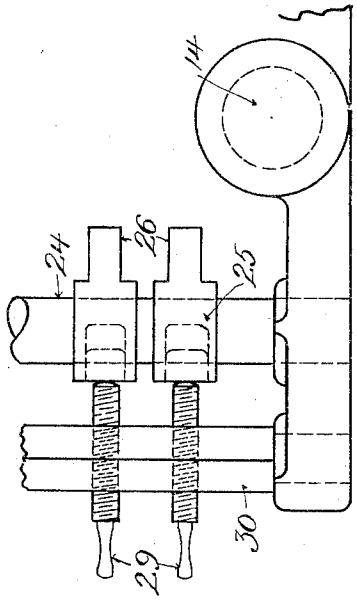


Fig. 6.

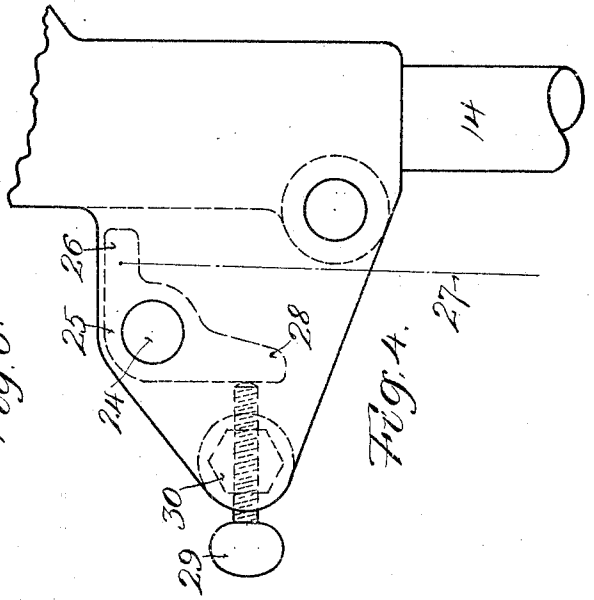


Fig. 4.

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Patented Aug. 13, 1929. 1,724,075

UNITED STATES PATENT OFFICE.

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INK-REGULATING MECHANISM FOR EXTENDED DELIVERY DEVICES OF PRINTING PRESSES.

Original application filed March 5, 1925, Serial No. 13,344. Divided and this application filed September 2, 1926. Serial No. 133,215.

The present case is a division of my copending application Serial No. 13,344, filed March 5th, 1925.

It has become common practice to provide a pile or delivery table to receive the sheets from a printing press set off at the front of the press where the table can have a much greater vertical downward movement in order to receive a large number of sheets before the table is to be emptied. This extended pile table comes in front of the keys by means of which the adjustment is made for the proper distribution of ink on the fountain roller of the press, and provision must be made for operating these ink adjusting keys. One method adopted has been to set the pile table off from the press sufficiently to permit the operator to reach in or get in between the fountain keys and the pile table to adjust the keys. The object of my present invention is to provide for remote control of the fountain keys by arranging upon or adjacent to some part of the pile table support means by which the fountain keys may be operated from a remote position on the pile table device. With this remote control it is possible for the operator to adjust the fountain keys without providing a space between the table and the press. Another advantage is that while the operator is adjusting the fountain keys by means of a remote control he can at the same time stand in a position where he can readily see the printed surfaces of the sheets as they are delivered on the extended pile table in order to observe whether the ink supplied should be increased or decreased at various points on the sheet and in order to observe the effect of each adjustment of the keys upon the printed sheets. Another object is to provide a remote control which will operate as near as possible the same as if the operator operated the fountain keys direct, which is an advantage because the operator often depends on the sense of feel of the fountain keys in judging how much the key should be turned in order to regulate the supply of ink.

In the drawings forming part of this application,

Figure 1 is a side elevation showing the extreme end of the printing press and the extended pile table and my ink regulating mechanism applied thereto,

Figure 2 is a plan view of one side of the same parts,

Figure 3 is a sectional view of a portion of the base board for protecting the cables,

Figure 4 is an enlarged detail view of one of the keys of the remote control and the lever operated by it,

Figure 5 is an enlarged sectional view showing the method of connecting the individual cables with the fountain levers,

Figure 6 is a plan view of the parts shown in Figure 4, and

Figure 7 is a plan view of the parts shown in Figure 5.

