

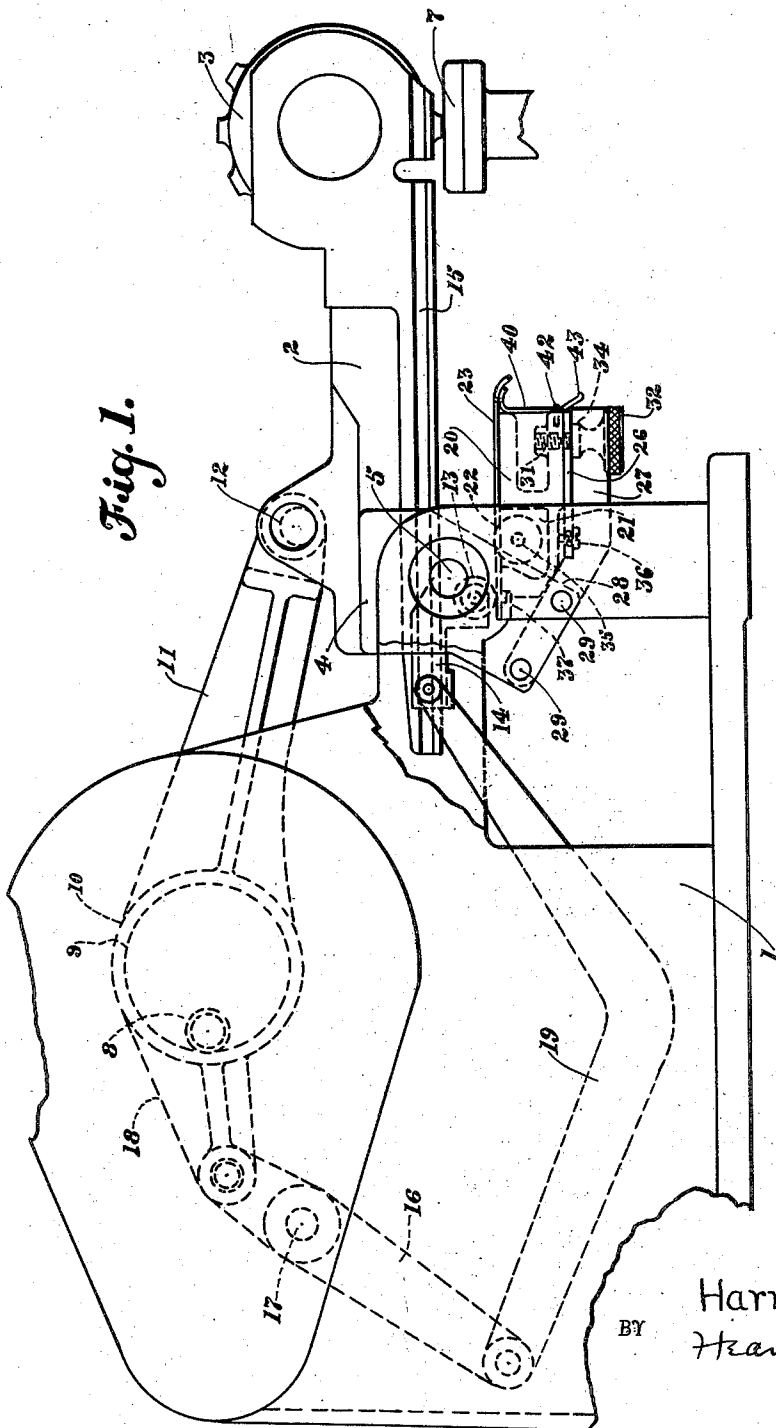
Sept. 12, 1950

H. R. FLETCHER
INK UNIT FOR MARKING MACHINES

2,522,218

Filed Nov. 17, 1945

3 Sheets-Sheet 1



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Sept. 12, 1950

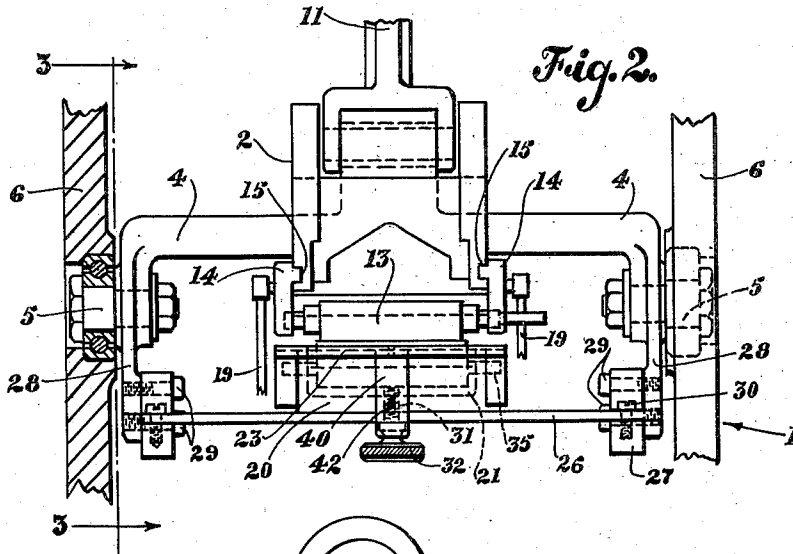
