

Sept. 20, 1927.

E. E. MORLAN

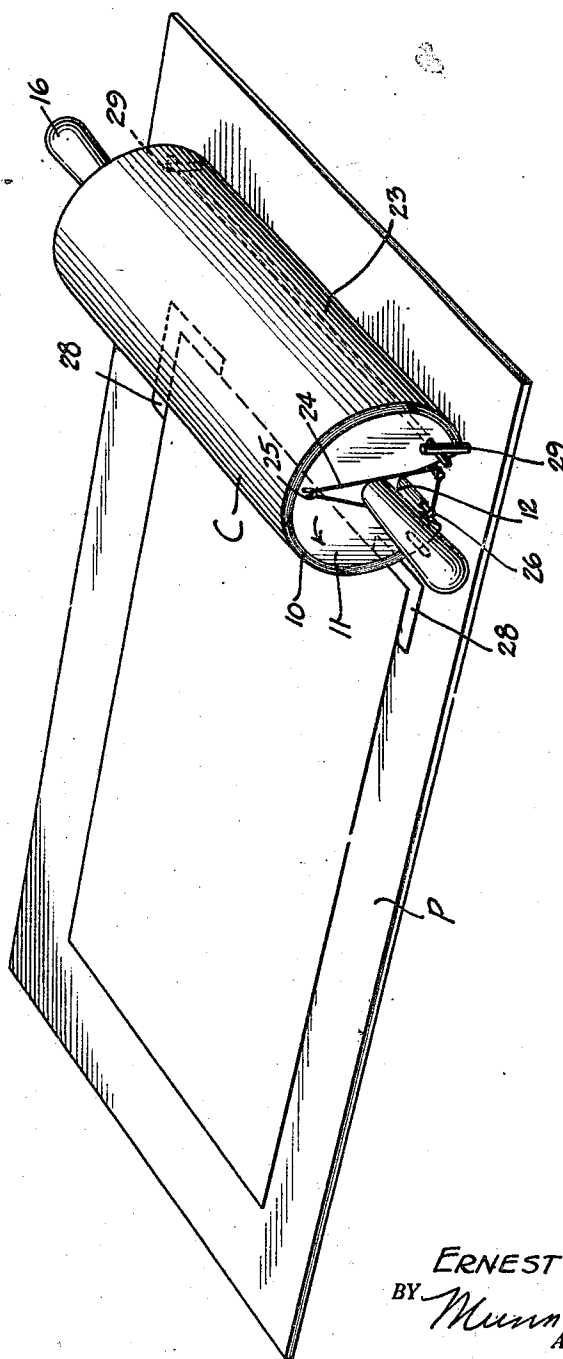
1,643,028

STENCIL DUPLICATING DEVICE

Filed June 1, 1926

2 Sheets-Sheet 1

Fig. 1.



INVENTOR.
ERNEST E. MORLAN
BY *Munn & Co.*
ATTORNEYS.

Sept. 20, 1927.

E. E. MORLAN

1,643,028

STENCIL DUPLICATING DEVICE

Filed June 1, 1926

2 Sheets-Sheet 2

Fig. 2.

