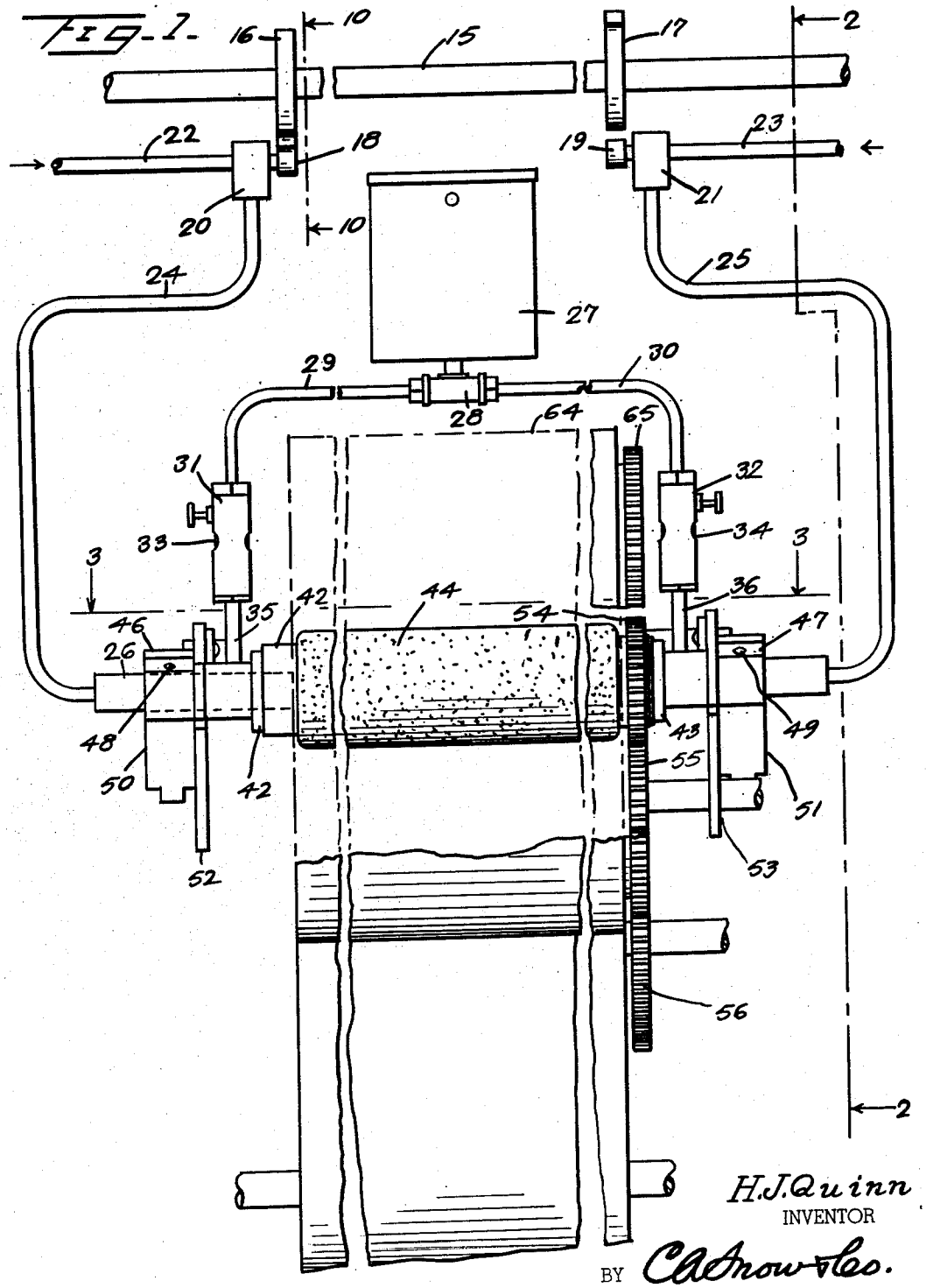
Nov. 29, 1960 H. J. QUINN 2,961,948

DAMPER FOR LITHOGRAPHIC PRESS

Filed Jan. 6, 1959 4 Sheets-Sheet 1

FIG. 1.



