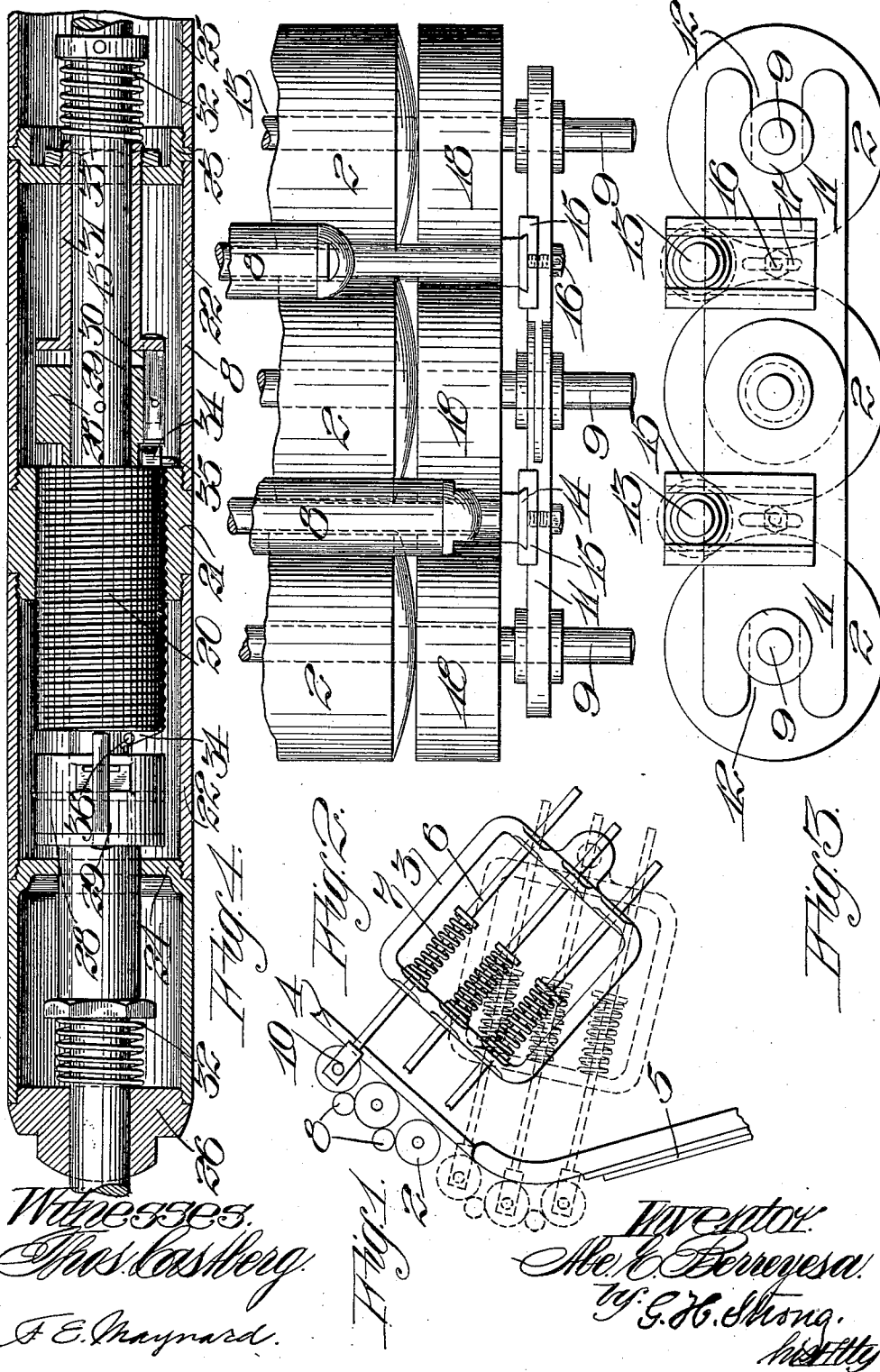


A. E. BERREYESA.
 INK DISTRIBUTER.
 APPLICATION FILED APR. 19, 1911.

1,016,123.

Patented Jan. 30, 1912.



UNITED STATES PATENT OFFICE.

