A. CHARLESTON.

INK FOUNTAIN.

APPLICATION FILED JUNE 21, 1911.

1,066,709. Patented July 8, 1913.

Fig. 3.

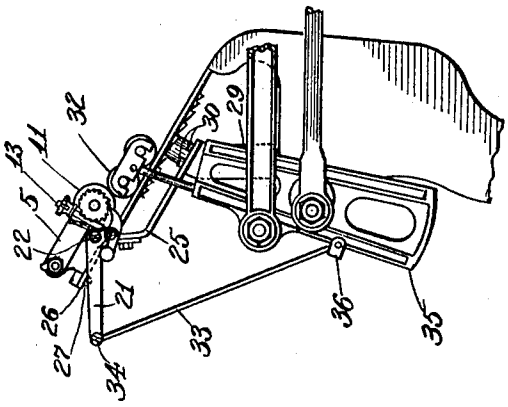


Fig. 1.

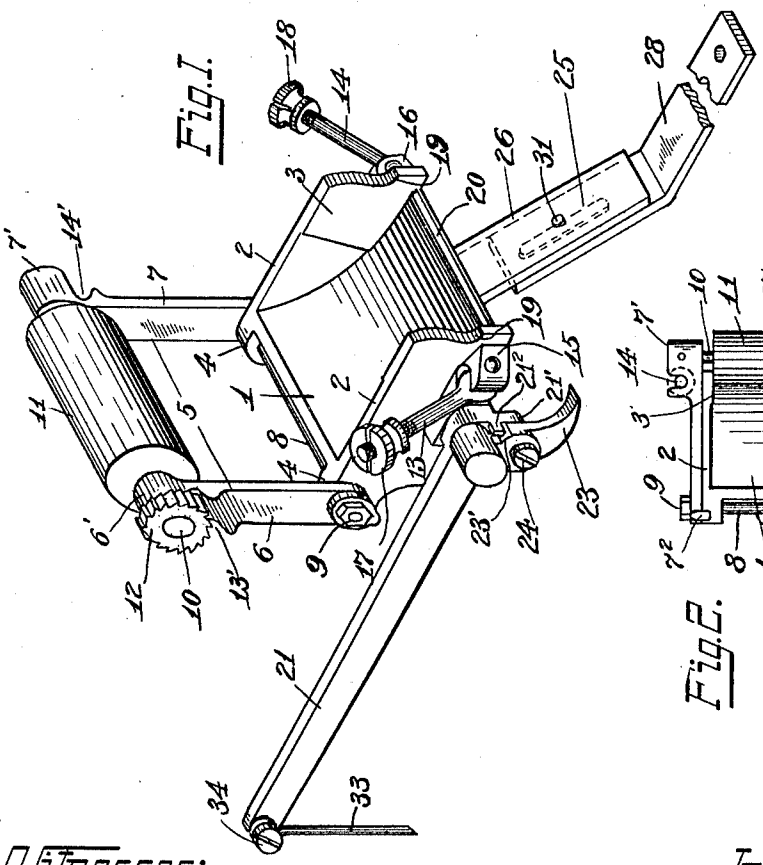
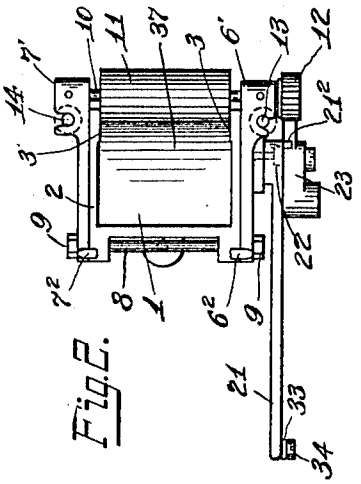


Fig. 2.



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INK-FOUNTAIN.

1,066,709. Specification of Letters Patent. Patented July 8, 1913.

Application filed June 21, 1911. Serial No. 634,581.

