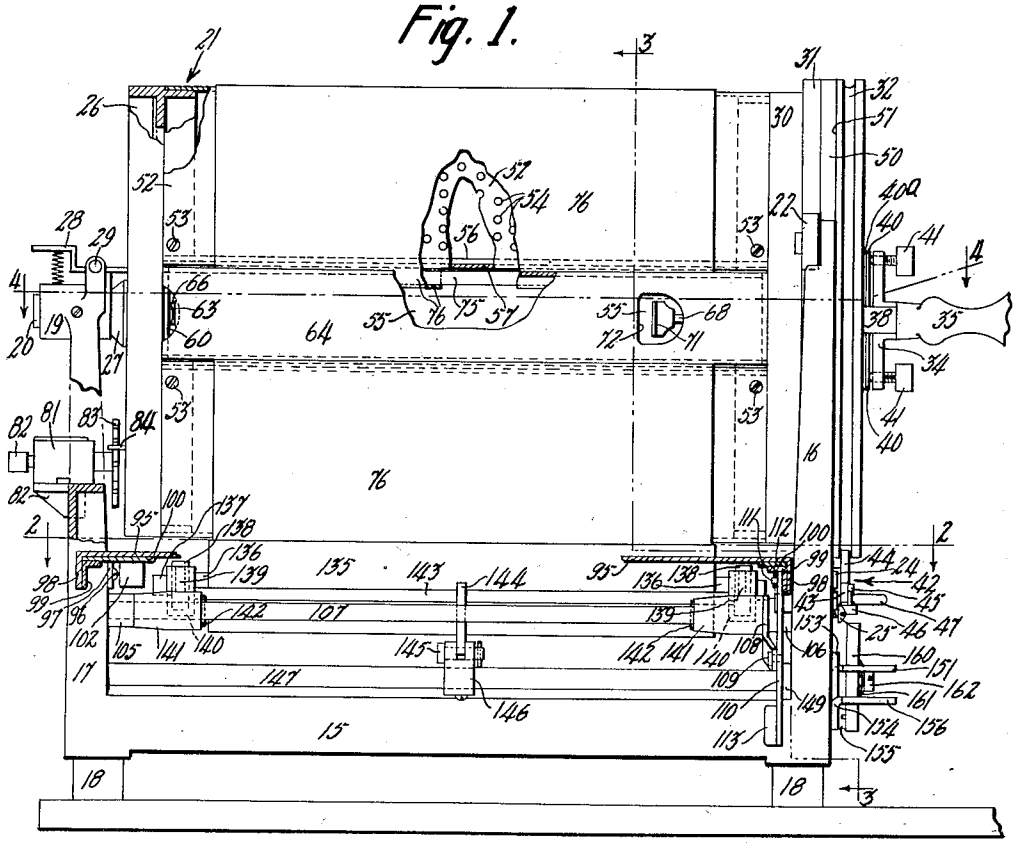
Feb. 22, 1927. 1,618,309

E. G. ROWLEY

STENCILING MACHINE

Filed June 24, 1924 3 Sheets-Sheet 1

Fig. 1.



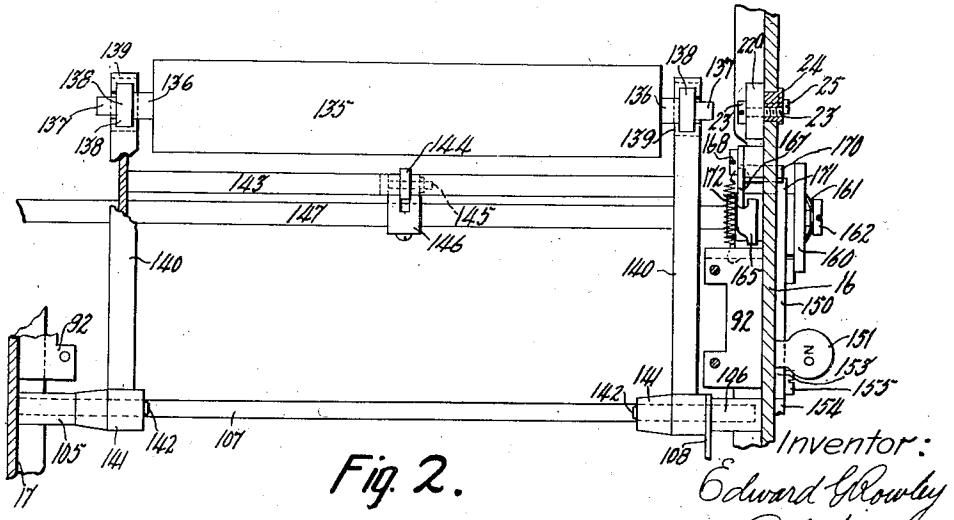


Fig. 2.

