

Sept. 8, 1959

N. E. ROSS
ADJUSTMENT CONTROL FOR INK FOUNTAIN FOR
OFFSET AND TYPE PRESSES

2,902,927

Filed May 1, 1957

4 Sheets-Sheet 1

FIG. 5.

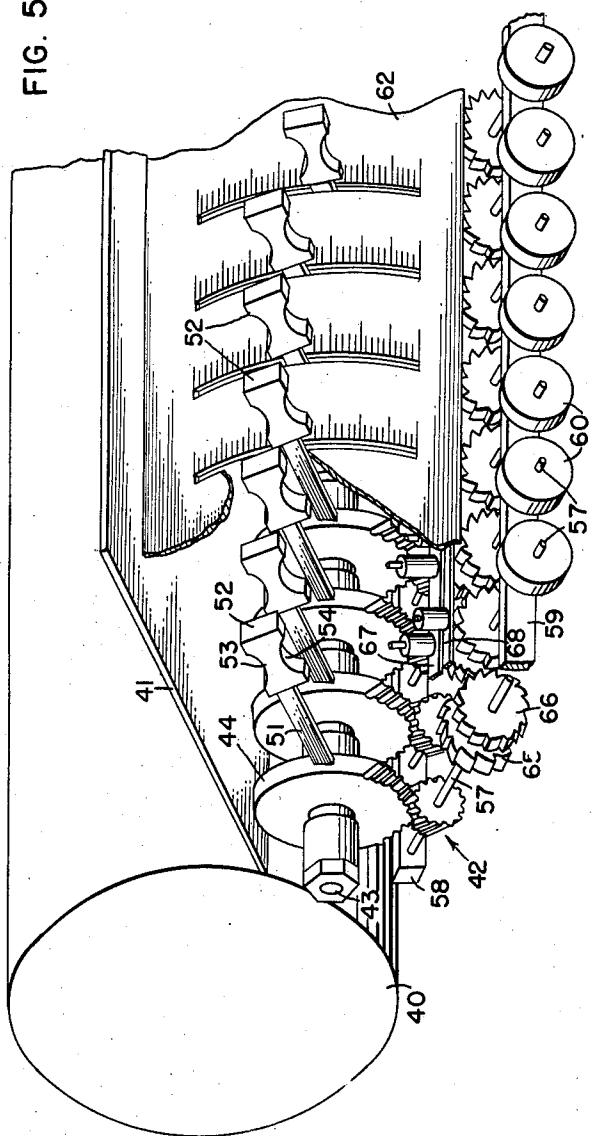


FIG. 1.

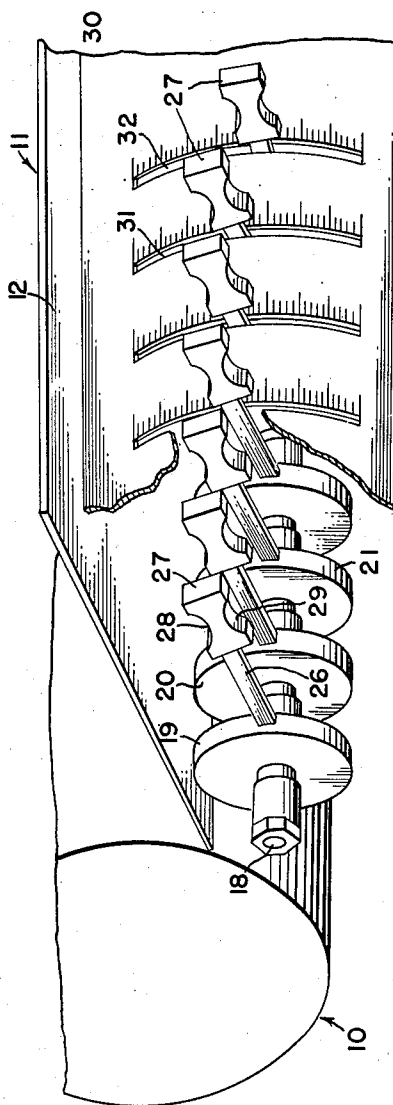
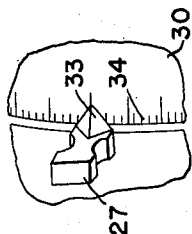


FIG. 4.



INVENTOR.
Nevel E. Ross

BY

Shormaker & Mott

ATTYS

Sept. 8, 1959

N. E. ROSS
ADJUSTMENT CONTROL FOR INK FOUNTAIN FOR
OFFSET AND TYPE PRESSES

2,902,927

Filed May 1, 1957

4 Sheets-Sheet 2

FIG. 2.

