No. 824,695. PATENTED JUNE 26, 1906.

E. F. KUNATH.

STENCILING MACHINE.

APPLICATION FILED FEB. 12, 1906.

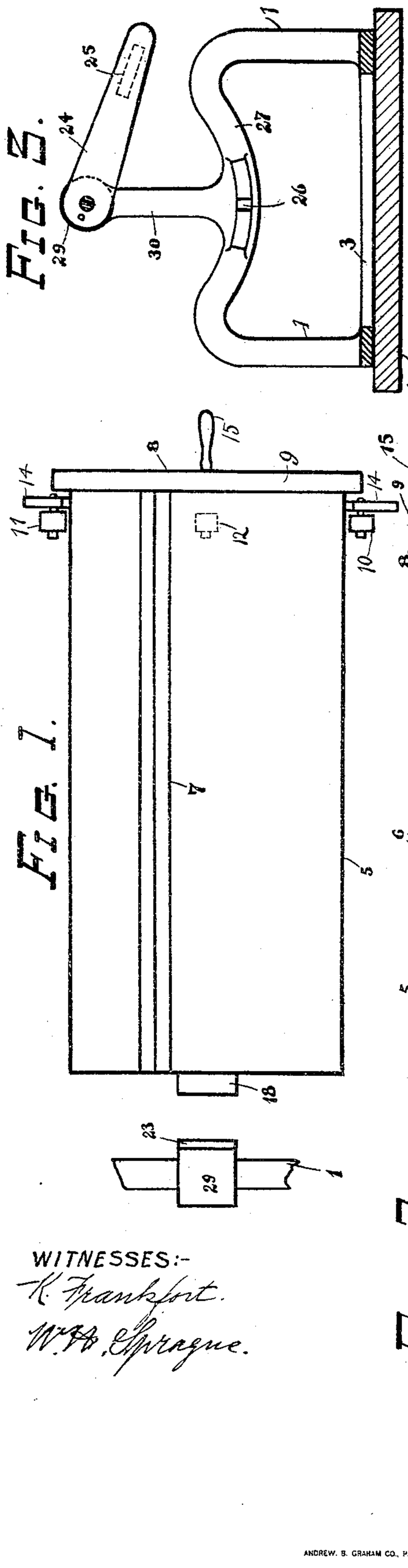

FIG. 3.

