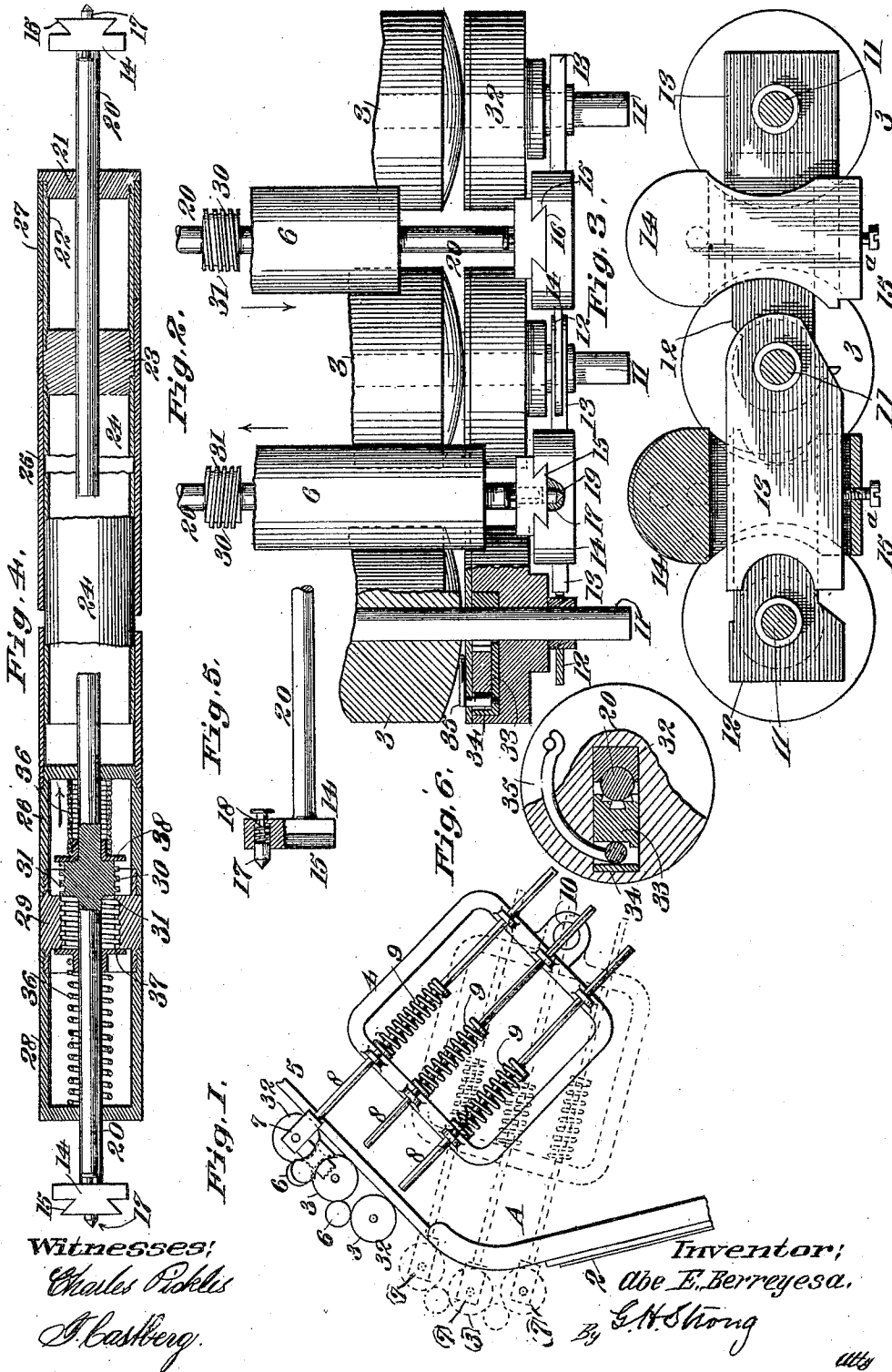


A. E. BERREYESA.
INK DISTRIBUTER.

APPLICATION FILED JAN. 3, 1910.

Patented Oct. 4, 1910.

971,821.



Witnesses:
Charles Pickles
J. Eastberg.

Inventor:
Abe E. Berreyesa.
G. W. Strong

UNITED STATES PATENT OFFICE.

ABE E. BERREYESA, OF OAKLAND, CALIFORNIA.

INK-DISTRIBUTER.

971,821.

Specification of Letters Patent.