ABE E. BERREYESA, OF OAKLAND, CALIFORNIA.

INK-DISTRIBUTER.

1,016,123.

Specification of Letters Patent.

Patented Jan. 30, 1912.

Application filed April 19, 1911. Serial No. 622,053.

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 pertains to inking mechanism, and particularly to inking apparatus used with platen presses.

The object of the present invention is to provide an ink dispensing apparatus whereby the ink to be applied to a form in the press is distributed in substantially uniform thickness during the operation of the machine; and to provide a novel, simple and automatic means for obtaining an axial vibration of an equalizing roller.

The invention consists of the parts and the construction and combination 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 as applied. Fig. 2 is a plan view partly in section of the inking apparatus. Fig. 3 is an end view of the same. Fig. 4 is a detail sectional view of an equalizing roller.

In the present embodiment of my invention 2 represents the usual frame rollers or distributers which are mounted for rotation in a suitable frame 3 adapted to oscillate between an appropriate ink feeding mechanism, as indicated diagrammatically at 4, and the form indicated at 5, the distributers 2 being adapted to move in an irregular line from the inking device to the form 5. The rollers 2 are connected to the oscillating frame 3, of which there is one on each side of the press, by means of rods 6 slidable in suitable bearings on the frame. The rollers are normally drawn toward the oscillating carrier by means of springs 7 surrounding the rods. When the carrier or frame 3 oscillates it carries the several independently movable rollers 2 downwardly from the inking device 4 over suitable curved tracks in the frame of the press and on to the form 5.

To the end of accomplishing an even deposit of ink on the form 5 over the distributers 2, I provide suitable rollers, hereinafter to be designated as equalizers 8, which are adapted to bear longitudinally upon the adjacent surfaces of pairs of dis-

tributers 2; the equalizers 8 being positioned above the centers of the distributers 2, and so mounted as to bear with suitable pressure upon the distributers, thus equalizing and distributing the deposit of ink with which the distributers become coated as they move over the inking device 4. During the traverse of the distributers over the inking device 4 to the form 5, the equalizers 8 are adapted to rotate upon the distributor and at the same time vibrate axially in opposite directions, thus insuring an equal distribution of the ink from one distributor to the other. Since the several distributers 2 are adapted for independent motion, it is desirable to so mount and connect them that they may move without restraint or interference. This may be accomplished by mounting each distributor 2 upon shafts 9 which project sufficiently beyond the ends of the distributers 2 to be carried in blocks 10 provided on the ends of the reciprocable rods 6. This connection allows the rollers to move toward and from the oscillating carrier or frame 3.

For the purpose of conveniently mounting and dismounting the equalizers 8 so as to bear upon the distributers 2, appropriately designed saddles 11 are employed. These saddles are each pivoted at one end upon one of the shafts 9 of the distributers 2. Since the outer distributers 2 may move independently of the center, when it is necessary to permit the distance between the shafts 9 to be varied freely, the outer ends of the saddles 11 are slotted, as at 12, so that the saddles may be passed over the extremities of the shafts 9 and these may move freely within the slots 12.

The equalizers 8 are mounted for rotation upon spindles 13, provided with suitable dovetailed plates 14 on their extremities, which are insertible in dovetailed grooves 15 provided for their reception on the sides of the saddles. The degree of pressure with which the equalizers 8 bear upon the surfaces of the distributers 2 may be nicely adjusted by means of a set screw or other appropriate device 16 in the saddle 11. The plates 14 are slotted, as at 17, so that they may be adjusted relatively the set screws 16 to bring the equalizers toward or from the surface of the distributers 2, as desired. After having once adjusted the position of the equalizers 8 with regard to the distributers 2 and turned the set screw 16 to lock

the plates 14 in the required position, the apparatus may then be operated and the outer distributors 2 may change their relative position toward the central distributor 2 without disturbing the adjusted position of the equalizers 8.