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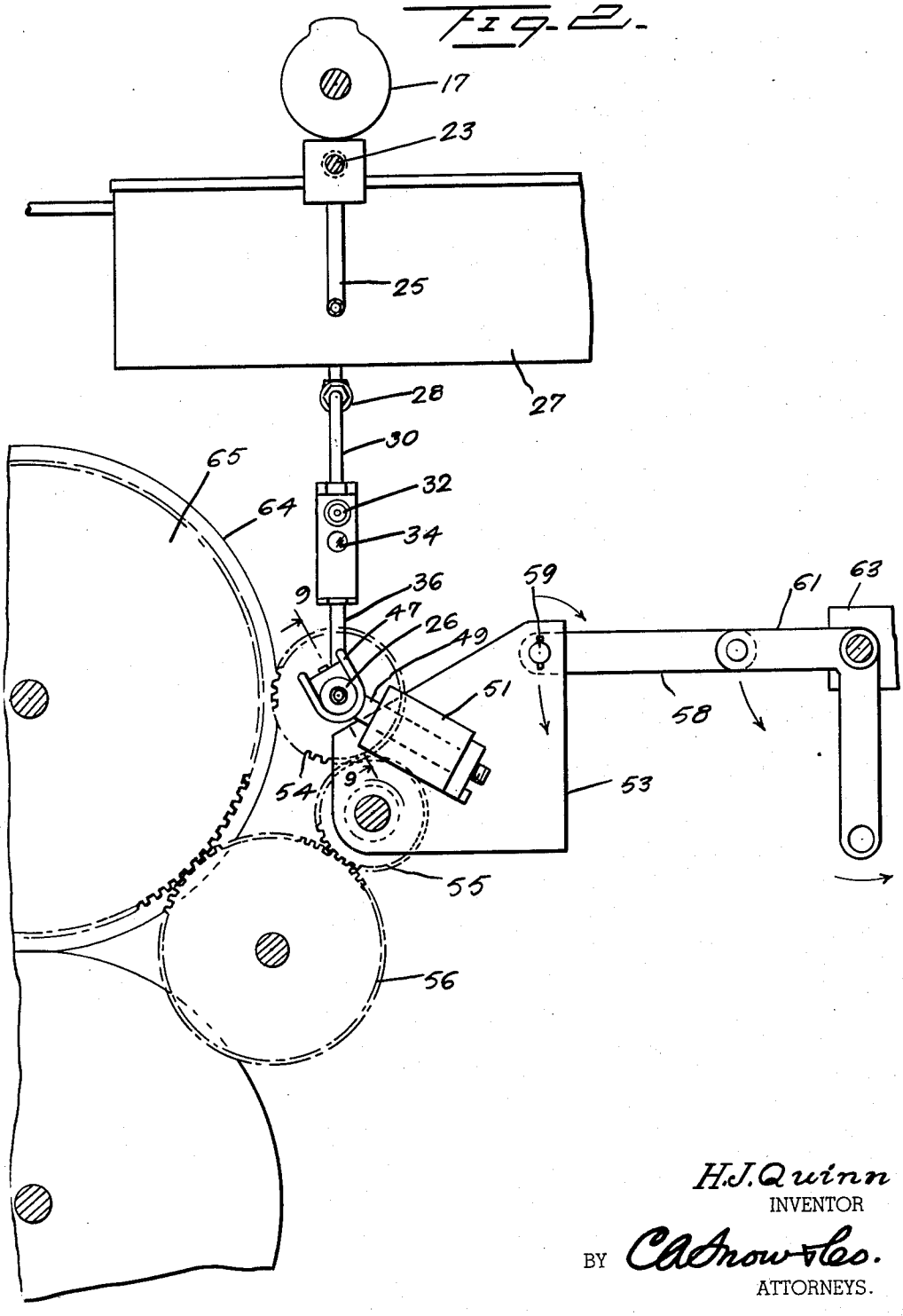
BY C.A. Snow & Co.
ATTORNEYS.

Nov. 29, 1960 H. J. QUINN 2,961,948

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Filed Jan. 6, 1959 4 Sheets-Sheet 2

Fig. 2.



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Nov. 29, 1960 H. J. QUINN 2,961,948

DAMPER FOR LITHOGRAPHIC PRESS

Filed Jan. 6, 1959 4 Sheets-Sheet 3

Fig. 3.