Inventor:
Edward G. Rowley
by B. B. Stickney
Attorney

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E. G. ROWLEY

STENCILING MACHINE

Filed June 24, 1924 3 Sheets-Sheet 2

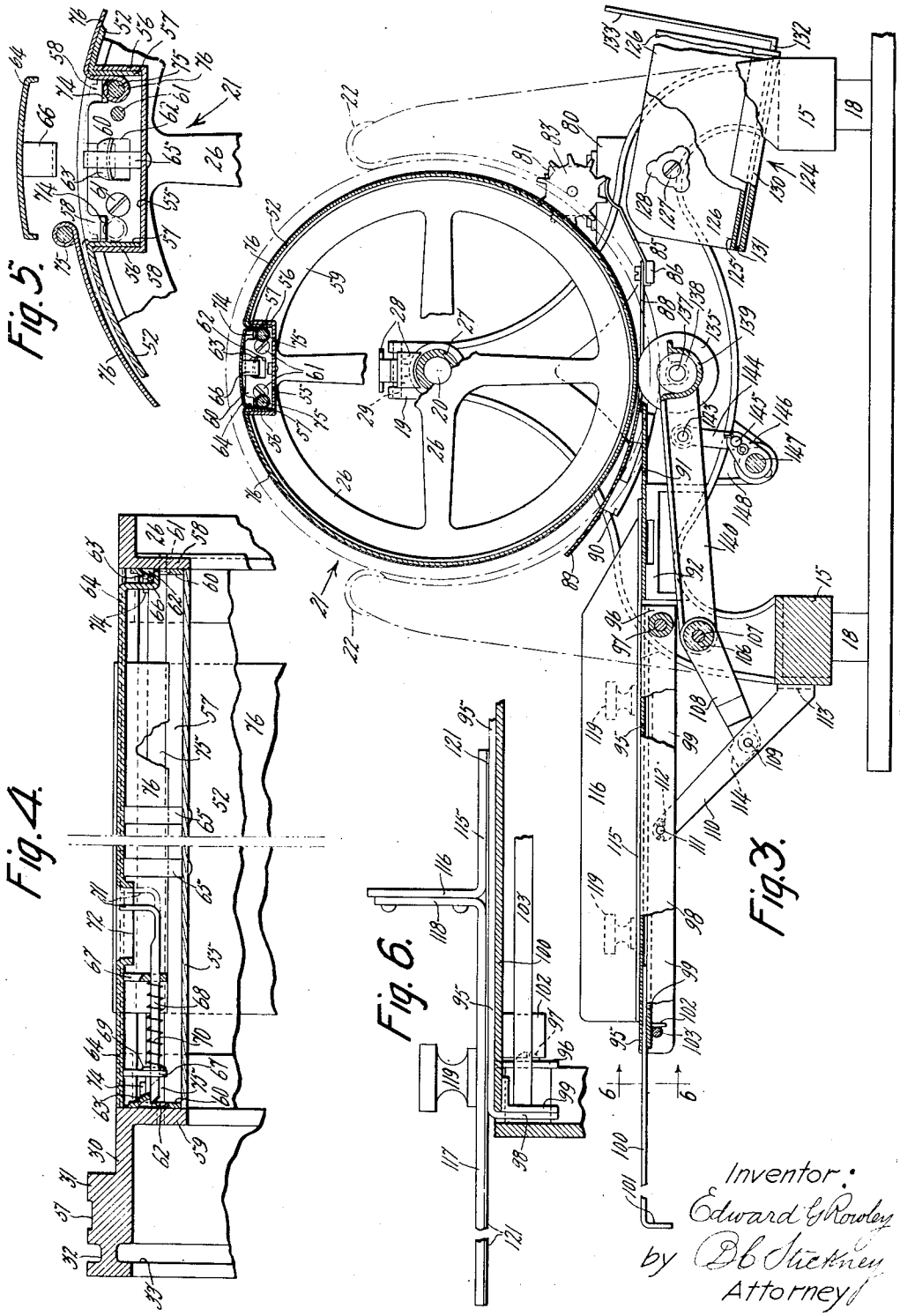


Fig. 5.

Fig. 4.

Fig. 6.

Fig. 3.

Inventor:
Edward G. Rowley
by D. B. Luckey
Attorney

Feb. 22, 1927. 1,618,309

E. G. ROWLEY

STENCILING MACHINE

Filed June 24, 1924 3 Sheets-Sheet 3

Fig. 7.

