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MEANS FOR WASHING LITHOGRAPHIC PRINTING SURFACES

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Fig. 1.

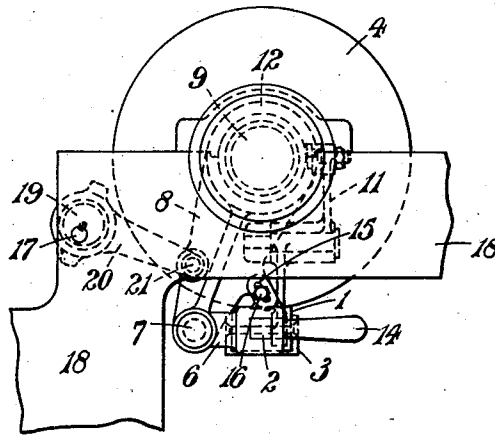
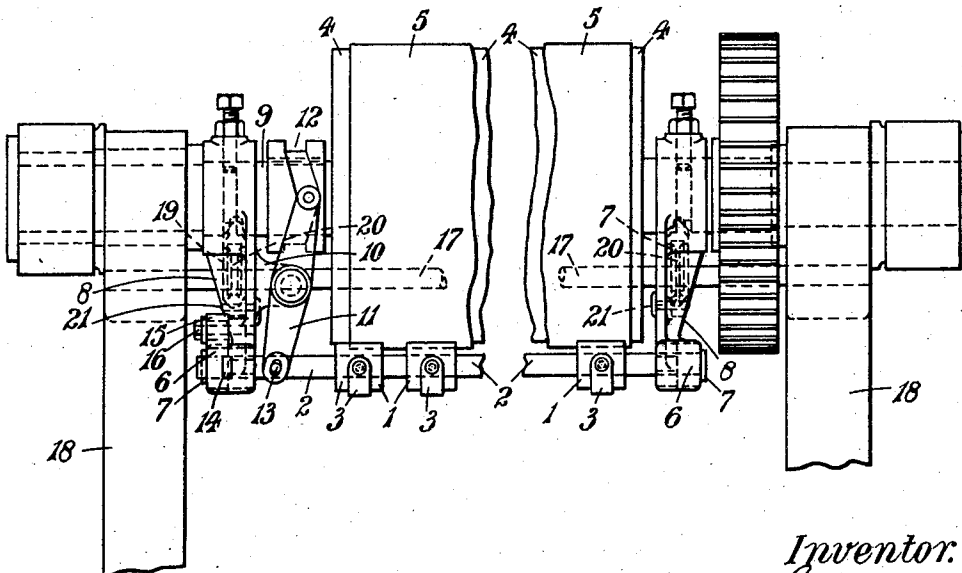


Fig. 2.



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MEANS FOR WASHING LITHOGRAPHIC PRINTING SURFACES.

Original application filed June 3, 1924, Serial No. 717,488, Patent No. 1,627,774, dated May 10, 1927, and in Great Britain June 14, 1923. Divided and this application filed January 13, 1927. Serial No. 160,818.

This invention relates to means for washing printing surfaces employed in lithographic printing presses. It is particularly applicable for use in connection with litho-
5 rotary offset web and other printing presses, and for that reason it is herein described in that connection.

As is well known and as described in Letters Patent No. 1,627,774, from which this
10 application has been divided, the necessary washing as heretofore practised, is done manually by the operator, by means of a sponge wiped over the plate, it being necessary to either stop the machine or to run it
15 very slowly for this purpose.

The present invention has for its object to facilitate the washing by reducing the manual labour and time occupied by the operation and to enable the said washing to be
20 effected without the necessity of stopping and restarting the machine.

With this object in view, the washing is carried out according to the invention by one or more non-rotatable pads, each having an
25 operative surface of an absorbent resilient material, or a plurality of such surfaces, adapted to be brought into and out of contact with the surface to be washed, and to be moved relatively to those surfaces while in
30 contact therewith.

The invention will now be described by reference to the accompanying drawings, in which:—

Figures 1 and 2 are partly diagrammatic
35 side and rear elevations of portion of a rotary printing press with the improved washing means applied thereto.

The form of pad according to the invention illustrated consists of a plurality of
40 sections 1 secured co-axially on a bar or shaft 2, hereinafter referred to as a pad shaft, each section having an operative surface, spaced apart from that of a neighbouring section, of spongy rubber or other absorbent resilient material, as described in the
45 before mentioned Letters Patent No. 1,627,774.

The pads 1 are carried in blocks or yokes 3 secured to the shaft 2 the axis of which is
50 parallel with that of the plate cylinder 4 on which are secured the plates 5 whose surfaces are to be washed. The pad shaft 2 is sup-

ported at its ends, with a capacity for movement in the direction of its axis, in a pair of arms 6 pivoted at 7 on arms 8 which are
55 themselves pivoted about the plate cylinder shaft 9. One of the arms 8 is formed with or has secured to it, a bracket or arm 10 to which is pivoted a bent or deflected lever 11 one arm of which has a bowl engaging a
60 groove cam 12 fast on the plate-cylinder shaft 9 while the other arm is slotted and engages with a pin or stud 13 fast to the pad shaft 2. By this arrangement, which in
65 the example illustrated is shown applied to the arm 8 represented at the left hand side of Figure 2, the pad shaft 2 is reciprocated axially during the rotation of the plate cylinder, and the pads 1 thereby moved parallel
70 with the axis of the shaft 9.

