H. H. KREILING, DEC'D.
L. KREILING, ADMINISTRATRIX.
INK DISTRIBUTOR.
APPLICATION FILED OCT. 8, 1921.

1,429,148. Patented Sept. 12, 1922.

Fig. 1

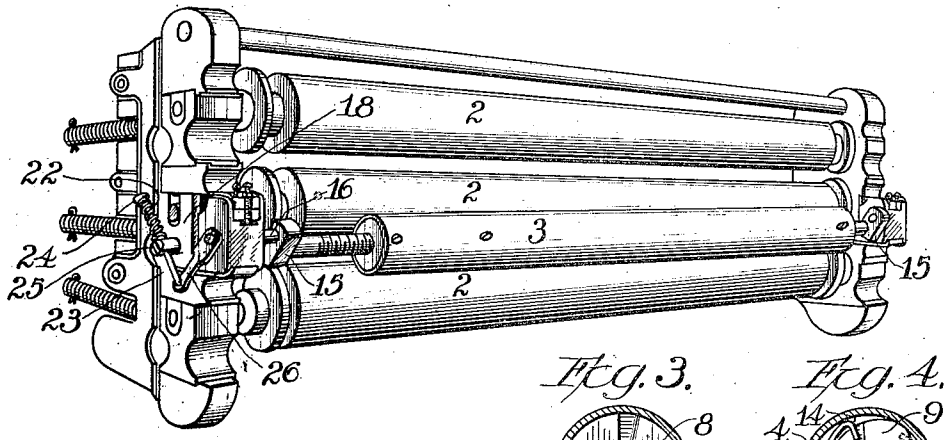


Fig. 3.

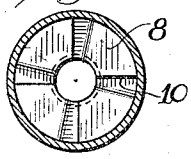


Fig. 4.

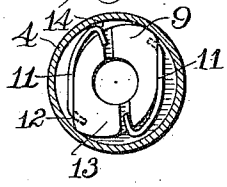


Fig. 2.

Fig. 7.

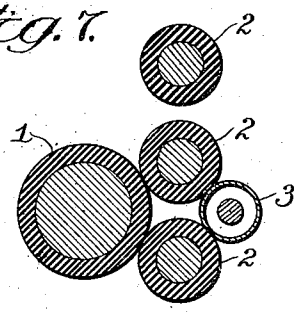


Fig. 5.

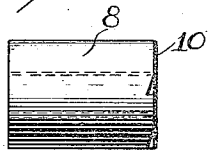
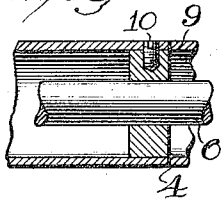


Fig. 6.



Witness:
Arthur C. Wright.

Inventor:
HENRY H. KREILING DEC'D.
LOUISE KREILING ADMX,
By Rounds & Rounds
Attys

Patented Sept. 12, 1922. 1,429,148

UNITED STATES PATENT OFFICE.

HENRY H. KREILING, DECEASED, BY LOUISE KREILING, ADMINISTRATRIX, OF CHICAGO, ILLINOIS.

INK DISTRIBUTOR.

Application filed October 8, 1921. Serial No. 506,421.

To all whom it may concern:

Be it known that I, LOUISE KREILING, a citizen of the United States of America, and a resident of Chicago, county of Cook, and State of Illinois, have been duly appointed administratrix of the estate of HENRY H. KREILING, deceased, late a citizen of the United States of America, who invented certain new and useful Improvements in Ink Distributors, of which the following is a specification.

This invention relates to printing presses, and particularly to the ink distributing means for that type of bed and platen presses known as the Colts and Universal presses, a satisfactory ink distributor of that class wherein one of the distributing rollers is given an axial reciprocation while rolling in contact with the inking rollers which deliver the ink to the type form. Like other ink distributors of this general class, an aim of the invention is to overcome inferior distribution of ink over the printing surface due to the same parts of the inking rollers repeatedly engaging the same parts of the type form. The undesirable distribution of ink referred to when no longitudinal movable distributor is provided is particularly evident when the inking rollers pass over lines parallel with their direction of movement. To overcome this objection one or more of the inking rollers which contact with the type form are caused to coact with an ink distributing roller which rotates by contact with an inking roller, but also reciprocates in the direction of its length to uniformly distribute the ink over all parts of the inking rollers which come in contact with the type. Such vibrating distributors when applied to a Colts or Universal press have been found faulty in some features of construction, particularly in that they are difficult to apply, and in the way. Such vibrating distributors are also not needed for certain classes of work and it is therefore desirable that they may be quickly applied or removed from the inking roll unit. For this purpose the present design of vibrating distributor includes a saddle or bearing box for one of the inking rollers so that when applied to the machine the usual saddle or bearing box may be slid out of place and the present improved construction may be quickly applied, and is arranged to provide a bearing similar to the one removed for receiving the inking roller with which the vibrating distributor coacts.

The objects of the invention are accomplished by the device shown in the accompanying drawings, wherein—

Fig. 1 is a perspective view of a set of inking rollers including the improved ink distributing vibrator mechanism.

Fig. 2 is a fragmentary front elevation showing the distributing roller in section and a full view of one of the end bearing members which carries the ink distributing roller.

Figures 3 and 4 are sectional details respectively on the lines 3—3 and 4—4 of Figure 2, and illustrate the ratchet construction which permits the distributor to rotate continuously in one direction without traveling along its supporting shaft.

