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R. OLIVER

STENCIL FEEDING MECHANISM

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Fig. 1.

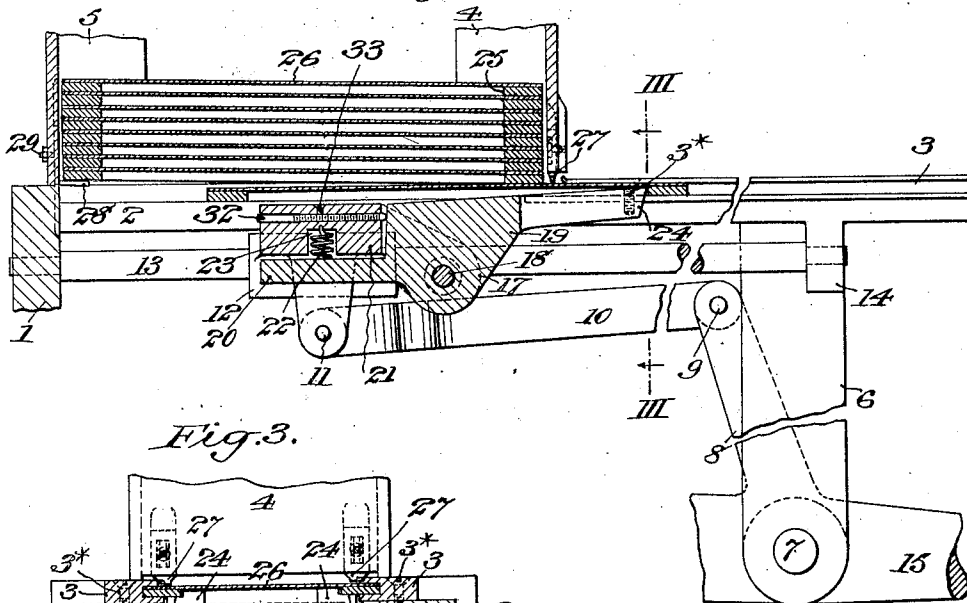


Fig. 3.

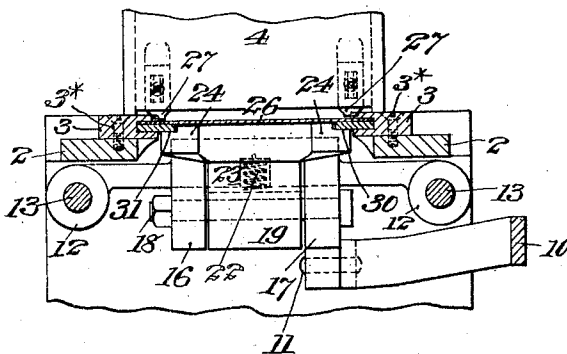
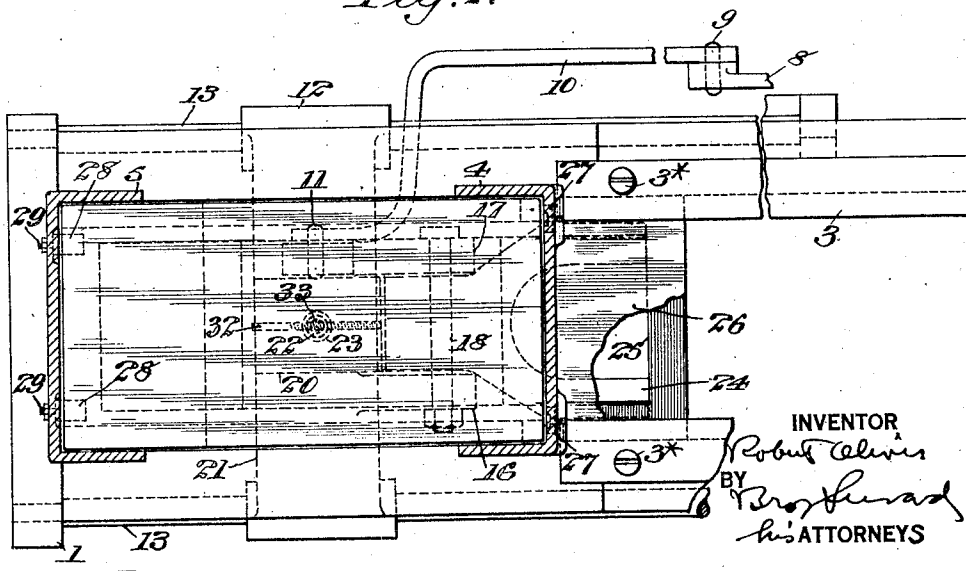


Fig. 2.



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STENCIL-FEEDING MECHANISM.

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This invention relates to stencil feeding mechanism, and has for an object to provide mechanism of this character adapted for use in addressing machines, and the like, whereby accurate removal of a single stencil at a time, from a source of supply, and proper feeding of the same, is assured.

Another object consists in providing mechanism of this character that is arranged to engage within the stencil frame and has means for preventing it from injuring the stencil paper.

Another object consists in providing mechanism of this character that is adapted to successively and accurately engage stencils for feeding the same whether they be straight or warped.

A further object consists in providing certain improvements in the form, construction and arrangement of the several parts whereby the above named and other objects may effectively be attained.