In the drawings I have shown only the extreme end of a printing press, the end of the frame being indicated at 1. The ink fountain is usually mounted on this frame and I have shown a fountain 2 for holding the supply of ink which is to be taken up by the fountain roller 3 to be distributed to the inking system (not shown) of the press. This fountain roller is acted upon by a knife or blade 4 which is caused to press against the roller with a greater or lesser pressure to control the thickness of the film of ink which is taken from the fountain by the fountain roller. This blade is usually thin steel and is fixed at the rear by a number of bolts 5 so that the forward edge is free and is adapted to be flexed to press against the fountain roller. This blade is usually subject to being pressed against the fountain roller with greater pressure at one point than another according to the requirements of the printing and for this purpose there is a series of bell crank levers 6 mounted upon a shaft 7 under the fountain knife 4 one arm 8 of each lever being adapted to press upon the blade 4 to press the free edge thereof against the fountain roller. These several levers are all alike and are arranged in a row crosswise of the press to act at different points upon the blade. There is another arm 9 for each lever and this arm is acted upon by means of the key 10 which is a bolt threaded through a bar 11 of the fountain frame so that the inner end of the

bolt presses on the arm 9 for the purpose of causing the arm 8 to press with more or less force against the flexible blade. In the employment of my present invention I provide an additional arm 12 on each key lever, which is connected with the remote control as will be hereinafter described.

I have shown the principal parts of an extended pile table which is set off at the front end of the press to receive the sheets as they are delivered therefrom. This consists of a frame resting on the floor forward of the press, the frame comprising the legs 13 adjacent the frame of the press and other legs 14 spaced from the former, the several legs being mounted in or attached to feet 15, 16 which rest upon the floor. The upper ends of these legs have mounted thereon brackets 17, 18 between which are connected the side bars 19 which support the pulleys 20 on which the cables 21 operate to raise and lower the pile table proper. The latter comprises, in the present showing, a platform 22 supported upon the cables by means of shackles 23. The parts here described except the table, are duplicated at the opposite side of the press. It is not necessary to show further details of the pile table mechanism nor the device for raising and lowering the table as these are devices well known in the art.

Preferably, at the forward end of the pile table frame and adjacent the upper portion thereof I have arranged the shaft 24 extending crosswise of the table frame and on this shaft are independently pivoted the levers 25 each having a rearwardly extending arm 26 to which one end of the cable 27 is attached. The other arm 28 of each of these angle levers is arranged to be acted upon by a key 29 which comprises a bolt threaded through a bar 30 so that the forward end of the key acts upon the arm 28 to rock the lever 25 and pull upwardly on the cable 27. These several levers are arranged in a horizontal row and their several operating keys are all duplicates and operate the same but effect the operation of individual fountain keys. I prefer to space these keys 29 apart to correspond with the spacing of the fountain keys of the press and to lie in the same vertical planes therewith in order that the operator may know what portion of the sheet is affected by the adjustment of each individual key.

Each cable 27 as above set forth, has one end connected with one of the lever arms 26. From there the cable extends downwardly and passes around the sheave 31 which is mounted on a shaft arranged in the feet 16 of the frame of the table. From this sheave the cable extends backwardly just above the plane of the floor to another sheave 32 journaled in the rear feet 15 of the table frame and from there the cable extends upwardly and its other free end is connected with the arm 12 of the fountain lever. In order to protect the horizontal runs of these cables and to permit a loading truck to be moved between the frame to receive the pile of sheets on the lowering table, I have provided a platform 33 provided with suitable grooves 34 on its under side. This platform is adapted to be placed on the floor over the several cables, the horizontal rows of the latter extending freely through the several grooves 34 of the platform so that the operator or a truck may pass on the platform without dislocating or injuring the several cables.