Fig. 5 is a detail of a ratchet and nut loosely received by the distributing roller, but having a frictional connection therewith through resilient cogs shown in Figures 2 and 4.

Fig. 6 is a fragmentary longitudinal section of the distributing roller and its supporting shaft.

Fig. 7 is a sectional detail illustrating the relation between the main supply ink roller and the ink distributing rollers when the latter are idly rotating above the bed and platen.

In the type of press to which the improvement is applicable, the printing surface is in a substantially vertical plane, and above which is located the main ink supply roller 1. In the operation of the press the ink distributing rollers 2 are reciprocated over the ink supply roller 1 and the type form between each impression, but it is often necessary for the pressman to render the platen inoperative and permit the distributing rollers to idly rotate from their upper position into contact with the ink supply roller 1 while not stopping the drive of the machine

and the rotation of this supply roller. The ratchet construction illustrated in Figures 2 to 6 inclusive serves to permit the distributing roller to run continuously without movement along its shaft when the inking rollers are in their upper position. This ratchet mechanism is wholly enclosed in the distributing roller so as to be safe and not involve any projecting parts. The distributing roller 3 consists of a cylindrical metallic shell 4 closed at its ends by apertured disks 5. Extending axially through the distributing roller is its supporting shaft 6. This supporting shaft is threaded at one end, the thread 7 coacting with internal threads on the nut 8, loose within the shell 4 between one of the end disks 5 and the pawl carrying disk 9, each of which disks are made rigid with the shell 4 by the set screws. The inner end of nut 8 is provided with ratchet teeth 10 for coaction with resilient pawls 11 carried by the disk 9. These pawls may be formed of spring wire, one end of each pawl being secured to the disk 9 by insertion in the aperture 12 therein. The free ends of the pawls are bent to coact with the teeth 10 on nut 8. The surface 13 of disk 9 is provided with recesses 14 for receiving the free ends of the pawls when these are forced out of engagement with the teeth 10 at times when the distributing roller 3 rotates independently of the nut 8. The pawls at all times serve to provide the desired frictional engagement between the nut 8 and the distributing roller.

The shaft 6 of the distributing roller is carried at the lower end of cranks 15. The upper ends of the cranks are rigid with crank-shafts 16 having bearings in boxes 17 which are vertically adjustable in special bearings 18 for supporting one of the inking rollers 2. The adjustment of bearing box 17 along the box 18 is affected by screw 19 extending through an arm 20 of box 18 and having threaded engagement with the bearing box 17. This adjustment permits the distributing roller 3 to be shifted into contact with either one or both of the adjacent inking rollers 2. Movement of the box 17 outwardly away from the bearing member 18 is provided by the cotter pin 21 which serves to retain these two bearing elements in assembled relation.

The distributing roller 3 is held in the desired resilient engagement with one of the inking rollers 2 by a spring 22 which surrounds the threaded bolt 23 and is located between the adjusting nut 24 and a post 25 extending from bearing box 18. The bolt 23 is pivotally connected at its lower end to an arm 26 fast to the end of shaft 16, and which may extend at a substantially right angle to bolt 23.

In the operation of the device, the inking unit shown in Figure 1 is reciprocated vertically as usual in Colts and Universal presses from the position in which it is shown in Figure 7 in contact with the ink supply roller 1, downwardly over the print form. The rollers 2 are rotated by contact with a continuously rotating supply roller 1 and by contact with the type form. The distributing roller 3 is driven by contact with one of the rollers 2 and is caused to reciprocate axially when so driven by frictional engagement with the nut 8 which is therefore rotated with the roller 3 and caused to travel back and forth on the threaded portion 7 of shaft 6. The ratchet mechanism does not come into operation ordinarily as there are more turns to the thread 7 than the number of rotations which are imparted to the distributing roller. But the presses to which the improvement is applied can be caused to permit the inking rollers to remain in the upper position while being driven by the supply roller 1 while the platen is also at rest away from the type, thus enabling the operator to clean the type without stopping the drive of the press. At such times the distributing roller is continuously rotated in one direction for an indefinite period and it is found that the ratchet becomes effective to permit the distributing roller to rotate without traveling along the shaft 6.

Although but one specific embodiment of this invention has been herein shown and described it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. In a device of the class described, the combination with an ink roller and a coacting distributing roller, a threaded supporting shaft for said distributing roller, a nut loosely journaled within the distributing roller in threaded engagement with said shaft, said nut being provided with ratchet teeth at one end and a resilient pawl supported inside of said distributing roller for coacting with the teeth on said nut.

2. A device of the class described, the combination with an ink roller and a coacting distributing roller, a supporting shaft for said distributing roller, said supporting shaft having a threaded portion extending within the distributing roller, a nut inside of said distributing roller and coacting with said threaded portion of the shaft, and frictional means for causing said nut to rotate with the distributing roller.

3. A device of the class described, the combination with an ink roller and a coacting distributing roller, a shaft for supporting said distributing roller, said shaft being carried by cranks secured to its ends, crank-shafts and bearing therefor, arms secured to the ends of the crank-shafts and adjustable

springs coacting with said arms for the purpose of resiliently engaging the distributing roller with the coacting inking roller.

4. In a device of the class described an ink distributing roller, a supporting shaft for said distributing roller, said supporting shaft having a threaded portion within said distributing roller, and a nut in said distributing roller coacting with the threaded portion of said shaft, said nut having frictional engagement with the distributing roller.

Signed at Chicago, this 6th day of October, 1921.

LOUISE KREILING,
Administratrix of Henry H. Kreiling, deceased.