F. J. DOBBERTIN.

DAMPENING REGULATOR FOR LITHOGRAPHIC PRESSES.

APPLICATION FILED APR. 20, 1918.

1,364,257. **Patented Jan. 4, 1921.**

Fig. 1.

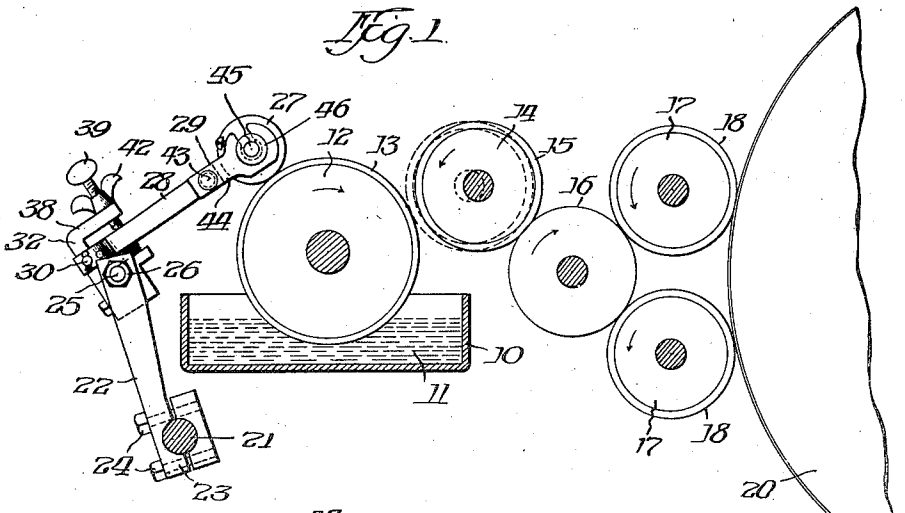


Fig. 2.

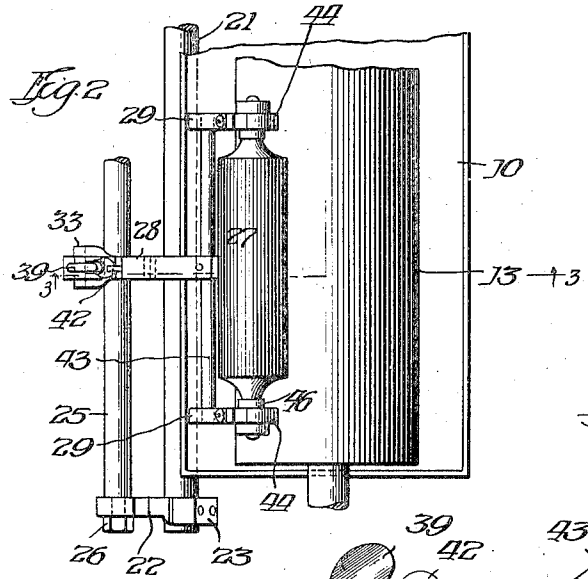
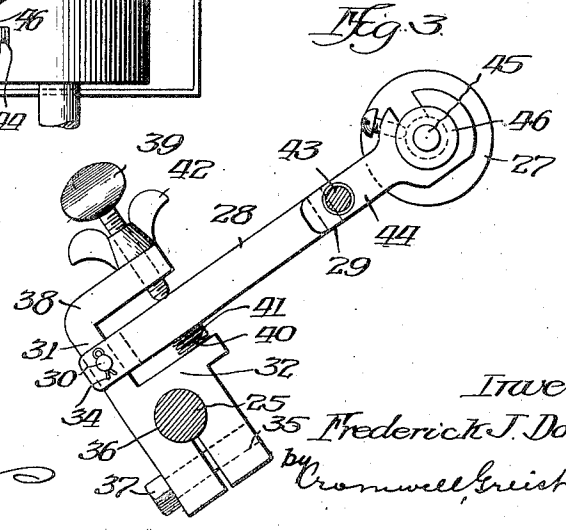


Fig. 3.



Witness:
Geo. Union

Inventor:
Frederick J. Dobbertin
by Cromwell, Greist & Warden
atty's.

UNITED STATES PATENT OFFICE.

FREDERICK J. DOBBERTIN, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO ALFRED D. HUNT, OF CHICAGO, ILLINOIS.