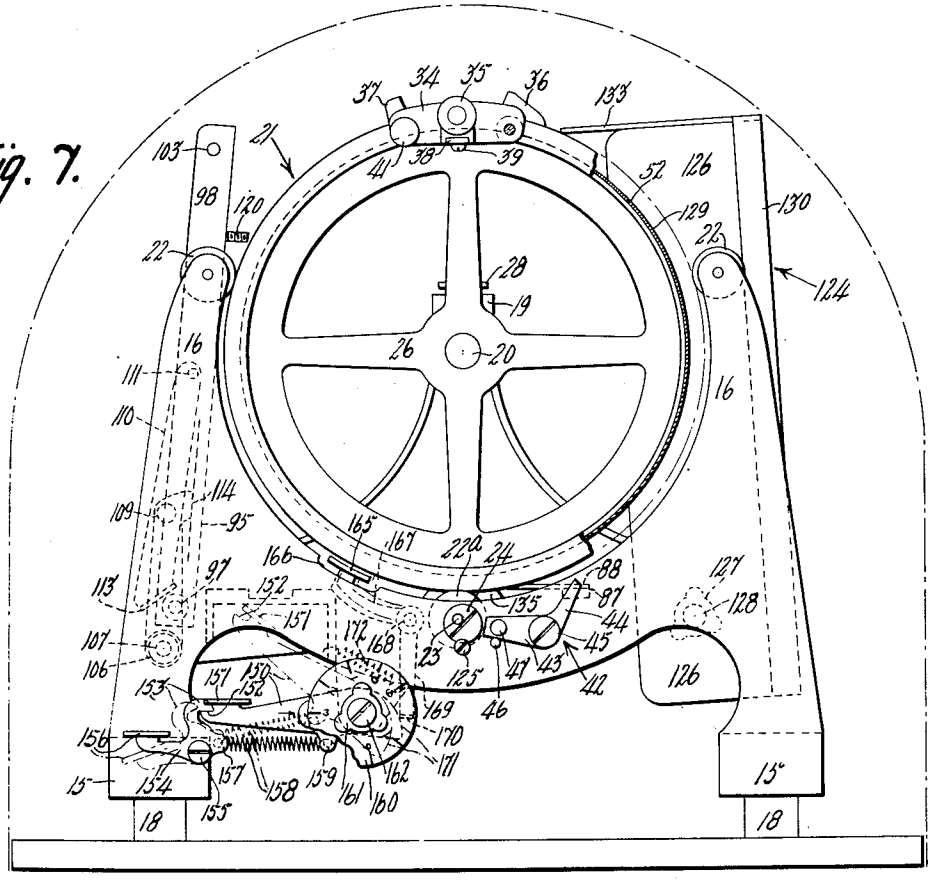


Fig. 9.

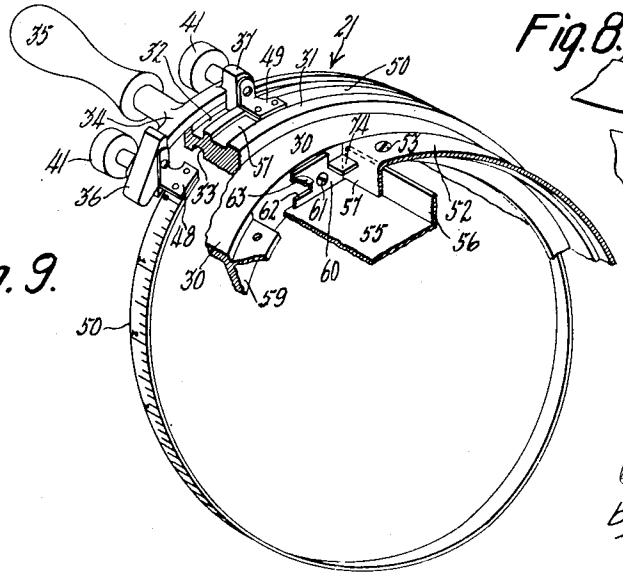
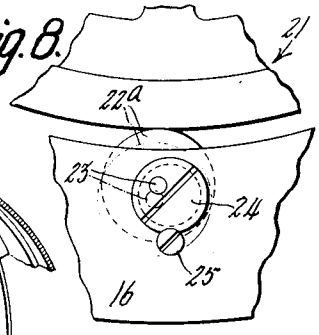


Fig. 8.



Inventor:
Edward G. Rowley
by D. B. Slickney
Attorney

Patented Feb. 22, 1927. 1,618,309

UNITED STATES PATENT OFFICE.

EDWARD G. ROWLEY, OF BELLEVILLE, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

STENCILING MACHINE.

Application filed June 24, 1924. Serial No. 721,982.

This invention relates to duplicating machines, in which a perforated drum is covered with an ink-blanket, saturated with ink applied to the interior of the cylinder and overlaid with a stencil, between which and a pressure-roll the paper to be stenciled is passed.

Among the features of the invention are: The provision of an improved work-sheet support table, having brackets arranged to fold automatically when the table is raised, the table having a telescopic front extension limited by fixed stops and being provided with a side gage arranged to prevent scratching or marring its supporting surface; the provision of a cylinder partially supported upon trundles, one of which is mounted upon an adjustable eccentric stub, a brake being arranged to engage the cylinder, in such a manner, as to avoid interference with its assemblage, and operated by a pressure-roll release handle; the provision of pressure-roll supporting arms, having unusually broad supports for the anti-frictional bearings of the pressure-roll and a spring-actuated catch normally maintaining the roll in an operative position; the provision of a telescopic work-sheet receiving trough, having unusually high sides, cut out to clear the cylinder when folded thereagainst; the provision of a counter actuated by the cylinder at each full revolution and also an annular scale, movable with the cylinder-handle bracket, to indicate the distance from the top of the sheet to the impression line; and the provision of an effective mechanism of extreme simplicity, being made of die-castings and sheet-metal stampings throughout.

In accordance with one feature of the invention, the work-sheet support table is hinged to the frame of the machine and held, when extended in operative position, by a toggle joint bracket, all parts of which fold automatically within the confines of the frame upon raising the table alongside the cylinder, thus presenting no impediment to the placement of a cover. An extension of the table is slidably engaged below the main portion and has lugs which contact with a rod fixed in the outer part of the main table, providing an effective alignment. An angular guide for the work-sheets is adjustably and removably engaged upon the table and provided with a cushioned under surface to prevent marring the smoothly finished surface of the table when moved thereover.

The drum or cylinder is removable, being at one end releasably held upon a stud, and at the other end supported upon three trundles or rolls, two of which are above the center of the cylinder, the third roll, at the bottom, being mounted on an eccentric stud, readily adjustable and provided with means for maintaining its adjusted position.

