

W. DIETRICH.
 INK DISTRIBUTING ROLLER FOR PRINTING PRESSES.
 APPLICATION FILED JULY 13, 1906.

1,040,170.

Patented Oct. 1, 1912.

Fig. 1.

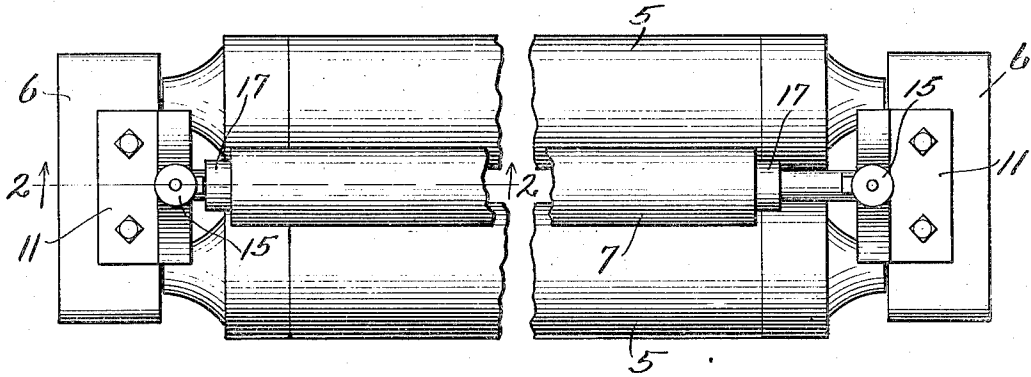


Fig. 2.

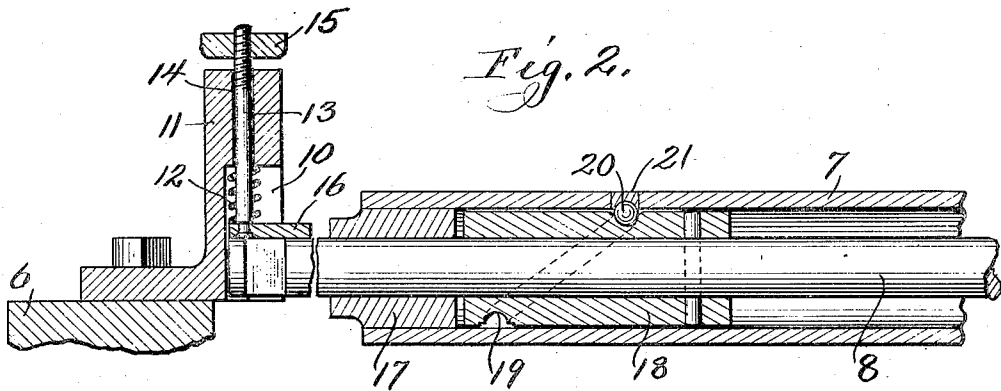
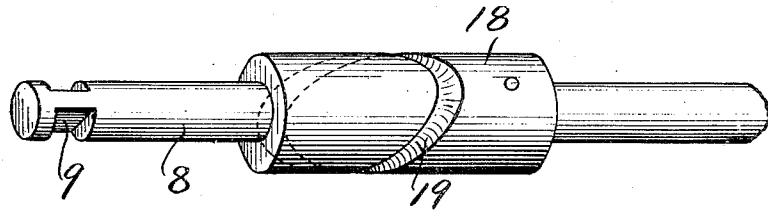


Fig. 3.



Witnesses:
 M. S. Brown
 B. Grier.

Inventor:
 William Dietrich
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UNITED STATES PATENT OFFICE.

WILLIAM DIETRICH, OF CHICAGO, ILLINOIS.

INK-DISTRIBUTING ROLLER FOR PRINTING-PRESSES.

1,040,170.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed July 13, 1906. Serial No. 326,141.

To all whom it may concern:

Be it known that I, WILLIAM DIETRICH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Ink-Distributing Roller for Printing-Presses, of which the following is a specification.

My invention relates to that class of ink distributing rollers which have a longitudinal movement as well as a rotary movement and the objects of my invention are, first, to so construct the working parts that they will be protected from dirt and dust and can easily be kept lubricated; second, to insure the positive working of the roller at all times; third, to make a cheap and durable construction and other objects to become apparent from the description to follow.

As is customary with this class of ink-distributing rollers, the operation of the roller depends on its frictional contact with two other ink rollers, and to insure constant contact between said rollers I mount the roller shaft so that the roller is constantly spring pressed against said two other rollers. Furthermore the working parts of my improved ink-distributing roller are hidden or concealed within the roller so that any dirt or dust usually about a printing room cannot get into the working parts and cause damage, and the parts which cause the longitudinal movement of the roller are situated just within the outer shell of the roller so that the lubricating oil applied to the shaft of the roller will by centrifugal force be carried to such parts.

I have shown and will describe my improved ink-distributing roller applied to the rollers of a Gordon press, but it will readily be understood that the same may be applied to any style or class of inking rollers.

