

Dec. 19, 1933.

R. FRITSCHÉ

1,940,539

DEVICE FOR MAKING CORRECTIONS ON LITHOGRAPHIC PRINTING SURFACES

Filed June 8, 1932

Fig. 4.

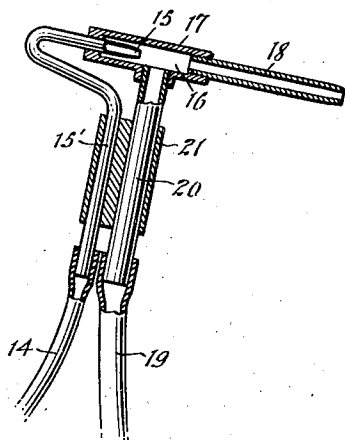


Fig. 1.

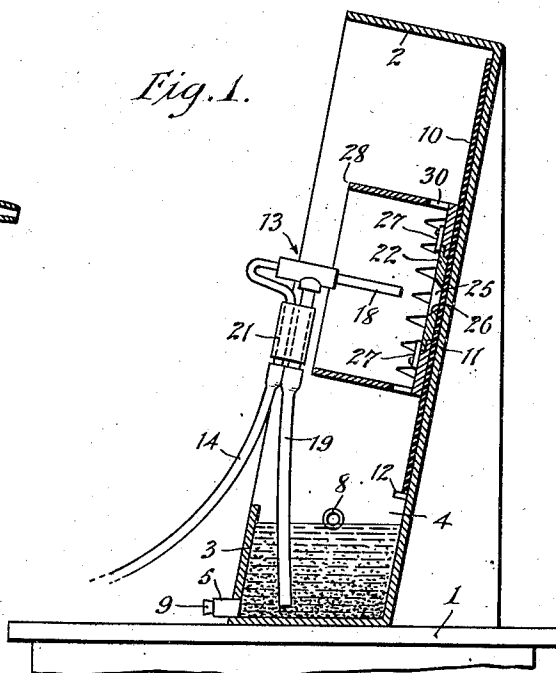


Fig. 2.

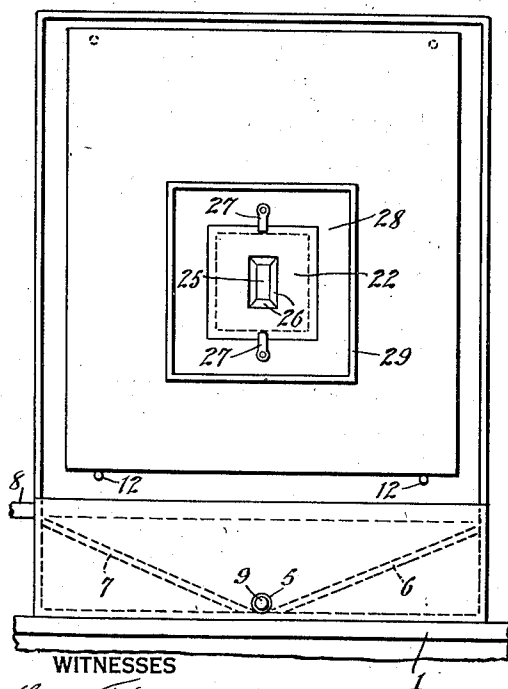
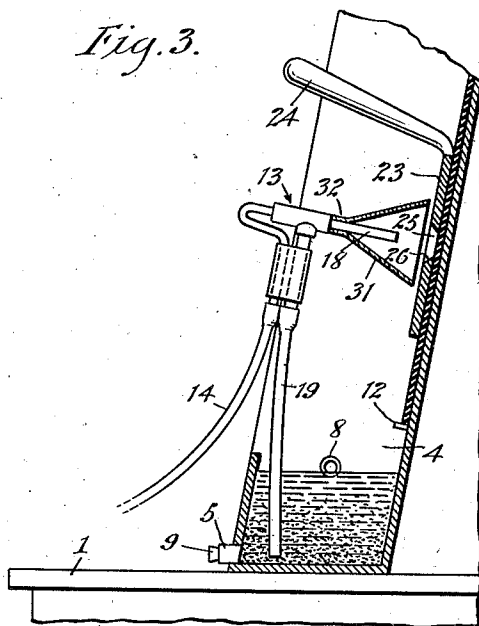


Fig. 3.



