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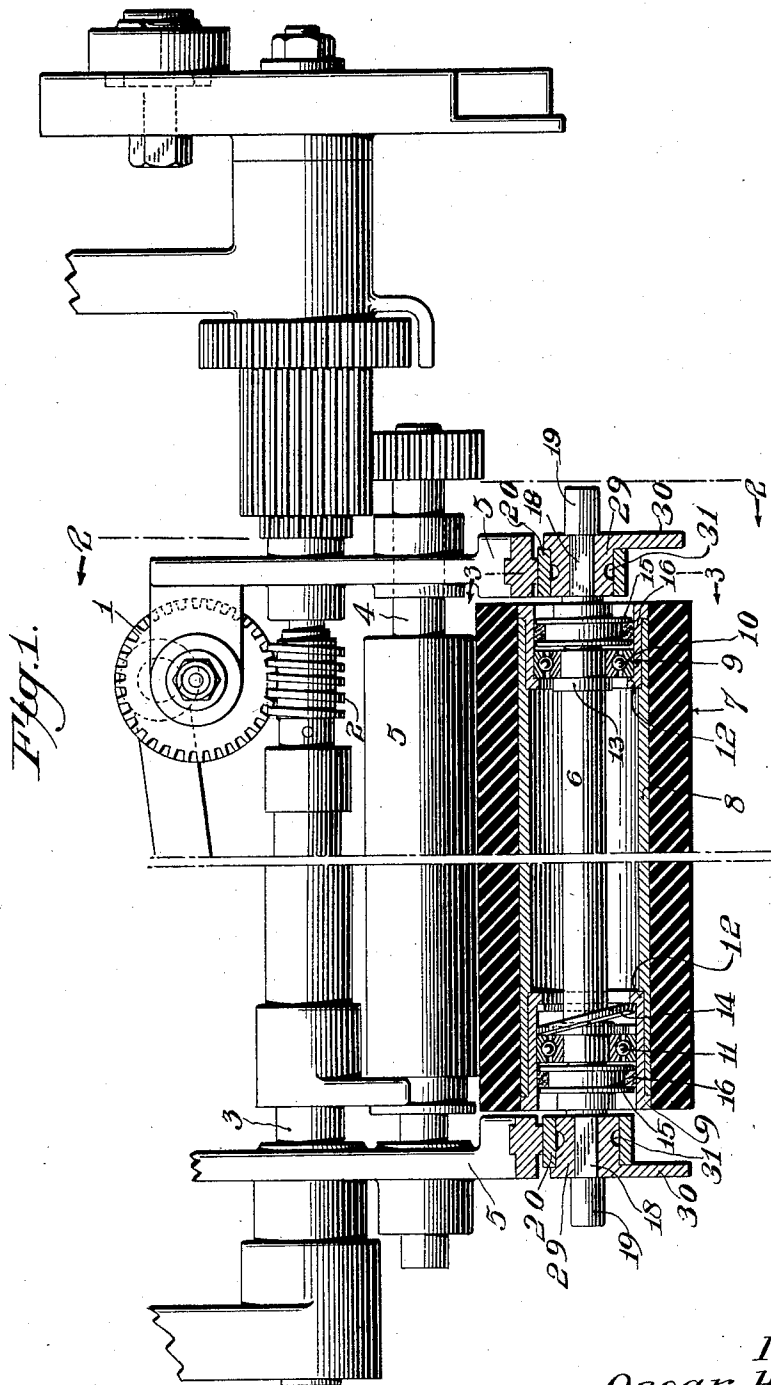
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1,904,764

INK ROLL FOR PRINTING PRESSES

Filed March 20, 1931

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 2.

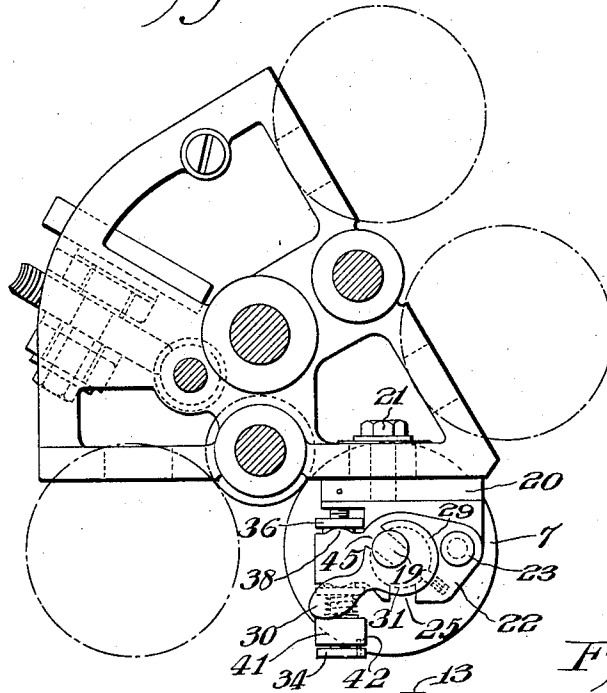


Fig. 4.