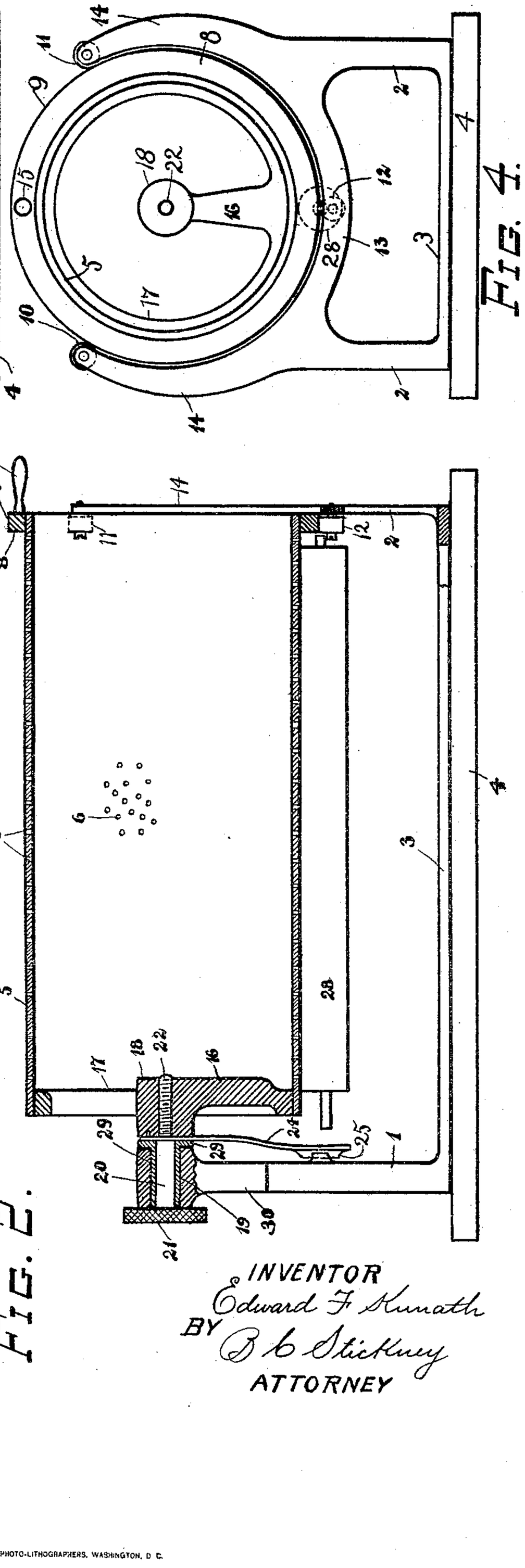

FIG. 4.

FIG. 1.

FIG. 2.

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STENCILING-MACHINE.

No. 824,695. Specification of Letters Patent. Patented June 26, 1906.

Application filed February 12, 1906. Serial No. 300,692.

To all whom it may concern:

Be it known that I, EDWARD F. KUNATH, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Stenciling-Machines, of which the following is a specification.

This invention relates to that class of duplicating-machines in which a perforated stencil-carrying drum, or, in other words, a cylindrical ink-screen, is covered with an inking-blanket, the ink being applied upon the interior wall of the cylinder or drum and oozing through the perforations to the blanket and a stencil-sheet being laid upon the blanket, the sheets to be stenciled being then run between the stencil-sheet and a pressure-roller.

The principal object of my invention is to facilitate access to the interior of the perforated cylinder for various purposes, principally to apply the ink therewithin. Instead of providing the cylinder at both ends with hubs to receive the usual axle, these hubs and their supporting-arms being objectionable, because they partly close the ends of the cylinder, I support one end of the cylinder upon trunnions which run upon its exterior, so that this end of the cylinder is left entirely open. The other end of the cylinder may be provided with a centrally-located hub and supporting-arm therefor, since it is not usually necessary to have both ends of the cylinder open. The invention is not, however, limited to the cylinder having a single open end. I also provide convenient means for detaching the cylinder from its bearings for facilitating cleaning and repairs. Other features and advantages are hereinafter set forth.

In the accompanying drawings, Figure 1 is a plan illustrating the method of detaching the cylinder from the machine. Fig. 2 is a sectional front elevation of the machine. Fig. 3 is a sectional elevation of one end of the machine. Fig. 4 is an elevation of the machine, showing the open end of the cylinder.

A casting comprising upright end frames 1 2 and a rectangular base 3 may be mounted upon a base-board 4. A hollow cylinder 5, provided throughout with perforations 6, having the usual means at 7 for clamping the ink-blanket and stencil-sheet, is mounted at its ends upon said uprights 1 and 2. The right-hand end of the cylinder at Fig. 2 is entirely open. A flange or open ring 8 is fixed upon this end to form a head for the cylinder, and its periphery 9 serves as a tread to run upon a set of (preferably three) trundles 10, 11, and 12. The trundle 12, which is the lowest of the three, serves to support this end of the cylinder 5 and is pivoted upon a cross-bar 13 of the upright frame 2, and the upper trundles 10 and 11 are pivoted upon arms or horns 14, which curve up around the sides of the bearing-ring 9. The upper trundles 10 and 11 prevent the cylinder from moving from side to side and are sufficiently near together to prevent it from lifting, so that lateral movement of the cylinder in any direction is avoided. Thus the trundles enable the cylinder to turn freely without wabbling. A handle 15, whereby the cylinder may be rotated, projects from the ring 8. The other end of the cylinder is open, except for a single arm 16, cast upon an interior flange 17 of the cylinder, forming another head therefor and supporting a central hub 18. Upon said hub is secured a hollow trunnion 19, which is in the form of a bushing for the shoulder portion 20 of a thumb-screw 21, the shank 22 of which is threaded into the hub 18 and clamps the latter against a flange 23, formed upon the inner end of said bushing 19. Between said members 23 and 18 is clamped a spring 24, carrying a tooth 25 to enter a notch 26, provided upon a cross-arm 27 of the upright frame 1. The tooth 25 springs into the notch 26, as at Fig. 2, and thereby holds the cylinder stationary at the proper point of introduction of a sheet between the same and the usual yielding pressure-roller 28. The screw 21 clamps the hub 18, spring 24, and bushing 19 together, and the latter turns freely in a bearing 29, formed in the upper end of a post 30, rising from the cross-bar 27. The provision of the tread 9 exteriorly of the cylinder enables the end of the latter to be left entirely unobstructed.