A brake is arranged to engage the periphery of the cylinder in a manner to avoid interference with its removal or its replacement, and is set or released by the movement of the pressure-roll control handle.

The pressure-roll carrying arms are unusually wide and formed with cup-like ends arranged to prevent end movement of the roll, the ends of which rest in bearings therein. The pressure-roll control handle has co-ordinated with it a catch, and a single spring extended therebetween performs the dual duty of holding them in position for mutual engagement and also to maintain them when engagement has been effected.

The work-sheet receiving tray is hinged to the rear of the frame and provided with unusually high sides and a telescopic extensible section capable of accommodating a relatively large number of work-sheets, and in order to fold the tray or chute compactly within the confines of the frame, the side walls are cut away to clear the cylinder when folded against it.

A handle is adjustably clamped to the extending end of the cylinder, and carried by the handle bracket is an annular scale by which the distance from the top or entering edge of a work-sheet and the first line of impression can be accurately determined.

The handle bracket is also provided with lugs to engage an escapement on the frame which arrests the cylinder at each full revolution in either direction, and a counter is used for ascertaining the number of

sheets stenciled. Improved means are provided for securing the ink-blanket to the cylinder, whereby it is properly stretched, the clamping device being readily held or removed from the exterior of the cylinder.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a front elevational view of an embodiment of the invention, parts being broken away to show the construction.

Figure 2 is a partial plan and partial sectional view of the pressure-roll carrying and control mechanism, the section being taken on line 2—2 of Figure 1.

Figure 3 is a transverse sectional view taken on line 3—3 of Figure 1, the cylinder supports being shown in dot-and-dash lines, and parts are broken away to disclose structural features.

Figure 4 is a fragmentary longitudinal sectional view of the stencil cylinder taken on line 4—4 of Figure 1 and drawn to an enlarged scale.

Figure 5 is a fragmentary transverse sectional view taken through the blanket securing channel and illustrating the manner of its assembly.

Figure 6 is a partial front and partial sectional view of the work support table, the section being taken on line 6—6 of Figure 3 and drawn to an enlarged scale.

Figure 7 is an end elevational view of the machine, looking from the right-hand end thereof, and indicating a cover as applied thereover in dot-and-dash lines.

Figure 8 is a fragmentary end view, showing the adjustable trundle support and its eccentric mounting drawn to an increased scale.

Figure 9 is a perspective view of the cylinder actuating handle, annular scale, and their mounting relative to the cylinder.

In the embodiment shown, the machine will be seen to comprise a support frame consisting of front and rear base bars 15, rigidly connected with upright sides 16 and 17, respectively at the right and left hand side of the machine, these members being supported on feet 18 resting on any level surface. The raised portions of the frame side 17 converge to a central boss 19, bored to receive a fixed plug 20 on which is revolubly mounted a cylinder, generally designated by the numeral 21, in such manner as to be readily removed. The right-hand side frame 16 has diverging U-shaped upper elements on which are mounted revoluble trundles or rolls 22, engaging the cylinder 21 on opposite sides above its center. A third trundle or roll 22^a, bearing on the cylinder at the bottom, is rotatably mounted on a screw 23, carried eccentrically by a stud 24 adjustable in the frame side 16, in a plane directly below the center of the cylinder, the flanged projecting end of the stud being held in adjustment by a clamp screw 25, as best shown in Figure 8.

The cylinder is open at the end carried in the trundles and fixed in the other end is a spoked head 26, having a hub 27, containing an annular groove in which is received the end of a spring actuated detent 28, mounted on a pivot 29 extending between lugs raised from the boss 19, so that when the outer end of the detent is depressed, the hub 27 will be free to move off the stud, permitting the cylinder to be drawn outwardly from between the trundles, clear of the machine.

At the outer, opposite end of the cylinder is a rigid, annular head 30, increased in diameter to present a ring 31, on which the trundles 22 and 22^a bear, and near the outer edge of the head is an annular groove 32, a similar groove 33 being formed in its inner surface.

A bracket 34, having an extending handle 35, is held to the end of the cylinder head by radially extending lugs 36 and 37 integral with the ends of the bracket, the inner portions of the lugs engaging in the groove 32, and a single central clip 38, secured to the bracket by a screw 39, engages the inner groove 33.

A gib plate 40 is disposed between the main portion of the bracket 34 and the end surface of the cylinder, the plate having a liner 40^a of fiber or like material to contact with the cylinder end when forced thereagainst by clamp screws 41, having knurled heads for convenience in hand operating, the points of the screws impinging on the plate 40, clamping the bracket at any point along its circumference.

A gravity actuated stop or pawl 42, having arms 43 and 44, is pivoted on a shouldered screw 45, set in the frame side 16, the stop being normally at rest against a fixed pin 46, and is provided with a handle 47. When the cylinder handle 35 is turned to bring the cam face of the lug 36 into contact with the arm 44, the stop will tilt upon its pivot, allowing the lug to pass, and then return by gravity to its normal position to intercept the lug 37, preventing further rotation of the cylinder in clockwise direction, until the stop has been released by its handle 47. When the cylinder is rotated in an operative, contrary direction, the lug 37 passes freely over the arm 43 and, striking the arm 44, tilts the stop, raising the arm 43 to engage the inner face of the lug 36 stopping the cylinder; however, if a slight momentary cessation of motion of the cylinder is made, such as is caused by recoil of the lug against the arm, the stop will return to its normal position, permitting further rotation of the handle and cylinder.

