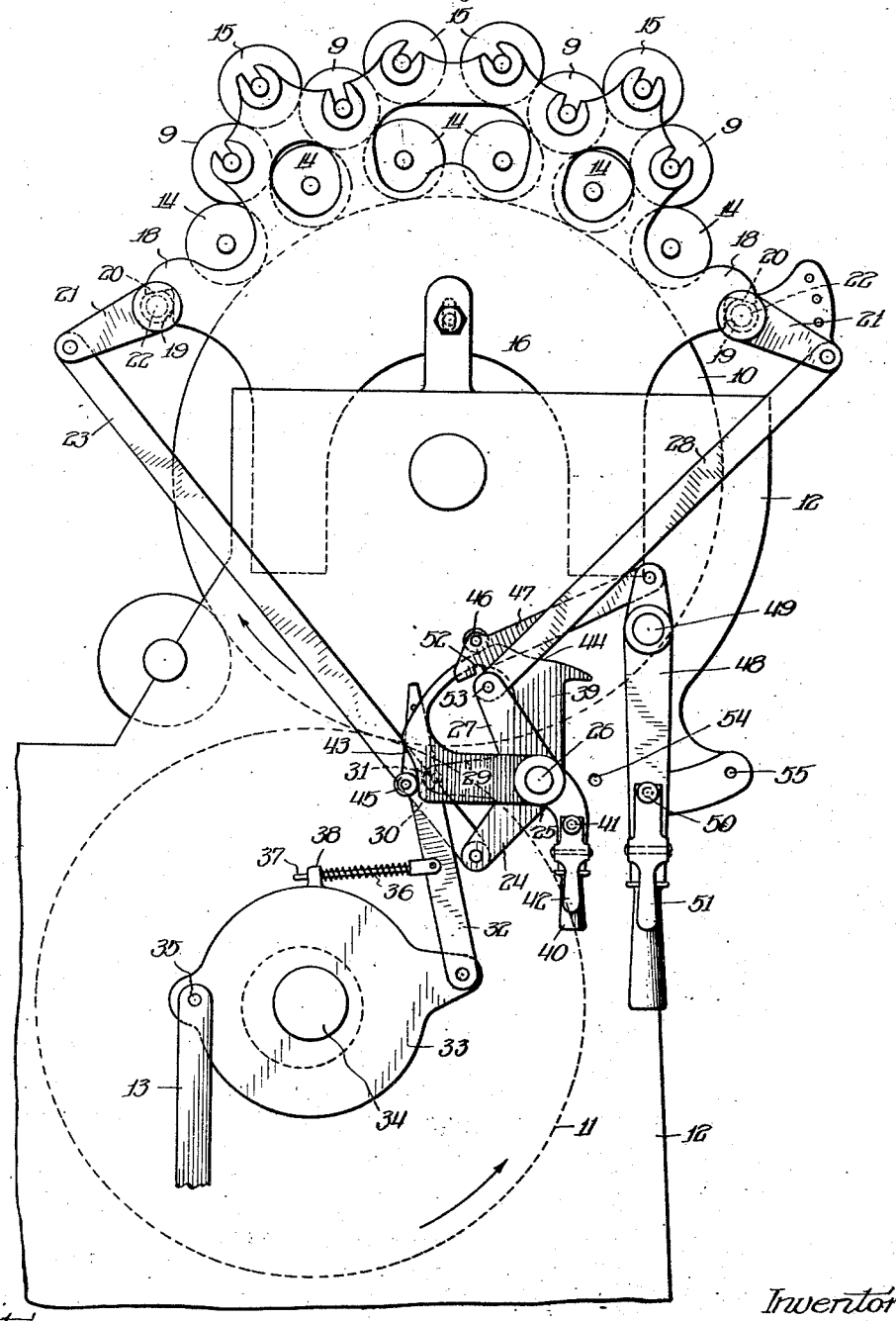
June 16, 1925. 1,542,027

J. R. BLAINE

HAND AND AUTOMATIC ROLL TRIP

Filed Aug. 17, 1921 2 Sheets-Sheet 1

Fig. 1.



Witness:
A Burkhardt.

Inventor:
Joseph R Blaine,
By Wilkinson, Huxley, Byron & Knight
Attys.