Between the ends of the distributors 2 and the sides of the saddles 11, which are mounted upon the shafts 9, there may be suitably adjusted frictional rollers 18 adapted to bear upon the runways formed by or upon the frame of the press. When the frame or carrier 3 is oscillated the rollers 18 are revolved and transmit motion to the shafts 9 and distributors 2, and from these a rotary motion is transmitted to the equalizers 8. The equalizing capacity and efficiency of the equalizers 8 is enhanced by causing them to have a longitudinal movement at the same time they rotate upon the distributors 2. An important feature of the present invention is the means whereby this longitudinal vibration or reciprocation of the equalizers 8 is accomplished.

As hereinbefore stated, the spindles 13 are mounted in a stationary position upon the saddles 11, and the equalizers 8, therefore, revolve freely about the spindles 13. The longitudinal movement of the individual equalizers is accomplished by mounting upon each spindle 13 and within each equalizer 8, which is here represented as a cylindrical shell made up of a number of sections, a worm or screw 20 turnable, but not slidable, upon the spindle. The screw 20 is in constant engagement with a nut 21 forming a portion of the equalizer 8, and from the sides of which project suitable cylindrical sections 22 which are appropriately secured upon cups 23 and 24. The length of the sections 22 may vary in different equalizers. The length of the equalizers is also determined by an additional cylindrical section 25 which is adjustable to the cup 23. Upon the extremities of the sections 22 and 25 are screwed or attached hemispherical caps 26 which bear upon the spindle 13. The screw 20 is prevented from longitudinal movement upon the spindle 13 by suitable collars 28 keyed or pinned to the spindle and which are provided with slots 29 through which are slidable bolts 30, each secured at one end to respective sleeves 31, rotatably and slidably mounted upon the spindle 13 adjacent the ends of the fixed collars 28. The sleeves 31, carrying the bolts 30 slidable in the collar 28, are adapted to have a slight sliding movement upon the spindle 13 and are normally pressed toward their respective collars 28 by means of springs, or an equivalent device 32, surrounding the spindle 13 and reacting between one end of each sleeve 31 and collars 33 secured upon the spindle 13. Each sleeve 31 is provided with a flanged portion at its

end opposite the collar 28, and one flanged sleeve 31 is adapted to be engaged by the cup 23 when the cylindrical equalizer 8 is moved toward the right in Fig. 4; and the other flanged sleeve 31 is likewise engaged by the inner end of the plug or member 24 when the cylindrical equalizer 8 moves toward the left. The length of the sleeves 31 is such as to permit the cylindrical equalizer to move a given distance without affecting the position of either of the sleeves 31 upon the spindle 13; but as the cylindrical equalizing shell 8 moves toward the right, just before the movement is terminated the cup 23 will pick up the flange on the adjacent sleeve 31 and move the sleeve sufficiently to pull the bolt 30 from behind a dog 34, formed or secured upon the right-hand end of the screw 20. By reason of the engagement of the nut 21 with the screw 20, when the nut 21 is revolved toward the left the cylindrical equalizer will be shifted along the screw 20 toward the right and the screw is prevented from rotating upon the spindle 13 by reason of the engagement of the dog 34 with the inwardly thrust point of the bolt 30 due to the action of its contiguous spring 32. When the cylinder 8 has moved to the right until it engages the flange on the outer end of the sleeve 31 the cup 23 will then have a sliding movement with the sleeve 31 upon the spindle 13 sufficiently to disengage the bolt 30 from the dog and release the screw so that thereafter, so long as the cylindrical equalizer 8 is revolving, the screw will revolve in unison therewith. The endwise movement of the nut 21 upon the screw 20 is prevented by the engagement of a stop or pin 35 on the screw 20 with one end of the nut 21; and a similar pin or stop 36 prevents the nut 21 from moving beyond a given point which it moves toward the left along the screw 20. When the equalizing cylinder 8 has been moved to the position indicated in Fig. 4, the sleeve 31 (at the left) will be pressed against the end of its adjacent hub or collar 28 which is fixed upon the spindle 13 by reason of its spring 32. Since the screw 20 has been released by the opposite bolt 30 and is now revolving with the nut 21, the bolt 30 at the left will continue to ride up the inclined surface of its adjacent dog 34 and snap back again against the end of the screw due to the reaction of its spring 32. The moment that the cylindrical equalizer 8 starts to reverse its direction of rotation, the dog 34 at the left end of the screw 20 will revolve into engagement with the inwardly pressed bolt 30 and its further rotation upon the spindle 13 will be interrupted so that when the nut 21 revolves clockwise it will then advance toward the left along the screw 20. This movement of the equalizer 8 toward the left will continue until the inner flange on the

