

1,056,715.

Patented Mar. 18, 1913.

Fig. 1.

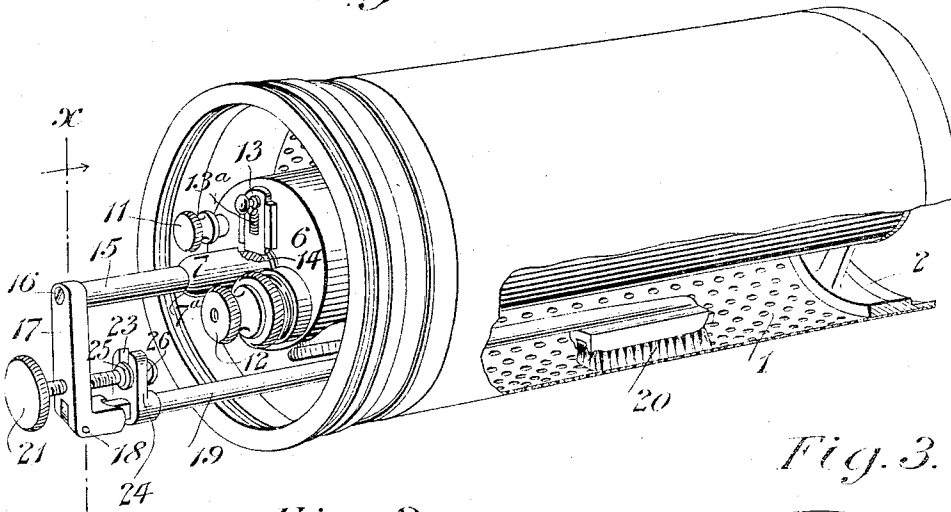


Fig. 3.

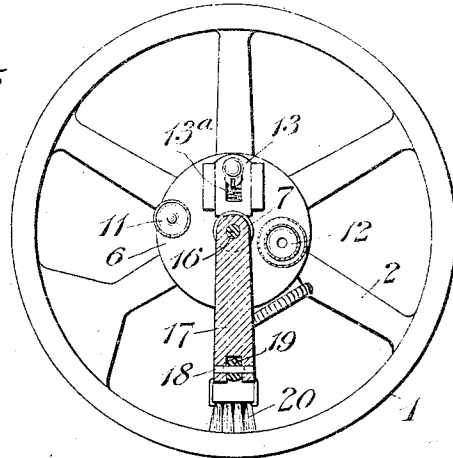


Fig. 2.

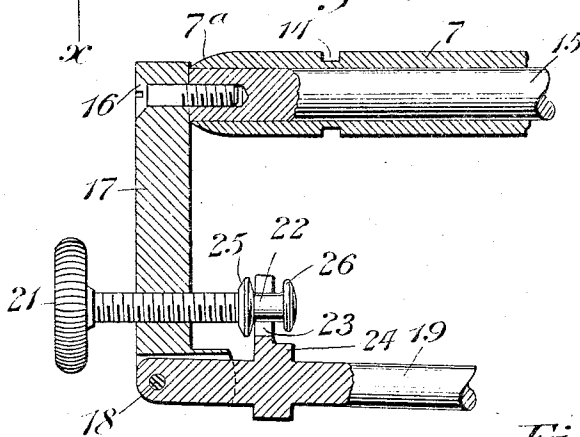
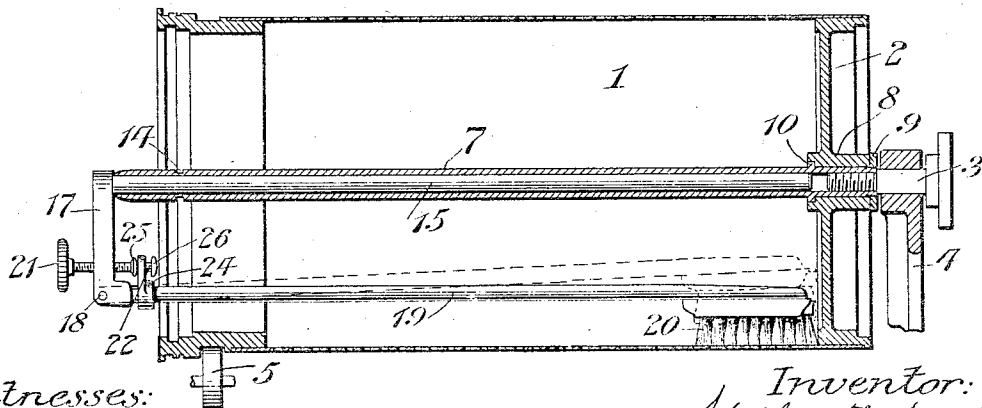


Fig. 4.



