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F. S. BAILEY

FLEXIBLY ADJUSTABLE DUCT ROLLER BRAKE

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Fig. 1.

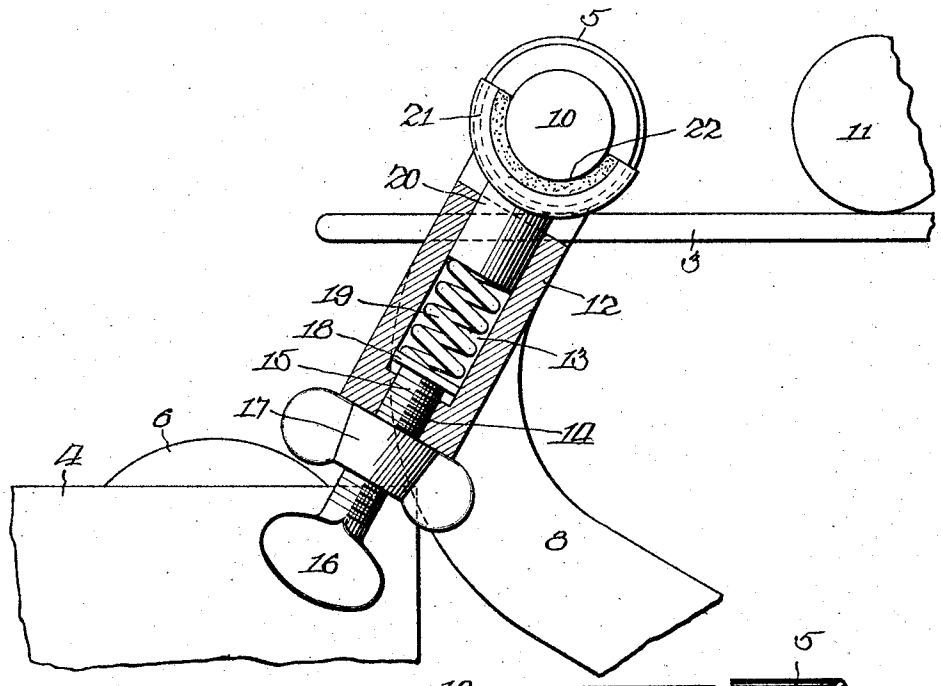
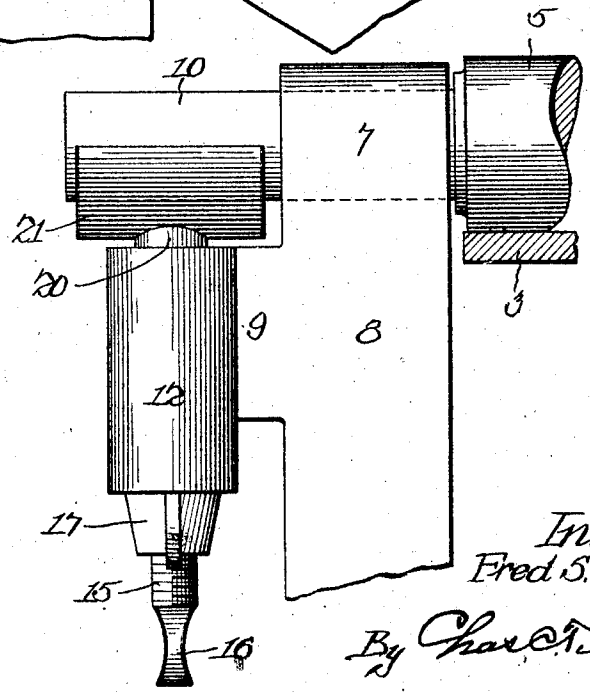


Fig. 2.



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FLEXIBLY-ADJUSTABLE DUCT-ROLLER BRAKE.

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This invention relates, generally, to printing presses, and has particular relation to a novel construction and arrangement of means for flexibly and positively adjusting the brake for the "duct" roller used in cooperation with the ink fountain or well, and a reciprocatory ink distributing plate, employed by printing presses. The said plate being mounted for horizontal and longitudinal movement above the ink fountain or well, as well as, above the roller located in the same, which latter roller is used for intermittently stirring the ink, in any well known way.

