

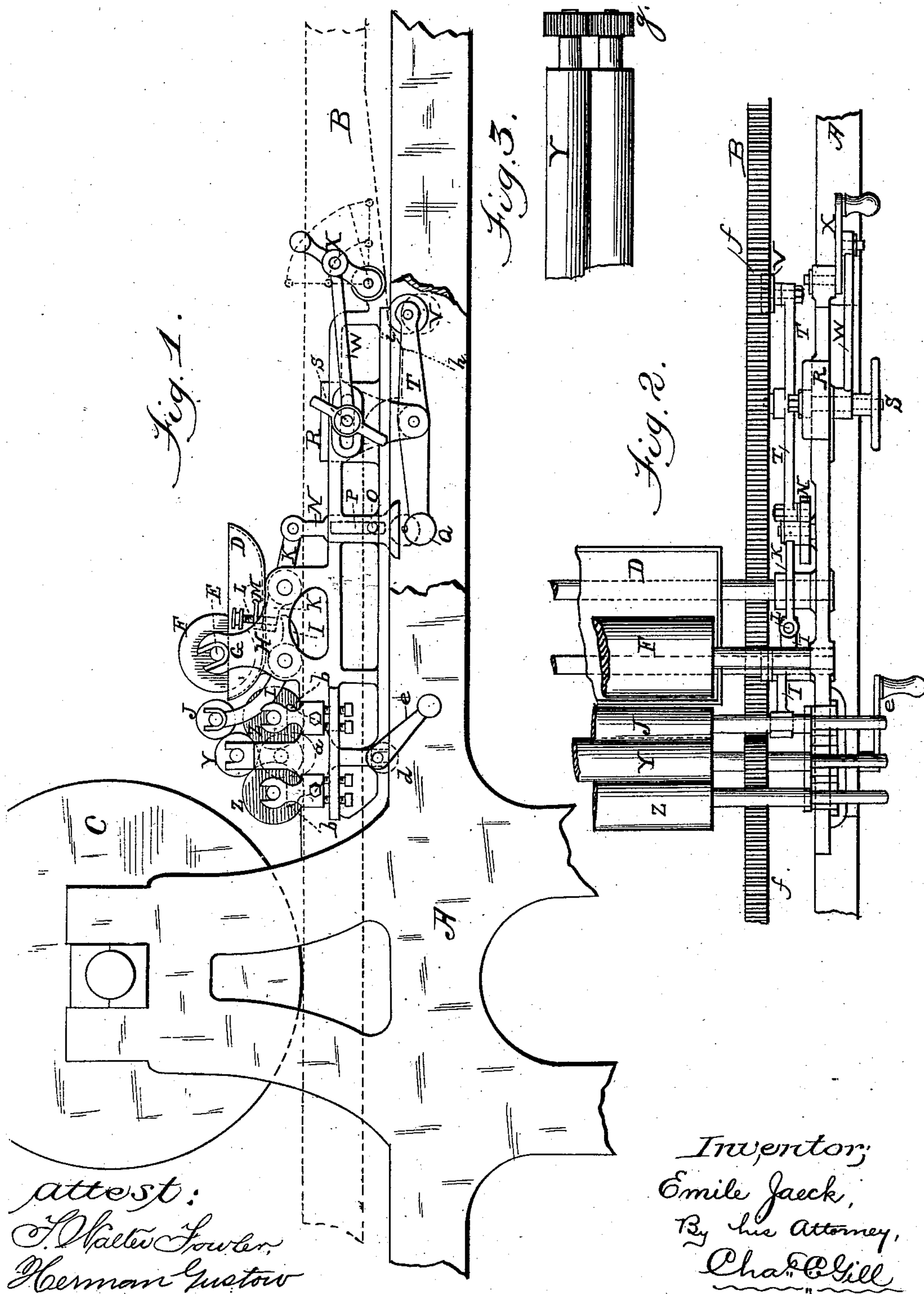
(No Model.)

E. JAECK.

LITHOGRAPHIC PRINTING MACHINE.

No. 298,092.

Patented May 6, 1884.



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# UNITED STATES PATENT OFFICE.

EMILE JAECK, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOHN M. FUCHS  
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## LITHOGRAPHIC-PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 298,092, dated May 6, 1884.

Application filed August 7, 1883. (No model.) Patented in Germany May 5, 1883, No. 24,875.

*To all whom it may concern:*

Be it known that I, EMILE JAECK, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Lithographic-Printing Machines, of which the following is a specification.