plug 24 engages with the flange at the extremity of the sleeve 31 at the left and shifts the sleeve sufficiently to carry its bolt 30 out of engagement with the adjacent dog 5 34 in which the screw 20, nut 21 and the cylindrical equalizer 8 will revolve in unison clockwise, and thereafter during the operation of the oscillating frame 3 whenever the direction of rotation of the equalizers 8 is reversed their axial movement will also be reversed due to the means just described.

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

1. The combination of a plurality of distributing rollers and their shafts, equalizing rollers arranged intermediate and above the distributors and bearing upon the surfaces thereof, spindles upon which said equalizing rollers are mounted, having dove-tailed heads at their ends, saddles pivoted to one of the distributor shafts and having loose connections with the other distributor shafts and provided with dove-tailed heads, and set screws working through said saddles and engaging the said spindle heads to lock the same in desired adjustment.

2. An inking apparatus for printing presses including distributors, an equalizing cylinder bearing upon the surface of the distributors, a non-rotatable spindle upon which the cylinder may rotate and reciprocate, a screw loosely mounted on the spindle and provided with end projections, members 35 splined upon the spindles for movement to engage with and disengage from the said screw projections, and means whereby to cause automatic movement to said members.

3. An inking apparatus for printing presses, including distributors, an equalizing cylinder bearing upon the surfaces of the cylinders, a non-rotatable spindle upon which the cylinder may rotate and reciprocate, a screw loosely mounted on the spindle, 45 a nut carried by the cylinder and engaging the screw, means for locking the screw to the spindle to prevent its rotation, collars secured upon the spindle and adapted to prevent longitudinal movement of the screw thereon, and devices for releasing the screw to permit it to revolve in unison in either direction with the cylinder.

4. An inking apparatus for printing presses, including distributors, an equalizing cylinder bearing upon the surfaces of the cylinders, a non-rotatable spindle upon which the cylinder may rotate and reciprocate, a screw loosely mounted on the spindle, 50 a nut carried by the cylinder and engaging the screw, means for locking the screw to

the spindle to prevent its rotation, collars secured upon the spindle and adapted to prevent longitudinal movement of the screw thereon, and devices for releasing the screw to permit it to revolve in unison in either 65 direction with the cylinder, said locking means including bolts adapted to engage dogs on the ends of the screw and facing opposite directions and having inclined faces.

5. An inking apparatus for printing presses, including distributors, an equalizing cylinder bearing upon the surfaces of the cylinders, a non-rotatable spindle upon which the cylinder may rotate and reciprocate, a screw loosely mounted on the spindle, a nut carried by the cylinder and engaging the screw, means for locking the screw to the spindle to prevent its rotation, collars secured upon the spindle and adapted to prevent longitudinal movement of the screw thereon, devices for releasing the screw to permit it to revolve in unison in either direction with the cylinder, said locking means including bolts adapted to engage dogs on 85 the ends of the screw and facing opposite directions and having inclined faces, and elements adapted normally to press the bolts into the path of the dogs.

6. An inking apparatus for printing presses, including distributors, an equalizing cylinder bearing upon the surfaces of the cylinders, a non-rotatable spindle upon which the cylinder may rotate and reciprocate, a screw loosely mounted on the spindle, 95 a nut carried by the cylinder and engaging the screw, means for locking the screw to the spindle to prevent its rotation, collars secured upon the spindle and adapted to prevent longitudinal movement of the screw thereon, devices for releasing the screw to permit it to revolve in unison in either direction with the cylinder, said locking means including bolts adapted to engage dogs on the ends of the screw and facing opposite 105 directions and having inclined faces, and elements adapted normally to press the bolts into the path of the dogs, said releasing devices being connected to the locking means and adapted to draw the latter from engagement with the dogs when the threaded portion of the cylinder approaches the ends of the screw.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 115 witnesses.

ABE E. BERREYESA.

Witnesses:

JOHN H. HERRING,
CHARLES EDELMAN.