To describe my invention so that others versed in the art to which it pertains will understand it sufficiently to enable them to make and use the same, I have illustrated it on the accompanying sheet of drawing forming a part of this specification and in which:—

Figure 1, is a plan view of a roller embodying my invention applied to the ink rollers of a Gordon press partly broken away; Fig. 2, is a longitudinal sectional

view taken on line 2—2 of Fig. 1; and Fig. 3, is a perspective view of the roller shaft with a cam block mounted thereon.

Similar reference characters refer to similar parts throughout the several views.

The usual ink rollers 5, 5, are pivotally mounted in the yokes 6, 6, which are constantly drawn down, by springs not shown, to keep the ink rollers 5, 5, in constant contact with either the ink platen, the printing form or the guide tracks which are not shown.

My invention relates simply to the distributing of the ink on the rollers 5, 5, and hence I have not illustrated the parts associated with the ink rollers which are of common construction and well known in the art.

In printing when applying a fresh supply of ink it is necessary, to get good results, to run the press for a time before printing, so as to get the ink evenly distributed over the entire area of the ink platen. Better printing is effected by having the ink evenly distributed during the entire run, and it is to attain these results that my present invention is designed.

The rollers 5, 5, always travel in a straight course back and forth but the roller 7 which is constantly spring pressed against the rollers 5, 5, by mechanism to be described is made to move longitudinally back and forth while it is rotated by its contact with rollers 5, 5, thus the ink adhering to said rollers is shifted longitudinally along on said rollers constantly which results in an even distribution of ink.

The roller 7 is loosely mounted on the shaft 8 which has one or both ends flattened as seen at 9 to fit loosely into slots 10 provided in the brackets 11 which are rigidly secured to the yokes 6. The shaft 8 is thus prevented from rotating but is free to slide in slots 10. As viewed in Fig. 2, the shaft 8 is pressed downward by the coiled expanding spring 12 until the roller 7 contacts with rollers 5, 5. The spring 12 is retained in proper position by being coiled about a rod 13 which fits loosely in the hole 14 provided in brackets 11 and has a nut 15 preferably threaded on its protruding end. The remaining end of the rod 13 is preferably provided with an enlarged head 16 which is of such shape as to prevent the

rod 13 from turning. The spring 12 is interposed between the head 16 and the end of slot 10.

The roller 7 is preferably made of heavy 5 brass tubing which has secured in either end the bearing blocks 17. Rigidly mounted on shaft 8 within the tube 7 and preferably near one end thereof is the sleeve or collar 18 which is provided with the cam groove 10 19 in its peripheral surface which fits close to the inner surface of tube 7.

The groove 19 is preferably semicircular in cross section and a ball 20 is inserted through a hole in tube 7 so that about one- 15 half of the ball is lying in groove 19 and about one half if it is resting in the hole in tube 7. After the ball is thus inserted the hole in tube 7 is closed preferably by brazing a plug 21 into said hole and finishing 20 its exposed end so that it is flush with the outer surface of the tube 7.

The cam groove 19 in actual practice is made so that a one half revolution of roller 7 will cause said roller to move longitudi- 25 nally in one direction the distance of about one inch and the other half revolution of the roller will move it longitudinally in the opposite direction the distance of about one inch. Thus the continuous rotation of the 30 roller 7 in either direction will cause said roller to move back and forth longitudinally.

The sizes of the rolls 5, 5, and 7 are preferably so proportioned that the longitudinal shifting of roll 7 will not always occur 35 at the same points on rolls 5, 5. The roll 7 will always rotate when the rolls 5, 5 rotate because the springs 12 constantly press it against the same.

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

1. In a device of the class described, a

hollow roller, a shaft materially smaller in diameter than the interior of said roller 45 secured against rotation and longitudinal movement extending concentrically through said roller with its ends extending beyond the ends of the roller, bearings rigidly secured in the ends of said roller, forming 50 a closed internal recess or cavity within said roller and about said shaft, means within said recess or cavity to move the roller longitudinally when it is rotated, a transverse slot in said shaft near each of its ends, 55 brackets mounted on the ink roller, yokes provided with a wide and narrow connecting slot mounted on said brackets, the slotted portions of said shaft entering the narrow slots and the unslotted extremities of said 60 shaft entering the wide slots, so as to hold said shaft against rotation and longitudinal movement, and springs to press against said shaft ends.

2. In a device of the class described, a 65 roller mounted to move longitudinally when rotated, a shaft extending through said roller with its ends extending beyond the ends of the roller, a transverse slot in said shaft near each of its ends, brackets mounted 70 on the ink roller, yokes provided with a wide and narrow connecting slot, the slotted portion of said shaft entering the narrow slot and the unslotted extremity of said shaft entering the wide slot, so as to hold 75 said shaft against rotation and longitudinal movement, and a spring pressed rod in said brackets to press against said shaft ends.

In testimony whereof I have signed my name to this specification in presence of two 80 subscribing witnesses this 10th day of July, 1906, at Chicago, Illinois.

WILLIAM DIETRICH.

Witnesses:

R. J. JACKER,
DAVID GRIER.