The invention relates to an improvement in moistening apparatus for lithographic presses or machines; and it consists in the mechanism hereinafter described, and particularly pointed out in the claims, whereby the quantity of moisture which is allowed to reach the stones may be regulated at will without interfering with the regular movements of the machine.

Referring to the accompanying drawings, Figure 1 is a side elevation of a detached portion of a press embodying the elements of the invention. Fig. 2 is a top view of same, and Fig. 3 is a detached view showing the pinions operating the roller Y.

In the drawings, A denotes the side of the frame of the machine; B, the adjacent side of the stone-carrying car or bed, and C the main cylinder of the machine, which is mounted in suitable bearings in the customary manner. Between the sides of the press, and at a suitable elevation above the stone-carrying frame B, is arranged the water-trough D, within which is suspended upon the axle E the cylinder F. The lower part of the cylinder F, when in position, dips into the water, and the axle E is mounted in bearings G, which permit its removal therefrom when desired. The trough-roller F may be driven by a belt from any axle of the machine. The bearings G are formed in the upper end of the extension H, as indicated, and to the said extension is pivotally secured the lever I, the left-hand end of which curves upward and is forked, forming the bearings for the axle of the shifting cylinder J, which is preferably covered with felt or analogous material, the right-hand end of the lever I terminating below the left-hand end of the lever K, which is also pivoted to the extension H, and is provided upon its said end with an adjusting-screw, L, and a locking-nut, M. The right-hand end of the lever

K is pivotally secured in the upper end of the vertical slide N, which is retained in place, and is adapted to have a vertical movement on the pin O, passing through the central elongated slot, P, as indicated in Fig. 1. The lower end of the slide N is somewhat enlarged, and forms a surface against which the roller Q may act, as hereinafter specified.

At a suitable distance to the right of the slide N is provided a carriage, R, which is adjustable longitudinally on the side A of the machine, and is adapted to be secured in a set position by the screw S.

In the lower end of the carriage R is pivotally secured, at about its center, the rocking lever T, one end of which carries the roller Q and extends to a point in near relation to the lower end of the slide N, while the other end of the said rocking lever projects to the right and carries a roller, V, which projects inward below and in close relation to the lower edge of the stone-carrying car or frame B, as indicated in Fig. 2. The carriage R is connected by the rod W with the pivoted arm X, which is adapted to be moved by hand to the position indicated by dotted lines in Fig. 1, as hereinafter more fully described.

To the left of the shifting cylinder J is mounted in suitable bearings the brass cylinder Y, and at each side, and directly below the said cylinder Y, are mounted the wiping-cylinders Z Z, which are covered with felt or analogous material, and which impart moisture to the stone being carried on the bed B.

On the inner face of the side of the frame A is placed the vertically-adjustable block a, having arms b b on its upper end, which arms project outward below the axles of the wiping-cylinders Z Z, and serve to elevate and permit the lowering of the said cylinders when the block a is raised or lowered by the rotation of the cam d in contact with its lower end, the said cam being provided with a crank, e, as a means of rotation. The purpose of this movement of the block a is to permit of the wiping-rollers Z Z being appropriately adjusted with relation to the stone whose surface they are to moisten.

Upon the side of the bed B is provided the rack f, which engages the teeth of the pinion-



wheel *g*, and imparts motion through it to a similar pinion secured on the axle of the cylinder *Y*, whereby when the bed is moved longitudinally a rotary motion will be communicated to the cylinder *Y*.

Upon the lower edge of the side of the bed *B*, in proximity to the roller *V*, carried in the right-hand end of the lever *T*, is formed the projection *h*, one end (lettered *i*) of which is beveled at an oblique angle, as shown in Fig. 1, and the purpose of which will be indicated hereinafter.

