June 13, 1944. H. M. BARBER 2,351,315

INK FOUNTAIN

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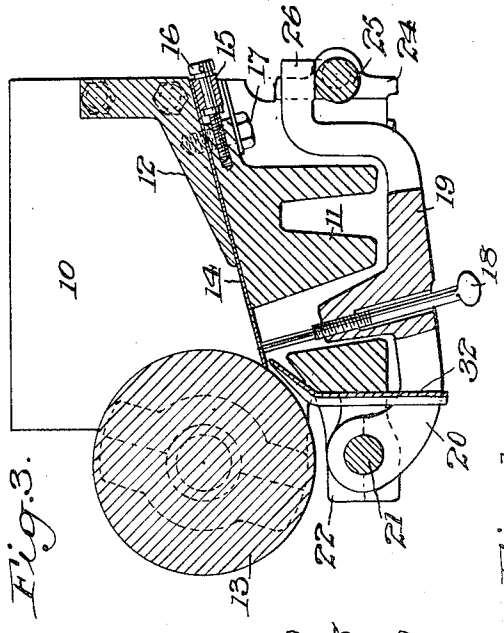


Fig. 3.

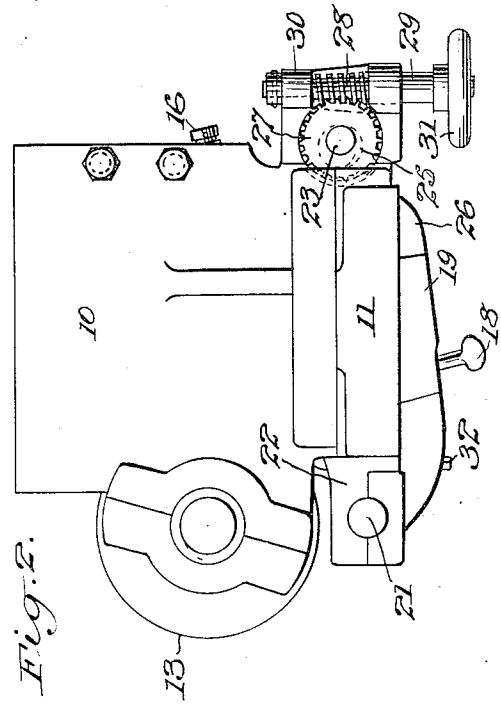


Fig. 2.

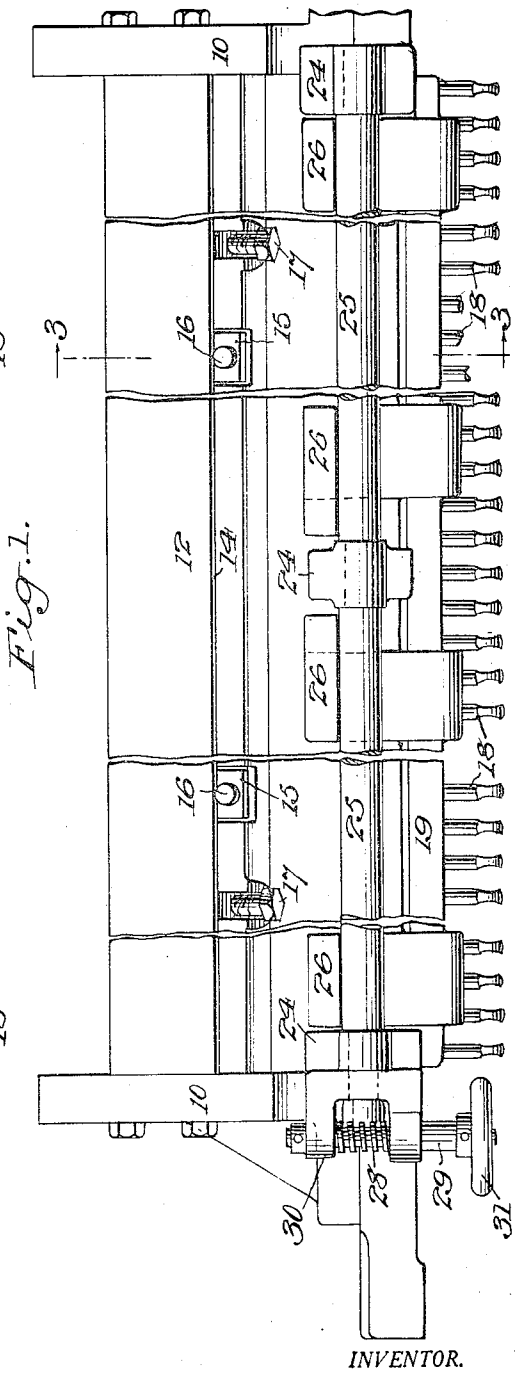


Fig. 1.

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INK FOUNTAIN

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3 Claims. (Cl. 101—366)

In ink fountains where the fountain roll is rotated step by step as by a pawl and ratchet device the ink supplied by the fountain roll is usually regulated by increasing or decreasing the throw of the roll. This is frequently done by changing the number of teeth in the pawl and ratchet device.

Also, in ink fountains where the fountain roll is rotated continuously the ink supplied by the fountain roll is usually regulated by changing the length of the dwell of the ductor roller against the fountain roll.

The object of my invention is to provide a single device which may be used for adjusting the doctor blade as a whole while the fountain roll is operating or at rest, to regulate the ink supplied by the fountain roll by increasing or decreasing the distance between the free edge of the doctor blade and the fountain roll, said adjustment being made without disturbing the relative positions of the usual local adjusting devices along the blade.

My invention comprises, generally, a movable support for the doctor blade adjusting devices and a single device for adjusting the position of the doctor blade as a whole without disturbing the local adjustment of the blade by the said devices.