When the device is in operation the sheets as they come from the printing press will be delivered upon the pile table 22 which will be lowered from time to time to maintain the top of the stack at a constant level. The operator may stand at the front of the pile table frame and adjust the several keys 29 for the purpose of regulating or adjusting the supply of ink to the form. Each individual key may be turned right or left to increase or decrease the supply of ink and this action will affect the portion of the printed sheet in line with the individual key or keys which are adjusted. The operator may observe the sheets as they are delivered upon the pile table and instantly determine the effect upon the printed sheets of each adjustment of the key. The action will be the same as with the adjustment of the ordinary fountain keys on a press operated without an extended delivery. The feel of each key 29 will correspond with the feel previously experienced by the operator in operating the fountain keys 10 direct. By extending the cables 7 downwardly and thence adjacent the floor these cables do not interfere in any way with the operation of the extended delivery device, nor with the removal of the stack of sheets.

Having described my invention, what I claim is:

1. The combination of a press having ink mechanism including a fountain roller and means for controlling the supply of ink thereon, an extended delivery device set off at the end of the press and including a frame, a set of keys mounted on said frame, and means for individually connecting said latter keys with said ink supply control for the purpose set forth.

2. The combination of a press having ink mechanism including a fountain roller and means for controlling the supply of ink thereon an extended delivery device set off at the end of the press and including a frame, a set of keys mounted on said frame, and flexible means connecting each of said latter keys with a member of the ink supply control for the purpose set forth.

3. The combination of a press having ink

mechanism including a fountain roller and means for controlling the supply of ink thereon, an extended delivery device set off at the end of the press and including a vertically moving pile table in a supporting frame, keys mounted on said frame, flexible members for connecting each of said latter keys with a member of said ink supply controlling means and means for guiding said flexible members whereby they extend below and out of the path of the vertically moving pile table.

4. The combination of a press having inking mechanism, including a fountain, a fountain roller, a plurality of levers adjacent said roller for regulating the supply of ink, an extended delivery device set off at the end of the press, including a vertically moving pile table on a supporting frame, a plurality of levers adapted to be individually operated and mounted on said supporting frame, and means for individually connecting said first levers and said second levers.

5. The combination of a press having inking mechanism, including a fountain, a fountain roller, a plurality of levers adjacent said roller for regulating the supply of ink, an extended delivery device set off at the end of the press, including a vertically moving pile table on a supporting frame, a plurality of levers adapted to be individually operated and mounted on said supporting frame, and flexible means for individually connecting said first levers and said second levers.

6. The combination of a press having inking mechanism including a fountain, a fountain roller and levers adjacent the fountain roller for controlling the supply of ink, a vertically moving pile table on a support, set off at the end of the press, a plurality of independently operable levers arranged on said table support, flexible means independently connecting each of said first levers with said second levers, and means for guiding said flexible members to extend below the path of said pile table.

7. The combination of a press having inking mechanism, comprising a fountain and a fountain roller, levers adjacent said roller for controlling the supply of ink, a vertically moving pile table mounted on a frame set off at the end of the press, levers on said frame to provide a remote control for said first levers, flexible members for individually connecting said first and second levers, means for guiding said flexible members whereby they extend downwardly adjacent the floor below the path of said pile table, and means adapted to be placed over the horizontal runs of said flexible members adjacent the floor to protect said flexible members.

8. The combination of a press having ink mechanism including a fountain roller and means for controlling a supply of ink thereon, an extended delivery device set off at the end of the press and including a vertically moving pile table and a supporting frame, keys mounted on said frame, flexible members for connecting each of said latter keys with a member of said ink supply controlling means, and means for guiding said flexible members whereby they extend partially around and out of the path of the vertically moving pile table.

9. The combination of a press having an ink fountain and extended delivery device set off at the end of the press and including a frame, a plurality of primary fountain levers associated with said ink fountain, a plurality of secondary fountain levers mounted on said frame and set off from said ink fountain, flexible members for connecting said primary and said secondary levers, and means for guiding said flexible members whereby they take an indirect course between said secondary and said primary levers.

10. The combination of a press and an extended delivery device set off at the end of the press and having a frame, an ink fountain on said press, fountain levers associated with said fountain, secondary levers mounted on said frame, remote from said first levers, flexible connections between said second levers and said first levers, and means for guiding said flexible connections whereby they take an indirect course between said second levers and said first mentioned levers, said levers and said flexible means lying in common vertical planes.

Signed at New London, county of New London, State of Connecticut, this the 25th day of Aug., 1926.

FRED S. ENGLISH.