No. 829,573. PATENTED AUG. 28, 1906.

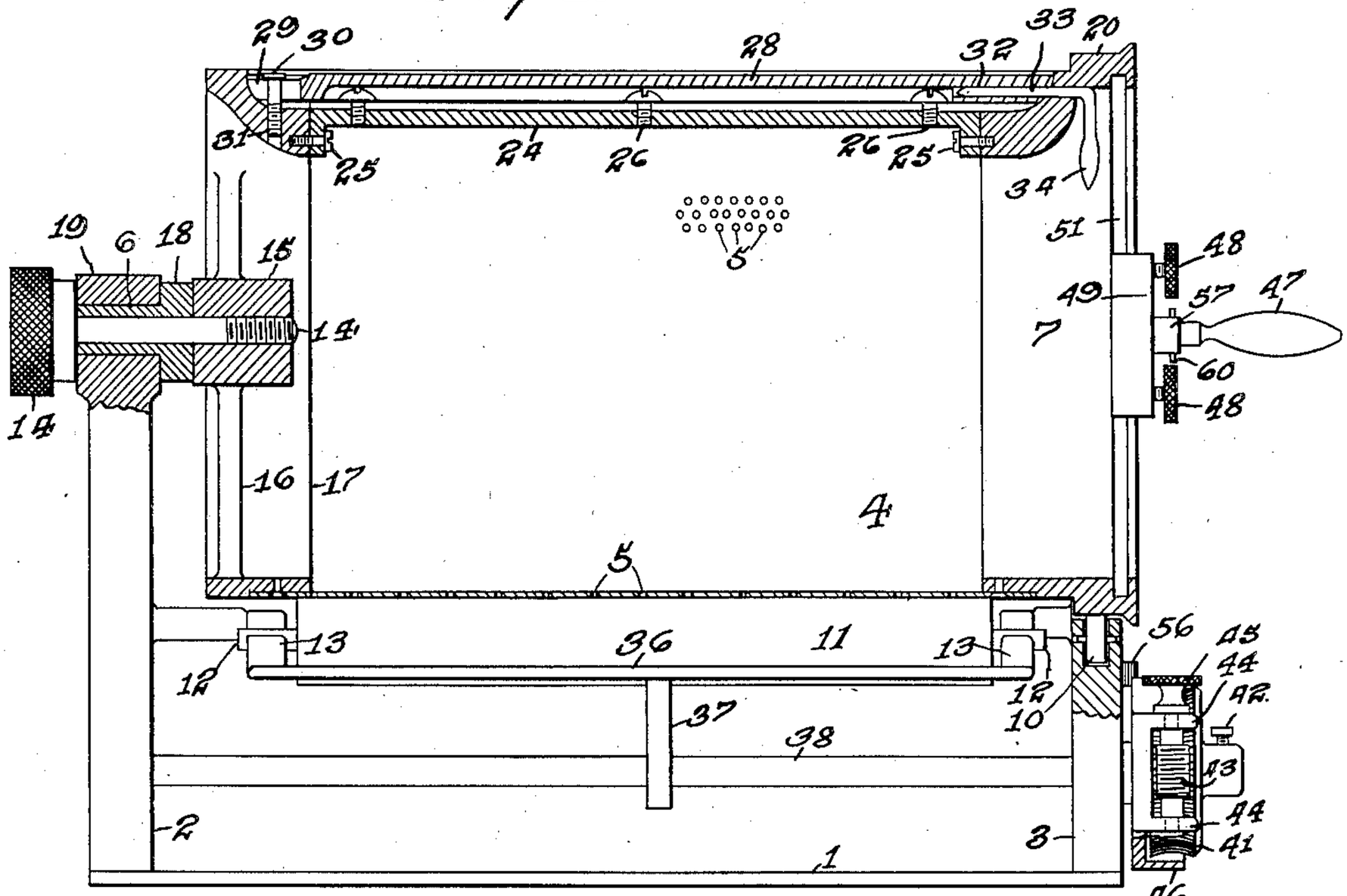
H. M. CROWELL.