The pads 1 are brought into and out of contact with the plates 5 by adjustment of the arms 6 relatively to the arms 8, about the pivots 7, this being effected by a handle 14
75 on one of the arms 6, which arm is provided with a slotted extension or lug 15, through which it may be locked, by a bolt 16, to the respective arm 8 in different positions of adjustment, for either bringing the pads 1 into
80 or out of contact with the plates 5, or for varying the pressure of said pads on the plates.

Although shown as applied to only one of the arms 6, i. e. that shown at the left-hand
85 side of Figure 2, it will be understood that the arrangement comprising the hand lever 14, lug 15 and bolt 16 may, if desired, be duplicated at the opposite end of the pad shaft 2.

Curvilinear movement of the pads 1 over
90 the surface of the plates 5 is secured by oscillation of the arms 8 about the axis of the plate cylinder shaft 9. In the constructional form illustrated, this oscillatory movement is derived from a shaft 17 extending across
95 the machine parallel to the plate cylinder 6 and rotated in journals in the machine frame 18 by suitable gearing (not shown in the drawings). An eccentric 19 at each end of the shaft 17 operates an eccentric rod 20 piv-
100 oted at 21 to the respective arm 8, both such arms being thus oscillated in unison.

It will be seen that by the operation of the lever 11 and eccentrics 19 the pad shaft 2

is simultaneously vibrated in a direction parallel to the axis of the plate cylinder 4 and oscillated about that axis, so that the pads 1 are given the desired motion parallel with
5 and curvilinearly over the surface of the plates 5.

Having described my invention, I declare that what I claim and desire to secure by Letters Patent is:—

10 1. In apparatus for washing lithographic printing surfaces, the combination of a power-operated pad shaft, a series of non-rotatable pads thereon each having an operative surface of an absorbent resilient material, and means adapted to bring said operative surfaces into and out of contact with
15 the surface to be washed.

2. In apparatus for washing lithographic printing surfaces, the combination of a non-rotating pad shaft, a series of spaced sections thereon each having an operative surface of an absorbent resilient material, means adapted to bring said operative surfaces into and out of contact with the surface
20 to be washed, means adapted to reciprocate the shaft axially while the absorbent resilient material is in contact with the surface to be washed, and means adapted to move the shaft towards and away from the surface to
25 be washed to vary the pressure of said material on that surface.

3. In apparatus for washing lithographic printing surfaces carried upon a cylinder, the combination with said cylinder, of arms pivotal about its axis, a pad-carrying shaft extending parallel with said axis and carried
35 in the arms, a pad fast on the pad-carrying shaft having its operative surface of an absorbent resilient material, and contacting with the surface to be washed, and means
40 adapted to swing the arms about the axis of the cylinder while said contact is maintained.

4. In apparatus for washing lithographic printing surfaces carried upon a cylinder, the combination with said cylinder, of arms pivotal about its axis, a pad-carrying shaft extending parallel with said axis and carried
45 in the arms with a capacity for moving

therein only in a direction parallel with that axis, a pad fast on the pad-carrying shaft
50 having its operative surface of an absorbent resilient material, and contacting with the surface to be washed, and means adapted to swing the arms about the axis of the cylinder while said contact is maintained.

5. In apparatus for washing lithographic printing surfaces, the combination of a shaft, a series of spaced sections thereon each having an operative surface of an absorbent resilient material, means adapted to
60 bring said operative surfaces into and out of contact with the surface to be washed, and means adapted to move the shaft parallel with and curvilinearly over the surface to be washed while the absorbent resilient material is in contact with that surface.

6. In a rotary lithographic printing press, the combination with a plate cylinder of arms angularly movable about the axis of said cylinder, a shaft mounted parallel with
70 said axis, bearings for said shaft adjustably mounted on said arms, and a series of spaced sections on said shaft each having an operative surface of absorbent resilient material adapted to be brought into and out of contact with a plate on the plate cylinder by
75 adjustment of the bearings on the arms.

7. In a rotary lithographic printing press, the combination with a plate cylinder of arms angularly movable about the axis of
80 said cylinder, a shaft mounted parallel with said axis, bearings for said shaft adjustably mounted on said arms, a series of spaced sections on said shaft each having an operative surface of absorbent resilient material, adapted to be brought into and out of contact with a plate on the plate cylinder by
85 adjustment of the bearings on the arms, means adapted to oscillate the arms about the axis of the plate cylinder, and means adapted to axially reciprocate the shaft during such oscillation.

In testimony whereof I have affixed my signature hereto.

BENJAMIN JOSEPH JOHN GOULDING.