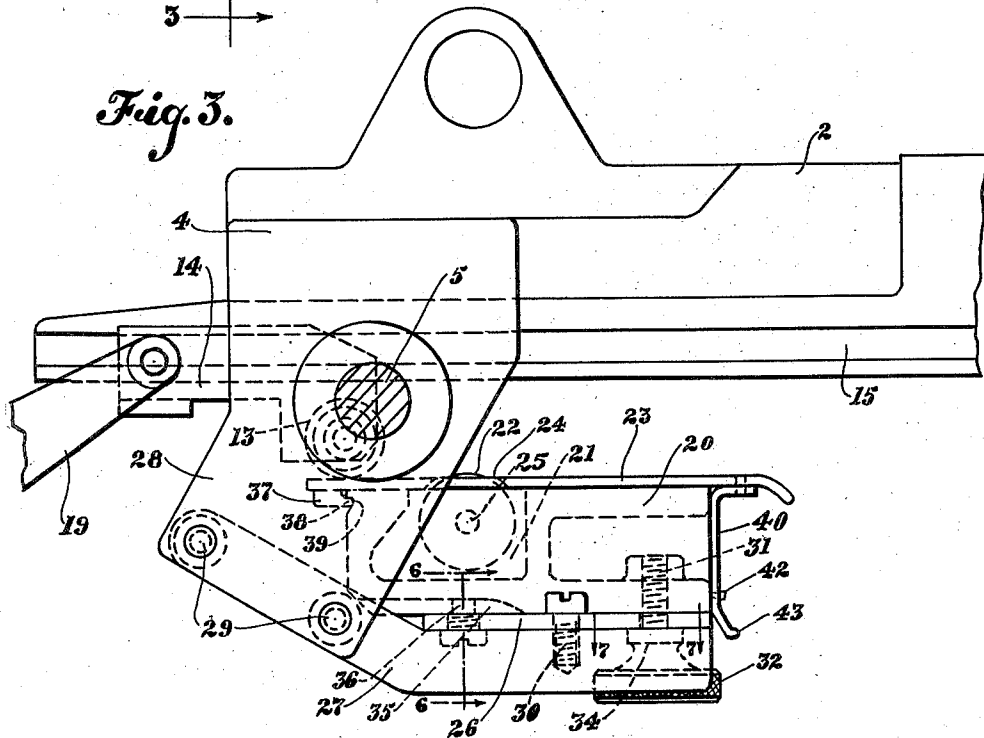
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INK UNIT FOR MARKING MACHINES

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3 Sheets-Sheet 2



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Fig. 4.