It will be seen that the bearing 29 fits between the screw-head 21 and the bushing-flange 23, whereby longitudinal displacement of the cylinder is prevented. In order to detach the cylinder, it is only necessary to unscrew the screw 21 and then slip the cylinder endwise, as seen at Fig. 1, until the bearing-

ring 8 is clear of the trundles, whereupon the cylinder may be lifted straight up and off from the machine.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others. It is not essential in all cases that the cylinder be detachable, nor that it run upon trundles or rolls so long as at least one end is left substantially open by reason of the employment of exterior bearings or bearings which directly engage the rim or annular head of the cylinder, thus leaving a commodious opening at the end of the cylinder for the purpose specified, said bearings supporting the ink-screen against the pressure of the usual roll 28.

Having thus described my invention, I claim—

1. A perforated cylinder for a stenciling-machine, open at one end and having at said end an exterior bearing, and having at the other end a centrally-located bearing.

2. In a stenciling-machine, the combination with a perforated cylinder having an open end and provided with an exterior tread upon said open end, of trundles upon which said tread turns, and a centrally-located bearing for the opposite end of the cylinder.

3. In a stenciling-machine, the combination with a perforated cylinder having an open end and provided with an exterior tread upon said open end, of trundles upon which said tread turns, and a centrally-located bearing for the opposite end of the cylinder; said trundles being so placed as to prevent the cylinder from rising, and said central bearing having a detachable part whereby the cylinder may be disconnected, said cylinder being also releasable by an endwise movement from said trundles.

4. A stenciling-machine comprising a perforated cylinder having an open end provided with an exterior flange to serve as a tread, a set of trundles upon which said tread runs and whereby it is held against lateral displacement in any direction, and a detachable centrally-located pivot whereby the other end of the cylinder is journaled, means being provided at said pivot for preventing endwise displacement of the cylinder, and the latter being disengageable by an endwise movement from said trundles.

5. A stenciling-machine comprising a perforated cylinder having one end open and provided at said end with an exterior tread, a set of trundles upon which said tread runs, a central hub provided upon the other end of the cylinder, a screw threaded into said hub, a bushing upon said screw and clamped thereby against said hub, and a bearing in which said bushing turns.

6. A stenciling-machine comprising a perforated cylinder having one end open and provided at said end with an exterior tread, a set of trundles upon which said tread runs, a central hub provided upon the other end of the cylinder, a screw threaded into said hub, a bushing upon said screw and clamped thereby against said hub, and a bearing in which said bushing turns, a spring-finger clamped between said bushing and said hub, a detent upon said finger, and a notched part upon the framework to be engaged by said detent.

7. In a stenciling-machine, a perforated stencil-cylinder open at one end and provided upon its exterior at said end with a bearing, a handle projecting from said end, and a central hub for mounting the opposite end of the cylinder.

8. In a stenciling-machine, a cylinder consisting of a curved plate of perforated sheet metal, a flange secured upon said cylinder at one end to serve as a bearing, an interior flange to which the other end of the perforated plate is secured, and a hub or arm cast upon said interior flange.

9. In a stenciling-machine, a cylinder consisting of a curved plate of perforated sheet metal, a flange secured upon said cylinder at one end to serve as a bearing, an interior flange to which the other end of the perforated plate is secured, and a hub or arm cast upon said interior flange, and a handle secured upon the end of said cylinder which is provided with said exterior flange.