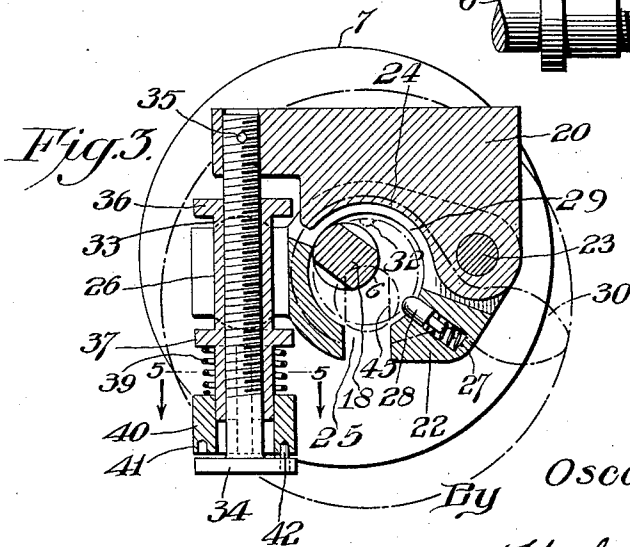
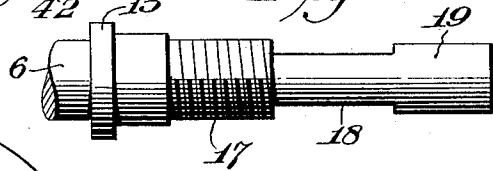
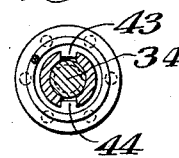


Fig. 5.



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INK ROLL FOR PRINTING PRESSES

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The object of this invention is to devise a novel form or ink roll, novel supporting means for the roll, and novel locking means for the roll which is operable at either end of the roll.

A further object is to provide novel means to adjust the position of the roll and to secure it in the position to which it has been adjusted.

A further object is to provide for quick removal of the roll, and for the release of its engagement with the vibrator roll.

With the above and other objects in view, as will hereinafter clearly appear, my invention comprehends a novel form or ink roll, novel means for supporting it, novel means for locking it in position, novel means for adjusting its position, and novel means for permitting its quick removal.

A further object is to devise a novel stationary supporting shaft which carries the roller and which is operable from either end of the roll to effect its locking or unlocking.

Other novel features of construction and advantage will hereinafter more clearly appear in the detailed description and the appended claims.

For the purpose of illustrating the invention, I have shown in the accompanying drawings a typical embodiment of it, which, in practice, will give reliable and satisfactory results. It is, however, to be understood that this embodiment is typical only and that the various instrumentalities of which my invention consists can be variously arranged and organized, and the invention is not limited to the precise arrangement and organization of these instrumentalities.

Figure 1 is an elevation partly in section of a portion of a printing press, showing in section an ink roll and its adjuncts embodying my invention.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a section on line 3—3 of Figure 1.

Figure 4 is a side elevation of one end of the stationary shaft which supports the ink roll.

Figure 5 is a section on line 5—5 of Figure 3.

Similar numerals of reference indicate corresponding parts.

Referring to the drawings:—

My present invention is illustrated in conjunction with a multi-color printing press having a plurality of form or ink rolls, each of which is constructed, controlled, and adjusted in the same manner, but it is to be understood that this invention is not limited to multi-color printing presses but can be employed with any desired or conventional type of printing press.

The worm wheel 1 meshes with the worm 2 on the carriage shaft 3 which is intergeared with the vibrator shaft 4 which carries the rotatable reciprocatory vibrator roll 5. The parts just described are conventional in their construction and operation. The shaft 4 is journaled in a rotatably adjustable frame having end brackets 5 which support the stationary shaft 6 of the form or ink rolls 7. An ink roll 7 is provided with a sleeve bushing 8 which receives the end rings 9 which form seats for the ball bearings 10 and 11. Each ring 9 is of the same construction and has its inner end terminating in an annular flange 12 which form abutments. One of these flanges 12 cooperates with a shoulder 13 on the stationary shaft 6 to retain in position the ball bearing 10. A take-up spring 14, interposed between the flange 12 of the ring 9 at the opposite end of the shaft 6 and the ball bearing 11, serves as resilient means to retain the balls true to their race at all times.

