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# UNITED STATES PATENT OFFICE.

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## STENCILING-MACHINE.

975,471.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, ALEXANDER J. SMITH, a citizen of the United States, residing in Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Stenciling-Machines, of which the following is a specification.

This invention relates to stenciling machines, particularly to those of the kind disclosed in U. S. Patent No. 824,695, granted to E. F. Kunath, in which a perforated stencil cylinder is covered by an ink mat, upon which is laid the stencil; the sheets to be stenciled being pressed against the stencil by a pressure roll.

The object of the present invention is to provide improved facilities for supplying ink to the interior of the stencil cylinder. I secure within the cylinder an ink fountain in the form of a cylindrical box, which is preferably attached at one end to the inner end of the stencil cylinder and extends nearly to the opposite end of the same. This ink fountain is provided with one or more feed openings, from which the ink may drop upon the interior of the stencil cylinder; and I further provide means for closing said openings at will, to shut off the supply of ink.

The fountain is preferably adjustable rotatably with reference to the cylinder, for convenience in supplying the ink to different portions of the inner circumference of the stencil cylinder. For this purpose, the fountain is simply made revoluble upon its support, so that after the stencil cylinder is turned to bring any desired portion thereof to the bottom, the fountain may be turned to bring its feed openings to the bottom, whereupon said openings may be uncovered by pulling out the closing means.

The stencil cylinder is open at one end, and the fountain occupies a position at the axis of the cylinder, the fountain being of relatively small diameter to permit of the use of a brush to spread ink around the interior of a cylinder in the usual manner.

The fountain is preferably made readily attachable to and detachable from the interior hub or head of the stencil cylinder; and at its outer end is provided with an ink supply opening closed by a cap.

In order to facilitate and insure the flow of ink out through the feed opening or open-

ings in the fountain, I fit a piston within the fountain, and provide it with a rod and a handle, to work it back and forth.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of the stencil cylinder of a stenciling machine provided with the present improvements. Fig. 2 is an end elevation of the same partly broken away. Fig. 3 is a perspective of a detached ink fountain. Fig. 4 is a part sectional view of the internal hub or head of the stencil cylinder. Fig. 5 is a face view of said hub or head. Fig. 6 is a face view of a piston provided within the ink fountain. Fig. 7 is a sectional view of the inner end of the ink fountain. Fig. 8 is a sectional view of a disk upon which the ink fountain is rotatably held. Fig. 9 is a face view of the disk seen at Fig. 8. Fig. 10 is a sectional view of the outer or left hand end of the ink fountain, plunger and stuffing box for the plunger rod.

A stencil cylinder 1, having throughout perforations 2, is usually mounted at one end by means of a stud 3 upon a post 4, forming part of the framework; the other end of the cylinder being supported upon rolls 5, 6, engaging the periphery of the cylinder. The stenciling ink is supplied in a fountain 7, which is illustrated in the form of a long horizontal cylindrical box. If desired, the ink may be sold in this fountain ready for attachment to the stencil cylinder, so that it will be unnecessary for the operator to transfer the ink from one receptacle to another, or to open a tin and take the ink out therefrom to deposit in a stencil cylinder. At its inner end said cylinder is connected by a shoulder screw 8 to a disk 9, the latter being fixed to the stencil cylinder, but the fountain being revoluble upon the shoulder 10 of said screw; the screw comprising the entire pivotal support of the fountain.

The ink feeds from the fountain down through one or more holes 11 formed in the body thereof; and by turning the fountain upon its pivot 10, these feed holes may always be brought to the bottom, regardless of the rotative position of the stencil cylinder 1, so that the ink can be supplied wherever desired in the cylinder.

For convenience in shutting off the feed of the ink, and also to prevent loss of ink in shipping the charged fountain, I cover the feed openings by means of a sleeve or shell

12. In said cover I provide openings 13 corresponding with the openings 11, so that upon pulling the sleeve out by means of a handle 14, as shown in dotted lines at Fig. 3, the openings 13 will be brought to register with the openings 11, and the ink permitted to feed out from the fountain through said openings. Accidental rotation of the closure 12 relatively to the fountain is prevented by a guide 15 fixed on the fountain and fitting between edges 16 of the sleeve or closure 12, which may be made by rolling up a piece of sheet metal; said edges being connected by strips 17.