STENCILING MACHINE.

APPLICATION FILED MAY 9, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



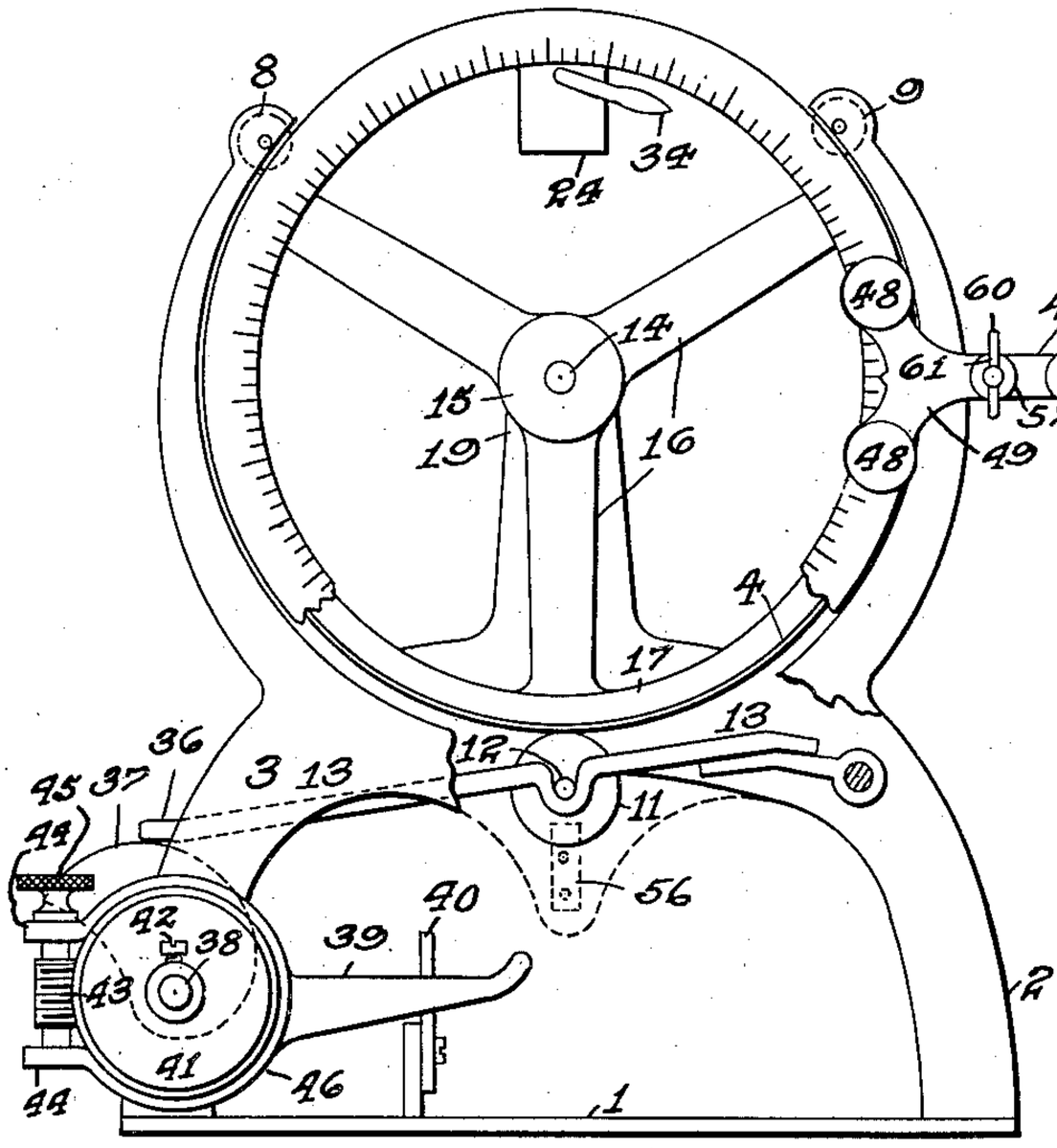


Fig. 2.