Secured to the rear surfaces of the lugs

36 and 37 are angular sheet metal brackets 48 and 49, carrying on their under surfaces the ends of a band 50, fitting freely within a groove 51 in the ring 31, closely adjacent the track of the trundles. This band is provided with graduations, reading from the stopping point of the cylinder, as determined by the location of the handle 35. The position of the handle and lugs, therefore, determine the position of the cylinder, when the work-sheet is introduced, and the scale shows the depth of margin at the top of the work-sheet.

The main body of the cylinder consists of a sheet-metal plate 52, attached to the inner reduced portions of the heads 26 and 30 respectively, by screws 53, and is provided with a plurality of perforations 54 throughout its entire area. The reduced portions of the heads contain openings arranged in alignment and in which is secured a sheet-metal channel 55, over the side walls 56 of which, the ends 57 of the perforated plate 52 are secured, these ends reaching to the bottom of the channel.

Fixed in the ends of the channel, to the inreaching annular rim members 58 and 59 of the heads 26 and 30 respectively, are plates 60, secured in opposed relation by screws 61 and having, at their centers, openings 62 above which the metal is bulged to present inreaching lugs 63 to engage a channel cover plate 64.

The cover plate 64 is curved transversely in conformity with the radius of the cylinder and arranged to rest at its ends upon the upper edges of the plates 60, its central portion being supported by posts 65 riveted into the channel bottom.

The edges of the cover 64 are downflanged to fit within the sides of the channels and one end is sheared and formed to present a clip 66, having an outturned lower edge to engage below one of the lugs 63. Near the other end of the cover, on its inner side, are secured inreaching lugs 67, spaced and perforated to act as guides for a sliding bolt 68, carrying a transverse pin 69 against which one end of an encircling compression spring 70 abuts, the other end of the spring being seated against the mating lug 67, the action of the spring being to press the beveled end of the bolt into the opening below the lug 63 to be held by it; the opposite end of the bolt 68 is bent upwardly, forming a finger-piece 71, projecting into an opening 72 in the cover, this opening being of ample size to permit the entrance of a finger in retracting the bolt.

Also formed on the plates 60, at their ends, are inreaching projections 74 relatively short and narrow to engage over the ends of rods 75 to which are attached the ends of an ink-blanket 76. It will be understood that the length of the blanket is such as to pass from one side of the channel over and around the perforated cylinder to the other side, and that it is capable of being stretched by swinging the rods under the projections 74, which hold them in place below the cover.

A bracket 80 extends integrally outward from the frame side 17 to support a counting register 81, having a twirling knob 82 by which the register may be set, and a star-wheel 83, extending into the path of a pin 84 fixed in the end of the cylinder. A spring 85 acts as a brake or drag to the star-wheel, preventing its overthrow, the spring being fixed to an inreaching lug 86, and a similar lug 87 extends in from the frame side 16.

Carried by the lugs 86 and 87 are the narrow rearward extensions 88 of a paper-deflector 89, extending upwardly and to the front of the cylinder, the deflector being mainly supported on ledges 90, extending in from the frame sides.

Below the deflector, and extending further toward the front, is a fixed paper-apron 91, supported on lugs 92, extending inwardly from the frame side and to which it is firmly secured.

Normally level with the paper-apron is a work-sheet support table 95, generally rectangular but reduced at its rear corners and formed with downwardly extending ears 96 through which pass pivot screws 97 to enter bosses on the inner surface of the frame sides; the lateral edges of the table are bent downwardly at a right angle to form flanges 98 and rigidly connected to their inner sides are rolled angles 99 spaced from the under-surface of the table to guide and support a telescopic extension plate 100. This extension plate is provided with a downturned flange 101 at its front edge and near its rear edge is sheared and bent to produce stops 102 to make contact with a rod 103, fixed in the flanges and angles 98 and 99 near the front of the main table 95, thus providing a collapsible table of unusually large area.

Extending in from the frame sides 16 and 17 are bosses 105 and 106 drilled in register to receive a rod 107 on which is mounted a link 108 adjacent the boss 106, the free end of the link being offset and pivoted at 109 to a strut 110, in turn pivoted on a pin 111, fixed in one of the table flanges 98, to which it is held by a cotter 112.

The free end of the strut 110 is provided with a foot 113 bent at an angle to make a flat contact with the front frame-base bar 15 when the table is extended horizontally. To prevent the toggle, constituted by the link and strut, from moving inward or toward the cylinder upon turning the table

down, a projection 114 is formed on the end of the link 108, on its inner side, the same making contact with the under surface of the adjacent angle 99, and maintaining the pivot 109 just slightly outward or in advance of a straight line between the pivotal axes of the rod 107 and pin 111.

A paper-gage 115, having a raised flange 116, is secured to adjusting strips 117 having angle elements 118 riveted to the flange 116 and clamped, when in adjustment on the table, by thumb-nuts 119 engaging threaded posts 120 fixed in the table, this gage and its attached strips being provided with cushioning material 121 over their entire contacting surfaces to prevent abrading and damaging the finish of the table.

