June 5, 1945. H. M. BARBER 2,377,663

INKING MECHANISMS FOR ROTARY PRINTING PRESSES

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Fig. 2.

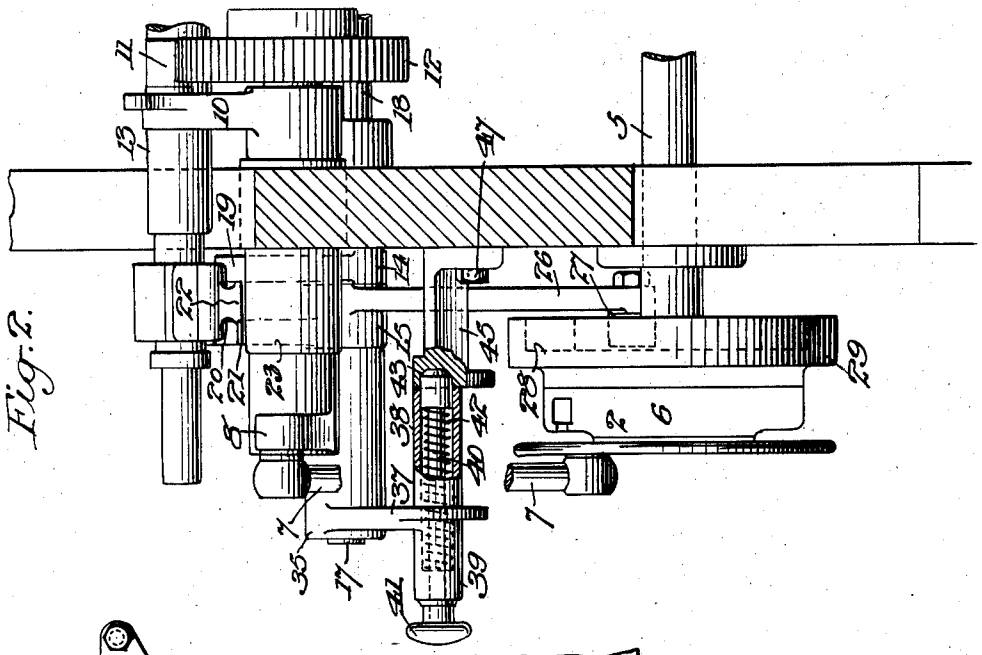
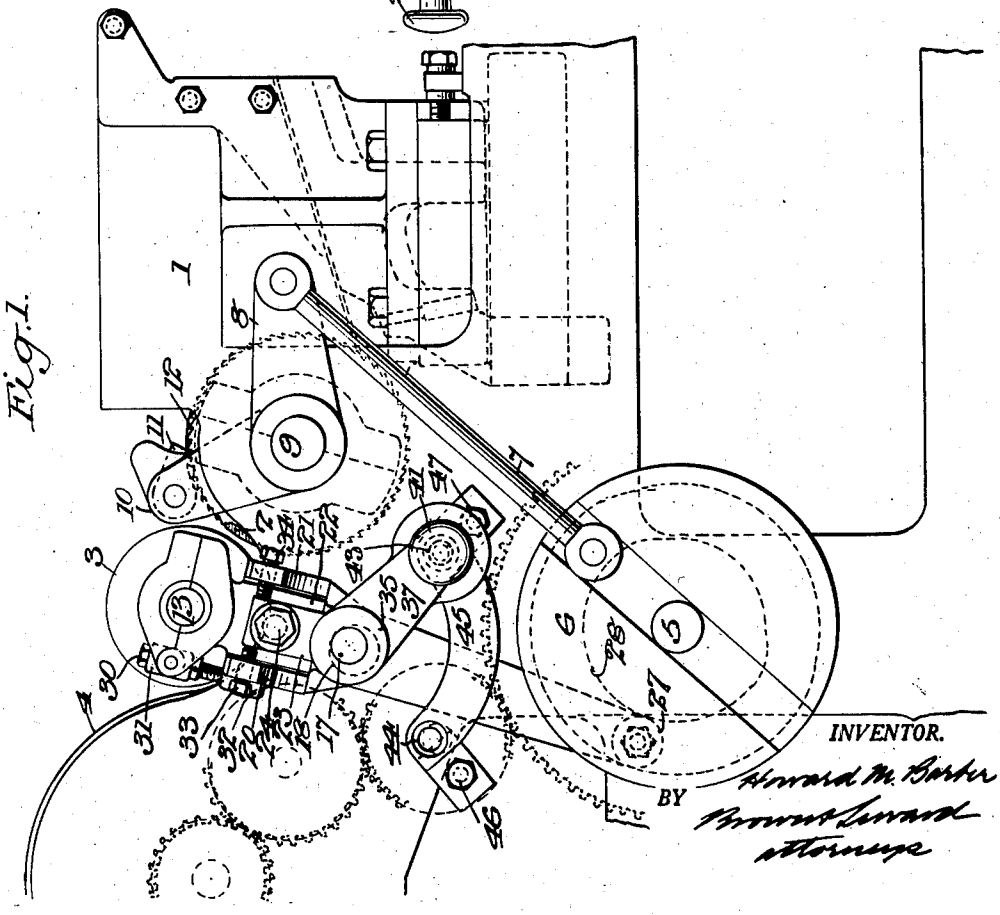