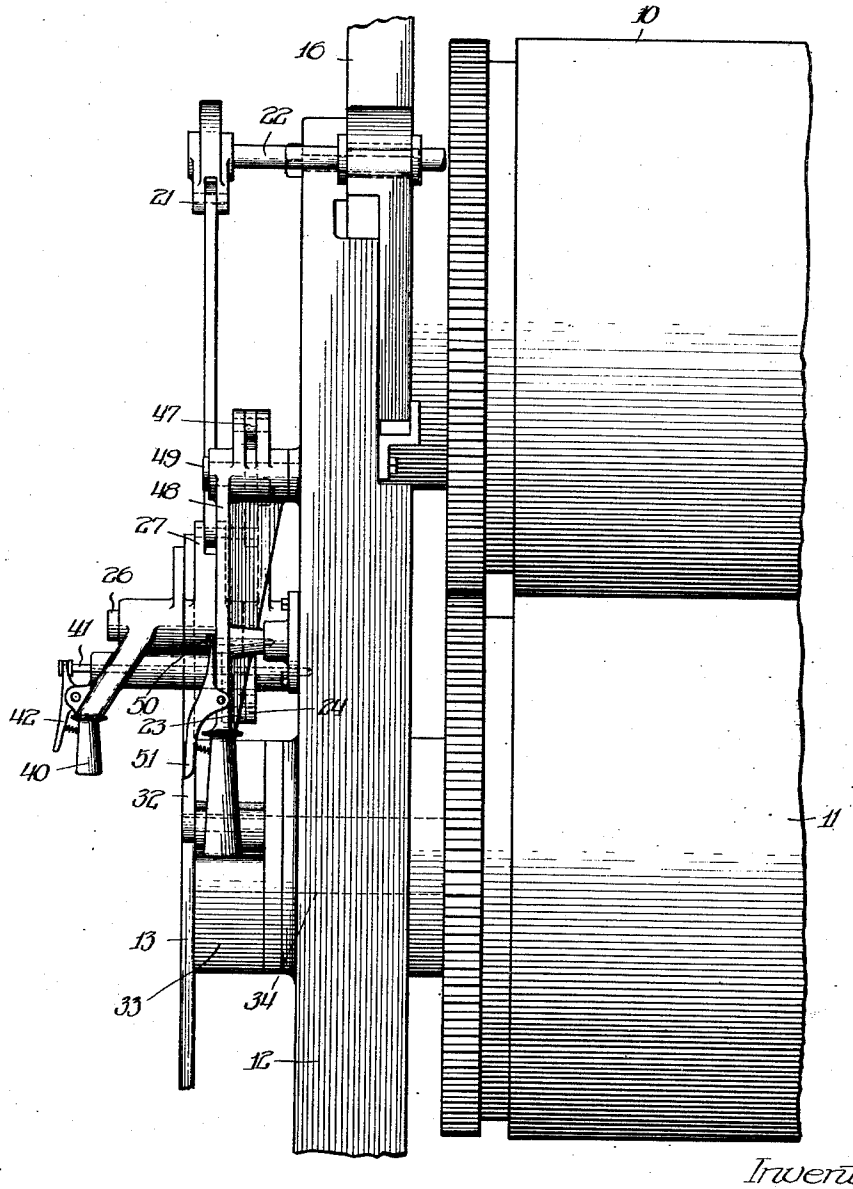
June 16, 1925. 1,542,027

J. R. BLAINE

HAND AND AUTOMATIC ROLL TRIP

Filed Aug. 17, 1921 2 Sheets-Sheet 2

Fig. 2



Witness:
R. Burkhardt.

Inventor:
Joseph R. Blaine,
By Wilkinson, Huxley, Byron & Knight
Attys.

Patented June 16, 1925. 1,542,027

UNITED STATES PATENT OFFICE.

JOSEPH R. BLAINE, OF CHICAGO, ILLINOIS, ASSIGNOR TO MIEHLE PRINTING PRESS AND MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

HAND AND AUTOMATIC ROLL TRIP.

Application filed August 17, 1921. Serial No. 492,882.

To all whom it may concern:

Be it known that I, JOSEPH R. BLAINE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Hand and Automatic Roll Trips, of which the following is a specification.

This invention relates to printing presses, and more particularly to inking roll trip mechanism therefor.

One object of my invention is to improve inking roll trip mechanism and to provide simple, durable and efficient cooperative parts for tripping the inking rolls both automatically and manually and in a manner to meet all of the requirements for successful commercial operation.