WITNESSES

Edw. Thorpe,
A. L. Kitchin.

INVENTOR
Rudolf Fritsche
BY Munn & Co.
ATTORNEY

UNITED STATES PATENT OFFICE

1,940,539

DEVICE FOR MAKING CORRECTIONS ON
LITHOGRAPHIC PRINTING SURFACES

Rudolf Fritsche, New York, N. Y.

Application June 8, 1932. Serial No. 616,115

2 Claims. (Cl. 51—8)

This invention relates to an improved device and method for making corrections on lithographic printing surfaces, the object being to provide an improved structure which will function in a rapid manner and efficiently, whereby the objectionable places on a lithographic plate surface may be cleaned or may be removed.

Another object of the invention is to provide an improved device for using a combined sand and water or air blast for removing part of the work on a lithographic printing surface where a correction is to be made.

A further object of the invention is to provide a device for making corrections on lithographic surfaces which consists in providing means for removing the work where the correction is to be made through the use of a mask covering all the surrounding parts of the printing surface except the part to be removed and then applying a water and sand blast to that part.

In the accompanying drawing,—

Figure 1 is a vertical longitudinal sectional view through the device disclosing an embodiment of the invention.

Figure 2 is a front view of the device shown in Figure 1 but with the sand blast or spraying structure removed.

Figure 3 is a view similar to Figure 1 but showing the use of a mask and a projecting cone.

Figure 4 is an enlarged sectional view through the spray or atomizer shown in Figure 1.

Referring to the accompanying drawing by numerals, 1 indicates a table or any desired support, and 2 a box or container closed at the back and all sides but open at the front, the front being slightly off of the vertical line.

From Figure 1 it will be seen that a front board 3 is provided whereby a chamber or compartment 4 for water and sand is supplied. In order that all parts may gravitate toward an outlet 5, the bottom members 6 and 7 are provided as shown in Figure 2. An overflow pipe 8 is arranged a short distance below the top of the chamber 4 so that water, oil and other matter may readily flow out, while the opening 5 is normally closed by a stop 9. Whenever it is desired to clean out the compartment 4, the stop 9 is removed and the compartment is then flushed with water, whereupon the sand or other matter is caused to flow out through the discharge member 5.

In making corrections on lithographic printing surfaces, heretofore, it has been customary to use a number of methods, the most usual being to remove the undesired surface by some form of abrasive, as, for instance, pumice stone. This

method removes the grain from metal plates and is, therefore, more or less objectionable. In the present invention means have been provided for removing the objectionable matter from the printing surface without affecting the grain, which grain is necessary to hold the dampness or supply of water.

As shown in Figures 1 and 2, a lithographic plate 10 is placed against the bottom or rather the back 11 of the box 2 and allowed to rest on the pins 12. If desired, the plate could be provided with apertures and supported by suitable pins at the top of the box. However, ordinarily, the parts are arranged as shown in Figures 1 and 2 and then a water or air actuated sand blast 13 is used to remove the objectionable matter from the plate 10. While air may be used, water is preferable because it gives a more direct projection, and it washes away all the used sand and parts removed from the plate, said sand, removed parts and water falling by gravity into the compartment 4 where some of the matter, as, for instance, some of the oil is allowed to flow out the overflow pipe 8. Also, a certain amount of water will flow out this pipe so that the level of liquid and sand in the compartment 4 will remain substantially the same. The sand blast structure 13 is in the nature of an atomizer as shown in Figure 4. Water is forced through a flexible hose 14 and is discharged out through a nozzle 15 so that the water will be projected through the space 16 in the tubular head 17 and directly into the bore of the nozzle 18. As this occurs water and sand from the compartment 4 will be drawn up through the flexible hose 19 and through the metal pipe 20 said water and sand entering the space 16 and mixing with the water discharging from nozzle 15, so that this water and sand will be projected against the plate 10. A member 21 is fitted around the pipes 15' and 20 so as to provide a good hand hold for manipulation of the sand blast. It will thus be seen that water and sand are drawn up from the compartment 4 and then dropped back into this compartment together with the water supplied through the hose 14.