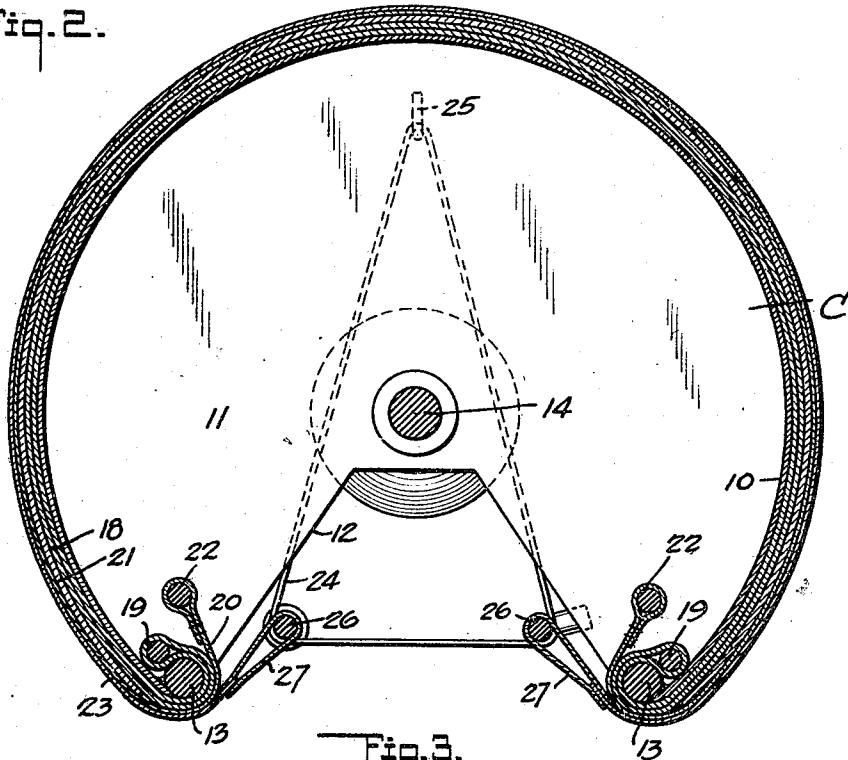
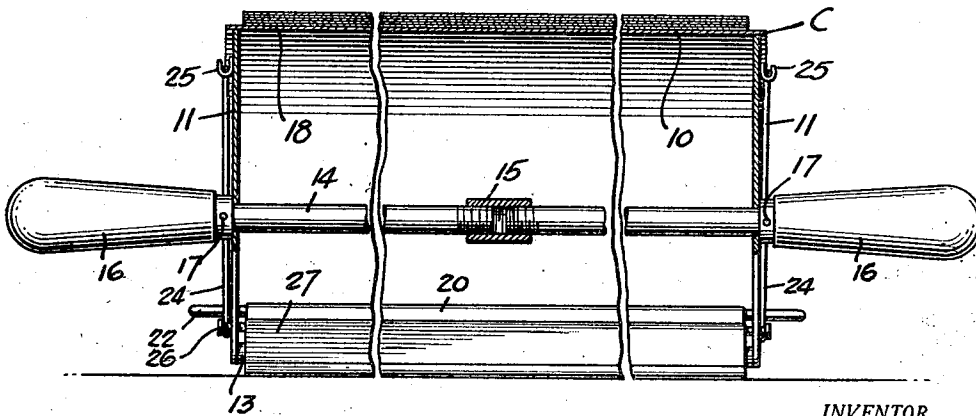


Fig. 3.



INVENTOR.
ERNEST E. MORLAN
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ERNEST E. MORLAN, OF LOS ANGELES, CALIFORNIA.

STENCIL DUPLICATING DEVICE.

Application filed June 1, 1926. Serial No. 113,049.

My invention relates to and has for its purpose the provision of an inexpensive, compact and efficient stencil duplicating device by which a larger number of copies of the matter embodied in its stencil sheet can be made with a single inking of the device and with ease and dispatch, the device being so constructed that wrinkling of the sheet being imprinted as well as wrinkling of the stencil sheet will be prevented, the stencil sheet being readily removable from the device to permit reinking of the latter when necessary.

The device preferably embodies a cylinder rotatably mounted on an axle serving as a handle by which the cylinder can be manually rolled over the surface of a sheet to be imprinted, the cylinder being counterbalanced in such manner that when lifted it will be urged to rotate upon the axle to a position in which the end portions of its stencil sheet will be disposed downmost and thus properly position the stencil sheet for a printing operation, the cylinder also being formed in a manner to permit it to be placed upon a table or other flat support and left without danger of its rolling.

The device may or may not be used with a platen on which can be placed the sheet to be imprinted and which is provided with means co-operating with the cylinder in such manner that its rolling movement on the platen can be initiated from a predetermined point along the length of and transversely of the platen.

I will describe only one form of stencil duplicating device embodying my invention, and will then point out the novel features thereof in claims.

In the drawings

Figure 1 is a perspective view illustrating one embodiment of my stencil duplicating device in starting relation to a sheet to be imprinted supported on the platen;

Figure 2 is an enlarged transverse sectional view of the stencil duplicating device embodied in Figure 1; and

Figure 3 is a longitudinal sectional view taken on the lines 3—3 of Figure 2.

Referring specifically to the drawings, in which similar reference characters designate corresponding parts in each of the views, and particularly to Figures 2 and 3, my invention in its present embodiment comprises a body preferably in the form of a hollow cylinder C constructed of sheet metal to

provide a solid wall 10 of segmental form within the opposite ends of which is secured, by soldering or other suitable means, end walls 11 of disk form. The end walls are recessed or cut away at the longitudinal edges of the wall 10, as indicated at 12, and for the purpose of stiffening the longitudinal edges, members in the form of relatively large rods 13, extend along the edges and are soldered to the inner side of the wall 10. The cylinder C is rotatably mounted upon an axle 14 formed of a pair of rod sections projecting through axial openings in the end walls 11 and connected together by means of a threaded sleeve 15. The cylinder is adapted to be manually lifted or rolled over the surface of a sheet to be imprinted by means of handles 16 secured to the opposite ends of the axle by pins 17.