This and other objects are accomplished by means of the arrangement disclosed on the accompanying sheets of drawings, in which—

Figure 1 is a fragmentary side elevation of a printing press embodying my invention; and,

Figure 2 is a fragmentary end elevation of the same arrangement.

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 figures of the drawings, it will be noted that I have disclosed my invention in connection with an offset type of printing press including a form cylinder 10 and a blanket cylinder 11 mounted in a suitable frame 12, it being understood that there is an impression cylinder which engages the blanket cylinder 11, and, as disclosed in my earlier Patent No. 1,339,316, granted May 4, 1920, the impression cylinder may be tripped out of engagement with the blanket cylinder 11 and the blanket cylinder also tripped out of engagement with the impression cylinder and the plate cylinder. In said same patent I have disclosed means for tripping the inking rollers, and this present invention is an improvement upon that disclosed in the patent in question. It will be understood that the automatic tripping action of the inking rolls in this present case is transmitted through a connecting rod 13 in a manner such as described in the aforesaid mentioned patent.

The form inking rollers 14, vibratory rollers 9 and rider rollers 15 are all mounted in a frame 16 which is vertically guidably mounted in the main frame 12 of the press. The exereme lateral portions of the inning roller frame 16 are in the form of arms 18 with notched portions 19 therein for the reception of cam members 20 which are operatively connected to arms 21 so that when the arms 21 are swung downwardly and inwardly, the cams 20 will cause an upward movement of the frame 16 for tripping or raising the inking rolls 14 out of engagement with the form cylinder 10, it being understood that the arms 21 are pivotally supported at the points 22 in any suitable manner. The left-hand arm 21 is connected by a link 23 to one arm 24 of a bell crank lever 25 pivoted on a shaft 26, said bell crank lever 25 having a second arm 27 to which one end of a link 28 is pivoted, the other end of said link being pivotally connected to the right-hand rocker arm 21. The bell crank lever 25 has a third arm 29 carrying a projection 30 which under normal operating conditions occupies a notch 31 in a link 32 which at its lower end is pivotally connected to the main eccentric bearing 33 loosely mounted upon the journal 34 of the blanket cylinder 11. The connecting rod 13 heretofore mentioned is connected at 35 to the eccentric 33 for transmitting thereto the automatic tripping action, that is to say, if for any reason the press is automatically tripped, as when a sheet has not been properly registered, not only is it desired to trip the blanket cylinder out of engagement with the impression cylinder and plate cylinder, as described in the aforesaid mentioned patent, but it is also desirable to move the inking rolls out of engagement with the plate cylinder. Let it be assumed that for some reason the press is automatically tripped. Under such conditions the connecting rod 13 is raised, shifting the eccentric bearing 33 in a clockwise direction, as viewed in Figure 1, thereby causing the link 32 to move downwardly and the bell crank lever 25 to rotate in a counterclockwise direction, drawing the links 23 and 28 downwardly for rotating the arms 21 downwardly and inwardly, thereby actuating the cam 20 for lifting the frame 16 and thereby lifting the inking rolls out of engagement with the form cylinder 10.

It will be understood that the link 32 is

maintained in interlocked position with the projection 30 on arm 29 by a spring 36 coiled around a bar 37, one end of which is pivotally connected to the link 32 and the other end of which is slidably received by a lug 38 formed on the periphery of the eccentric bearing 33. It also will be understood that when the cause for the tripping of the press ceases the bearing 33 will be rotated automatically in a counterclockwise direction for causing the inking rolls again to move into engagement with the form cylinder. Such is the mechanism for automatically tripping the inking rollers.