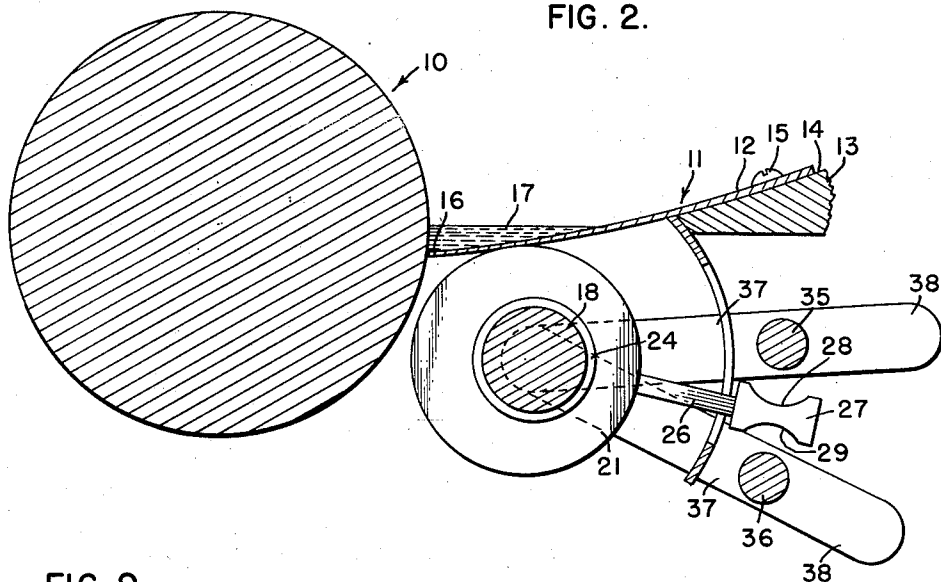


FIG. 9.

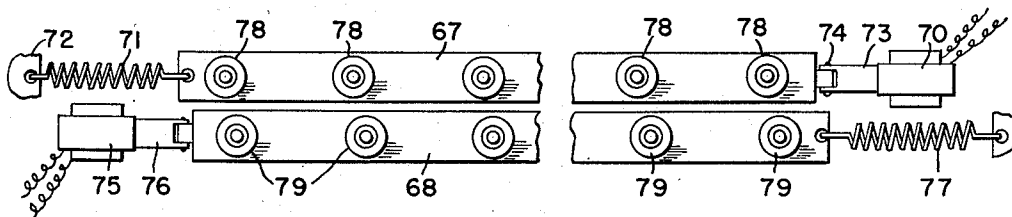


FIG. 7.

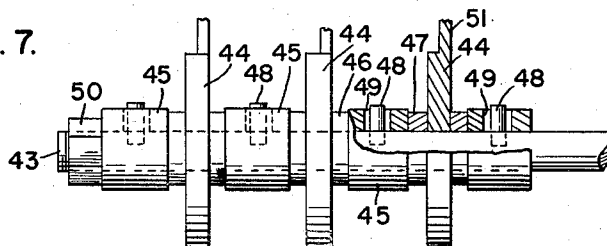
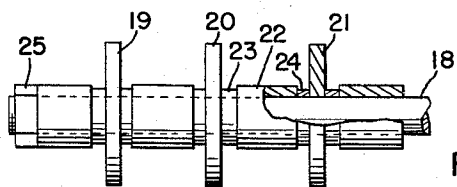


FIG. 3.

INVENTOR.

Nevel E. Ross

BY

Shumaker & Martore

ATTYS

Sept. 8, 1959

N. E. ROSS
ADJUSTMENT CONTROL FOR INK FOUNTAIN FOR
OFFSET AND TYPE PRESSES

2,902,927

Filed May 1, 1957

4 Sheets-Sheet 3

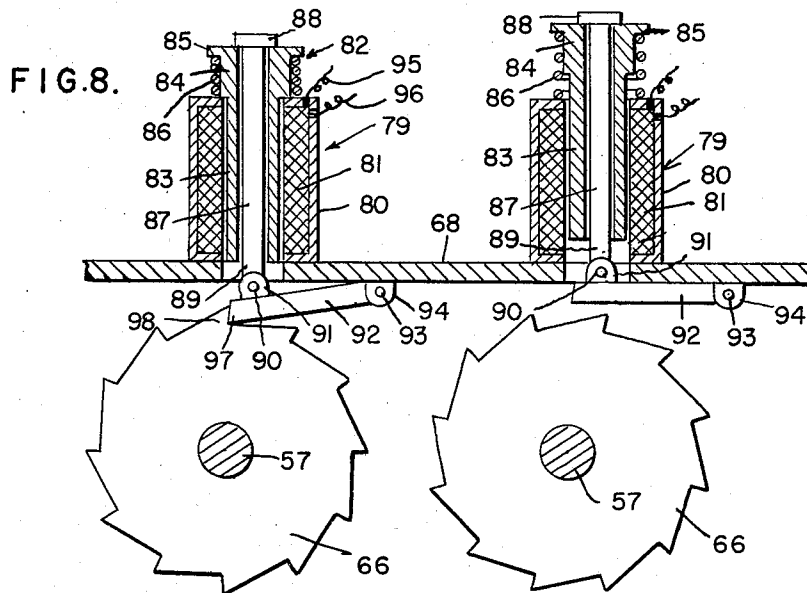
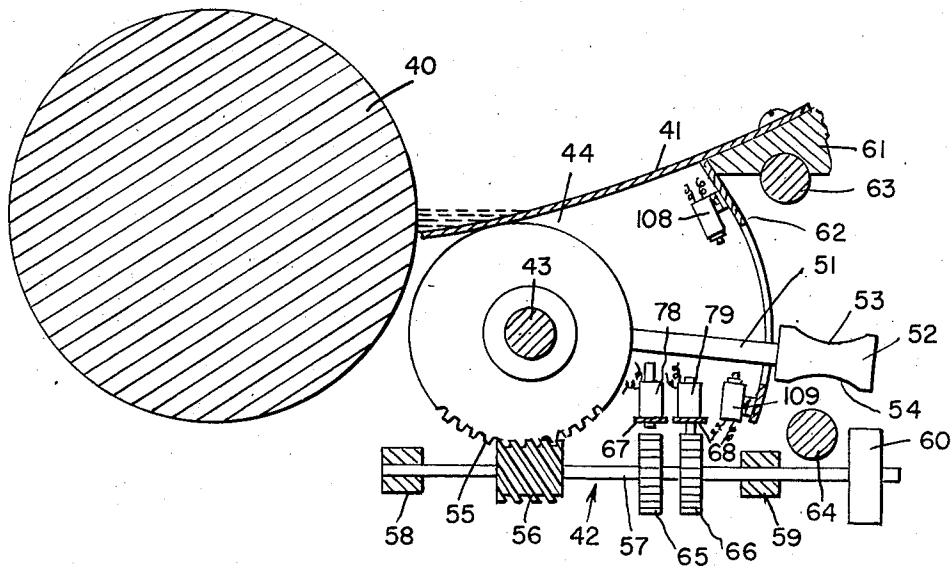