10. A stenciling-machine comprising a framework having at one end an open framing provided with a set of trundles, and having at the other end a single centrally-located bearing and a perforated cylinder, one end of which runs within and upon said trundles, and the other end of which is provided with a hub which is journaled upon said single bearing.

11. An ink-screen for a stenciling-machine, said screen in the form of a perforated cylinder having a bearing fitted upon each end; one end of said cylinder being open, and the bearing upon the open end of the cylinder being in the form of an annular flange or open ring which constitutes a head for the cylinder, through which ink may conveniently be applied upon the interior wall of the screen.

12. An ink-screen for a stenciling-machine, said screen in the form of a perforated cylinder having means for securing an ink-blanket thereon, and having heads at its ends, said heads provided with bearing-surfaces for enabling the cylinder to revolve; one of said heads being in the form of an open ring around which the bearing-surface extends, said ring being of sufficiently large internal diameter to render it convenient to apply ink therethrough upon the interior surface of the ink-screen.

13. A stenciling-machine comprising, in combination, an ink-screen in the form of a perforated cylinder having heads, one of said

heads in the form of an open ring of relatively large diameter to render it convenient to apply ink therethrough upon the interior surface of the ink-screen, and means for revolubly supporting said cylinder.

14. A stenciling-machine comprising, in combination, an ink-screen in the form of a perforated cylinder having means thereon for attaching an ink-pad thereto, said cylinder entirely open at one end for rendering it convenient to apply ink upon the interior of the screen, and means independent of the inking-surfaces of the screen, for revolubly supporting the same.

15. A stenciling-machine comprising, in combination, an ink-screen in the form of a perforated cylinder, said cylinder being open at its end for rendering it convenient to apply ink upon the entire interior ink-surface of the screen, a roll to press sheets against the cylinder, and means revolubly supporting said cylinder against the pressure of said roll.

16. A stenciling-machine comprising, in combination, an ink-screen in the form of a perforated cylinder, said cylinder being open at its end to render it convenient to apply ink upon the interior ink-surface of the screen, a roll to press sheets against the cylinder, and means detachably and revolubly supporting said cylinder, said supporting means comprising bearing-surfaces all of which are distinct from the inking-surfaces of said screen.

17. A stenciling-machine comprising, in combination, an ink-screen in the form of a perforated cylinder having heads, one end of the cylinder being open and the head at said open end being in the form of an open ring extending around the cylinder and having an exterior bearing-surface, and supports whereon said cylinder is revolubly mounted, said supports including means engaging said exterior bearing-surface.

18. In a stenciling-machine, the combination with an ink-screen in the form of a perforated cylinder, of means at the ends of the cylinder for revolubly supporting the same; one end of said cylinder being open, and said supporting means including trundles or rolls which engage the open end of the cylinder.

19. In a stenciling-machine, the combination with an ink-screen in the form of a perforated cylinder having one end open and provided with a handle at said open end, of means revolubly supporting said cylinder, said supporting means being so disposed as to permit the ready application of ink within the open end of said cylinder upon the interior walls thereof.

20. In a stenciling-machine, the combination with an ink-screen in the form of a perforated cylinder having one end open, of a framework having means revolubly supporting said cylinder, said supporting means including a bearing device which extends around the rim of the open end of the cylinder, and the latter being detachable from its supports.

21. In a stenciling-machine, the combination with an ink-screen in the form of a perforated cylinder having one end open, of means revolubly supporting said cylinder and including an open support for the open end of the cylinder, from which open support the cylinder may by endwise movement be withdrawn, said supporting means also including releasable means at the other end of the cylinder for preventing such endwise movement.

22. In a stenciling-machine, the combination with an ink-screen in the form of a perforated cylinder having an end open for convenient application of ink upon the interior ink-surface of the screen, said cylinder being provided with an annular tread member upon its open end, of a framework having means releasably supporting said cylinder for revolution, and including trundles or rolls for engaging said annular tread member; said cylinder being releasable by an endwise movement from said trundles or rolls, and releasable means being provided for preventing such endwise movement; and a roll for pressing sheets against the stencil upon the cylinder.

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Witnesses:
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