Fig. 1.

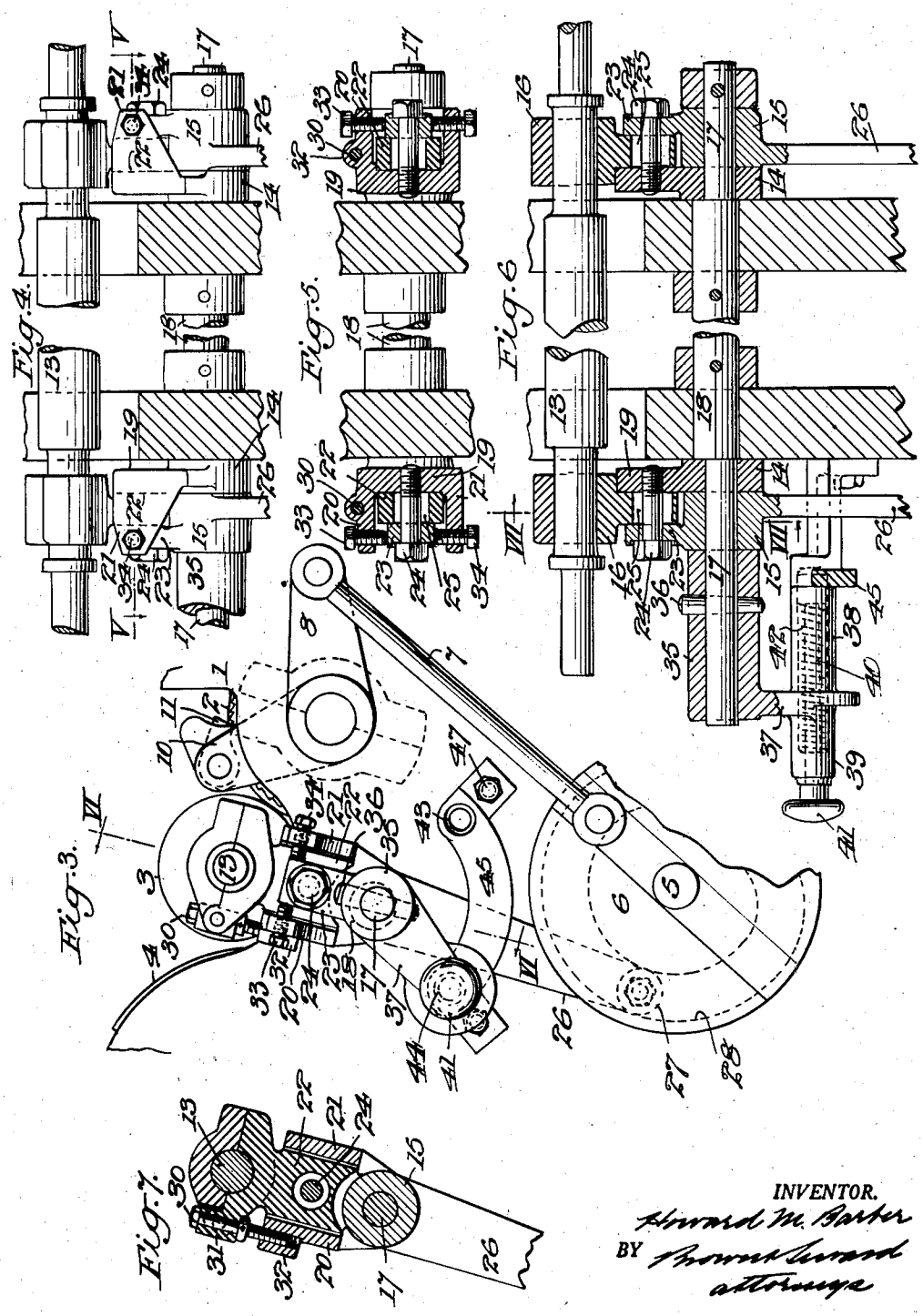


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INKING MECHANISMS FOR ROTARY PRINTING PRESSES

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2,377,663

INKING MECHANISM FOR ROTARY PRINTING PRESSES

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6 Claims. (Cl. 101—351)

In rotary printing presses, especially where quick drying inks and drying apparatus are used it is necessary to run the press a sufficient time to bring the heating element of the drying apparatus up to the required temperature to quickly and efficiently dry the impressions. During this warming-up period the ink supplied to the distribution should be cut off to prevent its loading up with an excess amount of ink before the actual printing operation.

My invention comprises novel means acting on the oscillating ductor roller for temporarily stopping the flow of ink from the ink supply roller to a roller of the ink distribution during the warming-up period of the drying apparatus and to thereafter reestablish the flow of ink to the ink distribution without affecting the drive for the ink supply roller, thereby keeping the ink at all times in proper condition to be supplied to the distribution.

My invention also comprises means of the above character in which the operation of the said means will not affect the angular movement of the ductor roller nor its initial adjustment for parallelism with the ink supply and distribution rollers.

My invention also comprises a manually operated means for rendering the ductor roller operative or inoperative to transfer the ink from the ink supply roller to the distribution roller while the press is running or at rest.