The bearing locking nuts 15 screwed on the shaft 6 carry packing 16 which serves to prevent the escape of lubricant from the chamber formed by the sleeve bushing 8, such chamber being filled with light grease. It will thus be clear that an ink roll 7 is free to revolve on its stationary shaft 6. The shaft 6 is threaded as at 17, see Figure 4, to receive the bearing locking nuts 15, and outwardly of such threaded portion it is provided with the squared portion 18 and terminates in the rounded grasping portions 19. 20 designates roller socket brackets which

are secured to the frame by fastening bolts 21. 22 designates roller sockets which are secured to the brackets 20 by hinge pins 23 riveted thereto and provided with the cylindrical opening 24 which have a slot 25 leading therefrom and opening through the wall of the socket. The roller socket 22 has a slot 26 through it, and it is also provided with a recess 27 opening through the wall of the opening 24 and containing a spring pressed locking pin 28 which serves as a detent for an eccentric bushing 29 provided with a grasping handle 30. The bushing 29 is rotatably mounted in the opening 24 of the roller socket and provided with an annular groove 31 into which the locking pin 28 extends to retain the eccentric bushing 29 in assembled position.

The groove 31 has depressions 32 to receive the pin 28 to retain the eccentric bushing in the position to which it has been adjusted. The walls of the slot 26 in the roller socket 22 guide an adjusting sleeve 33 which is internally threaded to receive a stationary adjusting screw 34, the inner end of which is fixed to the roller socket bracket 20 by a pin 35.

The adjusting sleeve 33 has the collars 36 and 37 which contact with the shoulders 38 on the roller socket 22. A lock spring 39 is interposed between the collar 37 and a lock nut 40 which latter at its outer end is provided with circumferentially spaced recesses 41 adapted to receive a pin 42 fixed to the head of the screw 34.

The lock nut 40 is provided with keys 43 which extend into keyways 44 in the adjusting sleeve 33. The eccentric bushing 29 has a slot 45 to receive the squared portion of the shaft 6 and this slot opens through the periphery of the bushing so that when such slot is brought into registry with the slot 25 in the roller bracket 22, such shaft and its roll 7 can be removed.

The polygonally shaped portions on the shaft 6 fit into the slots in the roller sockets so that the shaft is fixedly carried thereby and the shaft and its roller can be readily adjusted relatively to the vibrator roller 5 as will be understood from Figure 3.

The lock nut 40 is moved inwardly to disengage it from the pins 42 whereupon the adjusting sleeve 33 can be rotated to effect the proper adjustment of the roller sockets on their hinge pins 23. It will thus be apparent that the position of the roller 7 relative to the roller 5 can be readily adjusted as may be desired without disconnecting the roller and its shaft.

It will now be apparent that I have devised a new and useful ink roll for printing presses which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown

and described a preferred embodiment thereof which will give in practice satisfactory and reliable results, it is to be understood that this embodiment is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

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

1. In a printing press, a stationary shaft, antifriction bearings thereon, resilient means to maintain alignment of said bearings, a roll mounted on said bearings, and adjustable supporting means to secure said shaft in locked position and releasable at either end of said shaft.

2. In a printing press, a supporting shaft, a roll free to revolve thereon, roller sockets in which said shaft is eccentrically fixed, and spring pressed plungers to lock said sockets in their locked position and also in position for the removal of said roll from said sockets.

3. In a printing press, a hollow supporting shaft contributing to form a lubricant receiving chamber, ball bearing seats at the ends of said shaft, ball bearings in said seats, said shaft having means to limit movement in one direction of one of said ball bearings, a spring between the other ball bearing and its seat tending to move the first ball bearing towards said limiting means, bearing lock nuts on said shaft, and packing cooperating with said lock nuts to seal said chamber.

4. In a printing press, a shaft, a roll revoluble thereon, end brackets, roller sockets hinged to said end brackets, eccentric bushings in said roller sockets and adapted to fixedly receive said shaft, an adjusting screw fixed to each end bracket, adjusting sleeves on said adjusting screws and engaging said roller sockets to adjust their position, and means to lock said adjusting sleeves in the position to which they have been adjusted.

5. In a printing press, a supporting shaft, a roller revoluble thereon, end brackets, roller socket brackets hinged to said end brackets, eccentric bushings mounted in said roller socket brackets and adapted to fixedly receive said shaft, adjusting screws non-rotatably carried by said end brackets, adjusting sleeves in threaded engagement with said adjusting screws, a locking nut for each adjusting sleeve slidable thereon and adapted to interlock with its adjusting screw, and springs for said locking nuts tending to move them into their locking position.

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