FIG. 6.



INVENTOR.

Nevel E. Ross

BY

Shumaker, Martine

ATTYS.

Sept. 8, 1959

N. E. ROSS
ADJUSTMENT CONTROL FOR INK FOUNTAIN FOR
OFFSET AND TYPE PRESSES

2,902,927

Filed May 1, 1957

4 Sheets-Sheet 4

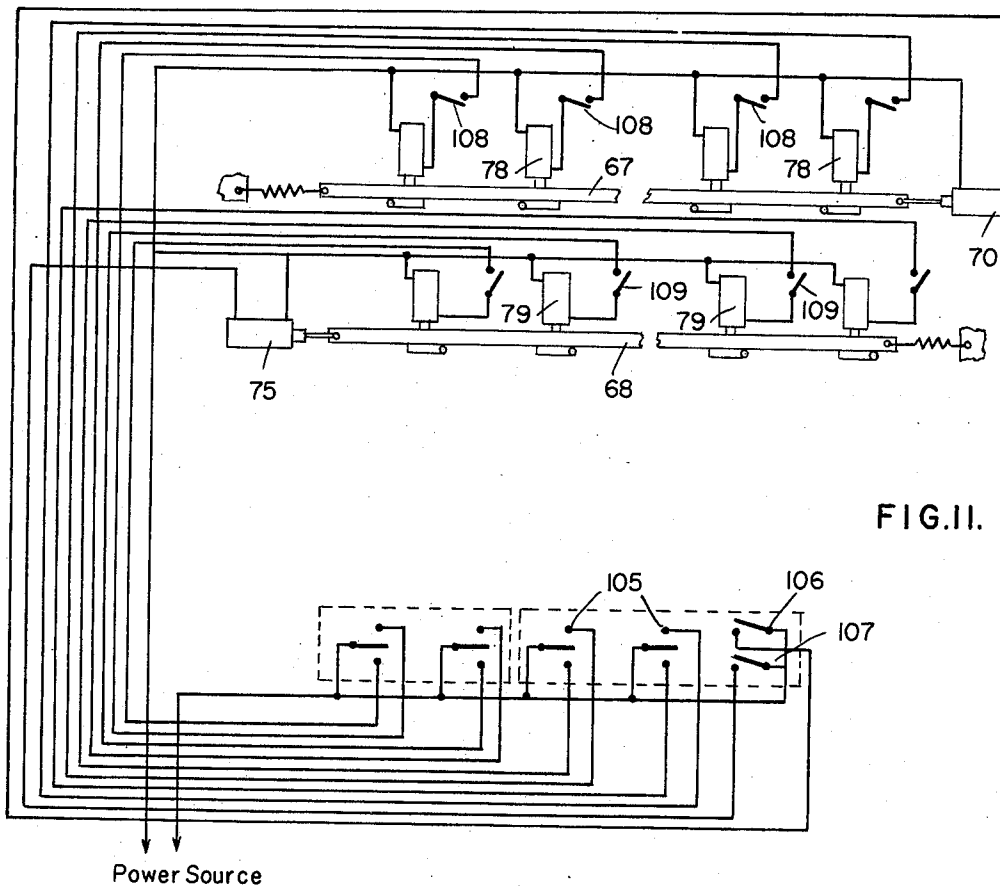


FIG. II.