A receiving trough or table 124 for the stenciled work-sheets is provided at the rear of the machine, the trough being lower than the support-table, and inclined downwardly at its rear outer end. This trough is composed of a flat sheet-metal plate 125 having raised right angular side walls 126 pivoted upon screws 127 set in the frame sides 16 and 17, and interposed between the heads of the screws 127 and the inner surface of the trough side walls 126, are spring washers 128 frictionally maintaining the trough when raised. In order to fold the trough compactly when not in use, the walls 126 are cut out, presenting recesses 129 curved to make contact with the cylinder 21, as best seen in Figure 7.

Strips 130 of right angular cross-section are fixed to the trough sides 126, one member of each angular strip extending inwardly spaced below the plate 125 providing runways 131 for guiding and supporting a plate 132 slidable therein to form an extension by which the length capacity of the trough is materially increased. The outer end of the plate 132 is turned up at a right angle, presenting a barrier 133, preferably higher than the side walls of the trough, to prevent work-sheets from escaping.

A pressure-roll 135, of soft elastic nature, is provided with a shaft 136 having shouldered ends 137 mounted in anti-frictional bearings 138, which rest in open topped pockets 139 formed at the ends of arms 140 pivoted on the rod 107. The arms 140 are of T-shaped cross-section having long hubs 141, providing efficient bearings on the rod 107, to which they are held in place by cotters 142 (see Figure 2), and the arms are of such length as to locate the pressure-roll 135 directly below the axis of the cylinder 21.

Carried between the arms 140, parallel and spaced adjacent from the pressure-roll 135, is a rod 143 engaging a link 144 at its center, connected by a pivot 145 with a clevis 146 firmly secured to a rock-shaft 147 mounted in brackets 148 integral with the frame sides 16 and 17. The shaft 147 is relatively stiff and unyielding, as it conveys pressure to the pressure-roll 135 by the equalizing toggle devices described.

The end of the shaft 147 is provided with a fixed collar 149 in contact with the inner side of one of the brackets 148 at the frame side 16, the extending end of the shaft being actuated by a lever-like handle 150 extending toward the front of the machine, adjacent the frame side 16, and provided with a laterally-extending finger-pad 151.

At the front of the handle, below the pad 151, is a projection 152 having a straight upper edge and a curved cam-like under surface to engage a detent 153, formed on a catch or release lever 154, pivoted on a shouldered screw 155 set in the outer side of the frame 16, the catch being provided with an outturned finger-pad 156.

The catch 154 has a projection 157 at its rear, opposite the pivot, drilled to receive one end of a coiled tension spring 158, the opposite end of the spring engaging with a similar projection 159 on the lower edge of the handle 150. Thus, the spring serves the purpose of maintaining the catch in position to engage the projection 152 of the pressure-handle 150 with the detent 153 of the catch 154, and also to hold these elements in engagement until manually released. The spring furthermore operates to raise the handle 150 up, as can be seen in Figure 7, maintaining the pressure-roll 135 out of contact with the cylinder until the handle is again depressed.

Means for adjustably and positively engaging the handle 150 to the shaft 147, so as to vary the pressure on the roll 135, are indicated by the dial 160, held by a spring-washer 161 and screw 162 to the end of the shaft.

A cylinder-brake pad 165 extends into a recess 166 in the frame side 16, the pad being part of a bell-crank lever-arm 167, pivoted on a screw 168 set in the inner side of the frame, the other arm 169 of the lever being bent angularly outward, below the frame, forming an extension 170 disposed in the path of a cam 171, which is part of the handle 150.

A coiled tension spring 172 draws the lever-arm extension 170 against the cam, and it will be obvious that when the handle 150 is raised, the brake-pad 165 will be forced against the cylinder by the spring 172, creating enough friction to prevent rotation of the cylinder, the brake being withdrawn upon depressing the handle.

It is to be understood that the entire frame is die-cast, also the cylinder-heads 26 and 30, handle-bracket 34, pressure-roll-carrying arms 140 and dial 160, and all other parts are made of rolled bars or sheet-

metal, shaped by press-forming operations, rendering the construction very simple and inexpensive.

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 duplicating machine, the combination with a frame having a raised single support on one side and a double yoke-shaped support on the other side, a pivot-stud fixed in the first-named support, and trundles carried by the other support, of a stencil cylinder comprising a pair of heads and a perforated body therebetween, one of the heads having a spider-carried hub engageable on the stud, the other head having a portion of increased diameter to rotate between the trundles, and means for adjusting one of said trundles towards or from the cylinder.

2. In a duplicating machine, the combination with a frame having a raised single support on one side and a U-shaped support on the other side, a pivot fixed in the single support, a trundle carried at each of the extremities of the U-shaped support, and a stencil cylinder removably journaled on said pivot and guided by the trundles, of a stud rotatable in the lower part of the U-shaped support, a trundle mounted eccentrically on said stud to move relatively to the axis of the cylinder, and means for retaining the stud in an adjusted position.

3. In a duplicating machine, the combination with a frame having a raised single support on one side and a U-shaped support on the other side, a pivot fixed in the single support, a stencil cylinder journaled on said pivot, and a trundle carried on the extremity of each raised member of the U-shaped support above the axis of the cylinder and on opposite sides thereof, of a third trundle below the axis of the cylinder, and controllable means for adjusting the third trundle towards or from the cylinder.