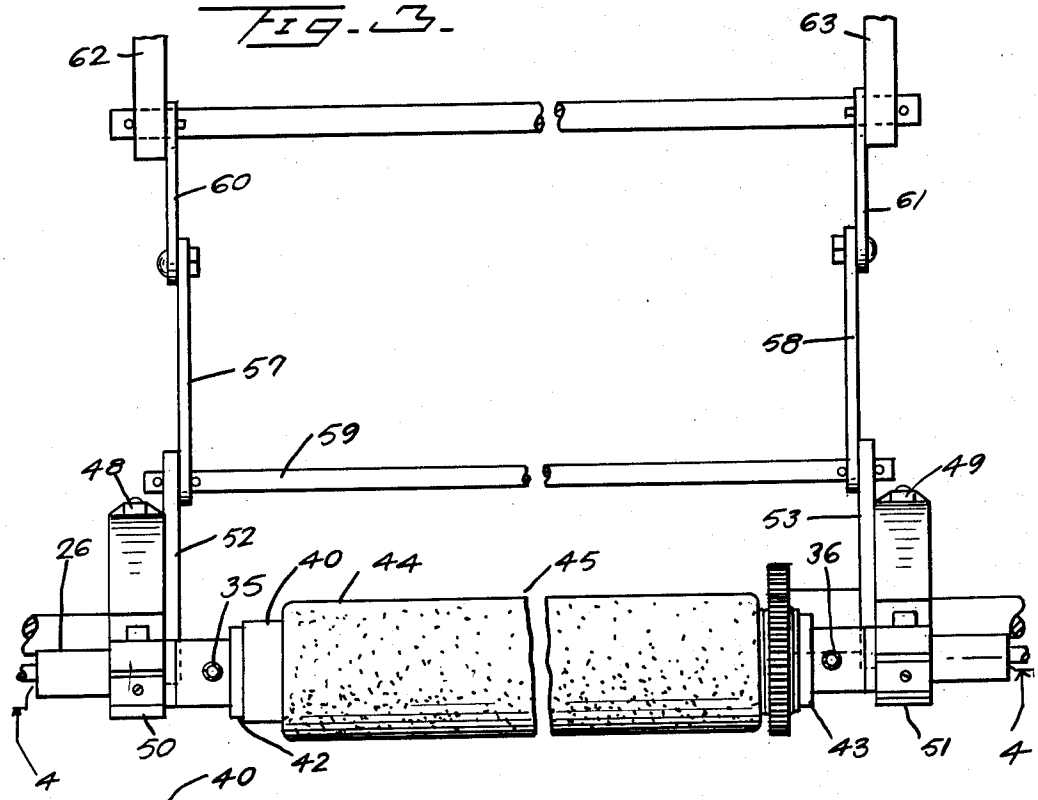


Fig. 8.

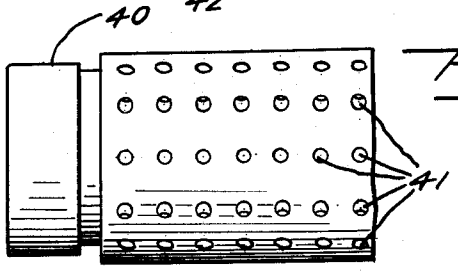


Fig. 9.

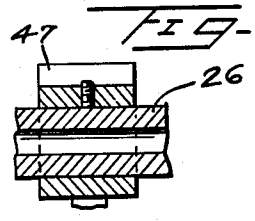
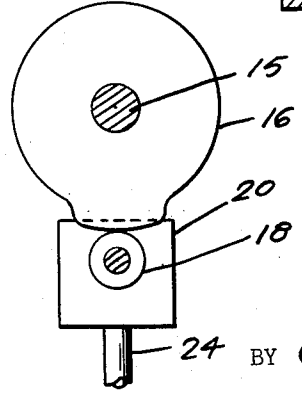


Fig. 10.