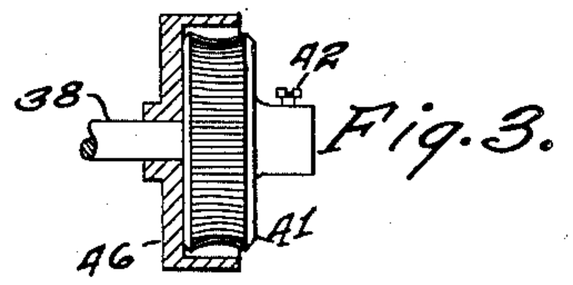


Fig. 3.

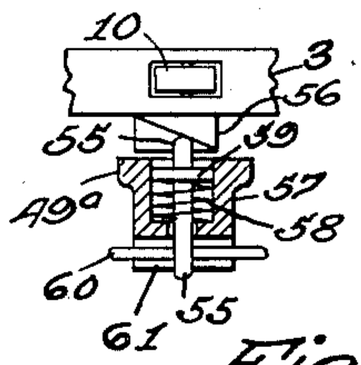


Fig. 4.

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2 SHEETS—SHEET 2.

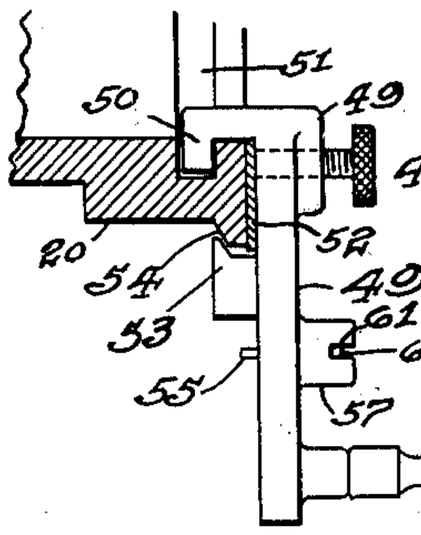

Fig. 5.

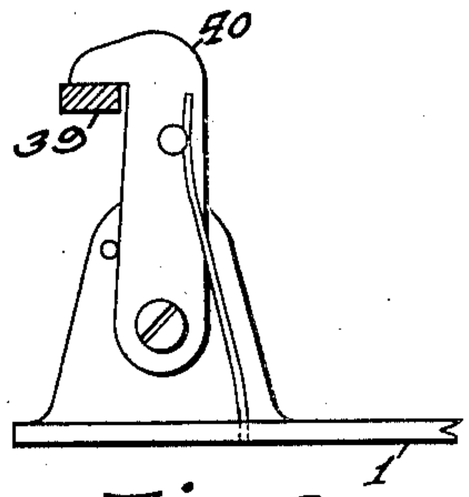

Fig. 6.