A practical embodiment of my invention is represented in connection with the oscillating ductor roll of an ink distribution in which the ink supply or fountain roll is intermittently driven.

Fig. 1 represents a detail side elevation of so much of an ink distribution as includes my ductor roller throw-off device; the elements being in the positions they assume when the ductor roller has been rendered inoperative to transfer the ink from the supply roller to the distribution roller.

Fig. 2 represents a detail end elevation partly in section at one of the side frames, with the ink fountain removed;

Fig. 3 represents a detail end elevation with the elements in the positions they assume when the ductor roller has been rendered operative to transfer the ink from the supply roller to the distribution roller.

Fig. 4 represents a detail end view of the same.

Fig. 5 represents a detail section taken in the plane of the line V—V of Fig. 4.

Fig. 6 represents a detail section taken in the plane of the line VI—VI of Fig. 3.

Fig. 7 represents a detail section taken in the plane of the line VII—VII of Fig. 6.

The ink fountain is denoted by 1, the ink supply or fountain roller by 2, the oscillating ductor roller by 3 and the ink distribution roller by 4.

The ink supply roller 2 may be intermittently driven from a continuously rotating shaft 5 by providing the shaft with a crank disc 6 connected to one end of a rod 7, the other end of said rod being connected to one arm 8 of a rock lever pivoted to swing on the ink supply roller shaft 9, the other arm 10 of which lever carries a pawl 11 in engagement with the ratchet wheel 12 fast on the said shaft 9 of the ink supply roller.