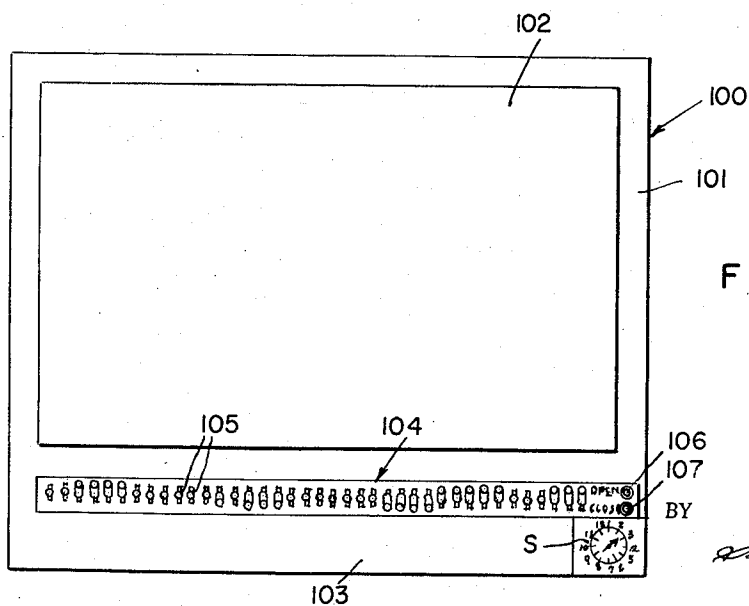


FIG. 10.

INVENTOR.
Nevel E. Ross

BY

Shumaker & Mattern
ATTYS

1

2,902,927

ADJUSTMENT CONTROL FOR INK FOUNTAIN FOR OFFSET AND TYPE PRESSES

Nevel E. Ross, New Orleans, La.

Application May 1, 1957, Serial No. 656,279

11 Claims. (Cl. 101—365)

This invention relates to means for controlling the ink supply to an ink fountain roller and pertains more particularly to an improved construction for adjusting the ink fountain plate with relation to the ink fountain roller to selectively alter the gap therebetween to permit the desired quantity of ink to be applied to the roller.

On offset and type presses, it is conventional practice to utilize an ink fountain roller and in association therewith an ink fountain plate which is in the form of a deformable blade having means associated along its free edge adjacent the roller to deform the blade selectively toward the roller to increase or decrease the localized gap between the blade and roller with the ink supply lying on top of the blade and being controllably dispensed upon the roller in accordance with the gap between the plate and roller. Due to differences in printing plates, it is necessary to adjust the individual adjusting means throughout the length of the blade for each printing plate since more or less ink will be required along the length of the roller depending upon the material being printed and the characteristics of the particular printing plate being used. A typical adjusting arrangement is illustrated in Patent 1,112,412, September 29, 1914.

Since each printing job has different requirements as to the amount of ink which must be dispensed along the length of the roller, it becomes necessary each time to adjust the conventionally employed adjusting screws by trial and error until the proper amount of ink is flowing to meet the needs for the light and dark areas on the sheet being printed. This is usually accomplished by running a few trial sheets through the press and then inspecting the sheets thus printed and by trial and error, adjusting the various adjusting screws until at last the proper printing characteristics are attained. This very often requires as much as thirty minutes of time before the proper ink distribution is achieved, representing a considerable amount of lost time and, as well, a considerable amount of paper improperly printed and thus unusable.

It is, therefore, of primary concern in connection with this invention to provide an improved adjustment and control for ink fountains, whereby the adjustment can be made in a minimum amount of time.

Another object of this invention is to provide an improved adjusting mechanism of the character described incorporating a single control lever whereby the ink fountain is uniformly opened a predetermined amount throughout its entire length.

Another object of this invention is to provide an improved ink fountain adjustment and control mechanism incorporating means for permanently recording the various adjustments made so that if the same job is run again at some future date, the fountain can be accurately readjusted to the original position determined.

Another object of this invention is to provide an ink fountain control of the character described having means for remotely controlling the adjustments whereby a very efficient and rapid control can be realized.

2

Still another object of this invention resides in the provision of an ink fountain control embodying a single control shaft and having associated therewith a plurality of eccentric discs, each independently operable by virtue of separate control levers and each having dial means associated therewith.

A further object of this invention resides in the provision of an ink fountain control in conformity with the preceding object wherein each of the eccentric discs is provided with associated gear means for selective individual control, and there being electrically controlled ratchet mechanisms associated therewith for remotely controlling the disc adjustments.

Still another object of this invention lies in the provision of a control in accordance with the preceding object wherein the ratchet mechanisms include an operating bar and a plurality of solenoid pawl elements mounted therealong whereby energization of any one or several of the solenoids will effect operative pawl positioning and wherein the bar is longitudinally shiftable under remote control for effecting the individual or plural ratchet adjustments.