The cylinder serves as a support for stenciling and inking means and in the present instance I provide a backing or pad 18 therefor which is formed of heavy cloth of a double thickness wrapped around the wall 10 and having its ends looped to receive rods 19 and trained over the members 13 within the end walls 11. The inking means preferably comprising a sheet of paper or cloth 20 to which is adapted to be applied a suitable duplicating ink, is next wrapped over the pad 18 or if desired a sheet of material 21 impervious to ink, such, for instance, as metal foil or paper treated with shellac, may first be interposed between the pad and inking sheet to prevent contamination of the former by the ink of the latter. The ends of the inking sheet 20 are trained over the members 13 and looped to receive rods 22 which extend through openings formed in the end walls 11 and project beyond the outer sides of the walls a short distance for a purpose to be hereinafter described.

The stenciling means preferably comprising a sheet of suitably waxed paper 23 upon which has been heavily typewritten or otherwise impressed the matter to be duplicated is next wrapped around the wall 10 and for yieldingly supporting the sheet under tension upon the wall I preferably employ at each end of the cylinder an elastic rubber band 24 trained over a hook 25 secured upon the outer side of the end wall 11 and over the projecting ends of headed rods 26 extending through looped strips of paper 27, to which the extreme ends of the stencil sheet are glued or otherwise secured.

By supporting the stencil sheet in this manner it will be clear that it can be readily removed from the cylinder C when a re-inking of the sheet 20 is necessary, and that by placing the stencil sheet yieldingly under tension the formation of slack in the sheet with a consequent wrinkling thereof at the point immediately in advance of the contact point of the cylinder with the surface of the sheet being imprinted is positively prevented. In addition, wrinkling of the sheet being imprinted is also prevented by the provision of the pad 18 which is adapted to yield sufficiently during the printing operation to conform to the irregularities in thickness of the sheet and to slight irregularities of the surface of the support upon which the sheet is placed, thus resulting in a perfect copy.

It will be noted that by the provision of the segmental wall 10 and recessed ends 11 the cylinder C is formed with a flat side, and that its weight is counterbalanced by the weight of the rods 13, 19, 22 and 26 so that when elevated by the handles 16 and held in substantially horizontal position it will be caused to rotate upon its axle to a position in which its flat side is presented downmost, thus disposing the end portions of the stencil sheet downmost and in proper starting position for a rolling movement of the cylinder over the sheet to be imprinted. The flat side of the cylinder serves as a means by which the cylinder can be rested upon a support and left without danger of its rolling away.

The stencil duplicating device above described may or may not be used in conjunction with a platen P (Figure 1) upon which the sheet to be imprinted is adapted to be definitely positioned by means of stops 28 of conventional form and illustrated as strips of paper or cardboard glued or otherwise secured in a predetermined position upon the upper surface of the platen. In describing the operation of the device its use in conjunction with the platen P will first be described, the platen having adjacent one end a pair of upstanding pins 29 spaced apart a sufficient distance to receive lengthwise between them the cylinder C. In operation the stops 28 are first secured to the platen at the desired location with respect to the pins 29 and a sheet of paper to be imprinted is engaged at one end with the stops. The handles 16 of the device are now grasped and the cylinder placed lengthwise between the pins 29 and moved on its flat side over the surface of the platen until the pins are engaged by the projecting ends of one of the rods 22. The operator now exerts a forward and downward pressure against the handles 16 and to initiate the rolling movement of the cylinder from its flat side, the index fingers of the operator

are engaged with the projecting ends of the other of the rods 22 and the cylinder thus urged to rotate upon its axle in the direction of the arrow (Figure 1) and over the surface of the sheet to be imprinted.

It will thus be clear that the starting position of the cylinder with respect to the sheet can be definitely established so that as many duplicates as desired can be made with the duplicated matter thereon positioned alike on all of the sheets. The device of course may be as readily used without the platen when such accuracy is not desired and in this case is merely rolled over the surface of a sheet as above described, the operator relying on his skill to position the duplicated matter upon the sheet sufficiently accurate for the occasion.

It has been found in practice that by providing the cylinder C with the solid wall 10 and inking the stencil sheet by means of a suitable inking sheet that a larger number of copies can be made with a single inking and the time in which the ink dries out in the device greatly extended beyond that of devices heretofore proposed.