Each end of the shaft 13 of the ductor roller 3 is journaled in an oscillating end support which comprises an inner member 14, an outer member 15 and an intermediate socket member 16. These members 14 and 15 are pivoted on an end eccentric portion 17 of a hand shaft 18 journaled to rock in the side frames.

The inner member 14 of the end support has an uprising arm 19 provided with outwardly directed flanges 20 and 21 between which flanges the shank 22 of the socket member 16 is located.

The outer member 15 has an uprising arm 23 also located between the flanges 20 and 21 against the outer face of the shank 22 of the socket member 15.

A bolt 24 passes through the arm 23 of the outer member 15 and an enlarged hole 25 in the shank 22 of the socket member 16 into threaded engagement with thhe arm 19 of the inner member 14 of the end support to lock the three members together.

The outer member 15 is also provided with a depending arm 26 having a stud or roller 27 located in the groove 28 of a box cam 29 fast on the continuously rotating shaft 5.

It will be seen that the rotary movement of the shaft 5 will cause the end supports to rock and thereby oscillate the ductor roller 3 between the ink supply and distribution rollers.

The opposite ends of the ductor roller may be independently adjusted both radially and arcuately to bring the roller into parallelism with the ink supply and distribution rollers.

The initial independent radial or vertical adjustment of each end of the ductor roller is shown as including the following elements: an adjusting screw 30 is rotatably mounted in a lug 31 on the socket member 16, which screw is threaded into a lug 32 and flange 20 of the inner member 14. When the bolt 24 is released the screw 30 may be turned in either direction to adjust the

socket member 16 radially with respect to the inner and outer members 14 and 15 of the end support.

The initial independent arcuate or lateral adjustment of the ductor roller is shown as comprising adjusting screws 33 and 34 which are threaded in the flanges 20 and 21 of the inner member 14 in positions to engage the opposite walls of the uprising arm 23 of the outer member 15 of the end support. When the bolt 24 is loosened these screws 33 and 34 may be turned in either direction to change the angular position of the inner and outer members 14 and 15 with respect to the socket member 16.

It will be understood that after the positions of both ends of the ductor roller shaft have been accurately adjusted both radially and arcuately to bring the ductor roller into its proper position with respect to the ink supply and distribution rolls, the bolts 24 may be tightened to lock the three members of each end support together in their adjusted positions.

The manually operated means which I have shown for rendering the ductor roller operative or inoperative to transfer the ink while the press is running or at rest and without disturbing the initial independent radial and arcuate adjustments of the ductor roller and without affecting the drive for the ink supply roller when the press is running and without affecting the angular movement of the ductor roller is shown as comprising the following elements: The hub 35 of a hand crank is made fast to one eccentric end portion 17 of the hand shaft 18 as by a cross pin 36. The crank arm 37 is provided with inwardly and outwardly directed hollow lugs 38 and 39 in which the slidable shank 40 of a handle 41 is yieldingly held at the limit of its inward or locking movement by a suitable spring 42 to cause the inner end of the shank 40 to project into either the hole 43 or the hole 44 in a bracket 45 secured by bolts 46, 47 to the adjacent side frame for locking the ductor roller in its inoperative or its operative position.

It will be understood that the ductor roller is initially adjusted for parallelism while the hand crank is in its normal operative position with the inner end of its shank 40 projected into the bracket hole 44 as shown in Fig. 3. When the ductor roller is to be thrown off or tripped to its inoperative position the inner end of the handle shank 40 is withdrawn from its locked position in the hole 44 and the hand crank is swung along the bracket 45 and the inner end of the handle shank 40 is projected into the hole 43 in the bracket as shown in Fig. 1 for locking the ductor roller in its thrown-off or tripped position. This swinging movement of the hand crank will rock the hand shaft 18 and its eccentrics 17 to move the end supports radially to move the ductor roller into and out of its operative position without disturbing its angular movement.