4. In a duplicating machine, the combination with a frame and a stencil cylinder revoluble therein, of an open head at one end of the cylinder, the outer portion of said head being increased in diameter and having opposed interior and exterior annular grooves, a handle-carrying bracket having lugs engaging the exterior groove, a clip removably secured to the bracket engaging the interior groove, a plate shaped in conformity with the bracket and held loosely thereto by the clip, and thumb-screws threaded through the bracket to bear against the plate forcing it against said head whereby the bracket may be adjustably clamped to the cylinder in any position relative to its circumference.

5. In a duplicating machine, the combination with a frame and a stencil cylinder revoluble therein, of an open head at one end of the cylinder, the outer portion of said head being increased in diameter and having opposed interior and exterior annular grooves, and a relatively wide and shallow third groove adjacent the exterior groove, a handle-carrying bracket having lugs at its ends engaging the first exterior groove, a clip screw-fastened to the bracket engaging the inner groove, a graduated metal tape disposed in said third groove, rigid connections between the ends of said tape and said lugs whereby the tape is moved in unison with the bracket around the cylinder, a gib plate loosely carried by the bracket, and thumb-screws threaded through the bracket to impinge against the gib plate, permitting relative adjustment of the bracket and cylinder.

6. In a duplicating machine, the combination with a frame having raised sides and a hollow stencil cylinder revoluble therein, of a handle-carrying bracket, means for rigidly clamping the bracket to said cylinder in any circumferential position thereto, lugs on the bracket extending radially outward, and a stop pivoted on said frame, said stop having angularly-extending arms, one of the arms reaching horizontally towards the front normally out of the path of the lugs, the second arm being rocked by contact with the first advancing lug to bring the first stop-arm into intercepting relation with the second lug, arresting rotation of the cylinder when turned in an anti-clockwise direction.

7. In a duplicating machine, the combination with a frame having raised sides and a hollow stencil cylinder revoluble therein, of a handle-carrying bracket, means for rigidly clamping the bracket to said cylinder in any circumferential position thereto, lugs on the bracket extending radially outward, said lugs being respectively right and left hand when facing the open end of the cylinder and the bracket is at its lowermost position, a stop pivoted at a fixed point on said frame, said stop having two angular arms respectively front and rear, a pin on which the front arm normally rests, the right-hand lug passing freely over the front arm and oscillating the stop by contact with the rear arm to bring the front arm into position to intercept the left-hand lug, causing cessation of cylinder rotation in anti-clockwise direction until the front arm has dropped to normal position, and a handle fixed in said stop for manual control.

8. In a duplicating machine, the combination with a frame having raised sides and a holow stencil cylinder revoluble therein, of a handle-carrying bracket, means for rigidly clamping the bracket to said cylinder in any circumferential position thereto, lugs on

the bracket extending radially outward, said lugs being respectively right and left hand when facing the open end of the cylinder and the bracket is at its lowermost position, a stop pivoted at a fixed point on said frame, said stop having two angular arms respectively front and rear, a pin on which the front arm normally rests, the right-hand lug passing freely over the front arm and oscillating the stop by contact with the rear arm to bring the front arm into position to intercept the left-hand lug, causing cessation of cylinder rotation in anti-clockwise direction until the front arm has dropped to normal position, said left-hand lug passing over both arms when the cylinder is rotated in clockwise direction, such movement being arrested upon contact by the right-hand lug with the rear arm, and means for manually oscillating said stop to permit turning the cylinder in either direction.

9. In a duplicating machine, the combination with a frame having raised sides and a hollow stencil cylinder revoluble therein, of a handle-carrying bracket, means for rigidly clamping the bracket to said cylinder in any circumferential position thereto, lugs on the bracket extending radially outward, and an escapement pivoted on the frame, said escapement engaging the lugs and compelling a momentary cessation of cylinder rotation at one point in its revolutions when turned in an operative direction.

10. In a duplicating machine, the combination with a frame having raised sides and a hollow stencil cylinder revoluble therein, of a handle-carrying bracket, means for rigidly clamping the bracket to said cylinder in any circumferential position thereto, lugs on the bracket extending radially outward, and an escapement comprising a double-ended stop-pawl pivoted on the frame to be moved by one of said lugs to intercept the other lug, said stop-pawl moving by gravity to an inoperative position upon cessation of pressure of the last-named lug.

11. In a duplicating machine, the combination with a frame having raised sides and a hollow stencil cylinder revoluble therein, of a handle-carrying bracket, means for rigidly clamping the bracket to said cylinder in any circumferential position thereto, lugs on the bracket extending radially outward, an escapement comprising a double-ended stop-pawl pivoted on the frame to be moved by one of said lugs to intercept the other lug, said stop-pawl moving by gravity to an inoperative position upon cessation of pressure of the last-named lug, a stop-pin against which the stop-pawl normally rests, and a handle for manually actuating the stop-pawl.

12. In a duplicating machine, the combination with a frame having raised sides and a hollow stencil cylinder revoluble therein, of a handle-carrying bracket, means for rigidly clamping the bracket to said cylinder in any circumferential position thereto, lugs on the bracket extending radially outward, and an escapement comprising a double-ended stop-pawl pivoted on the frame to be moved by one of said lugs to intercept the other lug, the distance between the end extremities of the stop-pawl being equivalent to the distance between the inner surfaces of said lugs, said stop-pawl swinging to an inoperative position by gravity upon stopping the cylinder, permitting its further rotation.