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Nov. 29, 1960 H. J. QUINN 2,961,948

DAMPER FOR LITHOGRAPHIC PRESS

Filed Jan. 6, 1959 4 Sheets-Sheet 4

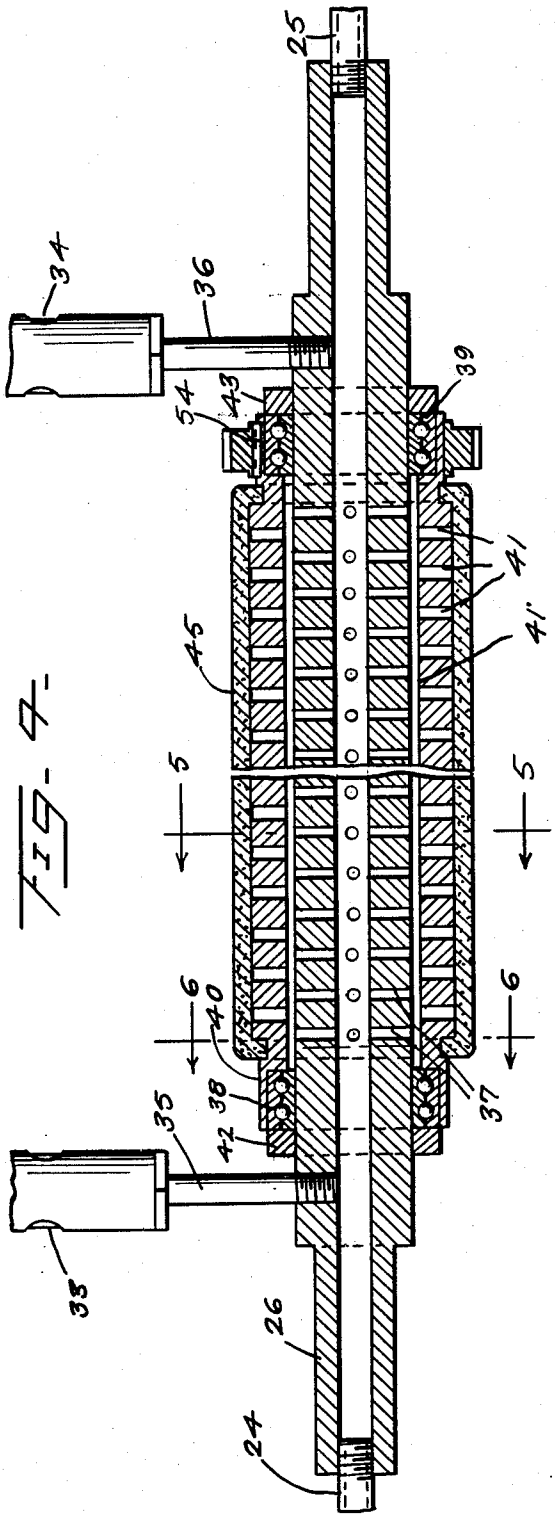


FIG. 4

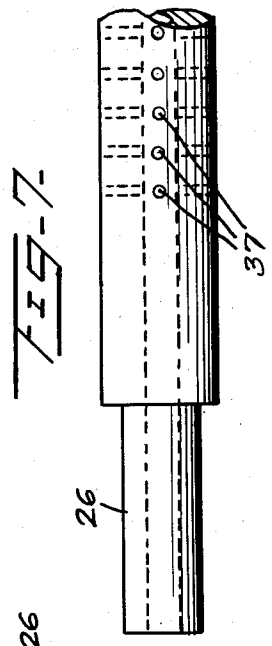


FIG. 7

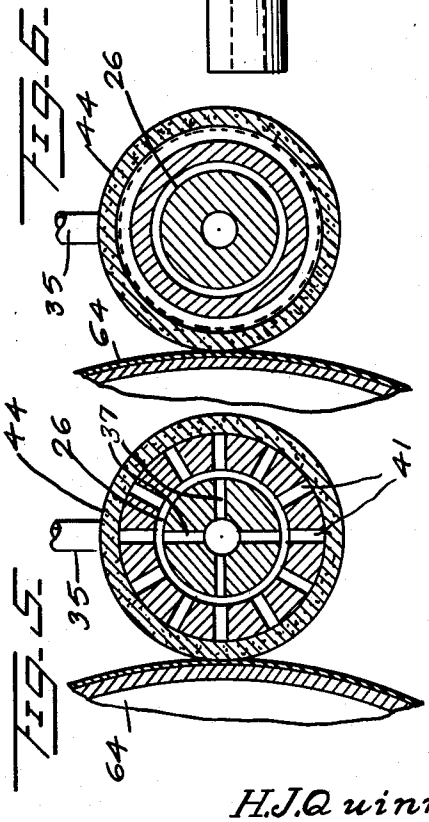


FIG. 6

FIG. 5

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2,961,948

DAMPER FOR LITHOGRAPHIC PRESS

Harry J. Quinn, Floral Valley, Martins Ferry, Ohio

Filed Jan. 6, 1959, Ser. No. 785,152

2 Claims. (Cl. 101—148)

This invention relates to a lithographic press, and particularly to the dampening mechanism for use in such press, and has as its primary object the provision of improved means for supplying water in suitable quantity and at proper times and places to a dampening roller.