It will also be seen that the relative location of the ductor roller with respect to its hand shaft is changed to prevent the ductor roller from contacting with the ink supply and distribution rollers without interfering with the rotative movement of the said ink supply roller.

It is evident that various changes may be resorted to in the construtcion, form and arrangement of the several parts without departing from the spirit and scope of my invention, and hence I do not intend to be limited to the paricular embodiment herein shown and described, but what I claim is:

1. In an inking mechanism for rotary printing presses, ink supply, distribution and ductor rollers, a hand shaft, end supports for the ductor roller eccentrically pivoted on the hand shaft, means for initially adjusting the end supports to bring the ductor roller into parallelism with the ink supply and distribution rollers, means for rotating the ink supply roller and for oscillating the end supports and thereby the ductor roller between the ink supply and distribution rollers, and means for rocking the hand shaft to move the ductor roller to its operative and inoperative positions without affecting its angular movement and initial adjustment.

2. In an inking mechanism for rotary printing presses, ink supply, distribution and ductor rollers, a hand shaft, end supports for the ductor roller eccentrically pivoted on the hand shaft, means for initially adjusting the end supports radially and arcuately to bring the ductor roller into parallelism with the ink supply and distribution rollers, means for rotating the ink supply roller and for oscillating the end supports and thereby the ductor roller between the ink supply and distribution rollers, and means for rocking the hand shaft to move the ductor roller to its operative and inoperative positions without affecting its angular movement and initial adjustments.

3. In an inking mechanism for rotary printing presses, ink supply, distribution and ductor rollers, a hand shaft, end supports for the ductor roller eccentrically pivoted on the hand shaft, means for initially adjusting the end supports to bring the ductor roller into parallelism with the ink supply and distribution rollers, means for rotating the ink supply roller and for oscillating the end supports and thereby the ductor roller between the ink supply and distribution rollers, means for rocking the hand shaft to move the ductor roller to its operative and inoperative positions without affecting its angular movement and initial adjustment, and means for releasably locking the hand shaft in its two positions.

4. In an inking mechanism for rotary printing presses, ink supply, distribution and ductor rollers, a hand shaft, end supports for the ductor roller eccentrically pivoted on the hand shaft, means for initially adjusting the end supports radially and arcuately to bring the ductor roller into parallelism with the ink supply and distribution rollers, means for rotating the ink supply roller and for oscillating the end supports and thereby the ductor roller between the ink supply and distribution rollers, means for rocking the hand shaft to move the ductor roller to its operative and inoperative positions without affecting its angular movement and initial adjustments, and means for releasably locking the hand shaft in its two positions.

5. In an inking mechanism for rotary printing presses, ink supply and distribution rollers, a rotary drive shaft, an operative connection between the shaft and the supply roller to rotate the roller, a hand shaft having eccentric portions, a ductor roller, end supports therefor pivoted on said eccentric portions, an operative connection between the drive shaft and said end supports for oscillating the ductor roller between said ink supply and distributing rollers, means for initially adjusting the end supports to bring the ductor roller into parallelism with the ink supply and distribution rollers, and means for rocking the hand shaft to cause the end supports to move the ductor roller to its operative and inoperative posi-

tions without affecting the operative connections between the drive shaft and the ink supply and ductor rollers or the initial adjustment of the ductor roller.

6. In an inking mechanism for rotary printing presses, ink supply and distribution rollers, a rotary drive shaft, an operative connection between the shaft and the supply roller to rotate the roller, a hand shaft having eccentric portions, a ductor roller, end supports therefor pivoted on said eccentric portions, an operative connection between the drive shaft and said end supports for oscillating the ductor roller between said ink supply and distribution rollers, means for initially adjusting the ductor roller for parallelism with the ink supply and distribution rollers, means for rocking the hand shaft to cause the end supports to move the ductor roller to its operative and inoperative positions without affecting the operative connections between the drive shaft and the ink supply and ductor rollers or the initial adjustment of the ductor roller and means for releasably locking the oscillating ductor roller in said operative and inoperative positions.

HOWARD M. BARBER.