April 2, 1940. C. E. SHREFFLER 2,195,829

DUCTOR ROLLER CONTROL FOR PRINTING PRESSES

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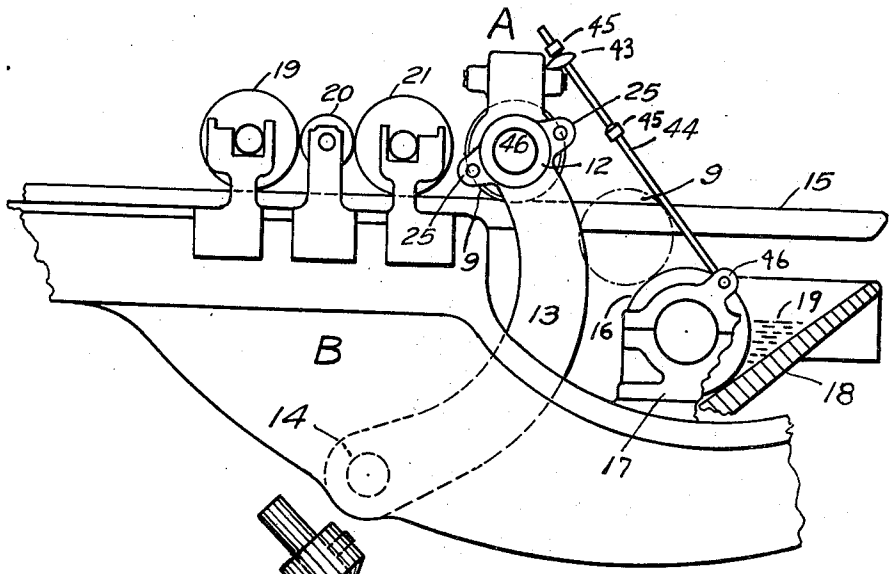


FIG. 2

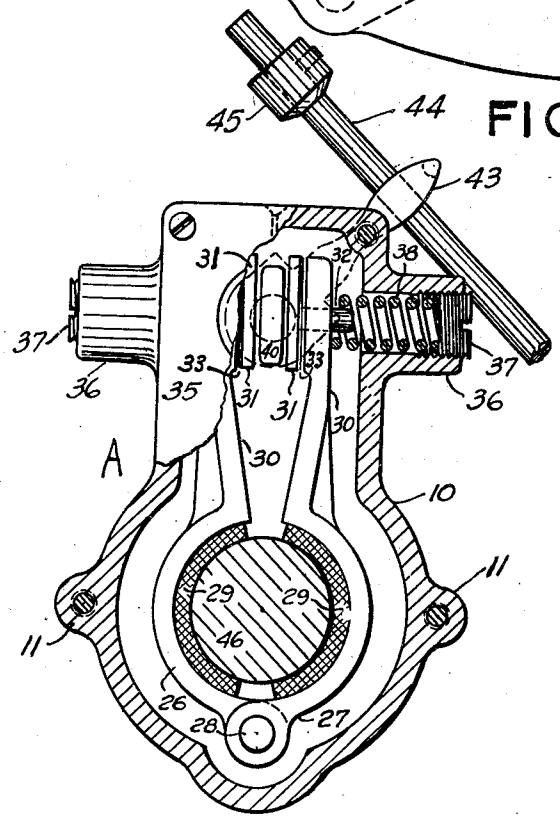


FIG. 1

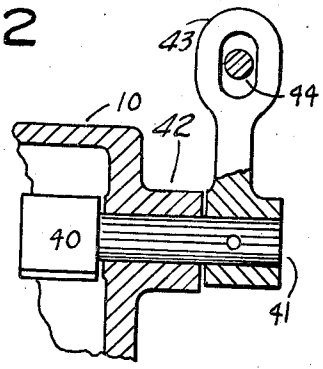


FIG. 3

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DUCTOR ROLLER CONTROL FOR PRINTING PRESSES

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2 Claims. (Cl. 101—344)

The present invention comprises means for controlling the turning movement of ductor rollers and has for its object permitting a free movement of this roller while in contact with the ink plate or fountain roller by braking the roller directly after it leaves these parts and releasing it directly before it contacts these parts.