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STENCILING-MACHINE.

1,056,715.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed October 11, 1909. Serial No. 522,066.

To all whom it may concern:

Be it known that I, STEPHEN T. SMITH, Jr., 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 those of the kind set forth in Patent No. 975,471, dated November 15, 1910, and Patent No. 976,704, dated November 22, 1910, the last patent showing an ink fountain having a hollow central core to slip upon an axle or stud provided within the stencil cylinder, and having a latch to hold it releasably in place.

The principal object of the present invention is to provide means for simplifying the operation of distributing or spreading ink around the inner periphery of the stencil cylinder.

To this end, a distributing brush is placed within the cylinder and provided with an outwardly extending arm, which at its outer end is pivoted to a supporting rod, the latter telescoping within the before-mentioned stud, upon which the ink fountain is carried. Said stud is caused to perform a double function, although in some cases the ink fountain may be omitted. The supporting rod may both slide and turn within said stud, and this permits the distributing brush to have a universal movement around the inside of the stencil cylinder or drum. The operator needs only to grasp the distributor and move it in and out and swing it around, thereby quickly and easily securing a uniform distribution of the ink, without liability of soiling the fingers, and without the necessity of withdrawing the ink brush and disposing of it, as it may always remain in the cylinder.

Preferably a device is provided for regulating the pressure of the brush upon the surface of the cylinder, according to the quality and amount of the ink to be distributed, and to meet other requirements.

In the accompanying drawings, Figure 1 is a perspective view of a stencil cylinder equipped with the present improvements. Fig. 2 is a longitudinal sectional view, to show the details of one form of adjustable connection between the telescoping support

and the brush-carrying arm. Fig. 3 is a front sectional elevation taken at about the line $x-x$ of Fig. 1. Fig. 4 is a general longitudinal sectional elevation of the stenciling machine, the ink fountain being removed.

A perforated stencil cylinder 1 has at one end a head 2, which is mounted by a journal 3 upon a standard 4 erected upon the base of the machine; the opposite end of the cylinder being open and usually supported by trundles 5.

As set forth in the last-named patent, a cylindrical ink fountain 6, having a hollow core, is slipped through the open end of the cylinder upon a central stud 7, which at its inner end is secured to the hub 8 of the cylinder head 2; the stud passing through the hub and a nut 9 drawing against the hub a shoulder 10 formed at the inner end of said stud. The journal 3 is in the form of a shoulder screw threaded into the end of said stud. By pulling out a valve rod handle 11, the ink is permitted to drop from the fountain upon the inner surface of the cylinder 1; and by working back and forth a piston handle 12, the ink within the fountain may be stirred up to facilitate its flow therefrom.

According to the present improvements, a sliding latch or bolt 13 is mounted upon the head of the ink fountain 6, to project into an annular locking groove 14 provided upon the stud 7, to hold the ink fountain in place. A spring 13^a holds the latch in the groove. The tooth of the latch is beveled, and the tip of the stud 7 is also tapered, as at 7^a, so that when the fountain is slipped onto the stud, the bevel 7^a will cam the latch outwardly in its guides, to permit the fountain to be pushed home, whereupon the latch will snap into the locking groove 14. The provision of latching means exterior to the stud, permits the latter to be made hollow, to receive the telescopic portion of the ink distributor.

The ink distributor comprises a supporting rod 15, of cylindrical form, and fitting loosely within the stud 7, and extending preferably to about the inner end thereof, as at Fig. 4, to give considerable range of sliding movement to the support 15.

Upon the outer end of the support, where it projects from the hollow shaft 7 is se-

cured by a screw 16 a rigid head 17, which may be in the form of a radial bar, to the outer end of which is pivoted at 18 the outer end of an arm 19, which extends back into the stencil cylinder, and there carries a distributing brush 20. The arm 19 and the telescoping support 15 form with the head 17 a U-shaped contrivance having great range of sliding movement, and also capable of rotating to any extent; whereby the brush may be freely swept over all parts of the interior of the stencil cylinder.

The pressure of the distributing brush upon the inner surface of the cylinder, may be regulated by a thumb-screw 21, threaded through the head 17 and having at its inner end a portion 22 received loosely in an open slot 23 formed in a lug 24 provided upon the outer end of the pivoted arm 19. The screw has heads 25, 26, between which the lug 24 is confined. By turning the screw out, the brush is lifted away from the surface of the cylinder 1, and by turning the screw in, the brush may be given any desired degree of pressure upon said surface; the pressure being finely regulatable.