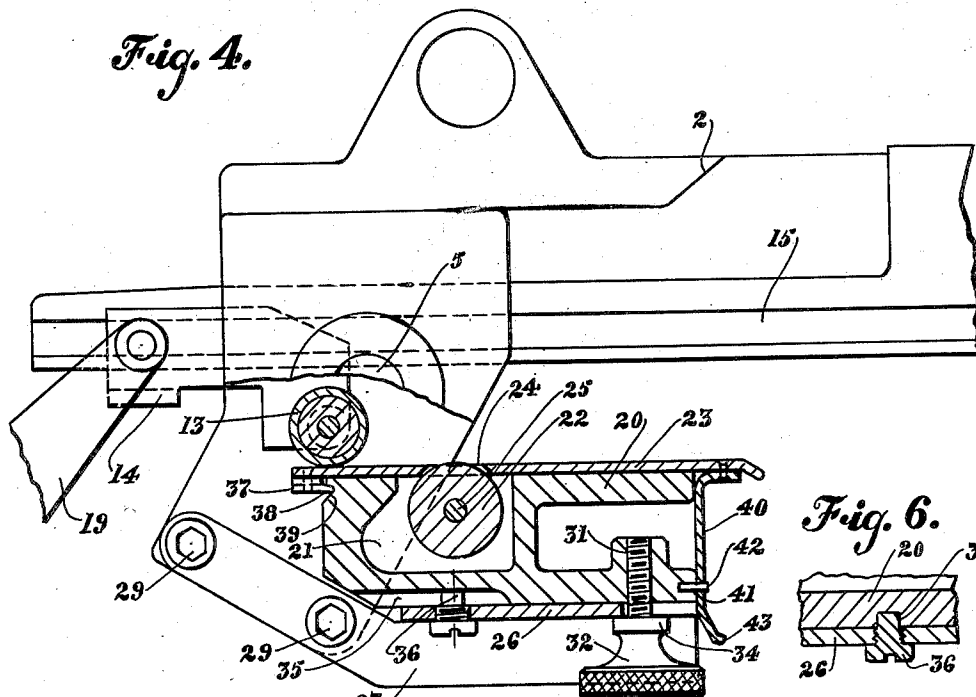


Fig. 6.

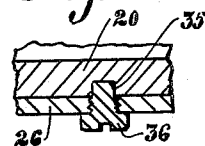


Fig. 5.

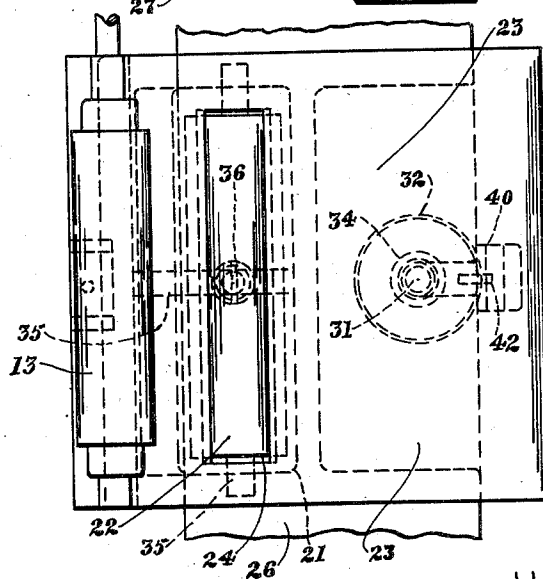
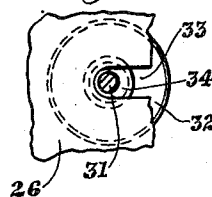


Fig. 7.



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UNITED STATES PATENT OFFICE

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INK UNIT FOR MARKING MACHINES

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4 Claims. (Cl. 101—340)

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This invention relates to marking or printing machines and especially to the inking mechanism for inking the type. In order to give an understanding of my invention, I have illustrated it as it might be embodied in a marking machine of the type shown in the Robbins Patent No. 2,277,884, March 31, 1942, but I wish it understood that the present invention is not limited for use in connection with the particular type of marking machine shown in the above patent but is adaptable for use in connection with a wide variety of other marking machines.

In the operation of marking shoe linings and other similar articles it is frequently necessary or desirable to make a change in the color or character of the ink being used.