Operation: The longitudinal movement of the bed *B* causes the projection *h* to travel over the wheel *V*, secured in the end of the rocking lever *T*, as above described; and it will be apparent that when the said projection comes in contact with the said roller or wheel it will operate to depress the same, and in depressing the said roller the opposite or left-hand end of the rocking lever is forced upward, elevating thereby the slide *N*, which, in its upward movement, depresses the left-hand end of the lever *K* against the adjacent end of the lever *I*, whereby the other end of the said lever *I* is tilted upward and to the right, carrying the shifting cylinder *J* against the roller *F* in the trough *D*; and while the said shifting cylinder is in contact with the said roller it receives a certain amount of moisture therefrom. Upon the next opposite movement of the bed *B* the projection *h* is removed from contact with the roller *V*, permitting the said roller to ascend to its former position and the slide *N* to lower, whereby the said levers, of their own weight, are permitted to resume their former relation with each other, and the shifting cylinder *J* is removed from contact with the cylinder *F*, and allowed to lower against the cylinder *Y*, which receives a portion of the moisture from the shifting cylinder, and communicates to the wiping-cylinders *Z Z*, which in turn moisten the stone moving beneath them. With each forward and backward movement of the bed *B*, the shifting cylinder is brought in contact with the trough *F* and allowed to recede against the brass cylinder *Y*. Thus it will be observed that the operation of moistening the rollers *Z Z* and the stone is continuous with the movement of the bed *B*. It is a matter of the greatest importance that the amount of moisture allowed to reach the stone being treated should be regulated with great accuracy; and in order to thus control the quantity of moisture delivered by the roller *F* to the other rollers mentioned, I have provided the adjustable carriage *R*, which, as it is set either to the right or left, brings the roller *V*, secured in the end of the lever *T*, in such relation to the projection *h*, formed on the bed *B*, that it will be acted upon thereby at a given point in the movement of the said bed. For instance, when the carriage *R* is adjusted at the extreme of its movement toward the right, the roller *V* will be carried so far from the projection *h* that in the regular

movement of the bed *B* the projection *h* will run clear of the said roller, and consequently the mechanism connected therewith through the system of levers will be inactive, and the shifting cylinder *J* will not come in contact with the trough-cylinder. It will be plain that in this condition of the apparatus the supply of moisture will cease. When the carriage *R* is adjusted about one-third of its movement toward the left, the roller *V* will be brought in such relation to the projection *h* that during the movement of the bed the said projection will come in contact with the said roller for a very short period of time, and consequently the depression of the said roller *V* and the lever *T*, carrying it, will be of but slight duration, and the contact of the shifting cylinder *J* with the trough-cylinder *F* will be but for a moment, and the minimum amount of water will be supplied to the wiping-cylinders *Z Z*. It will be apparent now that when the carriage *R* is moved still farther to the left the contact of the projection *h* with the roller *V*, and its consequent depression, will be increased, and that as a result the contact of the shifting cylinder *J* with the trough-cylinder *F* will be for a slightly longer period of time, and a larger amount of water will be taken up by it therefrom.

It will be seen from the foregoing that by the mechanism described the quantity of moisture taken from the trough-cylinder *F* and delivered to the wiping-cylinders *Z Z* may be regulated at will and as circumstances may require by the simple adjustment of the carriage *R*. The carriage *R* may be adjusted, after loosening its screw *S*, by the movement of the pivoted arm *X*, hereinbefore described, and when it has been adjusted to the desired position the tightening of the screw will lock it in place.

If desired, a graduated quadrant may be applied to the pivoted arm *X*, by which it may be indicated to the operator the length of time the shifting cylinder *J* will remain in contact with the trough-cylinder *F* at given adjustments of the carriage *R*, in order that the amount of moisture delivered to the wiping-cylinders *Z Z* may be regulated with extreme nicety.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a lithographic press, the bed having the cam-surface *h*, in combination with an adjustable lever which is actuated by the cam-surface during the movement of the bed to tilt, through a system of levers, the roller *J* against the trough-roller *F*, and to permit it to be relieved therefrom, substantially as set forth.

2. In a lithographic press, the levers *T*, *I*, and *K* and piece *N*, in combination with the bed *B*, having the cam *h*, adapted by its movement to tilt the roller *J*, carried by the lever *I*, against the trough-roller, and to permit it to be relieved therefrom, substantially in the manner and for the purposes set forth.

3. The lever *T*, secured to an adjustable carriage, in combination with the levers *I*, *K*, piece



5 N, and the bed B, having the cam *h*, which is adapted by its movement to tilt, through said levers, the roller J against the trough-roller, substantially in the manner and for the purpose set forth.

10 4. In a lithographic press, the combination of the lever I, carrying the roller J, the lever K, having in one end the screw L, and at its other being pivoted to the vertical slide N, and the rocking lever T, one end of which is below the piece N, and the other terminating in proper relation to be acted upon by the movement of the bed, substantially as set forth.

15 5. In a lithographic press, the rocking lever mounted in the carriage R, which is adjustable

by a hand-lever or winch, X, and locking-screw S, in combination with the slide N, levers I K, and the bed B, having the cam *h*, which is adapted by its movement to actuate the mechanism to tilt the roller J against the trough-roller and permit it to be relieved therefrom, substantially as set forth. 20

Signed at New York, in the county of New York and State of New York, this 28th day of July, A. D. 1883.

EMILE JAECK.

Witnesses:

CHAS. C. GILL,  
HERMAN GUSTOW.