DAMPENING-REGULATOR FOR LITHOGRAPHIC PRESSES.

1,364,257. Specification of Letters Patent. Patented Jan. 4, 1921.

Application filed April 20, 1918. Serial No. 229,696.

To all whom it may concern:

Be it known that I, FREDERICK J. DOBBERTIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Dampening-Regulators for Lithographic Presses, of which the following is a specification.

My invention has to do with the provision of means for controlling the amount and disposition of fluids supplied to the printing surface of a rotary lithographic press. Those who are familiar with the use of this kind of press are aware that frequently the job to be printed does not require utilization of the full capacity of the printing surface or plate, that is to say, certain sections of the plate are not provided with the transfers which record the impressions desired. When a "short" job is on the press it is essential to economical production of high class work that the regular proportion of fluid drawn from the water fountain be restricted to the area of the printing surface in use. If, as under existing conditions, the fluid be freely fed to the entire surface of the printing plate, that which is taken up by the unused portions of the plate accumulates and in a short time runs over into the job area, producing therein an excess amount of fluid which interferes with the feed of ink to the transfers and results in weak and imperfect reproduction therefrom.

The primary object of the present invention is to provide a device which will restrict the dampening of all portions of the printing surface without the boundaries of the job area, and at the same time permit normal operation of the dampening rolls to accomplish their functions in the regular manner to moisten the surfaces within said boundaries. Another important feature of the invention is that the device may be applied to new presses as well as to those already in use, without rearrangement of the parts of said presses or change in their operation.

Further advantages will be apparent to those skilled in the art, and a complete understanding of the invention acquired by referring to the accompanying drawings and specification for the construction of the preferred embodiment thereof. It is obvious that the invention may be embodied in other and varied constructional forms to accomplish the same objects, wherefore the drawings and description herein are to be taken as illustrative rather than as limiting the range of application of the invention or the scope of the claims.

Of the drawings—

Figure 1 is an end elevation of a portion of a lithographic press showing the arrangement of printing plates, dampening rollers and water fountain;

Fig. 2 is a top plan view showing the relative operative positions of the water fountain roller and the dampening regulator; and

Fig. 3 is a section through line 3—3 of Fig. 2.

Referring to Figs. 1 and 2 of the drawings, the numeral 10 indicates the water fountain pan of the press, which contains a fluid mixture 11 of water and acid. 12 is the water fountain roller which is partly immersed in the fluid 11 and is provided with a peripheral covering 13 of cloth or other absorbent material. Revolution of the roller 12 enables the covering 13 to withdraw a generous supply of the fluid 11. Roller 14, commonly called the "ductor" has a covering 15 composed usually of flannel and moleton. When the press is in operation said roller 14 oscillates back and forth into alternate engagement with rollers 12 and 16, its covering 15 absorbing some of the fluid 11 from covering 13 and transferring it to roller 16. Roller 16, generally of brass, does not have an absorbent coating. Its surface, however, is dampened by contact with the covering 15 and then is immediately dried by the attractive characteristics of the material 18 which incases the surface of the dampening rollers 17, the latter being in constant frictional engagement with roller 16, and also with the printing surface 19 of the plate cylinder 20. The water fountain and the train of rollers 12, 14, 16 and 17 are substantially of the same longitudinal dimension as the plate cylinder 20, and the combination is so arranged as to supply the proper amount of fluid required for correct printing when the job covers the entire surface of plate 19. The arrangement and operation of the several rollers is generally approved, consequently I offer no suggestions for changes therein.

In many instances, however, the work set up on the press does not extend over the whole width of the printing plate 19. For instance, on a medium or large sized press, perhaps only one-third or one-half of the plate 19 is provided with transfers. These transfers are coated with grease, which is customary, and therefore have affinity for, and collect upon their surfaces, the greasy ink that is used in this process. All other portions of the plate 19 not provided with transfers, are etched, making them susceptible to the fluid presented by the covering 18 of dampening rollers 17. The natural resistance between grease and water keeps the ink from adhering to the etched or wet portions of the plate. So long as the proper amount of fluid is fed to the printing plate, the grease coating on the transfers will repel the fluid. But when a small job is on the press and one-half or two-thirds of the plate not engaged in the printing operation, the unused portions, under present conditions, nevertheless being in contact with the dampening rollers 17 accumulate fluid to an excessive degree, and the surplus washes over the edges of the printing surface causing the grease coating on the transfers to thin out and flow as the result of which the inking is interfered with and the work becomes pale and unusable.