Patented Oct. 4, 1910.

Application filed January 3, 1910. Serial No. 536,109.

To all whom it may concern:

Be it known that I, ABE E. BERREYESA, citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Ink-Distributers, of which the following is a specification.

This invention relates to inking mechanism, and pertains especially to distributers for platen presses.

It is the purpose of my invention to more effectually transfer ink from a supply member to a printing form in a uniform thickness; to provide an automatic, adjustable, equalizing apparatus readily adaptable to platen presses; and particularly to provide a distributer thoroughly reliable, practicable, and susceptible of quick, easy interchange, removal and substitution of parts.

The invention consists of the parts and the construction and combinations of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a diagrammatic view showing the device applied. Fig. 2 is a plan view partly in section. Fig. 3 is an end view of same, partly in section. Fig. 4 is a detail sectional view of an equalizing roller. Fig. 5 is a sectional detail of a spindle. Fig. 6 is a detail of a set collar.

I have shown the apparatus as applied to a platen printing press of which A indicates a portion of the frame, supporting a form 2 over which travel rollers 3 mounted on oscillating carriers 4, one of which is shown in full line and dotted line positions.

Inking rollers as now commonly used deposit the ink upon the form very unevenly, usually thick at the upper portion and very thin on the lower surface. This is because each roller revolves independently and successively deposits the ink thickly on that part of the form closest to the ink disk 5. This unevenness of distribution is very apparent when a form composed of cuts, or bold-faced type is being run, and these, presenting much area to be inked, deplete the quantity upon the roller so that the lower area of the form does not receive a sufficient coating, or is, not infrequently, streaky. To obviate this, I have successfully embodied a plurality of equalizers or adjustable rollers 6 adapted to normally lie parallel with and against the contiguous ink distributers 3 as they are moved by the blocks 7 of the car-

rier 4, which is actuated by a shaft 10. Each block 7 is secured to the outer end of a rod 8, normally under tension of springs 9, and slidable in the carriage 4 to permit the distributers 3 to follow the curved frame A. Thus the several equalizers or rollers 6 being in constant longitudinal, peripheral engagement with, and mounted above the centers of, the adjacent distributers, will cause the ink picked up on the disk 5 to be evenly transferred from distributer to distributer as the carrier 4 is oscillated, and for the purpose of keeping the equalizing rollers in contact with the distributers as they traverse the curved frame A, I pivot, upon shafts 11 of the distributers 3, telescopic links 12 and 13 which are thus yieldable and will automatically open or close as the distance between the shafts 11 varies in traveling from the disk 5 to the form 2. The links 13 carry bearing blocks 14, adjustable loosely thereon by means of screws 15^a. Suitable means may be employed to mount the rollers 6 upon the blocks 14, and I have succeeded in producing a firm, quickly-removed attachment comprising a dove-tailed head 15 adapted to seat in a socket 16 formed in the block 14, the head being provided with a detent 17, actuated by a spring 18, and registrable with a small pocket 19 in the block 14.

Secured to, or integral with, each head 15 is a spindle 20 upon which turn the equalizers or rollers 6 as they frictionally engage the distributers 3, and by reason of the detents, whereby the spindles are secured to the carrier-blocks 14, the rollers may be easily and quickly removed or interchanged, this being an important feature of the device. Obviously the rollers 6 may be made of any suitable material, may be tubular or solid, and, as I have shown, may be made adjustable and longitudinally shiftable. By imparting to the rollers 6 a combined rotary and reciprocating motion, the desired equalization of the ink is produced, and the ink is prevented from forming quickly at places on the distributers where spaces occur in the form 2. I have provided means whereby this endwise travel of the rollers 6 is obtained without introducing any mechanical agents outside of the rollers, or necessitating any alterations in the standard presses.

The rollers 6, Fig. 4, are shown as comprising a perforated end-piece or plug 21, screwed into a coupler-section 22, which is fastened to an inner bearing ring 23 of one

spindle 20, and to the ring 23 is screwed a supporting cylinder 24 telescopic in an exterior casing 25 secured to a cup 26 through which the opposite spindle 20 projects. If it be desired to lengthen the roller 6, it is only necessary to pull the cylinder 24 from the casing 25 and place a spacer or short section of casing, as 27, on the portion adjacent the plug 21, and the re-assembled roller will be as much longer as is the length of the spacer 27. Between the cup 26 and an end cap 28 is secured a nut 29 adapted to mesh with threads 30 turned upon a ring 31 fastened to one spindle 20, the several spindles being alike in all respects save that those at one side of the rollers 6 are provided with the screw-rings 31, and for reasons to be hereinafter explained I make the threads on these rings opposite, *i. e.*, one right-hand and one left-hand, Fig. 2.