With the above and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportions, and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:

Fig. 1 is a perspective view partially broken away showing one form of the improved control assembly and illustrating a portion of an ink fountain roller and associated blade and a portion of the adjusting assembly;

Fig. 2 is a transverse sectional view taken through the assembly shown in Fig. 1 and illustrating details of the eccentric disc members and their relationship to the ink fountain roller blade;

Fig. 3 is a plan view partially in section showing a portion of the disc assembly and the mounting shaft therefor;

Fig. 4 is a partial perspective view illustrating the scale adjustments for the individual control levers;

Fig. 5 is a perspective view, partially in section, showing a further form of the invention;

Fig. 6 is a transverse sectional view taken through the assembly shown in Fig. 5 and illustrating details of the remote drive for the eccentric discs;

Fig. 7 is a plan view, partially in section, showing a portion of the eccentric disc assemblage of Fig. 6;

Fig. 8 is an enlarged sectional view showing details of the pawl assemblage;

Fig. 9 is a plan view of the solenoid carrying ratchet actuating bars;

Fig. 10 is a plan view of a remote control board assembly for operating the adjusting and control assembly of Fig. 5; and

Fig. 11 is a circuit diagram illustrating the remote control mechanism.

Referring now more particularly to Fig. 1, reference numeral 10 indicates an end portion, partly broken away, of an ink fountain roller which, for the purpose of clarity, is not shown in its entirety nor is its manner of attachment to the frame of the printing press. It is to be understood, of course, that the roller is mounted in any conventional manner for rotation about its longitudinal axis and may be, for this purpose, provided with opposite end journalling portions rotatably supported by suitable bearing members rigidly attached to the printing press frame. Reference numeral 11 designates the ink fountain

roller blade which is attached along its edge portion 12 remote from the roller 10 to the printing press frame so that it extends therefrom in cantilever fashion toward the roller 10. This connection of the blade to the frame is likewise not shown for the purpose of clarity but it is to be understood that this connection too is of a conventional nature in that the blade is supported along its longitudinal edge which is remote from the roller such that the remaining portion of the blade is free to be flexed in a manner presently described. The blade may be made of a sheet of flexible material, such as some suitable metal, it being important, of course, that the composition of the blade be such that it does not permanently deform or set.

The manner of attaching the blade 11 to the printing press is shown rather diagrammatically in Fig. 2 and in this figure, the reference character 13 designates the cross section of a portion of the printing press frame which is provided with a flat upper surface portion 14 upon which the remote edge portion 12 of the blade rests. The blade is preferably provided with a series of apertures along its edge portion 11 and suitable fasteners 15 are utilized in conjunction therewith to securely fasten the blade to the frame 13. The blade normally extends from the frame 13 to a point along its longitudinal edge adjacent the roller 10 so that such edge is spaced an appreciable distance from the roller and it is conventional practice to employ some means to upwardly deflect or deform the edge portion 16 of the blade and the supply of ink 17 is disposed along the top of the blade as is shown.

For the purpose of effecting the desired adjustment of the blade 11, a shaft member 18 is rigidly mounted on the printing press frame, not shown, such that the same is held rigidly in spaced parallelism to the roller 10 and mounted on this shaft in longitudinally spaced relationship to each other are a series of eccentric cam discs 19, 20, 21, etc., each of which is adapted to position an associated marginal edge portion 16 of the blade in proper relationship to the roller so as to cause the desired flow of ink along the length of the roller for the particular printing operation under consideration.

Fig. 3 illustrates the construction of the discs and shaft 18 more clearly, and in this figure, it will be seen that each of the discs 19, 20, 21, etc. is rotatably mounted on the shaft and that there is disposed between each adjacent pair of such discs, the spacer member 22 and the friction washers 23 and 24. Thus, each disc is sandwiched between a cooperative pair of friction washers and the spacer elements 22 serve to longitudinally position the discs with respect to each other. Although only one end of the shaft is shown in Fig. 3, it is to be understood that the construction is the same at each end and for this purpose, the opposite ends of the shaft are threaded and receive thereon nuts such as that indicated by the reference character 25 and the two nuts at the opposite end of the shaft are tightened a predetermined amount so as to establish a predetermined amount of frictional engagement between all of the friction washers and their associated discs. The purpose of this construction is to establish a predetermined amount of preload upon each of the discs so that when the same are adjusted individually as will be hereinafter described, they will retain their individually adjusted positions without danger of accidental shifting.

Each of the discs is provided with a radially extending lever 26 provided on its free end with a hand knob 27, each such knob being provided on its opposite side with the arcuate notches 28 and 29. Mounted on the frame portion 13 of the printing press is an arcuate gauge plate 30, which is provided with a plurality of longitudinally spaced and parallel slots 31, 32, etc. through which the associated handle lever portions 26 of the individual discs project and, as is seen most clearly in Fig. 4, each hand knob portion 27 is provided with a pointer 33 which regis-

ters with a scale 34 on the right hand side of each slot. In this manner, the precise position of each of the eccentric discs can be determined and under some circumstances, it may be desired to record the exact position of each of the discs so that at some later date, if the same printing plate is being run again, the discs can be reset to the precise and exact position required to produce the proper application of ink to the roller 10.