An object of the present invention is to provide a more even distribution of the ink to and on the ink plate. Ductor rollers are in motion while in contact with the plate. This motion is harmful if it continues until it contacts the fountain roller because it may then be turning at a different peripheral speed than the fountain roller and when the ductor roller leaves the fountain roller, it will be in motion which, if continued until it contacts the plate, will be harmful for obvious reasons.

The principle object of the present invention is to hold the ductor roller from turning while passing between the fountain roller and the ink plate and to free the ductor roller just before it contacts these parts at which time these contacts will cause the ductor roller to be driven by friction at considerable speed therefore the present invention provides means for braking the ductor roller immediately after it leaves its contacts and then permit it to turn freely while in contact.

An object of the present invention is to provide simple adjusting means whereby the braking and releasing points may be adjusted to suit the particular press being served.

A further object of the present invention is to provide simple means for adjusting the braking pressure on the roll and for taking up the wear on the brake bands.

To these and other useful ends, my invention consists of parts and combinations of parts or their equivalents, and mode of operation, as hereinafter set forth and claimed and shown in the accompanying drawing in which:

Fig. 1 is a partially sectioned front view of my improved device.

Fig. 2 is a fractional view of a printing press on which my device is shown installed.

Fig. 3 is a fractional view of the brake actuating means, the housing and a fraction of the trip lever being sectioned.

As thus illustrated, my improved braking device is designated in its entirety by reference character A and the printing press is designated in its entirety by reference character B. Member B comprises the usual ductor roller 9 which is rotatably mounted on the free ends of arms 13 by means of bearings 12, the arms being pivotally mounted on the frame of the printing press as at 14.

Member A comprises a housing 10 which is suitably secured to the ductor roller bearings 12 and operated in a manner which will hereinafter appear.

The ink plate of the press is designated by reference numeral 15. This plate is adapted to be moved or oscillated and conveys the ink from the ductor roller 9 to the other rollers which finally convey the ink to the type through a number of rollers (not shown) as is customary in presses of the class. Fountain roller 16 is rotatably mounted in bearing blocks 17. A member 18 is positioned as illustrated forming a well for a suitable supply of ink 19. Roller 16 is provided with ratchet means (not shown) for turning this roller at intervals in the proper direction.

Means (not shown) are also provided for adjusting the duration of the turning movement of the fountain roller. Thus the desired quantity of ink may be supplied to the ductor roller while it is in contact with the fountain roller. While the ink plate is in its forward position, arm 13 is caused to swing on its axis so as to bring the ductor roller in the position shown in Figure 2. Thus the desired quantity of ink will be conveyed from roler 16 to roller 9 and then to the ink plate as the plate moves back under the ductor roller as illustrated in Figure 2.

The mechanism which oscillates arms 13 is adapted to move these arms to the position shown in Figure 2 while plate 15 is in its forward position, after which the plate moves back under the ductor roller 9 as illustrated in this figure, receiving a fresh supply of ink from the ductor roller.

Rollers 19, 20 and 21 are adapted to contact the rear end of the plate or the portion contacted by the ductor roller and as it moves forward the ink is picked up by these rollers which will, in turn, evenly spread the ink on the forward surface of the plate during the time the plate is in its rearward position (see Figure 2).

It will be seen that as the plate moves rearwardly under ductor roller 9, the ink will be spread over the plate and the roller will be caused by frictional contact to travel at considerable speed and when the plate moves forward out of contact with the ductor roller, this roller is left turning at considerable speed. The braking device acts to stop this movement directly after the ductor roller starts to move toward the fountain roller, the ductor roller is thus held from rotation until it is near the fountain

roller at which time the braking mechanism will be caused to release the roller so it is free to turn before it contacts the fountain roller. The same braking operation takes place when the ductor roller leaves the fountain roller and before it contacts the ink plate.