The operation of the roller 6 is as follows: The carrier 4 when moved, shifts the distributors 3 from the ink disk 5 to the form 2, the hook-blocks 7 always pulling the shafts 11 toward the frame A, but to prevent the distributors from bearing too hard against the form and disk 5, collars 32 are adjustably and removably fastened to each shaft 11 by a jaw 33 which is locked by a cam 34 of a lever 35 pivoted in the collar 32. Therefore, as the carrier oscillates, the collars 32 travel on the frame A and thus frictionally drive or revolve the several distributors which, contacting with the rollers 6, cause these to revolve, perfectly transferring and equalizing the ink during the travel of the distributors from the disk to and over the form. As the rollers revolve going down the ink disk, the nuts 29 of each will engage respective non-rotary screws 30, and one roller will be shifted to the right as the other shifts left, by reason of the screws being left-hand and right-hand. Manifestly, the screws 30 may be as long as desired, but I have found that a total roller shaft of one inch produces satisfactory distribution, and this shifting movement is effected before the distributors reach the form 2. The revolutions of each roller 6 carry the nut 29 over the end of its screw 30, thus compressing one or the other of buffer springs 36, Fig. 4, which reach between the cap 28 and washer 37 on one side of nut 29, and between cup 26 and a washer 38 on the other side of nut 29. After a roller has shifted to one side or the other of a screw 31, the continued revolution in one direction does not give an endwise motion of the roller, but instantly the direction of rotation is reversed, as when the carrier 4 ascends, then such springs 36 in the several rollers 6 as may be under compression will cause the nuts 29 to pick up the threads 30, against which they are held in contact by the compressed springs, and the rotation of the

roller will cause the nut to feed across and out of its respective thread.

Since the distributors are secured to shafts 11 and these are provided with the collars 32 which bear upon the rails or frame A, I have preferred to construct the collars 32 of some material of high frictional efficiency, such as fiber, thus insuring positive revolution of the distributors and reducing the end-thrust of the shaft.

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

1. In a printing press, the combination of a form and an inking plate, a plurality of rolling distributors, a movable support for and permitting independent reciprocation of said distributors, a plurality of intermediate equalizing rollers disposed above the center of and adapted to bear upon the distributors, telescopic connections between the distributors, bearing blocks for said rollers adjustably mounted upon said connections and provided with sockets, and interchangeable means whereby the equalizing rollers may be quickly mounted in and dismounted from said bearing blocks, said means including heads connected to the equalizing rollers and having spring-pressed detents engaging sockets in the bearing blocks.

2. An inking device for printing presses, comprising ink receiving and distributing rollers, shafts upon which said rollers are secured, telescopic connections between said shafts adapted to open or close automatically as the distance between the shafts varies, equalizing rollers mounted in the spaces between the distributors and adapted to bear thereon above their axes, loose adjustable bearing blocks mounted upon said connections, and interchangeable means whereby the equalizing rollers may be attached to and automatically locked in said bearing blocks, said means including heads connected to the equalizing rollers and having spring-pressed detents engaging sockets in the bearing blocks.

3. In an inking apparatus for printing presses, the combination with a frame, of an ink-plate, rotary ink distributors and their shafts, friction collars, means whereby said collars may be adjusted and locked upon said shafts in alinement with said frame, said means comprising a jaw within the collar, and a lever on the collar having a cam engaging said jaw, and means, including a movable carrier having resilient connections with the shafts, whereby said collars are held in contact with the frame.

4. In a printing press, the combination with a platen, of a form, an inking plate disposed in a plane angular to that of the form, a plurality of friction wheels adapted to run over the frame, shafts upon which the wheels are adjustably clamped, carriers

for said shafts, distributors carried by the shafts, telescopic members connecting the shafts, loose, adjustable socket-pieces carried by said members, spindles attachable to said socket-pieces, automatic detents thereon, equalizing, transfer rollers carried by said spindles and adapted to bear longitudinally upon adjacent pairs of distributors, and means connecting the spindles and

said rollers, whereby when the carrier is 10 moved the rollers will shift endwise.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ABE E. BERREYESA.

Witnesses:

CHARLES A. PENFIELD,
CHARLES EDELMAN.