One of the objects of my present invention is to provide a novel ink unit which is so constructed that the operation of making a change in the color or character of the ink being used in a marking machine can be expeditiously performed by the operator and without the necessity of her getting ink smeared on her hands or clothes during such operation.

Another object of my invention is to provide a novel ink supply unit which is adapted to supply ink to the inking roll of the marking machine and which is provided with an ink-delivery roll and an ink-spreading plate arranged so that at each pass of the ink roll of the marking machine over the ink supply unit said ink roll will pick up a small quantity of ink from the ink-delivery roll and the ink will be evenly distributed over the surface of the ink roll during the movement of the latter over the ink-spreading plate.

A further object of the invention is to provide an improved ink supply unit for marking machines having various novel features which will be more fully hereinafter set forth.

In the drawings wherein I have illustrated a selected embodiment of my invention:

Fig. 1 is a side view of a marking machine of the type illustrated in said Patent 2,277,884 equipped with my improved ink supply unit.

Fig. 2 is an end view of Fig. 1 with the type wheels removed from the printing head and with parts of the frame broken out.

Fig. 3 is an enlarged section on the line 3—3, Fig. 2.

Fig. 4 is a view similar to Fig. 3 but showing the ink supply unit in section taken on the line 4—4, Fig. 2.

Fig. 5 is a top plan view of the ink supply unit said view also showing the ink roll of the marking machine.

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Fig. 6 is a section on the line 6—6, Fig. 3.

Fig. 7 is a section on the line 7—7, Fig. 3.

The marking machine herein illustrated, and which, as stated above, is similar to that shown in said Patent No. 2,277,884, comprises a supporting frame 1 on which is mounted an elongated supporting member 2 carrying at its outer end a plurality of adjustable type wheels 3. The supporting member 2 is shown as having an L-shaped arm 4 extending from each side, each arm carrying a stud 5 which is journaled in the side wall 6 of the frame 1, said studs constituting the pivot about which the supporting member 2 swings to move the type wheels 3 toward and from the platen or work support 7. Said supporting member is thus in the nature of a rocker member and it is given its oscillating movement from a drive shaft 8 carried by the frame which has an eccentric 9 mounted thereon, the eccentric strap 10 of which has an arm 11 extending therefrom which is pivotally connected to the rocker member 2 as indicated at 12.

The printing machine is also provided with an ink roll 13 which is supported in a carriage 14 that is adapted to travel back and forth in ways 15 with which the supporting member 2 is provided, the forward movement of the ink roll 13 carrying it across the type of the printing wheels which are in printing position thereby to ink the latter.

The means for reciprocating the carriage 14 comprises a lever 16 pivoted at 17 to the frame and having its upper end pivotally connected to an arm 18 extending from the eccentric strap 10, the lower end of the arm 16 being connected by two links 19 to the carriage 14.

The rotation of the eccentric 9, therefore, operates not only to swing the rocker or supporting member 2 about its pivots 5 thereby to move the type wheels 3 toward and from the platen, but it also operates through the lever 16 and links 19 to reciprocate the ink roll 13 thereby to ink the type wheels.

The parts thus far described are similar to those illustrated in the above-mentioned Patent No. 2,277,884 and form no part of my present invention which relates to an ink supply unit for supplying ink to the ink roll 13.

Such ink supply unit comprises an ink-reservoir member 20 which is provided with an ink-receiving well 21 and it also comprises an ink-delivery roll 22 which is partially submerged in the well 21, together with an ink-spreading plate 23 which covers the well 21 and is provided with an

opening 24 through which the upper portion of the ink-delivery roll 22 projects.

This ink supply unit is so mounted on the supporting member 2 that during the forward and backward traveling movement of the ink roll 13, the latter will roll across the ink-spreading plate 23 in contact therewith and will also roll across the ink-delivery roll 22.

Said ink-delivery roll 22 is preferably mounted so that it is free to rotate, said roll being carried by a spindle 25, the ends of which are journaled in the side walls of the ink-reservoir member 20.