15 The stencil cylinder has an interior hub 18, in which the stud 3 is threaded; and upon this hub is formed or secured a disk or head 19 having opposite concentric key hole slots 20, to receive headed studs 21 projecting from the disk 9. To insert the fountain into the cylinder, it is only necessary to grasp the fountain by its outer end and pass it into the cylinder and introduce the headed studs 21 into the large ends of the key hole slots 20, and then turn the fountain together with the disk 9, to carry the studs 21 into the small ends of the slots 20. For convenience in turning the head 9, I provide a sliding bolt 22 upon the fountain to enter any of a series of openings 23 formed around the edge of the disk 9. For convenience in operating this bolt, it may be secured directly upon the sleeve 12, so as to be operated by the handle 14; although it will be understood that the sleeve may be thrown out far enough to release the bolt and permit rotative adjustment of the fountain, without uncovering the feed openings 11 in the fountain. The bolt 22 may be used only when attaching or detaching the fountain. It will thus be seen that upon receiving the fountain charged with the ink the operator needs only to push the handle 14 inwardly to cause the bolt 22 to enter an opening 23 in the head 9, and then to thrust the fountain into the cylinder, so that the studs 21 engage the slots 20, then give the fountain a twist to secure the studs in the slots, and then pull the handle 14 out as far as it will go, thus bringing the sleeve or closure 12 against the stop 24, whereupon the openings 13 in the sleeve will register with the feed openings 11 in the fountain, and the ink will flow out. If the ink should not flow freely, the operator may work back and forth a handle 25 provided upon a rod 26 passing through a gland 27 in the end of the fountain, said rod 26 carrying within the fountain a piston 28 having a number of perforations 29. This operation stirs up the ink, and tends to force it out freely through the feed openings 11. If desired, fresh ink may be supplied through a supply opening 30, upon which is screwed a cap 31 at the outer end of the ink fountain.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a stenciling machine, the combination with a stencil cylinder having one end open and the other closed, of an ink fountain in the form of a long closed box within said cylinder and extending along the same and secured only at its inner end. 70
2. In a stenciling machine, the combination with a stencil cylinder having one end open and the other closed, of an ink fountain in the form of a long closed box within said cylinder and extending along the same and secured only at its inner end, said fountain being attached to the closed end of said cylinder. 75
3. In a stenciling machine, the combination with a stencil cylinder open at one end and closed at the other, of an ink fountain in the form of a long closed box extending from end to end of the cylinder and at one end detachably connected to the closed end of said cylinder, and wholly supported by said cylinder end. 80
4. In a stenciling machine, the combination with a stencil machine, of an ink fountain in the form of a long closed box extending from end to end of the cylinder and at one end removably attached to the cylinder end, said cylinder being open at one end and having at the other end a hub or support to which the end of said ink fountain is attached, said hub forming the sole support of said fountain. 85
5. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub, the latter forming the sole support of the fountain. 90
6. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said head or hub forming the sole support of said fountain. 95
7. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said securing means comprising a supporting disk having key-hole slots, and headed studs upon the fountain to engage said slots to secure the fountain to said hub or head. 100
8. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said securing means comprising a supporting disk having key-hole slots, and headed studs upon the fountain to engage said slots to secure the fountain to said hub or head. 105
9. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said securing means comprising a supporting disk having key-hole slots, and headed studs upon the fountain to engage said slots to secure the fountain to said hub or head. 110
10. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said securing means comprising a supporting disk having key-hole slots, and headed studs upon the fountain to engage said slots to secure the fountain to said hub or head. 115
11. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said securing means comprising a supporting disk having key-hole slots, and headed studs upon the fountain to engage said slots to secure the fountain to said hub or head. 120
12. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said securing means comprising a supporting disk having key-hole slots, and headed studs upon the fountain to engage said slots to secure the fountain to said hub or head. 125
13. In a stenciling machine, the combination with a stencil cylinder open at one end and having a hub or head at the other end, of an ink fountain within said cylinder and at one end secured to said head or hub by means which permit ready detachment of the fountain from the cylinder, said securing means comprising a supporting disk having key-hole slots, and headed studs upon the fountain to engage said slots to secure the fountain to said hub or head. 130

tion with a revoluble stencil cylinder, of an interior head provided at one end thereof and having key-hole slots, an ink fountain in the form of a closed box, a disk or plate 5 having headed studs to engage said slots, said fountain secured upon said disk or plate for rotation relatively thereto, and means for temporarily locking the ink fountain to the disk or plate to prevent such 10 relative rotation of the fountain.

9. In a stenciling machine, the combination with a revoluble stencil cylinder provided with an interior hub or head, of a disk or plate detachably securable upon 15 said head by a rotary movement of said disk, an ink fountain pivoted upon said disk to rotate independently thereof, and means for temporarily locking the ink fountain to the disk for convenience in manipulating 20 the disk when attaching or detaching it from said head.

10. In a stenciling machine, the combination with a revoluble stencil cylinder provided with an interior hub or head, of a 25 disk or plate detachably securable upon said head by a rotary movement of said disk, an ink fountain pivoted upon said disk to ro-

tate independently thereof, said fountain having a longitudinally movable device to control the feeding of ink therefrom, and 30 means being connected to said longitudinally movable device for temporarily locking said fountain to said disk.

11. In a stenciling machine, the combination with a revoluble stencil cylinder provided with an interior hub or head, of a 35 disk or plate securable upon said head by a rotary movement of said disk, and an ink fountain pivoted upon said disk to rotate independently thereof and having an ink- 40 feeding opening, said fountain having a longitudinally movable closure for said feed-opening, said disk having a series of holes around its periphery, and said closure having a bolt to engage any of said 45 holes and also having a finger-piece whereby the closure may be manipulated either to release the fountain from the disk or to uncover the ink-feeding openings.

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Witnesses:

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MARY PERRY.