The mechanism I have provided for braking and releasing the ductor roller at the proper time is as follows: Housing **10** is secured to bearing **12** preferably by means of bolts which pass through lugs **11—11** and **25—25**.

I provide braking sectors **26** and **27** each being pivoted preferably to a common pin **28**, the sectors being provided with suitable brake linings **29—29**. Sectors **26** and **27** are provided with arms **30—30** each having mounted thereon at their upper ends plates **31—31**. These plates are held to the arms by means of plate pins **32** which extend loosely through apertures in the arms. In order to make a suitable preliminary adjustment, I provide a number of thin washers **33—33**. These washers may be removed from time to time in order to suitably adjust the mechanism as the brake linings **29** wear. Thus when the brake linings are new, quite a number of these washers will be in place under the plates in order to provide for considerable wear of the brake lining.

Member **10** is open on one side, the opening being covered by cover plate **35**. Thus, by removing this cover plate, the brakes may be adjusted.

I provide bosses **36—36** which are provided with chambers for the reception of springs **38**, the outer ends of the chambers being threaded for the reception of plugs **37**. Springs **38** are positioned in the chambers as illustrated, the inner end being held into position by means of pins **39**. It will be seen that the tension on brake linings **29** may be easily adjusted by screwing plugs **37** in or out.

I provide a brake operating plate **40** having a shaft **41** which is journaled in and protrudes through boss **42**. I secure a lever **43** to shaft **41** having preferably at its outer end an opening through which a brake releasing rod **44** is slidably mounted.

Rod **44** is provided with spaced adjustable stops **45—45** and is rotatably secured to bearing block **17** as at **46**. Thus it will be seen that when arms **13** approach the position shown in Figure 2, one of the stops will act to turn plate **40** and hold the brake linings out of contact with the ductor roller shaft. This operation is repeated when the ductor roller approaches the fountain roller.

Clearly by shifting stops **45**, the brake may be caused to operate at various distances from the fountain roller or the ink plate.

Thus it will be seen that I have provided efficient means for controlling the ductor roller and more satisfactorily supply ink to the ink plate.

Clearly many minor detail changes may be made without departing from the spirit and scope of the present invention as recited in the appended claims.

Having thus shown and described my invention, I claim:

1. A device of the class described, comprising two spaced arms being hingedly mounted at one end and having a shaft rotatably mounted in the other ends thereof, said arms adapted to be oscillated on their hinges between predetermined points, a braking device mounted on the free end of one of said arms, said braking device comprising two sectors which are hingedly mounted at adjacent ends thereof, each sector having braking bands adapted to engage said shaft on opposite sides thereof, spaced arms on the free ends of said sectors, yielding means adapted to cause said braking bands to snugly engage said shaft, brake releasing means positioned between the free ends of said last arms, and being secured to a shaft which is rotatably mounted and having a lever whereby when its free end is moved in either direction, said brake bands will be released, and adjustably mounted stops positioned in the path of the free end of said lever and being adapted to contact the lever and cause said brake bands to be disengaged before said arms reach the end of their travel in either direction.

2. A device of the class described, comprising two spaced arms being hingedly mounted at one end and having a shaft rotatably mounted in the other ends thereof, said arms adapted to be oscillated on their hinges between predetermined points, a braking device mounted on the free end of one of said arms, said braking device comprising a housing having therein two sectors which are hingedly mounted at adjacent ends, each sector having braking bands adapted to engage said shaft on opposite sides thereof, spaced arms on the free ends of said sectors, two springs each adapted to engage one of said last arms and cause said brake bands to yieldingly engage said shaft, spaced adjusting means on the inner side of the free ends of said arms, brake releasing means positioned between said adjusting means and being secured to a shaft which is rotatably mounted in said housing, one end protruding through the housing, a lever secured to said protruding end and being adapted to disengage said brake bands when the free end thereof is moved in either direction, and adjustably mounted stops positioned in the path of the free end of said lever and being adapted to contact the lever and cause said brake bands to be disengaged before said arms reach the end of their travel in either direction.

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