Although I have herein shown and described only one form of stencil duplicating device embodying my invention, it is to be understood that various changes and modifications may be made herein without departing from the spirit of the invention and the spirit and scope of the appended claims.

I claim:

1. A stencil duplicating device comprising a body having a wall provided with a curved surface adapted for rolling movement over the surface of a sheet to be imprinted upon movement of the body over the sheet, a stencil sheet overlying said wall, an inking sheet secured to the body and interposed between said wall and stencil sheet, and means yieldingly acting to draw the stencil sheet into snug engagement with said inking sheet so that the stencil sheet will be placed and maintained under tension, to thereby prevent the formation of slack in the stencil sheet during the printing operation.

2. A stencil duplicating device as embodied in claim 1 wherein said last means comprises elastic bands detachably secured to the ends of the stencil sheet and to the body in a manner to place the sheet under tension upon said wall.

3. A stencil duplicating device comprising a body having a cylindrical shaped wall adapted to be rolled over the surface of a sheet to be imprinted, a sheet of material to which ink is adapted to be applied secured upon the exterior surface of said wall, a stencil sheet overlying said sheet of material, and means for securing the stencil sheet upon said wall in a manner to con-

stantly and yieldingly urge the ends of the stencil sheet towards each other and thereby place and maintain the sheet under tension for the purpose described.

5 4. A stencil duplicating device as embodied in claim 3 wherein said cylindrical body is provided with end walls having hooked projections, said stencil sheet having its ends formed to provide loops, headed
10 rods passing through said loops, and said last means comprising an elastic band trained about said projection and rods.

5. A stencil duplicating device comprising a cylindrical body upon the periphery of
15 which inking and stencil sheets are adapted to be secured, an axle upon which said body is rotatably mounted projecting beyond opposite ends of the body to form handles by which the body is adapted to be manually
20 rolled over a sheet to be imprinted, said body being counterbalanced in such manner that upon being elevated by said handles from a support the body will be urged to a position in which the end portions of the
25 stencil sheet will be disposed downmost for the purpose described.

6. A stencil duplicating device comprising a cylinder having a flat side and upon the
30 periphery of which inking and stencil sheets are adapted to be secured with their ends disposed at said flat side, an axle upon which said cylinder is rotatably mounted adapted to form handles at opposite ends
35 of the cylinder by which the latter can be manually rolled over the surface of a sheet to be imprinted, said cylinder being counterbalanced in such manner that when elevated by said handles it will be urged to a position in which its flat side will be disposed
40 downmost for the purpose described.

7. A stencil duplicating device comprising a hollow cylinder having a segmental
45 periphery and end walls, guide and stiffening members extending along the longitudinal edges of said periphery, an axle upon which said cylinder is rotatably mounted projecting through said end walls, handles
50 secured to the ends of the axle, an inking sheet overlying said periphery with its ends trained over said guide bars and looped, rods passing through said looped ends and

end walls to thereby secure the inking sheet to the cylinder, a stencil sheet overlying the inking sheet with its ends trained over said
55 guide members and looped, headed rods extending through said looped ends, hooked projections on said end walls, and elastic bands trained over said projections and headed rods to thereby secure the stencil
60 sheet under tension upon the cylinder.

8. In a stencil duplicating device, a platen on the surface of which a sheet to be imprinted is adapted to be placed, a stencil
65 duplicating device comprising a cylindrical body having a flat side and upon the peripheral surface of which inking and stencil means are adapted to be secured, said cylinder having handles and rotatably mounted
70 with respect to the latter, said cylinder being counterbalanced in such manner that when lifted by said handles it will be urged to a position in which its flat side will be disposed downmost, and coacting means on the platen and cylinder by which rolling
75 movement of the cylinder over the platen can be initiated at a predetermined point along the length of and across the width of the platen.

9. A stencil duplicating device as embodied in claim 8, wherein said cylinder is
80 provided with means adapted to be engaged by a finger of the operator by which the rolling movement of the cylinder from its flat side can be initiated.

10. A stencil duplicating device comprising
85 a cylindrical body upon the peripheral surface of which inking and stencil sheets are adapted to be secured, handles rotatable on the body adapted to be grasped by an operator for rolling the body over the
90 surface of a sheet to be imprinted, the periphery of the body having a flat portion to permit resting of the body on a support without rolling, said body being counter-balanced in such manner that when elevated by its
95 handles, the body will move to a position in which said flat portion will be disposed downmost, and means on the body against which a finger of the operator is adapted to press to initiate the rolling movement of the
100 body from said flat portion.

ERNEST E. MORLAN.