Whenever desired, the screw 21 may be turned to lift the brush from the surface of the drum up to the dotted line position, at Fig. 4, and the entire distributor slipped out from the machine, for convenience in cleaning the brush, or removing the ink fountain, or employing the brush to ink the outside of the ink mat, which is usually carried around the cylinder 1, and which it is desirable to coat with fresh ink whenever the old ink on the surface of the mat becomes slightly hardened.

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-carrying drum open at one end, of an ink distributor supported within said drum and comprising a pivoted arm and a brush or wiper, and means at the open end of the drum for swinging said arm on its pivot to swing the brush out of contact with the surface of the drum toward the axis thereof, said distributor being removable from the open end of the drum.

2. In a stenciling machine, the combination with a stencil-carrying drum having a hollow shaft, axle or stud secured therein, of an ink distributor comprising a rod telescoped within said hollow shaft and projecting from the end thereof, and an arm connected to the projecting end of said rod, said arm extending from said end within the drum and carrying at its inner end a brush or wiper.

3. In a stenciling machine, the combination with a stencil-carrying drum having a

hollow shaft, axle or stud supported at its inner end therein, of an ink distributor comprising a rod telescoped within the outer end of said hollow shaft, an arm connected to the end of said rod and extending from said outer end within the drum and carrying a brush or wiper, and means whereby said brush may be adjusted away from the surface of the drum toward the axis thereof.

4. In a stenciling machine, the combination of a stencil drum having a hollow shaft or stud supported at its inner end therein, an ink distributor comprising two members, one of which is inserted in the outer end of said hollow shaft and constructed to telescope and turn therein, and the other of which is connected to an end of the first member and extends within the drum and there carries a brush, and means whereby the brush may be lifted away from the surface of the drum toward the axis thereof.

5. In a stenciling machine, the combination with a stencil drum having a hollow shaft or axle, of an ink distributor comprising two members, one of which is constructed to telescope and turn within said hollow shaft, and the other of which carries a brush, and means whereby the brush is moved toward or away from the surface of the drum; the brush-carrying member being pivoted at its outer end to the telescoping member.

6. In a stenciling machine, the combination with a stencil drum, of an ink distributor comprising two members pivoted together, one of which is supported within the drum and capable of rotative and longitudinal movement therein, and the other of which carries a brush, and an adjusting screw to move the brush-carrying member to bring the brush into or out of engagement with the surface of the drum, and whereby also the pressure of the brush on the drum may be regulated.

7. The combination with a stencil drum, of an ink distributor comprising two members pivoted together, one of which is supported in the drum and capable of rotative and longitudinal movement, and the other of which carries a brush and has an arm, and a screw provided with a part to enter a slot in said arm, said screw having heads to engage each face of the arm, whereby the brush-carrying member is operated to move the ink distributing brush toward or away from the surface of the drum.

8. The combination with a stencil cylinder, of an ink-distributing brush or wiper within the cylinder, a brush-support, and a bearing or journal for said support to permit the brush to be carried around the inner periphery of the cylinder; an ink fountain mounted on said bearing or journal, and the support constructed to permit the brush to slide longitudinally of the cylinder and fountain; adjustable means being provided

between said brush and said support to enable the pressure of the brush upon the cylinder to be regulated.

9. The combination of a stencil cylinder, a hollow stud or shaft mounted centrally within said cylinder, and supported at its inner end, a support telescoping within the outer end of said stud and having a head at its outer end, and an arm mounted on said head and extending within the cylinder and carrying at its inner end an ink brush or wiper.

10. The combination with a stencil cylinder having an open end, of a central hollow stud secured at its inner end within the same, an ink fountain detachably secured upon said stud to be withdrawn from the open end of the cylinder, a revoluble support telescoping into the outer end of the stud and removable therefrom, and a brush or wiper carried upon the outer end of said support and extending within the drum to distribute the ink.

11. The combination with a stencil cylinder, of a central hollow stud within the same, an ink fountain detachably secured upon said stud, a revoluble support telescoping into the stud and removable therefrom, and a brush or wiper carried upon the outer end of said support and extending within the drum to distribute the ink; a latch upon said fountain engaging a locking groove in the outer periphery of said stud.

12. The combination with a stencil cylinder open at one end, of a central hollow stud secured at its inner end within the same, an ink fountain detachably secured upon said stud to be withdrawn from the open end of the cylinder, a revoluble support telescoping into the outer end of the stud and removable therefrom, a brush or wiper carried upon the outer end of said support and extending within the drum to distribute the ink, and means to regulate the pressure of the brush upon the cylinder.

13. In a stenciling machine, the combination with a stencil-carrying drum having a hollow shaft, axle or stud secured thereon, an ink fountain mounted on said stud, of an ink distributor comprising a rod telescoped within said hollow shaft and projecting from the end thereof, and an arm connected to the projecting end of said rod, said arm extending from said end within the drum and carrying at its inner end a brush or wiper.

