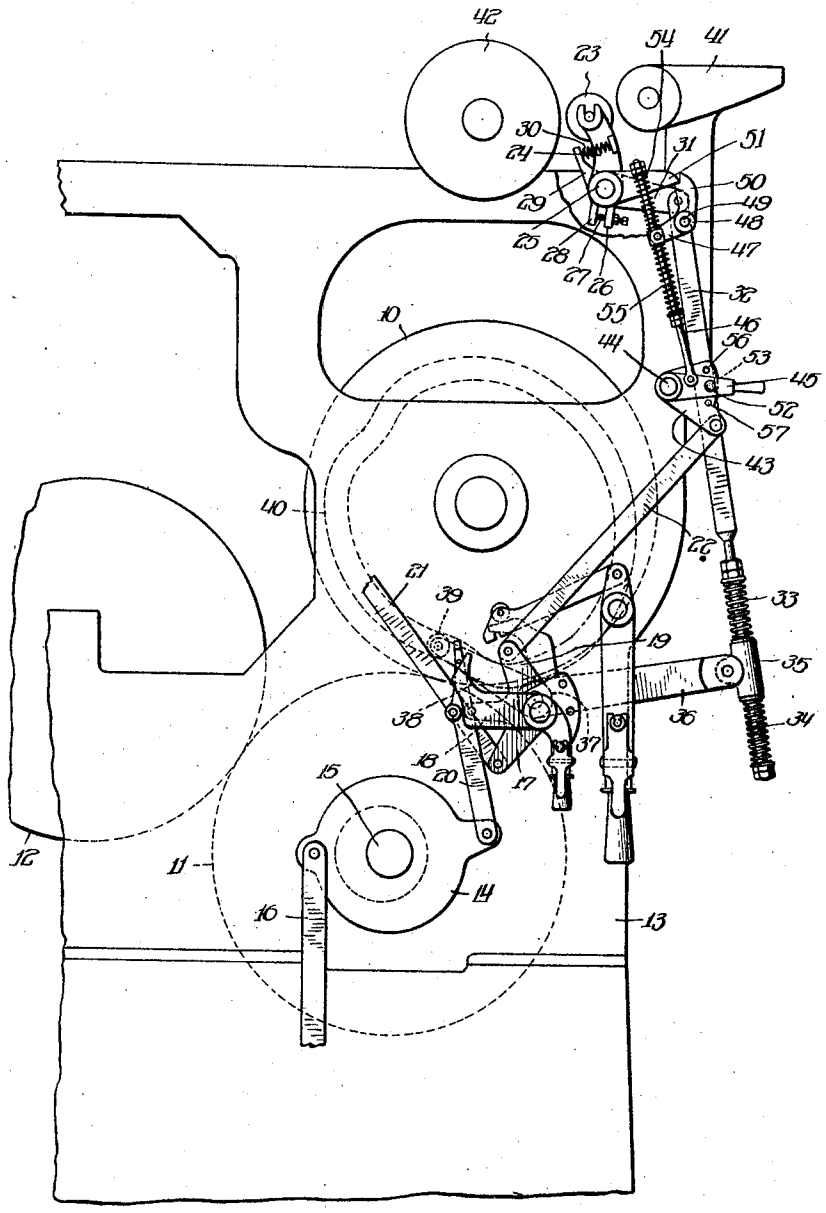
May 18, 1926. 1,585,367

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INK FOUNTAIN DUCTOR TRIP MECHANISM

Filed August 24, 1921



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Patented May 18, 1926. 1,585,367

UNITED STATES PATENT OFFICE.

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INK-FOUNTAIN-DUCTOR TRIP MECHANISM.

Application filed August 24, 1921. Serial No. 494,332.

This invention relates to printing presses, and more particularly to ink fountain ductor trip mechanism therefor.

In the operation of printing presses it is desirable to provide means whereby the ductor roll for conveying ink from the ink fountain be automatically tripped when the press is automatically tripped. It is also desirable to have the ductor roll convey ink from the ink fountain prior to starting a printing operation for inking the plates. It is also desirable to trip the ductor roll so it will not convey ink from the ink fountain while the press is in operation in the event that an excess amount of ink has been supplied.