The inking rollers also may be tripped manually. In this connection a bracket 39 is provided which is pivotally mounted on the shaft 26 and is integrally formed with an operating lever 40 which normally is locked to the frame 12 of the printing press by means of a pin 41 operated by an auxiliary lever 42 pivotally mounted on the lever 40. The bracket has two cam portions 43 and 44. The cam portion 43 cooperates with a roller 45 mounted in the link 32 and is arranged in a manner such that when the bracket 39 is swung in a counterclockwise direction the link 32 will be forced out of interlocking relationship with a pin 30 on arm 29 to break the operating connection through which the inking rollers are automatically tripped. The cam 44 cooperates with a roller 46 mounted in a link 47 pivotally connected to a hand-operated lever 48 pivotally connected to the frame at 49. Normally the lever 48 is locked to the frame by a pin 50 operated by a supplemental lever 51 pivotally mounted on the lever 48. As the bracket 39 is rotated in a counterclockwise direction for breaking the automatic tripping connection, as described hereinabove, the link 47, through the cam 44, is permitted to drop into a position whereby a notch 52 in the link 47 may pass over and interlock with the pin 53 forming the pivotal connection between link 28 and arm 27. It is apparent, therefore, that under these conditions to manually trip the inking rolls it is merely necessary to swing the lever 48 to the right, whereupon the links 23 and 28 will be drawn downwardly for raising the inking rolls out of engagement with the form cylinder 10. It will be understood, of course, that when the lever 48 is actuated for manually tripping the inking rollers, the lever 40 will be locked in its upper position wherein its locking pin 41 occupies a receiving opening 54 in the frame. The manual tripping operation is performed only when the lever 40 is in its raised position. If desired to lock the inking rollers in trip position after the same have been tripped manually, the same may be done by permitting the locking key 50 to pass into an opening 55 in the frame. When it is desired to free the inking rolls from their tripped condition after they have been tripped manually, the lever 48 is first swung back into the position shown in Figure 1 of the drawings and then the lever 40 is swung back into the position shown in the same figure, thereby causing the link 47 to be disengaged from the bell crank lever 25 through the action of cam 44 and for permitting, through the action of cam 43, the link 32 to become locked with the bell crank lever 25 preparatory to any automatic tripping action which may occur.

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 inking rolls, an operating cylinder having a journal, a member pivotally mounted thereon and normally operatively connected to said inking rolls for tripping the latter, means for releasing the operative connection between said member and rolls, and other means for tripping said rolls after releasing said operative connection.

2. In a printing press, the combination of a form carrying member, inking rolls cooperating therewith, a frame carrying said rolls, arms through which said frame may be raised for tripping said rolls, a bell crank lever having a plurality of arms, links connecting arms of said bell crank lever with the aforesaid arms for transmitting tripping action to the latter, and means for releasably connecting said bell crank lever to an actuating source.

3. In a printing press, the combination of a form carrying member, inking rolls cooperating therewith, a frame carrying said rolls, arms through which said frame may be raised for tripping said rolls, a bell crank lever having a plurality of arms, links connecting arms of said bell crank lever with the aforesaid arms for transmitting tripping action to the latter, means releasably connected to said bell crank lever for automatically actuating the latter, and separate means for manually actuating said bell crank lever.

4. In a printing press, the combination of a form carrying member, inking rolls cooperating therewith, a frame carrying said rolls, arms through which said frame may be raised for tripping said rolls, a bell crank lever having a plurality of arms, links connecting arms of said bell crank lever with the aforesaid arms for transmitting action to the latter, means for automatically and manually actuating said bell crank lever, and means for selectively controlling the automatic or manual actuation.

5. In a printing press, the combination of a form carrying member, inking rolls cooperating therewith, a frame for carrying

said inking rolls, means for moving said frame for tripping said rolls out of engagement with said form carrying member including a bell crank lever operatively connected to said frame, an automaticaly actuated link releasably connected to said bell crank lever, and cam means for controlling the releasable connection between said link and bell crank lever.

6. In a printing press, the combination of a form carrying member, inking rolls cooperating therewith, a frame for carrying said inking rolls, means for moving said frame for tripping said rolls out of engagement with said form carrying member including a bell crank lever operatively connected to said frame, an automatically actuated link releasably connected to said bell crank lever, said rolls being tripped automatically through said link, means for manually tripping said rolls when said link is disconnected from said bell crank lever, and cam means for controlling which of said tripping means shall be effective.

7. In a printing press, the combination of a form cylinder, a blanket cylinder associated therewith, inking rolls cooperating with said form cylinder, a frame for carrying said inking rolls, a bell crank lever operatively connected to said frame, a member loose on a journal of said blanket cylinder being connected to trip mechanism of the press and having a releasable connection with said bell crank lever, said rolls being automatically tripped away from said form cylinder when said member is operatively connected with said bell crank lever, and means for manually tripping said inking rolls when said member is not operatively connected with said bell crank lever.

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

JOSEPH R. BLAINE.