For the purpose of permitting all of the levers and their associated disc to be either returned to the uppermost position which establishes the maximum flow of ink or for permitting all of the levers to be moved in a downward direction a predetermined amount, a pair of actuating rods 35 and 36 may be provided, positioned respectively above and below the handle knob portions 27 of the various control discs. As is shown most clearly in Fig. 2, each of these rods is mounted for pivotal movement about the axis of the shaft 18 and for this purpose, each end of each rod may be supported by means of a lever 37 which rotatably receives at one end the shaft 18 and which rigidly carries the corresponding rod 35 or 36 adjacent its opposite end. Each of these levers may be provided with a free end extension 38 forming a lever portion which may be engaged by the operator so that the corresponding bar is swung to engage in one of the notches 27 or 28 of the hand grip assemblies 27 to swing the same in the desired direction.

Referring at this time more particularly to Fig. 5 wherein a modified form of the invention is shown, the ink fountain roller is indicated by the reference character 40, the ink fountain roller blade by the reference character 41 and the control assembly indicated generally by the reference character 42. It is to be understood that the roller construction 40 and the plate 41 are similar to those discussed in conjunction with the preceding figures. However, in this modification of the invention, the details of the control assembly are somewhat different and lend themselves to either remote or manual control, as may be desired under the circumstances.

The mounting shaft 43 for the control assembly is fixed at its opposite ends to the printing press frame, as was the case for the previously described shaft 18 and mounted in longitudinally spaced relationship along the shaft 43 are the eccentric adjusting discs 44 which engage the undersurface of the blade 41 and cause the same to deflect, as desired, along the various points along its free marginal edge to control the supply of ink delivered to the roller 40.

As shown in Fig. 7, the various discs 44 are spaced from each other longitudinally of the shaft 43 by virtue of the intermediate spacing members 45 and disposed on opposite sides of each such spacer member are the friction washers 46 and 47, the discs each being sandwiched between a pair of friction washers. To make absolutely certain that rotation of one disc will not affect the adjustment of any adjacent disc, it may be desired to pin each of the spacing members 45 to the shaft 43 so as to prevent rotational movement therebetween. For this purpose, removable pin members 48 are fixed to the shaft 43 in radially projecting relation thereon, which pins project through elongated apertures 49 in the respective spacing members 45. A nut 50 is engaged upon each end of the shaft 43 to preload all of the friction washers and by virtue of the elongation of the apertures 49 longitudinally of the shaft, the spacing members are free to shift longitudinally thereof by a predetermined amount to permit the desired preloading of the friction washers but to positively prevent rotation of any of the spacer members on the shaft so that, under no circumstances, can rotation of one of the discs affect any of the other discs on the shaft.

As before, each of the eccentric discs is provided with a radially projecting lever portion 51 terminating in a

5

hand grip portion 52 provided on its upper and lower faces with the arcuate notches 53 and 54. However, the lower peripheral edge portion of each of the discs is provided with teeth 55 engaged with a worm gear 56 mounted on a shaft 57 rotatably journaled in suitable supports 58 and 59 attached to the frame of the press. The outermost extremity of each such shaft 57 is provided with a hand knob portion 60 thereon so that an operator may turn the same and thus rotate the shaft 57 and worm 56 to rotate a corresponding eccentric disc 44 and effect a desired adjustment of the blade in that particular portion. The discs may also be manually actuated by manipulating the corresponding handle portions 52 thereof and for this purpose, it is to be understood that the gear engagement between the teeth 55 and the worm 56 is of a reversible nature.

As was also described before, the printing press frame portion 61 serves as a mount for the arcuate plate member 62 which operates to permit the exact scale adjustment of each disc to be noted and cooperable with the notches 53 and 54 on each handle member 52 are the operating bars or rods 63 and 64 mounted in a fashion similar to that previously described and permitting rapid adjustment of all of the levers simultaneously.

Each of the shafts 57 carries a pair of ratchet wheels 65 and 66 which, as can be seen most clearly in Fig. 5, are so mounted as to be actuated in opposite directions of movement. That is to say, the two wheels 65 and 66 associated with each shaft will ratchet in opposite directions. All of the ratchet wheels are so disposed so that those lying in a common plane across the width of the press, longitudinally of the roller 40, are adapted to ratchet in the same direction, there being two such rows of ratchet wheels. Associated with each such row of ratchet wheels is a pawl bar such as those indicated by the reference characters 67 and 68. Fig. 9 illustrates the manner in which these pawl bars are mounted. In each case, a solenoid 70 is rigidly affixed in a suitable manner to the frame of the press and on the opposite side thereto, a spring 71 is anchored to the frame 72 and at its opposite end to the corresponding end of the associated bar 67 or 68.

The solenoid 70 is provided with a reciprocable armature 73 which is movable in a direction extending along the longitudinal axis of its associated pawl bar and is connected at its free end preferably by means of a hinge pin 74 to the associated end of the pawl bar. The pawl bar 68 is provided with a similar solenoid 75 and associated armature 76 as well as the spring 77, although it is to be noted that the solenoids for the two bars are disposed at opposite sides of the press. Therefore, in Fig. 9, the pawl bar 67 will be positively actuated to the right when the solenoid 70 is energized and will be returned to its normal position under the action of the spring 71 and the pawl bar 68 will be positively actuated to the left when the solenoid 75 is engaged and will be returned to its normal position by the spring 77.