One object of my present invention is to provide simple, efficient and improved means for controlling the action of the ductor roll under these various conditions.

Another object is to provide a simple combination of parts which cooperate in a manner to meet all of the requirements for successful commercial operation.

These and other objects are accomplished by means of the arrangement disclosed on the accompanying sheet of drawing, in which the single figure is a fragmentary side elevation of a printing press embodying my invention.

The various novel features of my invention will be apparent from the following description and drawings and will be particularly pointed out in the appended claims.

Referring to the figure of the drawing, it will be noted that I have disclosed my invention in connection with an offset type of printing press, in which a plate cylinder 10, blanket cylinder 11 and an impression 12 are mounted in a frame 13. As pointed out in one of my copending applications, Serial No. 492,882 filed August 17, 1921, inking rolls, not shown are tripped away from the plate cylinder 10 through mechanism including an eccentric 14 loosely mounted on the journal 15 of the blanket cylinder 11, which eccentric is actuated through trip pedal, not shown, and a link 16, the tripping action of the ink rolls being transmitted through a bell crank lever having three arms 17, 18 and 19, the tripping action also being transmitted through a link 20 to arm 18 of the bell crank lever and links 21 and 22 leading from bell crank arms 17 and 19, respectively, transmitting the tripping action directly to the frame carrying said inking rolls. The automatic tripping action for the ductor roll 23 in this present application is transmitted through one of the links 22, which trips the inking rolls.

Referring particularly to the ductor roll mechanism, it will be noted that a ductor roll 23 is mounted in arms, only one of which 24 is shown, said arm being loosely mounted on a shaft 25 and having an ear 26 through which a screw 27 passes and engages a corresponding ear 28 on an arm 29 fixed to the shaft 25. The arms 24 and 29 also have a yieldable connection in the form of a spring 30 on the side of the shaft 25 opposite to the set screw 27. Also secured to the shaft is an arm 31, to which one end of an operating rod 32 is connected, the lower end of said rod having mounted thereon coiled springs 33 and 34 which are mounted at opposite sides of a slidably mounted collar 35, to which one arm 36 of a bell crank lever 37 is pivotally connected, the other arm 38 of the bell crank lever having a roller 39 which traverses a cam race 40 located at one end of the plate cylinder 10.

From the arrangement thus far described, under normal operating conditions of the press, it will be appreciated that as the plate cylinder 10 is rotated, the rod 32 will be yieldably reciprocated for actuating the ductor 23 between the ink fountain 41 and the ink drum 42, the ductor roll 23 being yieldably pressed against the roller of the ink fountain as a result of springs 30 and 34 and being pressed against the ink drum 42 more positively through the projection 28, screw 27 and projection 26, it being understood, of course, that the pressure against the ink drum 42 is a yieldable pressure in view of the coiled spring 33. Such is the operation of the press under normal running conditions.

As mentioned hereinabove, under normal running conditions it is undesirable to continue the feed from the ink fountain 41 to the ink drum 42 when the press is tripped. Accordingly, I have provided means whereby when the press is tripped the ductor roll 23 automatically will be tripped for preventing further feeding of ink. In this connection, attention is called to the fact that the link 22 at one end is pivotally connected to a lever arm 43, which is pivotally mounted at 44, to which also is pivotally connected a lever 45, to which is pivotally connect-

ed a rod 46 which slidably passes through an apertured portion in an arm 47 of a bell crank lever 48 pivoted at 49 and having a second arm 50 which is adapted to latch into locking relationship with an arm 51 fixed to the shaft 25. When the latch arm 50 is in locking engagement with the arm 51, no ink can be supplied from the ink fountain 41 to the ink drum 42. As shown, the lever arm 45 is locked to the arm 43 through a pin 52 entering a middle aperture 53 in the arm 43. As shown, therefore, the ductor roll has been automatically tripped. However, under normal operating conditions the latch 50 will be out of locking engagement with the arm 51. Under such conditions it will be understood that the link 22 will be in a higher position, arm 43 passed in a counter-clockwise direction from the position shown and bell crank lever 48 passed in a clockwise direction from the position shown. If the press becomes tripped, the link 22 will be drawn downwardly for yieldably throwing the latch 50 into locking engagement with the arm 51 through a spring 54 coiled around rod 46 on one side of arm 47, thereby tripping the ductor roll 23. A second spring 55 coiled around rod 46 on the opposite side of arm 47 also acts as a buffer when the rod is operated in an opposite direction.