In other words, the invention consists of an attachment for printing presses, especially those of the "Miehle" type, but not restricted to said presses, for co-action with a roller, commonly called a "duct" roller, for applying more or less pressure to the brake for the same, and in a manner having some flexibility, as well as, in a positive way with respect to a predetermined degree of the flexible or spring pressure, which shall be very simple and inexpensive in construction, strong, durable and efficient in operation, and so made that it can be readily adjusted or operated, without the use of a wrench, if desired.

In the class of inking apparatus now under consideration, the duct roller is journaled at one of its ends in a bearing on the upper end of an arm which is pivoted at its lower end to a portion of the printing press near one of its sides, and in such a way, that said arm may extend upwardly near one of the side edges of the reciprocatory plate, so that the roller, which is transversely located with respect to said plate may rest thereon in its back and forth movement, which movement may be imparted thereto in the usual or any preferred manner. The other end of the said roller is reduced and rests on a brake shoe carried by another arm similar to the one just above described, and pivoted at its lower end as before to a portion of the press at the opposite side of the said plate. In the operation of the press, the said arms will be caused to oscillate vertically, so that when the plate is removed from under the roller, the latter may be lowered to contact with an inking roller located in the ink fountain or well. From such position the arms carrying the duct roller at their upper ends will be elevated and permit the said roller to rest on the upper surface of the plate and distribute ink thereover.

This type of inking apparatus is so well known and understood, that it is believed to be needless to further explain the same at this time.

In the accompanying drawing it will be understood, that I have shown only such parts of a printing press with which my improvements are associated, the other parts of said machine being omitted for the sake of clearness and because their illustration in the present instance would be useless.

Referring now to the drawing:—

Fig. 1 is a side view in elevation of a portion of a printing press illustrating the holder for the brake in section and showing the duct roller in position on the reciprocatory plate, a portion of which only is shown and

Fig. 2 is an end elevation looking towards the right hand side of Fig. 1.

Referring now to Fig. 1 of the drawing, the longitudinally and horiontally reciprocating ink distributing plate is designated by the numeral 3, and as shown, is located a slight distance above the ink fountain or well 4 which may be supported in any suitable manner, and may contain ink of a desired color. The plate 3 may be reciprocated in the usual or any preferred way so as to retract the same from the path of the duct roller 5 in its descending movement, thereby allowing said roller to contact with the stirring roller 6 and take or pick up ink from the same, which the duct roller will distribute or place upon the upper surface of the plate 3 when the same has been reciprocated under the roller 5 after being elevated.

As before stated, the duct roller 5 is journaled in bearings 7 on the upper portion of a pair of spaced apart arms 8 which may be similar in construction, and usually are, except, that the bracket 9 carrying the brake shoe and its adjusting devices may be omitted from one of said arms. These arms stride the plate 3 when it is projected, and as above mentioned are pivotally mounted at their lower ends on the press or a suitable support, not shown. For vertically oscillating the arms 8 which carry the duct roller 5 any suitable means may be employed, as such means is no part of the present invention.

The roller 5 may have integral therewith,

or it may be mounted upon a shaft 10, which shaft, is preferably somewhat smaller in diameter than the said roller and is journaled near its ends in the bearing 7 of the spaced arms 8 which carry said shaft and roller at their upper ends, and oscillate or move the roller upwardly and downwardly so as to co-act with the upper surface of the plate 3 and the stirring roller 6 which, as before stated is located in the ink well or fountain.

Horizontally journaled on the press frame, just above the plate 3 yet so as to contact with its upper surface, are a number of ink distributing rollers 11, only one of which is herein shown, the functions of which rollers 11 are to uniformly distribute the ink on the plate 3 after it has been transferred from the stirring or ink well roller 6 to the upper surface of said plate and placed thereon by the duct roller in a more or less uniform manner. One of the ink distributing rollers 11 is located, as shown, near the duct roller 5 while the other of said ink distributing rollers, not shown, are positioned horizontally to the right of the roller indicated by the numeral 11 but so as not to touch the same. While these ink distributing rollers are in a general way transversely mounted with respect to the plate 3, yet, they may or may not be journaled in parallelism with one another, and in general practice, are usually journaled so as to lie at angles to each other so as to more uniformly spread the ink on the plate 3 from which plate the ink is transferred to the type in any well known way.