An additional object of this dampener is to provide proper balance between the dampening solution and the ink.

Another object of this invention is to provide a mechanism that can be added to the typical gear driven lithographic press without making alterations and for the purposes as above stated.

Another object of this device is to provide a damper that will be of low cost to manufacture, have few parts, use less water spray solution, and require less time for adjustment than those now used in the art.

Other and further objects and advantages of this device will be hereinafter described, and the novel features thereof defined in the appended claims.

Referring to the drawings:

Figure 1 is a side view of this apparatus.

Fig. 2 is a sectional view taken substantially along line 2—2 of Fig. 1, as viewed in the direction indicated by the arrows.

Fig. 3 is a sectional view taken substantially along line 3—3 of Fig. 1 as viewed in the direction indicated by the arrows.

Fig. 4 is a sectional view taken substantailly along line 4—4 of Fig. 3 as viewed in the direction indicated by the arrows.

Fig. 5 is a sectional view taken substantially along line 5—5 of Fig. 4 as viewed in the direction indicated by the arrows.

Fig. 6 is a sectionaal view taken substantially along line 6—6 of Fig. 4 as viewed in the direction indicated by the arrows.

Fig. 7 is a fragmentary detail of one part of this apparatus.

Fig. 8 is a fragmentary detail of one part of this apparatus.

Fig. 9 is a sectional view taken substantially along line 9—9 of Fig. 2 as viewed in the direction indicated by the arrows.

Fig. 10 is a sectional view taken substantially along line 10—10 of Fig. 1 as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings in detail, there is generally indicated by the character 15 a shaft on a typical lithographic press. Attached to said shaft 15 are cams 16 and 17 which in turn operate against rollers 18 and 19, said rollers being attached to and operating air valves 20 and 21 as is clearly shown in Fig. 1 of the appended drawings. An air line 22 is attached to air valve 20 and another air line 23 is likewise attached to air valve 21. A flexible air hose 24 is attached to air valve 20, while flexible air hose 25 is attached to air

valve 21. The said flexible air hose 24 and 25 feed to and are attached to each end of hollow shaft 26.

Mounted at any convenient place on the lithographic press is a gravity feed water tank 27 with bottom outlet T 28, said outlet T 28 being attached to flexible tubes 29 and 30. The said flexible tubes 29 and 30 are attached to valves 31 and 32, said valves containing sight feeds 33 and 34 by which means the flow of water can be visually observed as it flows under gravity pressure, as is obvious from Figs. 1 and 2 of the drawings. Attached to the outlet connection of feed sight 33 is pipe 35. Attached to the outlet connection of feed sight 34 is pipe 36. Said pipes 35 and 36 feed into side of hollow shaft 26. Said hollow shaft 26 is stationary in its mountings. Said hollow shaft 26 contains a plurality of radially and longitudinally located openings 37. Mounted on said hollow shaft 26 is hollow tube 40 which encompasses nearly all of hollow shaft 26 and is supported by sleeve bearings 38 and 39 which in turn rest on said hollow shaft 26. Said hollow tube 40 has a plurality of radially and longitudinally located openings 41. Collars 42 and 43 hold said sleeve bearings 38 and 39 and said hollow tube 40 longitudinally in place on said hollow shaft 26. An absorbent covering 44 encompasses hollow tube 40, as is clearly shown in Figs. 4, 5 and 6. Said hollow shaft 26, bearings 38 and 39, along with encompassing hollow tube 40, covering 44 and collars 42 and 43, make up a tube assembly hereinafter designated by the character 45. The said tube assembly 45 is entirely supported by adjustable sockets 46 and 47. Each of the said adjustable sockets 46 and 47 is attached to threaded rods 48 and 49 passing through blocks 50 and 51 of plates 52 and 53.