To all whom it may concern:

Be it known that I, ANDREW CHARLESTON, a citizen of the United States of America, residing in Chicago, county of Cook, State of Illinois, have invented certain new and useful Improvements in Ink-Fountains, of which the following is a specification.

My invention relates to ink fountains for printing presses, an object being to provide a fountain in which the parts are readily accessible for cleaning without disassembling thereof.

In the ordinary ink fountains in which a fountain roller is adapted to feed ink to the composition rollers of the printing press, in changing the ink from one color to another, or after use of the press it is necessary that the fountain be cleaned, which usually involves considerable time, and one of the features of my invention is the association of the ink well and fountain roller whereby they may be readily cleaned without taking it apart.

For a better understanding of my invention, reference is to be had to the accompanying drawing in which,

Figure 1 illustrates in perspective an ink fountain embodying my invention, with the fountain roll tilted back; Fig. 2 is a plan view of the structure illustrated in Fig. 1; and Fig. 3 shows the fountain illustrated in Fig. 1 applied to a printing press.

The structure illustrated, which is a preferred embodiment of my invention, comprises a fountain bed 1, which is preferably a single casting, having the sides 2 which are machine faced at the portions 3, so as to snugly fit against the ends of fountain roller 11. A pair of lugs 4 extend rearwardly from the fountain bed 1, pivotally supporting the roller-frame 5, the said frame comprising the left side 6 and right side 7 which are rigidly secured to shaft 8 preferably by means of the nuts 9 which are threaded to the ends of said shaft 8. A boss 6′ is carried at the free end of the side 6, and a boss 7′ is carried at the free end of side 7, a roller shaft 10 extending through bearings in the said bosses 6′, 7′, and having a fountain roller 11 rigidly secured thereto, the said shaft 10 being free to rotate in its bearings. A ratchet wheel 12 is fastened to an end of shaft 10, being adapted to be acted upon for the purpose of rotating shaft 10 and the fountain roller 11, when said roller is in its operating position as shown in Figs. 2 and 3.

To prevent the roller frame 5 from tilting backward too far when lifted out of engagement with the fountain bed 1, a pair of lugs 6^2 and 7^2 are provided preferably integral with their sides 6 and 7 respectively, the said lugs being adapted to engage the under side of the rearwardly extending lugs 4. To hold the fountain roll in its operating position as illustrated in Figs. 2—3, a pair of clamping screws 13, 14, are provided, which are pivotally secured to lugs 15 and 16 respectively, the said lugs being preferably an integral portion of the fountain bed 1. A pair of clamping nuts 17 and 18 are provided, being threaded upon the clamping screws 13, 14 respectively, the said nuts being slotted and slightly sprung together after they are tapped so that they tend to clamp their associated screws 13, 14, and therefore are not readily rotatable.

With the fountain-roller in the position illustrated in Fig. 3, shaft 10 is engaging the rounded surfaces 19 of the sides 2, while the clamping screws 13, 14 are adapted to be swung into position in slots 13′, 14′ as shown in Fig. 2, whereby the nuts 17, 18 may be moved into clamping engagement with the sides 6, 7, respectively, thereby holding the fountain roller and frame 5 in place, the nuts 17, 18 being indicated by dotted circles in Fig. 2. The free ends of the frame sides 6, 7, have slots 13′, 14′ to allow the screws 13, 14, to be swung in and out of clamping position.

It will be noted that the slot for screw 13 is at an angle to the axis of the roller-shaft 10, so that when screw 13 is swung outward as shown in Fig. 1, the nut 17 is clear of ratchet 12 allowing it to be moved upward clear of the said nut. With the frame 5 in position as indicated in Fig. 3, the fountain roll 11 is in friction engagement with the slightly rounded portion 20 of the fountain bed 1. To rotate the fountain roll 11 a pawl arrangement is provided comprising a ratchet lever 21 which is pivotally secured to the lug 15 by means of a screw 22, shown in dotted lines in Fig. 2. The ratchet lever 21 has a downwardly extending portion 21′ to which is pivotally secured a pawl 23 by means of a pivot screw 24.