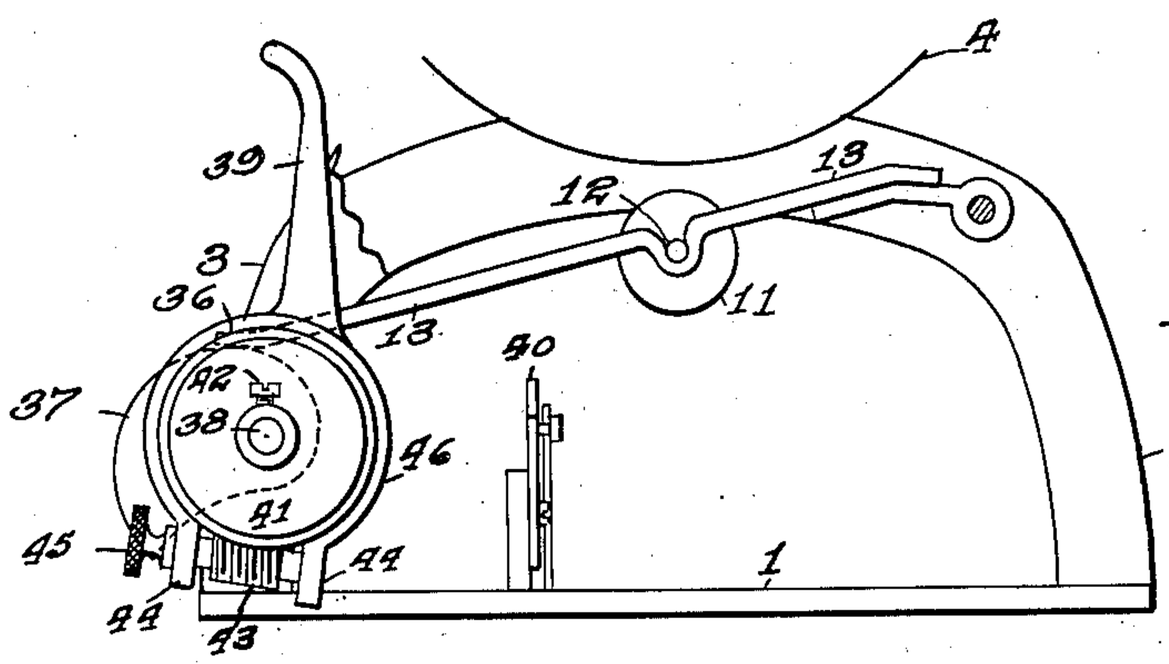

Fig. 7.

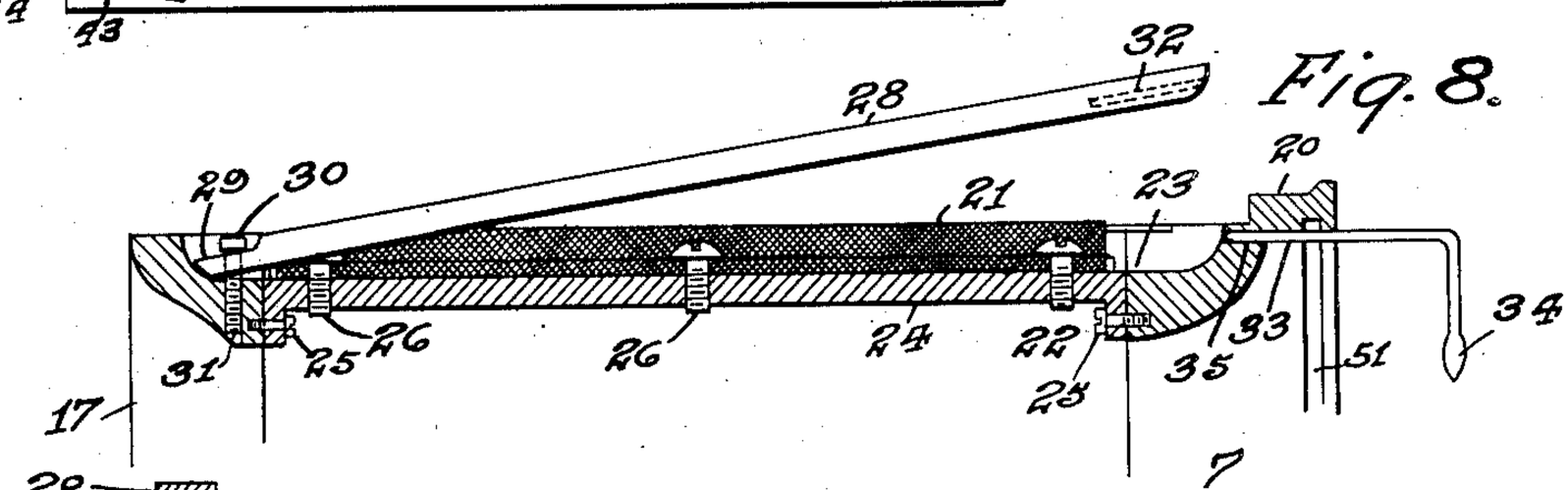

Fig. 8.