By the use of the novel device of my invention now to be described, I am able to restrict or regulate the amount of fluid that is fed to any portion or portions of the printing plate. Mounted on the water fountain supporting rod 21, adjacent each end thereof is a sustaining leg 22, said leg having as its lower portion block 23, to permit of ready assembly and adjustment, the leg and block being counter-bored to receive the rod 21, and held together upon the rod by means of bolts 24. The upper end of leg 22 is apertured to receive a rod 25, the ends of which are reduced and threaded to accommodate nuts 26 which hold the rod firmly in position. Rod 25 is equal in length to supporting rod 21.

If it becomes necessary or desirable to limit the amount of fluid to be supplied to any given portion of the printing plate, this may readily be accomplished by the use of one or more squeegee rollers 27 which may be positioned anywhere along the rod 25 and brought into firm engagement with water fountain roller 12 as shown in Fig. 1. The direction of movement of the several rollers of the train is indicated by arrows and, referring particularly to water fountain roller 12, it is noted that in operation a clockwise movement is imparted to it. The point of contact between rollers 12 and 27 is located on the periphery of roller 12 in such manner that the fluid absorbed by covering 13 will be presented to the squeegee action of roller 27 before it passes over the top center of roller 12. The action of rollers 12 and 27 is similar to that of a clothes wringer and the amount of fluid that is wrung from covering 13 and returned to the water fountain pan 10 is, of course, dependent upon the degree of compression between the two rollers.

I have provided means whereby the degree of compression may be easily adjusted. Arm 28 which carries the supporting frame 29 for roller 27 is pivotally mounted by means of pin 30 to the neck 31 of yoke 32. Said pivot pin 30 passes through projections 33 of the arm 28 which embrace said neck 31, and also through the neck 31 and is retained in position by cotter pins 34. The rollers 27 are mounted on rod 25 through said yoke 32 which has a depending block portion 35 apertured at 36 and split between said aperture and the base thereof as shown in Fig. 3. By means of bolt 37 the yoke 32 may be held securely on the shaft 25 in any desired position of axial or angular adjustment. The upper yoke member 38 is threaded to receive set screw 39 which acts upon the upper surface of arm 28. Upon the upper surface of the lower yoke member is provided a spring seat 40 and compression spring 41, the latter engaging the lower surface of arm 28 and exerting an influence to force said arm upwardly. When the parts are in the position shown in Fig. 1, it is readily apparent that the roller 27 may be brought into more or less intimate engagement with roller 12 by manipulating the set screw 39. When this has been adjusted to satisfaction, the engagement may be maintained by simply tightening wing lock nut 42 against the upper surface of the yoke member 38. The roller 27 may be of any suitable size and one or more may be used on the press at the same time or several may be retained inactive on the rod 25 ready to be placed into operative position. The frame 29 which carries roller 27 comprises a rod 43 and parallel holding members 44 disposed at each end thereof. Said members 44 are slotted to accommodate the projecting ends of roller shaft 45 as well as bushings 46 which act as the bearings for said shaft.

It will be readily apparent that this invention is likewise adapted for use in connection with the water supply to the blanket cylinders of offset presses.

I claim:

1. An attachment for lithographic presses and the like comprising a pair of sustaining legs adapted to be adjustably mounted on the water fountain supporting rod of the press and having apertures in their upper ends, a rod seated in said apertures, a yoke secured to said rod, and a squeegee roller pivotally connected to said yoke.

2. An attachment for lithographic presses and the like comprising a pair of sustaining

legs adapted to be adjustably mounted on the water fountain supporting rod of the press and having apertures in their upper ends, a rod seated in said apertures, a yoke secured to said rod, an arm pivotally connected to the neck of said yoke and carrying a squeegee roller at its outer end, a spring bearing on the under surface of said arm and a set screw engaging the upper surface thereof for adjusting and maintaining pressure of the squeegee roller upon the water fountain roller of the press.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

FREDERICK J. DOBBERTIN.

Witnesses:
MARY C. BROWER,
FRANKLIN M. WARDEN.