Again referring to the drawing, it will be seen and understood that at least one of the pivoted arms 8 is provided near its upper end with an outwardly extended bracket 9 which is provided with a vertically disposed holder or member 12 for the brake shoe and its associated parts. This holder lies with its upper end below the shaft or portion 10 of the roller 5 and has centrally located therein a vertically disposed bore 13 which terminates at its lower end near the lower end of the holder, as is clearly shown in Fig. 1 of the drawing. This opening or bore 13 is preferably circular in cross-section and is smooth on its inner walls, or without screw-threads. The lower end of the holder 12 is provided with a vertically disposed screw-threaded opening 14 which communicates centrally with the lower end of the bore 13 and is for the reception and operation of a screw-threaded adjusting bolt 15 which may have its lower end provided with a thumb piece 16 so that the same can be readily turned for adjustment by means of the hand and without the use of a wrench. However, it is evident that the lower end of said bolt may be provided with any suitable kind of a wrench engaging device, if desired. Located on the bolt or screw 15 and in screw engagement therewith is a lock nut 17 of the wing nut type, which, may be used to fix the bolt or screw 15 in its adjusted position. Located within the bore or opening 13 is a washer 18 which is adapted to rest on the upper end of the adjusting screw or bolt when the same is manipulated so as to extend upwardly in the lower end of the opening 13 in the holder. Within this last named opening is located a spiral spring 19 one end of which rests on the washer 18 and the other end terminates within the opening 13 at a short distance from the top of the holder 12, which unoccupied portion in the holder, affords a socket for the reception and operation of a plunger 20 mounted on and depending from an arcuate brake shoe 21 which is lined in its upper surface with any suitable material, but preferably by means of heavy leather 22, upon which the shaft of the roller 5 may rest.

From the foregoing and by reference to the drawing, it will be readily understood and clearly seen that by my improved arrangement of the holder and its associated parts, cooperating with the duct roller shaft, a predetermined pressure or tension of the spring 19 exerted against the plunger 20 and through it, the brake shoe and its lining to the said shaft can be maintained, and that if a greater or less degree of pressure against said shaft is required or desired, this may be attained by first loosening the lock nut and then turning the adjusting bolt or screw in the proper direction.

By my improvements, a flexible pressure will be afforded by means of the spring 19, but, by employing the adjusting bolt to cooperate with the said spring, it is manifest that the brake shoe will be caused to press against the roller shaft 10 with a greater or less degree.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a device of the class described, the combination with a pivotally supported and vertically bored holder for a brake shoe, said holder having in its lower portion a screw threaded opening communicating with the bore thereof, of a brake shoe adapted to contact with a roller shaft and having depending therefrom a plunger located in the bore of said holder, an adjusting screw located in said screw threaded opening, a lock nut on said screw externally of the holder and a spring interposed between the plunger and said screw.

2. A flexibily adjustable brake for a duct-roller, comprising an arm pivotally supported at its lower end and extended upwardly near one edge of the reciprocating ink distributing plate of a printing press, of

a roller horizontally journaled on the upper part of said arm, a holder vertically mounted on said arm and having a bore under the shaft of said roller, said holder provided with a screw-threaded opening in its lower end, a brake-shoe in contact with said roller shaft and having a plunger located in said bore, an adjusting screw in the threaded opening of the holder and a spring interposed between said plunger and adjusting screw.

3. In a device of the class described, the combination with a pivotally supported and vertically bored holder for a brake-shoe, said holder having in its lower portion a screw threaded opening communicating with the bore thereof, of a brake-shoe adapted to contact with a roller shaft and having depending therefrom a plunger located in the bore of said holder, an adjusting screw located in said screw-threaded opening, a lock nut on said screw externally of the holder, a washer within the said bore and a spring interposed between the plunger and said washer.

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