As mentioned above, it is desirable at times to feed ink from the fountain to the ink drum 42 for inking the plate cylinder 10 through suitable rolls when the press is tripped, that is, when the blanket cylinder 11 is out of operative association with the impression cylinder 12. This is accomplished by moving the lever arm 45 upwardly and forcing its locking pin 52 into engagement with a second aperture 56 in the arm 43, whereupon the latch 50 will be held out of locking engagement with the arm 51 so that upon rotation of the plate cylinder 10 the ductor roll 23 will be oscillated back and forth between the fountain and ink drum 42.

The ductor roll 23 may be tripped even with the press in normal operation by moving the lever 45 downwardly and forcing its locking pin 52 into a third aperture 57 in the arm 43, thereby forcing the latch 50 into locking engagement with the arm 51. Under these conditions it will be understood, of course, that the arm 43 is in a higher position in the direction of the counter-clockwise movement of the arm 43, so that the latch 50 is not unduly cramped in its locking position.

By means of this arrangement the function of the ductor roll for feeding ink from the ink fountain 41 to the ink drum 42 is automatically and manually controlled in a manner to meet all of the requirements for successful commercial operation.

It is my intention to cover all modifications of the invention falling within the spirit and scope of the following claims.

I claim:

1. In a printing press, the combination of a ductor roll for conveying ink from an ink fountain, means for actuating said roll, and a plurality of relatively movable interlocked levers at all times interconnected and through which said ductor roll is controlled.

2. In a printing press, the combination of a ductor roll for conveying ink from an ink fountain, means for actuating said roll, and a plurality of concentrically mounted interlocked relatively adjustable levers through which said ductor roll is controlled.

3. In a printing press, the combination of a ductor roll for conveying ink from an ink fountain, means for actuating said roll, a movably mounted arm, and a member selectively connected to said arm and operatively connected to said ductor roll for controlling the tripping thereof.

4. In a printing press, the combination of a ductor roll for conveying ink from an ink fountain, an oscillating arm in which said roll is mounted, means for oscillating said arm under normal operating conditions, and means for tripping said ductor roll including a plurality of relatively movable selectively interlocked levers at all times interconnected.

5. In a printing press, the combination of a ductor roll for conveying ink from an ink fountain, an arm in which said ductor roll is mounted, means for oscillating said arm under normal operating conditions, a latch for locking the arm for tripping the ductor roll, and means for controlling said latch including a lever operatively connected thereto and a movably mounted member to which said lever may be selectively connected.

6. In a printing press, the combination of a ductor roll for conveying ink from an ink fountain, means for oscillating said roll, and two operatively associated members adapted to be interlocked in a plurality of positions, in one position providing for the automatic tripping of the ductor roll with the press printing and in another position for maintaining the ductor roll in an untripped condition when the press has been tripped.

7. In a printing press, the combination of a ductor roll for conveying ink from an ink fountain, means for oscillating said roll, two operatively associated members adapted to be interlocked in a plurality of positions, in one position providing for the automatic tripping of the ductor roll with the press printing, in another position for maintaining the ductor roll in an untripped condition when the press has been tripped, and in another position for tripping the ductor roll with the press in an untripped condition.

8. In a printing press, the combination of

a ductor roll for conveying ink from an ink fountain, means for actuating said roll, a movably mounted member, and a second movably mounted member through which said ductor roll is controlled, said ductor roll being automatically tripped when the press is tripped and said members are in a given relative position, and whereby said ductor roll continues its functioning when the press is tripped when said members are in another relative position and whereby the ductor roll may be tripped when the press is not tripped, with said members in another relative position.

Signed at Chicago, Illinois, this 12th day of August, 1921.

JOSEPH R. BLAINE.