Mounted along the top of the pawl bar 67 are a series of pawl solenoids 78, one such pawl solenoid for each of the respective ratchet gears 65. Similarly, the pawl bar 68 is provided with a series of pawl solenoids 79, the latter being more clearly shown in Fig. 8.

As is shown in Fig. 8, the pawl solenoids incorporate outer casing elements 80 rigidly affixed at their lower ends to the upper surface of the associated pawl bar and are provided with a winding element 81 disposed within the housing, the winding having a longitudinally extending central opening through which the armature assembly indicated generally by the reference character 82 projects. The armature of each pawl solenoid incorporates an outer sleeve 83 having an enlarged upper portion 84 terminating at its upper extremity in an annular shoulder 85 providing an upper seat for a spring element 86 coiled about in the enlarged upper portion 84 and seating at its lower end at the top of the housing 80 so as to normally

6

urge the sleeve element 83 to an uppermost position. The sleeve is provided with a core element 87 extending therethrough having an enlarged head 88 at its upper end overlying the upper end of the sleeve and being of a length greater than the sleeve so that its lower end 89 projects downwardly therefrom, which lower end is pivotally attached as by a pin 90 to an ear 91 upstanding from a generally horizontally disposed pawl element 92, the opposite end of which is pinned as at 93 to a depending ear or ears 94 secured to the undersurface of the associated pawl bar 68.

Each of the solenoids is provided with electrical connections such as those indicated by the reference characters 95 and 96, leading to a suitable source of electric current and control mechanisms, as will hereinafter be described, for the purpose of selectively energizing the individual solenoids. In this respect, it is to be appreciated that when a pawl solenoid is energized, the core and sleeve will move downwardly from the normal or uppermost position thereof such as to move the pawl element 92 downwardly into engagement with the ratchet element 66 as is shown in connection with the left hand pawl solenoid in Fig. 8. In this figure, it is to be noted that the actuating end 97 of the pawl element 92 is engaged behind one of the teeth 98 on the ratchet 66. Consequently, when the pawl bar 68 is subsequently moved longitudinally to the left in Fig. 8, the ratchet 66 will be partially rotated so that the corresponding eccentric disc will, through the gear train 55-56, be actuated to effect a minute adjustment of the plate 41 at this point.

From the above, it will be evident that it is possible, by suitable controls and connections, to electrically operate the various eccentric discs and achieve the desired adjustment of the plate 41 so as to effect the proper distribution of ink across the length of the roller 40. In this respect, it is to be appreciated, of course, that the solenoid 78 and the solenoid 79 are similarly formed and operate in similar fashion so that energization of any one or a combination of the solenoids and actuation of the corresponding pawl bars will achieve the desired adjustment of individual eccentric discs.

For the purpose of establishing an efficient remote control assemblage for the electrically operated solenoids, it may be desirable to provide a control panel or table similar to that shown in Fig. 10. In this figure, the control table is indicated generally by the reference character 100 and will be seen to include a relatively large area or surface portion 101 upon which a printed sheet 102 may be placed, the operator sitting adjacent the side edge portion 103 so as to have ready access to the control panel assemblage indicated generally by the reference character 104.

The control panel incorporates a series of individual switch elements 105 across the width thereof and directly beneath the printed sheet 102 and are related thereto in spacing across the width of the sheet 102 exactly the same as are the individual eccentric discs when the sheet is being printed. The switches 105 are of the single-pole double-throw type and the switches are all individually connected to the various solenoids so that when any one is moved upwardly to one of its closed positions, it will energize a corresponding one of the solenoids 78 and when any one of the switches is in the down position or its other closed position, it will energize its corresponding solenoid 79, the switches being open in the intermediate or neutral position. On the right of the control panel 104 are a pair of switches 106 and 107 which respectively actuate the solenoids 70 and 75. Consequently, the operator at the table 100 can immediately ascertain, by examination of the sheet 102, wherein more or less ink is required and then by following vertically downwardly from the light or heavy areas, he can manipulate the individual switches 105 in the proper direction and subsequently actuate either or both of the switches 106 and

107 to effect the desired adjustments of the individual eccentric discs. In this manner, a very efficient assembly can be set up and the operator at the table 100 can be given a sheet printed from the press and by positioning it on the table and making determinations as to the requirements for ink across the sheet and making the necessary manipulations of the switches 105 and the switches 106 and 107, the operator can very quickly manipulate the fountain for the printing press so as to achieve the desired distribution of ink across the roller 40 and he can do so at any desired remote point. At the same time, any minute adjustments can be achieved manually directly at the fountain either by moving the handle 52 or by turning the knobs 60, as was previously described.

When the remote control unit is utilized, it may be desirable to mount limit switches 108 and 109 on the member 62 or in some position so that the levers 51 cannot be positively actuated by the solenoids beyond either the uppermost or the lowermost positions and in this respect, it can be appreciated that the limit switches 108 and 109 will be interposed between the connections from the control panel to the individual solenoids 78 and 79.

Fig. 11 illustrates a partial circuit diagram, somewhat simplified, and illustrates the connections to the various units of the machine.