A spur gear 54 is mounted on one end of hollow tube 40. Mounted on plate 53 is spur gear 55 which is engaged with both said spur gear 54 and idler gear 56. Attached to said plates 52 and 53 are link bars 57 and 58, by means of supporting rod 59. Said link bars 57 and 58 are pinned to cranks 60 and 61 as clearly shown in Figs. 2 and 3.

In the operation of this device, compressed air from the lithographic press will enter valves 20 and 21 through air lines 22 and 23. Valves 20 and 21 are alternately operated by the action of cams 16 and 17 on rollers 18 and 19, thus permitting the compressed air to flow on into flexible air hose 24 and 25, which are connected to each end of hollow shaft 26, and said compressed air in said hose will flow into each end of said hollow shaft 26, which has no rotary motion. Water placed in tank 27 will flow through valves 31 and 32 and on into pipes 35 and 36 and hollow shaft 26. However, since it is entering the said shaft ahead of the compressed air, it will be turned into a water spray by said compressed air which will enter the plurality of openings 37 in hollow shaft 26, and from said openings enter space 41' that has been created by the mounting of hollow tube 40 on bearings 38 and 39 on hollow shaft 26.

From the said space 41' the water spray will enter the plurality of openings 41 in hollow tube 40. The water spray will now be absorbed by the absorbent covering 44 which covers the entire outer surface of said hollow tube 40. The entire tube assembly 45 which includes the said hollow tube 40 with its absorbent covering 44 which has now been made moist by the water spray soaking through, is pulled away from cylinder 64 of the lithogprahic press by action of bell cranks 60 and 61 and its attached member, described in the construction of this apparatus. The entire tube assembly 45 is in radial synchronization with the lithographic press to which this apparatus is attached, through main drive gear 65 on end of cylinder 64. This said gear 65 transmits

rotary motion through idler gear **56**, spur gear **55**, and spur gear **54** which is attached to hollow tube **40**.

It can be seen from examination of Fig. 2 that the tube **40** will be rotating at all times whether or not it is in actual contact with cylinder **64**. This contact with said cylinder **64** will be made at will by the operator of the lithographic press to which this apparatus is attached.

From the foregoing it will now be seen that there is herein provided an improved damper for lithographic presses which accomplishes all of the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it will be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. The combination with the dampening roller of a lithographic press, of an apparatus for supplying dampening material to said lithographic press, comprising a hollow shaft having a plurality of radial openings arranged in parallel spaced relation with respect to one another, a sleeve bearing mounted at each end of said hollow shaft in which said hollow shaft is journaled, a tube encompassing said hollow shaft and supported at each end by said sleeve bearing, said tube having a plurality of radial openings through which water under pressures passes from said hollow shaft, an absorbent covering secured on said tube and adjustable mechanism providing a mounting for said hollow shaft for moving said apparatus onto and out of contact with said dampening roller, a gravity feed tank adapted to hold water, flexible tubing and piping connecting said tank to each end of said hollow shaft, thereby providing means for water to be supplied to said absorbent covering, and pipes connected with said hollow shaft for directing air under pressure into said shaft forcing water through said opening and absorbent covering.

2. The combination with the dampening roller of a lithographic press, of an apparatus for supplying dampening material to said lithographic press, comprising a hollow shaft having a plurality of radial openings arranged in parallel spaced relation with respect to one another, a sleeve bearing mounted at each end of said hollow shaft in which said hollow shaft is journaled, a tube encompassing said hollow shaft and supported at each end by said sleeve bearing, and absorbent covering secured to and encompassing said tube, a gravity feed tank adapted to hold water, flexible tubing and piping connecting said tank to each end of said hollow shaft thereby providing means for water to be supplied to said absorbent covering, and adjustable mechanism providing a mounting for said hollow shaft for moving said apparatus onto and out of contact with said dampening roller, and pipes connected with said hollow shaft for directing air under pressure into said shaft, an air valve mounted on said lithographic press, a flexible tube to supply air from said valve to said end of hollow shaft, another air valve mounted on said lithographic press, a flexible tube to supply air from said air valve to other end of said hollow shaft, mechanism connecting said air valve with said lithographic press, said mechanism adapted to alternately open and close said air valve, thereby alternately forcing water from said pipe at each end of said tube through said opening and absorbent covering.

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