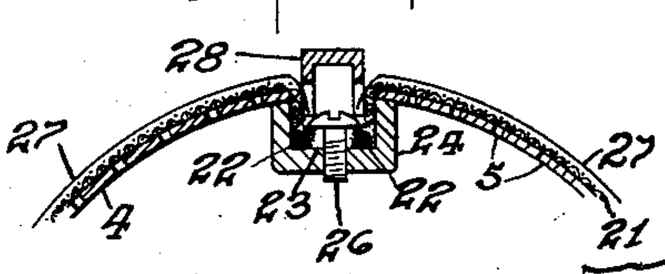

Fig. 9.

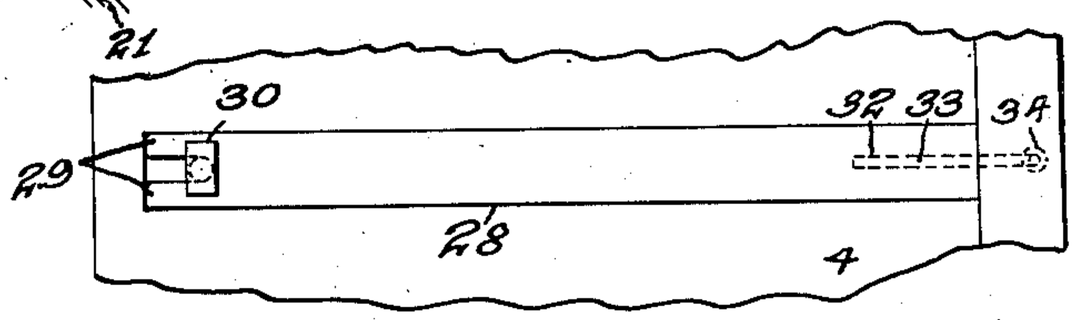

Fig. 10.

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UNITED STATES PATENT OFFICE.

HENRY M. CROWELL, OF MAPLEWOOD, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

STENCILING-MACHINE.

No. 829,573. Specification of Letters Patent. Patented Aug. 28, 1906.

Application filed May 9, 1906. Serial No. 315,934.

To all whom it may concern:

Be it known that I, HENRY M. CROWELL, a citizen of the United States, residing at Maplewood, in the county of Essex 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 duplicating-machines in which a perforated hollow cylinder or drum is covered with an ink-blanket and a stencil-sheet is laid upon the blanket, the paper to be stenciled being run between the stencil-sheet and a pressure-roll, the ink being applied to the interior of the cylinder and taken up by the ink-blanket upon the exterior thereof.

The objects of my invention are to provide effective, simple, inexpensive, and easily-operated means for securing upon the cylinder both the ink-blanket and the stencil-sheet, to provide means for securing a stop-arm and handle upon the open end of a stencil-cylinder, so that the arm and handle may be adjusted around the cylinder to secure different depths of top margin upon the paper sheets, and to provide improved means for detachably mounting the stencil-cylinder and for securing adjustment of the pressure-roll.

In the accompanying drawings, Figure 1 is a sectional central elevation of a stenciling-machine having an open-ended stencil-cylinder provided with my improvements. Fig. 2 is an end elevation of the same, the parts being shown in normal positions. Fig. 3 is a detail of the means for adjusting the pressure-roll. Fig. 4 is a detail of the yielding stop for setting the stencil-cylinder for taking a fresh sheet of paper. Fig. 5 is a detail showing the manner of attaching the handle and stop-arm to the edge of the stencil-cylinder. Fig. 6 shows a latch which releasably holds the pressure-roll under tension. Fig. 7 shows a portion of the devices seen at Fig. 2, the pressure-roll being released from the stencil-cylinder. Fig. 8 illustrates the manner of releasing the bar which clamps the stencil-sheet upon the cylinder. Fig. 9 is a cross-section of the upper portion of the cylinder, showing the manner of securing the ink-blanket thereon. Fig. 10 is a plan of the bar which secures the stencil-sheet upon the cylinder.