13. In a duplicating machine, the combination with a frame, a stencil cylinder revoluble therein and a pressure-roll having a shaft provided with anti-friction bearings at its ends, of a rod fixed in the frame sides, a pair of lever-arms having long bearings mounted on the rod, pockets in the free ends of said arms in which the anti-friction bearings are closely confined, the pockets having lateral recesses to permit the shaft to enter below the level of the arms, a pressure-rod fixed to extend between the arms, an equalizing toggle device engaging the pressure-rod at the center of its length, and means for actuating said toggle device to raise or lower the pressure-roll relatively to the cylinder.

14. In a duplicating machine, the combination with a frame, a stencil cylinder revoluble therein and a pressure-roll having a shaft provided with anti-friction bearings at its ends, of a rod fixed in the frame sides, a pair of lever-arms having long bearings mounted on the rod, open-topped deep pockets in the ends of said arms in which said anti-friction bearings are seated, the pockets having side openings permitting entrance of the shaft from the top together with its bearings, a pressure-equalizing rod fixed in said arms adjacent the shaft, and means of applying pressure thereto by which the pressure-roll is held with uniform tension against the cylinder or withdrawn therefrom.

15. In a duplicating machine, the combination with a frame, a stencil cylinder revoluble therein and a pressure-roll having a shaft provided with bearings at its ends, of a fulcrum rod fixed in the frame sides, lever-arms mounted to swing on the rod and having pockets at their free ends in which said bearings are seated, a pressure rod extending between the lever-arms, a rock-shaft journaled in the frame sides, a clevis fixed centrally on the shaft, a link connecting the pressure-rod and clevis, said link and clevis constituting a toggle, a handle operatively engaged on the shaft to raise and lower the pressure-roll, a catch pivoted on the frame to engage the handle when depressed, and means co-operative between

said handle and catch to cause such engagement.

16. In a duplicating machine, the combination with a frame, a stencil cylinder revoluble therein and a pressure-roll having a shaft provided with bearings at its ends, of a fulcrum rod fixed in the frame sides, lever-arms mounted to swing on the rod and having pockets at their free ends in which said bearings are seated, a pressure-rod extending between the lever-arms, a rock-shaft journaled in the frame sides, a clevis fixed centrally on the shaft, a link connecting the pressure-rod and clevis, said link and clevis constituting a toggle, a handle operatively engaged on the shaft to raise and lower the pressure-roll, a catch pivoted on the frame to engage the handle when depressed, and a single tensional spring connecting the handle and catch whereby they are mutually held in either engaging position or in engagement, said spring also acting to maintain the handle in a normally raised position.

17. In a duplicating machine, the combination with a frame, a stencil cylinder revoluble therein and a pressure-roll having a shaft provided with bearings at its ends, of a fulcrum rod fixed in the frame sides, lever-arms mounted to swing on the rod and having pockets at their free ends in which said bearings are seated, a pressure-rod extending between the lever-arms, a rock-shaft journaled in the frame sides, a clevis fixed centrally on the shaft, a link connecting the pressure-rod and clevis, said link and clevis constituting a toggle, a handle operatively engaged on the shaft to raise and lower the pressure-roll, a catch pivoted on the frame to engage the handle when depressed, a spring connecting said handle and catch, said spring normally holding the handle in a raised position and also holding the handle and catch in engagement when the handle is depressed, a brake for the cylinder, and means on said handle for controlling the brake.

18. In a duplicating machine, the combination with a frame, a stencil cylinder revoluble therein and a pressure-roll mounted to swing against the cylinder at the bottom thereof, of a rock-shaft, a toggle actuated thereby to raise and lower the pressure-roll, a handle operatively engaged on said shaft, a profile cam on the rear of the handle, a bell-crank lever pivoted on the frame, one of the arms of the lever extending into the path of the cam, a brake-pad on the other lever-arm, and a spring to draw the brake-pad against the cylinder when the handle is raised.

19. In a duplicating machine, the combination with a frame, a stencil cylinder revoluble therein and a pressure-roll mounted to swing against the cylinder at the bottom thereof, of a rock-shaft, a toggle actuated thereby to raise and lower the pressure-roll, a handle to rock the shaft, said handle being normally spring held in a raised position, means to lock the handle when lowered, a cam on said handle, a bell-crank lever pivoted on the frame, the lower arm of the lever being bent to engage the cam, a spring to hold the arm against the cam, and a brake-pad carried by the other arm of the lever to contact with the cylinder when the handle is raised, said pad being released from the cylinder when the handle is lowered.

20. In a duplicating machine, the combination with a frame having raised sides, a stencil cylinder revoluble therein and having an annular track-way at its open end, trundles carried by the frame to bear on the track-way and a pressure-roll mounted to swing towards and from the cylinder, of a brake urged to engage said track-way, a handle to press the roll against the cylinder and coincidentally release the brake, said handle also being operative to release the roll and set the brake, a catch for the handle when depressed, and resilient means for raising said handle, said means also causing engagement of the catch.

EDWARD G. ROWLEY.