It is desirable at times to hold the pawl

23 out of engagement with ratchet wheel 12, and for this purpose I have provided a lug 21^2 extending from the portion 21, while the pawl 23 is cut away at 23′ so that when said pawl is moved into the position shown in Fig. 1, the rounded surface 23′ engages the lower surface of lug 21^2 in frictional engagement, thus holding pawl 23 in the position as shown in Fig. 1.

With the pawl 23 in the position as shown in Fig. 3, when ratchet lever 21 is reciprocated, said pawl coöperates with the teeth of ratchet wheel 12 to rotate the fountain roller 11.

To mount the ink fountain for use upon a printing press, an adjustable bracket 25 is provided, comprising the upper portion 26 which is securely clamped to the roller bed 1 by means of a cap screw 27 and a lower part 28 which is adapted to be secured to the disk-bracket 29 by means of cap screws 30.

To adapt the ink fountain for use with different sized presses, the bracket 25 has a slot in its lower part 28 through which extends the cap screw 31 which holds the two parts 26, 28 in rigid engagement. The end of the bracket, part 26, through which the cap screw 27 extends, is slotted so that the inking fountain may be longitudinally adjusted on the said part 26, so that the fountain roll 11 will engage the composition roller 32, when said roller 32 is moved to its highest point.

In attaching the ink fountain to a printing press as shown in Fig. 3, a connecting rod 33 is provided which is pivotally connected to the free end of ratchet lever 21 by means of a fillister head screw 34, the lower end of said rod 33 being adjustably secured to the roller-frame 35 preferably by means of a suitable clamp device 36.

In the operation of the fountain when applied to a printing press as shown in Fig. 3, the ink well 37 of the fountain bed 1 is filled with printers' ink, and the fountain is so adjusted upon bracket 25 that the fountain roller 11 will just engage the composition roller 32 when it is at its highest point. Then when the press is operated, upon each reciprocation of the roller frame 35, the connecting rod 33 acts upon ratchet lever 21 which in turn causes pawl 23 to advance the roller 11 a suitable number of teeth for each such reciprocation of the press. Thus it will be seen that each time the roller 32 is moved into its uppermost position it engages a freshly inked portion of the periphery of fountain roller 11. Should the operator desire to clean the fountain after using the same, this may be readily done by loosening the clamping nuts 17, 18 and swinging the screws 13, 14 outward clear of their respective slots 13′, 14′, in the sides 6, 7, whereby the frame 5 may be tilted upward clear of the fountain bed 1. With frame 5 in such position, any surplus ink may be readily removed from the fountain bed and the fountain roll 11 is accessible for cleaning, without removing it from association with the rest of the fountain.

While I have worked out my invention in a commercial form, it is apparent that many changes and modifications thereof may be readily made, and therefore I do not desire to be limited to the exact structure as shown, but aim to cover all such changes and modifications as come within the spirit and scope of the appended claim.

What I claim as new and desire to secure by Letters Patent is:

An ink-fountain comprising a rectangular bed having an ink well open at the forward end and rearwardly extending lugs, a pair of elongated roller frame sides positioned on the opposite sides of the bed, a shaft for pivotally securing the rear ends of said sides to said lugs, a fountain roller rotatably supported at the forward end of the sides in operative relation to the ink well at its open end, a stop extending from each side of the bed so as to hold the peripheral surface of the roller normally clear of the coöperating surface of the ink well, said sides being adapted to be moved on the supporting shaft to lift the roller out of operative relation with the ink well, a stop for limiting said movement, a ratchet carried by said roller, and a driving pawl and operating lever pivotally attached to the bed whereby said roller and frame when moved on their supporting shaft do not disturb said pawl and lever.

Signed by me at Chicago, county of Cook, and State of Illinois, in the presence of two witnesses.

ANDREW CHARLESTON.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."