Upon a base 1 are erected opposite standards or end frames 2 3. A stencil-cylinder 4, having the usual perforations 5, has at one end a shaft 6, journaled in the standard 2, and at the other end is provided with an open or annular head 7, running upon trundles 8 9 10, provided upon the frame 3. A soft-rubber roll 11 is pressed up against the under side of the cylinder in the usual manner, said roll usually having a shaft 12, mounted in suitable pressure-arms, (indicated at 13.) The shaft or journal 6 is hollow, and a thumb-screw 14 passes axially through said journal and is threaded into a hub 15, located centrally of the cylinder 4 and supported upon spokes 16, radiating from the hub to an annular flange 17, forming one head of the cylinder. The journal 6, which is rigidly secured by said screw to said hub, is provided with a shoulder 18, and a bearing 19 upon the standard 2 is fitted between said shoulder and the head portion of the thumb-screw 14, whereby endwise play of the cylinder is prevented. To detach the cylinder from the machine, it is only necessary to withdraw the thumb-screw 14 and slide the cylinder to the right, at Fig. 1, until the flange or tread 20 at the other end of the cylinder is clear of the trundles 8 9 10, whereupon the cylinder may be lifted from the machine.

The ends of an ink-blanket 21, which is wrapped around the cylinder, are caught upon a pair of rods 22, which are located in a depression 23, formed in the periphery of the cylinder and extending along the same. It will be seen that a beam 24 is connected by screws 25 to the heads 7 and 17 of the cylinder and that said beam is U-shaped in cross-section, Fig. 9, to form the depression 23 just referred to. The ends of the curved perforated plate, which forms a body of the cylinder 4, are suitably attached to said beam, Fig. 9. Screws 26, threaded into the bottom of said beam 24, catch over the rods 22 and draw the same downwardly to tension the ink-blanket 21.

The ends of the stencil-sheet 27 are confined in the depression 23 by means of a bar 28, which fits so closely in the depression as to clamp both the stencil-sheet and the ink-blanket. Said bar 28 is preferably longer than the beam 24 and is provided at one end with a fork 29, Fig. 10, to catch beneath the

claw 30, secured in the head 17 of the cylinder, said claw preferably having a stem 31 threaded into the head 17, Fig. 8. At the other end the clamping-bar 28 is provided with a longitudinal perforation 32 to receive the inner end of a locking-pin 33, the latter having a handle 34, whereby it may be pressed in to lock down the bar 28, Fig. 1. When it is desired to insert a new stencil or a new ink-blanket, the bar 28 may be readily detached from the machine, Fig. 8. The pin 33 passes through a hole 35, formed in the head 7, to aline with the hole 32 in the bar.

The arms or levers 13, which support the pressure-roll 11, are connected by a bar 36, and the tension in the pressure-roll is regulated by means of a cam 37, provided upon the shaft 38 and bearing about midway of the bar 36. Supported upon said shaft is an arm 39, caught by a latch 40. Upon releasing the latch the arm 39 flies up and the roll 11 drops from the cylinder, Fig. 7. A worm-wheel 41 is secured upon the shaft 38 by a set-screw 42, and a worm 43 is pivoted in a pair of ears 44 and provided with a knurled head 45, whereby to turn the worm. The ears 44 are formed upon a cylindrical casing or box 46, which contains a worm-wheel 41, said casing being integral with said ears and with said lever 39. By turning the thumb-screw 45 slight variations in the position of the cam 37 may be caused, thus regulating the pressure upon the roll 11.