Any suitable means for mounting the ink-reservoir member 20 in its proper position may be employed without departing from my invention, but I prefer to use a mounting means so constructed that the ink-reservoir member can be easily and quickly removed from the machine and as easily and quickly be replaced by another ink-reservoir member.

As herein shown, the ink-reservoir member 20 is mounted on a reservoir-supporting member in the form of a plate 26 which is supported at its ends by two bracket elements 27 which are attached to the lower ends 28 of the arms 4 by means of suitable bolts 29. The supporting plate 26 is shown as secured to the bracket arms 27 by means of screws 30.

To provide for easy removal of the ink-reservoir member 20 from the supporting plate 26 and also to provide for quick and accurate replacement of said member on the plate 26, I have provided said ink-reservoir member 20 with a depending clamping screw 31 which is provided with a knurled head 32 by which it may be turned, and I have also provided the supporting plate 26 at its front end with an open slot 33 adapted to receive the shank of the clamping screw 31.

The head 32 of the clamping screw is provided with a clamping flange 34 adapted to engage the underside of the supporting plate 26 when said screw is tightened and thereby the ink-reservoir member is firmly clamped to the plate. By backing off the screw, the clamping pressure is relieved thus making it possible to withdraw the ink-reservoir member 20 from the plate.

To maintain the ink-reservoir member properly positioned on the plate, said member is provided on its underside with a guiding groove 35 adapted to receive a stud 36 projecting upwardly from the supporting plate 26. The guiding groove 35 is an open ended groove so that when the clamping screw 31 is backed off, the ink-reservoir member may readily be withdrawn from the supporting plate 26 by a horizontal movement toward the right in Fig. 4. The installing of the ink-reservoir member on the supporting plate 26 involves merely moving the said member over the plate in a direction toward the left in Fig. 4 thus causing the guiding stud 36 to enter the groove 35 and also causing the clamping screw 31 to enter the slot 33. When said ink-reservoir member is in place, it may be locked in such position by simply tightening the clamping screw 31.

The ink spreading plate 23 is preferably removably attached to the ink-reservoir member 20 so that it can be readily removed for the purpose of supplying ink to the well 21. As herein shown, said plate 23 has a rib 37 on its underside at its inner end, which rib has a nose portion 38 adapted to engage in a recess 39 with which the wall of the ink-reservoir member 20 is provided. The opposite or right-hand end of the ink-spreading plate 23 has a depending spring arm 40 secured thereto resiliently engaging the

right-hand end of the ink-reservoir member 20. Such resilient arm 40 is formed with an aperture 41 adapted to receive a locking pin 42 extending from the ink-reservoir member 20.

The ink-spreading plate 23 may be removed from the member 20 by pressing forwardly on the lower end 43 of the resilient arm 40 thereby to disconnect it from the pin 42 after which the right-hand end of said plate may be lifted up sufficiently to permit the nose 38 to be disengaged from the recess 39.

Fig. 1 of the drawings shows the marking machine in printing position, that is, with the rocker or supporting member 2 in its lowered position and the type wheels 3 in contact with the platen 7 or the work thereon. At this time the ink roll 13 is at the left-hand end of its travel and is in engagement with the left-hand end of the ink-spreading plate 23. It will be remembered that the ink-reservoir member 20 is carried by the bracket arms 27 that are rigidly secured to the arms 4 and therefore said ink-reservoir member will have the same oscillating movement about the pivot 5 that the rocker member 2 has. In other words, said ink-reservoir member has a fixed position relative to the rocker or supporting member 2. As the rocker member 2 rises after a printed impression has been made, the carriage 14 will be moved forwardly along the ways 15 and the ink roll 13 will be rolled across the ink-spreading plate 23 and then on into a position to ink the type wheels as shown in Fig. 8. During the rolling movement of the ink roll 13 across the ink-spreading plate 23, said ink roll will roll over the ink-delivery roll 22 and will pick up therefrom a small quantity of ink. The continued rolling contact of the ink roll with the ink-spreading plate causes this ink to be evenly distributed over the surface of the ink roll 13 and thus said ink roll will not only be continuously supplied with ink, but such ink will be spread evenly over the surface of the ink roll by the rolling contact thereof over the ink-spreading plate 23. During the descending movement of the rocker member 2, the ink roll will be given a reverse or backward movement from its forward position to its rearward position shown in Fig. 1, and during this reverse movement said ink roll will again roll across said ink-spreading plate 23, and the ink-delivery roll 22. During such backward or reverse movement of the ink roll, it will have a counterclockwise rolling movement over the ink-spreading plate 23.