14. In a stenciling machine, the combination with a stencil-carrying drum having a hollow shaft, axle or stud secured therein, an ink fountain mounted on said stud, of an ink distributor comprising a rod telescoped within said hollow shaft, an arm connected to the end of said rod and extending from said end within the drum and carrying a brush or wiper, and means whereby

said brush may be adjusted away from the surface of the drum toward the axis thereof, and there sustained.

15. In a stenciling machine, the combination of a stencil drum having a hollow shaft or stud, an ink fountain mounted on said stud, an ink distributor comprising two members, one of which is constructed to telescope and turn within said hollow shaft, and the other of which is connected to an end of the first member and extends within the drum and there carries a brush, and means whereby the brush may be lifted away from the surface of the drum toward the axis thereof, and there sustained.

16. The combination of a stencil cylinder, a hollow stud or shaft mounted centrally within said cylinder, an ink fountain mounted on said stud, a support telescoping within said stud and having a head at its outer end, and an arm mounted on said head and extending within the cylinder and carrying at its inner end an ink brush or wiper.

17. The combination with a stencil cylinder, of a central hollow stud within the same, an ink fountain detachably secured upon said stud, a revoluble support telescoping into the stud and removable therefrom, an ink fountain also carried upon said stud, and a brush or wiper carried upon the outer end of said support and extending within the drum to distribute the ink.

18. The combination of a stencil cylinder open at one end, a central stud in said cylinder, a carrier or support upon said stud and mounted to slide and rotate upon the same, an arm or head carried upon the outer end of said support, and a brush-carrying arm extending from said head within said cylinder.

19. The combination of a stencil cylinder open at one end, a central stud in said cylinder, a carrier or support upon said stud and mounted to slide and rotate upon the same, an arm or head carried upon the outer end of said support, a brush-carrying arm extending from said head within said cylinder and hinged to said head, and means having a finger-piece for swinging said brush-carrying arm about its hinge.

20. The combination of a stencil cylinder open at one end, a central stud in said cylinder, a carrier or support upon said stud and mounted to slide and rotate upon the same, an arm or head carried upon the outer end of said support, a brush-carrying arm extending from said head within said cylinder, and an ink fountain mounted on said stud.

21. The combination with a stencil cylinder, of an ink-distributing brush or wiper within the cylinder, a brush-support, and a shaft supported at one end extending through said cylinder to the opposite end and forming at said opposite end a bearing

or journal for said brush-support to permit the brush to be carried around the inner periphery of the cylinder; the brush-support being constructed to permit the brush to slide longitudinally of the cylinder; said brush-support, brush and fountain being slidable off from said shaft; and an ink fountain carried upon said shaft.

22. The combination with a stencil cylinder having an open end, of means for delivering ink within said cylinder, an ink-distributing brush or wiper within said cylinder and extending through said open end, and means at said open end and outside said cylinder for adjusting said delivering and distributing means.

23. The combination with a stencil cylinder, of a stud carrying said cylinder, of an ink fountain carried by said stud, a stirrer for said fountain, an ink-distributing brush or wiper, a valve for said ink fountain, and means outside said cylinder for operating said stirrer, said distributor and said valve.

24. In a stenciling machine, the combination with a stencil-carrying drum having a shaft or axle and open at one end, of an ink fountain upon said shaft or axle, an ink-distributor supported by said shaft and capable of both rotative and longitudinal movements, and means extending to the exterior of the drum at its open end for lifting the ink distributor off from the surface of the drum.

25. In a stenciling machine, the combination with a stencil-carrying drum, of an

ink distributor supported within said drum and comprising an arm mounted to rotate about the axis of the drum and carrying a brush or wiper, said arm also pivoted to permit the brush to swing up around said pivot from the surface of the drum toward the axis thereof, and means to support the arm when lifted.

26. The combination with a stencil cylinder having an open end, of an ink fountain, a shaft on which it is mounted, an ink-distributing brush or wiper within the cylinder, a brush support, said shaft supported at one end and forming a bearing or journal for said brush-support to permit the brush to be carried around the inner periphery of the cylinder; the brush-support being constructed to permit the brush to slide longitudinally of the cylinder; said brush-support, brush and fountain being slidable off from said shaft through the open end of said cylinder.

27. The combination with a stencil cylinder having an open end, of a shaft supporting said cylinder, an ink fountain on said shaft, an ink valve in said fountain, an ink-distributing brush or wiper within the cylinder, and means eccentric to said shaft and extending to the outside of said cylinder through said open end for controlling said valve and distributor.

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