Upon the open end of the cylinder is secured a handle 47 by means of thumb-screws 48, which are threaded into a bracket 49, the latter having claws 50 to engage an annular groove 51, formed in the outer edge of the flange or head 7 of the stencil-cylinder, the screws bearing at their inner ends against a washer 52. The bracket 49 has an integral arm 49^a, to the outer end of which said handle 47 is attached, Fig. 5, and a spur 53, projecting from the back of the arm 49^a, hooks over a flange 54, provided upon the periphery of the head 7 at its outer edge. Upon the arm 49^a is provided a yielding stop 55 to coöperate with a fixed stop 56, provided upon the framework for determining the position of the stencil-cylinder when a paper-sheet is to be introduced between the latter and the pressure-roll 11. Any suitable yielding stop 55 may be employed. Preferably the stop is in the form of a short rod mounted in a housing 57 upon the arm 49^a. A compression-spring 58, confined in said housing, bears against a collar 59 upon the stop to force the latter out. The rod 55 projects at its other end from the housing and is provided with a cross-handle 60. The same may be drawn out of its slot 61 and turned around, so that it cannot drop back into the slot, thus silencing the stop 55 when desired.

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, a stencil-cylinder having a depression in its periphery, a pair of rods extending longitudinally of the cylinder in said depression for attachment to the stencil-blanket, and screws threaded into the cylinder and having heads to catch over the rods.

2. In a stenciling-machine, a stencil-cylinder comprising a pair of heads, a beam connecting said heads, a perforated sheet secured upon said heads to form a hollow cylinder, said beam being provided with an exterior depression extending from end to end, and a pair of ink-blanket-holding rods placed in said depression, and screws passing between said rods and catching over the same, and threaded into said beam.

3. In a stenciling-machine, a stencil-cylinder having a depression in its periphery, a pair of rods extending longitudinally of the cylinder in said depression for attachment to the stencil-blanket, and screws threaded into the cylinder and having heads to catch over the rods, and a releasable bar fitted and held in said depression for securing the ends of the stencil-sheet.

4. In a stenciling-machine, a stencil-cylinder provided with a longitudinal depression in its periphery, and having in said depression a bar for securing the ends of the stencil-sheet, and means detachably securing the ends of the bar; said securing means including a claw beneath which one end of the bar may be inserted, and a fastening device mounted upon the cylinder for the other end of the bar.

5. In a stenciling-machine, a stencil-cylinder provided with a longitudinal depression in its periphery, and having in said depression means for securing the ends of the stencil-sheet, and means detachably securing the ends of the bar; said securing means including a claw beneath which one end of the bar may be inserted, and a fastening device mounted upon the cylinder for the other end of the bar; said fastening device in the form of a pin having a handle and passing through holes in the cylinder and bar.

6. In a stenciling-machine, a stencil-cylinder open at one end and releasably supported at said end upon its periphery, a central hub on the other end of the cylinder, an axial thumb-screw threaded into said hub, a hollow journal upon said screw, said hollow journal having a shoulder and rigidly secured by said screw to said hub, and a bearing upon the framework in which said hollow journal turns, said bearing fitted closely between said shoulder and the head of said screw, so as to prevent endwise play of the cylinder.

7. In a stenciling-machine, the combination with a stencil-cylinder open at one end having an interior groove at its open end, a handle having a claw fitted in said groove, and a thumb-screw to coöperate with said claw to secure the handle wherever adjusted, a stop upon said handle, and a coöperative stop upon the framework.

8. In a stenciling-machine, the combination with a stencil-cylinder having an open end, and an interior groove at said open end, a handle having a pair of claws fitting in said groove, and also having a claw catching over an exterior flange formed upon the cylinder, and screws to coöperate with said claws to bind the handle wherever adjusted, and cooperating stops, one upon the handle and the other upon the framework.

9. In a stenciling-machine, the combination with a stencil-cylinder having an open end and both interior and exterior flanges at said open end, of a handle having means to catch over said flanges, a screw to secure the handle wherever adjusted around the cylinder, and coöperative stops, one upon the handle, and the other upon the framework.

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Witnesses:
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