If it becomes necessary at any time to change the color or character of the ink being used in the machine, the ink-reservoir member 20 can be easily and quickly removed from its supporting plate 26 and replaced by another ink-reservoir member carrying the kind or color of ink to which it is desired to change. The ink roll 13 which has been used can also be quickly and easily removed from the carriage 14 and a fresh ink roll replaced in the carriage.

These parts can be easily changed by the operator without danger that she will get ink smeared on either her hands or her clothes.

I claim:

1. A marking machine of the type having an elongated supporting member carrying type wheels at its outer end and an ink roll mounted on said supporting member for movement longitudinally thereof toward and from the type wheels, the combination with said supporting member, of a supporting plate carried thereby beneath the latter in fixed position relative

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thereto, said plate having adjacent one edge an upstanding guiding stud and an open-ended slot in the other edge, an ink-reservoir member removably mounted on the plate and provided on its under side with an open-ended groove to receive said stud and also provided with a depending clamping screw to enter said slot and by which the ink-reservoir member is clamped to the plate, said member having an ink well, an ink-delivery roll partially submerged in said ink well, an ink-spreading plate covering said ink well and provided with an opening through which the ink-delivery roll projects slightly, and means removably securing said ink-spreading plate to the ink-reservoir member.

2. A marking machine as in claim 1 in which the ink-reservoir member has a notch on its rear side adjacent the top and in which the ink-spreading plate has a rib to engage said notch and a depending resilient arm at its front edge which yieldingly engages the front of the ink-reservoir member, the latter having a retaining pin and said arm having an opening to receive said pin thereby to lock the ink-supporting plate in position.

3. A marking machine having a type wheel supporting arm, type wheels carried thereby, an ink roll beneath said arm and mounted thereon for movement longitudinally thereof toward and from the type wheels, a reservoir-supporting member situated beneath said arm and rigid therewith, an ink reservoir member carried by said reservoir-supporting member but removable bodily therefrom, said ink reservoir member having an ink well, an ink-delivery roll partially submerged in said well and an ink-spreading plate forming the top of the ink reservoir member and covering said well, said plate having an opening through which the upper portion of the ink-delivery roll projects, and releasable clamping means for clamping the ink reservoir member to the reservoir-supporting member, said ink reservoir member, when clamped to the reservoir-supporting member, having its ink-spreading plate in a plane parallel to the path of movement of the ink roll and so situated that during its to and fro movement the ink roll will have rolling contact with said ink-spreading plate and the ink-delivery roll.

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4. A marking machine having a longitudinally extending type wheel supporting arm, type wheels carried thereby, an ink roll beneath said arm and mounted thereon for movement longitudinally thereof between a retracted position and a forward position in which it is beneath but in contact with the type wheels, a supporting plate rigidly secured to said arm and situated beneath and spaced from the latter, an ink reservoir member carried by but removable bodily from said supporting plate, said reservoir member being situated between the supporting plate and said arm and having an ink well, an ink-delivery roll partly submerged in said ink well and an ink-spreading plate forming the top of the reservoir member and covering the ink well, said plate having an opening through which the ink-delivery roll projects slightly, said ink-spreading plate, when the ink reservoir member is mounted on the supporting plate, being parallel to the path of movement of the ink roll and being so situated that said ink roll has a rolling contact with said ink-spreading plate and the delivery roll during its movement toward and from the type wheels, and releasable clamping means for clamping the removable ink reservoir member to the clamping plate.

HARRY R. FLETCHER.

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