In order to prevent the sand blast from operating on any part except that desired a mask 22 is provided, or, if preferred, a mask 23, as shown in Figure 3. Where the mask 23 is used, it is provided with a handle 24 and an aperture 25 having inclined walls 26. The aperture 25 is to be of the shape of the part to be removed from the plate 10, as, for instance, an elongated rectangular shape, as illustrated in Figure 2. It

is understood, of course, that this opening could be round or any other shape and of any desired size. If this opening is less in size than the part to be removed the mask is shifted back and forth until all the parts to be removed have been treated by the sand blast. Sand and water striking the part to be removed will wear down these parts and remove all the surface desired but will not affect the grain. When the removal of the objectionable part has been completed, the plate retains its grain so as to hold the ink, emulsion, or other matter provided on the plate.

As shown in Figure 1, the mask 22 is held removably in place by suitable swinging abutments 27 carried by the bottom 28 of the box 29, which box has a number of apertures 30, through which the water and sand may readily flow. The box is adapted to be held by one hand of the operator while the sand blast 13 is held and operated by the other hand. The side walls of the box 28 prevent any of the water or sand from spraying laterally beyond the box but permit the water and sand to readily flow downwardly and drop into the compartment 4.

The use of an ordinary sand blast is more or less objectionable in that it causes finely divided parts of the sand to be projected into the air and to produce a cloud of dust that is objectionable and usually injurious to the health of the operator, as well as preventing him from seeing how the work is progressing. When water is used as provided, there is no dust and all parts are washed clean. Where the mask 23 is used, it may be of any size and shape but without the box 28, and a cone or funnel 31 is provided having a restricted portion 32 slidably fitted on to the nozzle 18. This cone is preferably transparent so that the operator may readily see how the work is advancing. This cone prevents any of the water or sand from being projected over other parts of the plate or in the objectionable way, but permits the water and sand to readily drop down into the compartment 4. It only takes a very short time, as, for instance, a minute or two to remove a certain small area from the plate 10 and after it has been removed, the plate is then ready for the usual treatment.

I claim:—

1. A device for correcting lithographic prints comprising a container having a back, upstanding walls extending at substantially right angles to said back, one of said walls acting as the bottom of the container, and a front member extending from said bottom substantially parallel to said back for covering part of the front of the container and forming with said back and bottom a receptacle adapted to receive sand and water, an overflow member in one of said walls for regulating the height of water in the receptacle and for drawing off grease and other floating substances, means carried by said back for supporting a lithographed plate to be corrected, a mask, means for holding the said mask over part of said plate, and a water operated sand blast for driving water and sand against the part of said plate exposed through the mask, said mask and plate being above said receptacle whereby the sand and water after striking the plate and mask are adapted to move by gravity downwardly into the receptacle, and the grease and other floating objects are adapted to flow out through said overflow member.

2. A device for correcting lithographed plates, comprising a container having a back against which the lithographed plate is adapted to be placed, upstanding walls projecting substantially at right angles to said back one of said walls acting as the bottom member, and a front member coacting with said bottom member and the other parts of the container for presenting a receptacle, means carried by said bottom for supporting said plate thereon, a mask, means for holding the mask over part of said plate and a water operated hand-manipulated sand blast device for directing water and sand against the mask and the desired spot on said plate, said water and sand falling into said receptacle, said sand blast device having an intake tube extending into said receptacle so that some of the water and sand in said receptacle may be used over and over.

RUDOLF FRITSCH. 120

50

125

55

130

60

135

65

140

70

145

75

150