A practical embodiment of my invention is represented in the accompanying drawing, in which Fig. 1 represents a front elevation of the ink fountain; Fig. 2 represents an end elevation of the same; and Fig. 3 represents a transverse vertical section taken in the plane of the line III—III of Fig. 1, looking in the direction of the arrows.

The body portion of the ink fountain is shown as comprising the side members 10, the bottom member 11 and the front member 12. The ink fountain roll 13 is rotatably mounted on the fountain. The doctor blade 14 is permanently mounted on the fountain between the bottom and front members 11 and 12. This doctor blade is adjustable edgewise to bring its inner free portion into proper position with respect to the fountain roll 13, in the present instance by providing the blade with blocks 15 depending from the front portion of the blade, which blocks rotatably support screws 16 which have a threaded engagement with the bottom member 11 of the fountain. The front member 12 is secured to the bottom member 11 of the fountain as by screw bolts 17.

A plurality of adjusting screws 18 are carried by a movable support 19, which screws are adjusted in their support to exert local pressure along the under side of the free portion of the doctor blade 14 to spring the blade into the desired shape for properly regulating the ink supplied from the fountain roll 13. This support 19 is shown as pivotally mounted on the fountain by providing it with rearwardly and upwardly projecting arms 20 hinged by a cross shaft 21 to lugs 22 projecting rearwardly from the bottom member 11 of the fountain. This swinging support 19 is adjusted by a single device to decrease and increase the space between the free portion of the doctor blade and its coacting fountain roll while the fountain roll is operating or at rest. This device for adjusting the free portion of the doctor blade as a whole is shown as comprising a cam shaft 23 rotatably mounted at its ends and middle in bearings 24 carried by the fountain, said shaft having cams 25 on which the forwardly and upwardly projecting arms 26 of the support 19 rest. This cam shaft may therefore be rocked to raise and lower the support 19 and with it the row of adjusting screws 18 without disturbing their relationship to one another, by providing the cam shaft with a worm gear 27 which meshes with a worm 28 on a vertical hand shaft 29 rotatably mounted in suitable bearings 30 projecting from one of the sides 10 of the fountain body. This shaft 29 is shown as being provided with a hand wheel 31 for operating the shaft.

A plate 32 is carried by the bottom member 11 of the ink fountain in position to direct any ink which leaks past the doctor blade, down into a drip pan or other receptacle, not shown herein.

In operation, the free portion of the doctor blade may be first adjusted locally along the fountain roll as usual by the adjusting screws 18, to regulate the supply of ink from the roll. After this adjustment has been made conditions often arise during the operation of the fountain roll where it is necessary to again regulate the supply of ink from the fountain roll. Under these conditions I am enabled to adjust the free portion of the blade as a whole by swinging the support with its row of adjusting screws without disturbing their relative adjustment to one another and thus obtain the exact quantity of ink to be fed by the fountain roll under the said conditions.

While I have shown and described my invention in connection with the fountain roll of an ink fountain it is obvious that my invention could be used in connection with any ink supply roll, and also that various changes may be made in the construction, arrangement and operation of

my invention without departing from the spirit and scope of my invention, and hence I do not intend to be limited to the particular embodiment herein shown and described, but

What I claim is:

1. An ink fountain comprising side, bottom and front members, an ink fountain roll, a doctor blade mounted on the fountain between the bottom and front members, means for adjusting the doctor blade edgewise into proper position with respect to the fountain roll, a support pivoted to the rear end of the bottom member of the fountain beneath the fountain roll, adjusting screws carried by the said support in position to engage the underside of the doctor blade at its free portion for locally adjusting the blade with respect to the fountain roll, a horizontally disposed cam shaft having its cams supporting said support, and a vertically disposed hand shaft having a worm and gear connection with the said cam shaft for rocking the support to adjust the free portion of the blade as a whole with respect to the fountain roll.

2. An ink fountain comprising side, bottom and front members, said bottom member having rearwardly projecting lugs, an ink fountain roll, a doctor blade mounted on the fountain between the bottom and front members, means for adjusting the doctor blade edgewise into proper position with respect to the fountain roll, a support having rearwardly projecting arms, a shaft passing through said rearwardly projecting lugs of the bottom of the fountain and the rearwardly projecting arms of the support for pivoting the support to the fountain beneath the fountain roll, said support also having forwardly projecting arms, adjusting screws carried by the said support in position to engage the underside of the doctor blade at its free portion for locally adjusting the blade with respect to the fountain roll, a horizontally disposed cam shaft having its cams supporting said forwardly projecting arms of the pivoted support, and a vertically disposed hand shaft having a worm and gear connection with the said cam shaft for rocking the support to adjust the free portion of the blade as a whole with respect to the fountain roll.

3. An ink fountain comprising side, bottom and front members, said bottom member having rearwardly projecting lugs, an ink fountain roll, a doctor blade mounted on the fountain between the bottom and front members, means for adjusting the doctor blade edgewise into proper position with respect to the fountain roll, a support having rearwardly and upwardly projecting arms, a shaft passing through said rearwardly projecting lugs of the bottom of the fountain and the rearwardly and upwardly projecting arms of the support for pivoting the support to the fountain beneath the fountain roll, said support also having forwardly and upwardly projecting arms, adjusting screws carried by the said support in position to engage the underside of the doctor blade at its free portion for locally adjusting the blade with respect to the fountain roll, a horizontally disposed cam shaft having its cams supporting said forwardly and upwardly projecting arms of the pivoted support, and a vertically disposed hand shaft having a worm and gear connection with the said cam shaft for rocking the support to adjust the free portion of the blade as a whole with respect to the fountain roll.

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