In Fig. 10, it will be noted that on the lower right hand corner of the control panel is mounted a 12 position switch S. This selector switch is for the purpose of controlling presses having multiple fountains. For example, in multicolor presses which have a fountain for each color being printed, the selector switch S is wired so as to individually control the fountains, that is, so as to connect the switch panel 104 individually to the various fountains for selected individual control thereof as indicated to the operator by the proof sheet on the control panel. In this way, the operator can select the particular fountain to be adjusted and make the necessary corrections or adjustments by the various switches 105 and the control switches 106 and 107 and thereafter change the setting of the selector switch S to any other fountain and make the necessary adjustments and corrections thereto, and so on until the entire press assembly has been adjusted properly.

Although the particular selector switch shown is indicated to have 12 positions, it is to be appreciated that any desired number of positions can be utilized. The 12 position selector switch shown will enable the control panel to control the ink on three 4-color presses, six 2-color presses, etc.

I claim:

1. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a shaft fixed in spaced parallelism to the axis of said roller and beneath said plate, a plurality of eccentric discs individually, rotatably journaled on said shaft and fixed in spaced relation to each other throughout the width of said plate, a lever fixed to each disc and extending radially therefrom for selected manual adjustment of the individual discs, and secondary means for individually adjusting said discs.

2. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a shaft fixed in spaced parallelism to the axis of said roller and beneath said plate, a plurality of eccentric discs individually, rotatably journaled on said shaft and fixed in spaced relation to each other throughout the width of said plate,

a lever fixed to each disc and extending radially therefrom for selected manual adjustment of the individual discs, and remotely controlled means for adjusting the individual discs independently of said levers.

3. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about axes parallel to the axis of said roller, and means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across said roller, the last mentioned means including solenoid operated mechanism.

4. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about axes parallel to the axis of said roller, and means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across said roller, the last mentioned means including gear means connected to each disc, a ratchet wheel fixed to each such gear means, and a gang of commonly moved pawls for engaging the individual ratchet wheels, each pawl being normally positioned out of engagement with its associated ratchet wheel and including mechanism for selective engagement therewith.

5. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about axes parallel to the axis of said roller, and means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across said roller, the last mentioned means including a ratchet wheel connected to each disc, a pawl for each ratchet wheel and normally positioned out of engagement therewith, electrically energized means for selectively, individually moving each pawl into ratchet engaging position, and means for moving the pawls to actuate the ratchet wheels.

6. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about axes parallel to the axis of said roller, and means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across said roller, the last mentioned means including a ratchet wheel connected to each disc, a pawl for each ratchet wheel and normally positioned out of engagement therewith, electrically energized means for selectively, individually moving each pawl into ratchet engaging position, and means for moving the pawls to actuate the ratchet wheels, the last means including a common mounting for the pawls whereby said ratchet wheels are moved simultaneously.

7. In combination with a printing press having an ink fountain roller having an ink distributing blade associated therewith and means for locally deforming the blade across the width of the roller for altering the ink distributing characteristics thereof, a remote control station for controlling said means and adjusting the same to achieve proper ink distribution across the roller, said station including a support for a printed sheet oriented widthwise with respect to said roller, a plurality of control elements fixed in spaced relation across said support and oriented with respect to the sheet thereon identically as the particular portions of said means which they control so that an operator may adjust said means in accordance with the appearance of said sheet.

8. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about an axis parallel to the axis of said roller, means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across the roller, the last mentioned means including a lever associated with each disc and extending generally radially therefrom for manual actuation, said last means also including a gear train associated with each disc and means for manually actuating said gear train to rotate the discs.

9. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about axes parallel to the axis of said roller, and means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across said roller, the last means including solenoid actuated means for individually rotating said discs.

10. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported

ported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about axes parallel to the axis of said roller, and means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across said roller, the last means including a lever fixed to each disc and extending generally radially therefrom for selected manual rotation of said discs, said last means also including a gear train for each disc and manual means associated therewith for selectively rotating said discs, and remote controlled electrically actuated means for operating said gear trains.

11. In an ink fountain assembly for printing presses including an ink roller and a roller plate rigidly supported along one edge with its opposite free edge extending along in close adjacency to the roller, means for locally deforming the plate toward the roller to alter the ink film across the width thereof, said means including a series of eccentric discs rotatably supported beneath and in contact with said free edge of the plate, said discs being disposed in spaced, parallel relation and journaled about axes parallel to the axis of said roller, and means for selectively, individually rotating said discs to alter the ink applying characteristics of said plate across said roller, the last mentioned means including a ratchet wheel connected to each disc, a pawl for each ratchet wheel and normally positioned out of engagement therewith, electrically energized means for selectively, individually moving each pawl into ratchet engaging position, and means for moving the pawls to actuate the ratchet wheels, the last means comprising an elongate bar extending parallel to the axis of said roller, said electrically energized means being mounted upon said bar in longitudinally spaced relation, and a solenoid for selectively actuating said bar for longitudinal shifting movement whereby to actuate those ratchet wheels engaged by a corresponding pawl.

References Cited in the file of this patent

UNITED STATES PATENTS

828,667 Kathe _____ Aug. 14, 1906