A practical embodiment of the invention is represented in the accompanying drawings, in which

Fig. 1 represents a detail vertical section, partly in elevation and partly broken away;

Fig. 2 represents a plan view of the parts shown in Fig. 1; and

Fig. 3 represents a section taken in the plane of the line III—III of Fig. 1 looking in the direction of the arrows.

The invention is represented as applied to an addressing machine of approved form, parts of which are shown.

A vertical frame member is denoted by 1, horizontal frame members by 2, 2, the stencil tracks by 3, 3, which are secured to the members 2, 2, by screws 3*, 3*, and uprights constituting the means for holding a stack of stencils by 4, 5. These parts are all conventional.

From the frame member 2 depends a bracket 6 in which is journaled at 7 a lever 8 that is pivoted at 9 to an arm 10 which is pivoted at 11 to a carriage 12 fitted to reciprocate on a pair of rods 13 which are mounted in the frame member 1 and in lugs 14 carried by the member 2. These elements are also conventional, as is the part 15 which connects the lever 8 with means for actuating the same, not shown.

The carriage 12 has a pair of forwardly and downwardly projecting brackets 16, 17, in which is pivotally mounted, as by a bolt 18, the feeding claw 19.

The said feeding claw has a tail piece 20 that lies beneath a cross head 21 which connects the rear ends of the brackets 16, 17.

An expansion coil spring 22 is set in a recess 23 formed in the cross head 21 and bears downwardly on the tail piece 20 so as normally to urge the nose 24 of the claw upwardly.

The stencils, several of which are shown stacked between the members 4, 5, are of the usual form having frames 25 and paper portions 26, which paper portion spans the opening in the frame 25 of each stencil

The stencils are normally urged downwardly in the members 4, 5, under the influence of gravity, which is commonly assisted by the application of a weight, not shown, to the top stencil.

The member 4 has, at its lower end, a pair of downwardly projecting fingers 27, 27, adjustable, as by screw and slot, that serve to contact with the forward end of next to the lowermost stencil so as to prevent more than one stencil from being fed at a time.

The member 5 has a pair of stops 28, 28, at its lower portion, against which the adjacent frame of the lowermost stencil rests so as to tilt the forward edge of the stencil downwardly toward the tracks 3. The said stops may be adjustable by means of bolt and slot connections 29, 29.

By reference to Fig. 3 it will be observed that the nose 24 of the claw 19 is shouldered at each side, as indicated at 30, 31, so as to provide portions adapted to rest against the underside of the frame 25 of the stencil while the intermediate portion of the nose 24 enters the frame adjacent the inner forward edge thereof. This intermediate portion of the nose is cut away in a U-shape, as clearly shown in Figs. 2 and 3 so as to, in effect, bifurcate it and cause it to engage the inner forward edge of the stencil frame at the side portions thereof only. The shoulders 30, 31, are of such depth as to prevent the parts of the nose 24 intermediate them from contacting with the paper portion 26 of the stencil, thereby avoiding injury to the latter. This space left between the nose 24 and the paper portion 26 is naturally trifling in extent, but it is of some importance for the reason indicated.

In order to predetermine the normal height of the nose 24 of the claw 19 so that it will firmly yet easily enter into the position just described within the frame of the

stencil, an adjusting screw 32 is threaded into the cross head 21 and abuts the rear of the claw 19. A set screw 33 serves to fasten the adjusting screw 32 in any determined adjustment.

The usual operation of feeding such stencils from a stack in an addressing machine is for a reciprocating claw to successively engage the inner forward edge of the stencil frame only and, in this way, to push the bottom stencils successively from the stack into the tracks. It frequently happens that the stencils are warped either longitudinally of the paper portion 26, or laterally thereof, or both. When this is the case, it often causes the paper portion 26 to sag downwardly in a curve, from the correct position shown in Fig. 1, and this results in the claw contacting with and tearing the said paper portion. Indeed, sometimes the curvature of the stencil is so great, as a result of warping or from other causes, that the claw will injure the paper portion of the second stencil as well as the lowermost. Again, if the claw be adjusted to avoid this injury, it is apt to miss altogether feeding engagement with the frame of a straight or perfect stencil.

In the construction constituting my invention the provision of the shoulders 30, 31, which engage the underface of the stencil frame, prevents this injury of the paper portion of the stencil by the claw because, inasmuch as the frame is warped correspondingly with the paper portion, the said frame will, by its engagement with the shoulders 30, 31, prevent the nose 24 of the claw from rising high enough to strike the paper.

It will also be noted that the shoulders 30 and 31 have substantially continuous contact with the lower surface of the stencil frame throughout both the backward and forward strokes of the reciprocatory movement of the claw, while the bifurcations of the nose 24 engage the inner forward edge of the stencil frame during only the forward movement of the claw.

Likewise the cutting away or bifurcating of the said claw so that its nose engages only at the sides of the inner forward edge of the stencil frame prevents injury to the paper 26 in case the stencil is warped in a direction lateral of the paper portion 26. In such case the downwardly curved or sagging paper will lie between the bifurcations of the nose 24.

My improved construction is a matter of substantial importance, because the bending

or warping of stencils is a thing of very common occurrence, so that often the frame and paper portion do not lie in the intended plane with respect to the plane of movement of the feeding claw.

Furthermore, the feeding mechanism constituting my invention is one that can be, as already indicated, combined with the other standard parts of approved addressing machines without any substantial alteration in construction.

The size of the nose 24 of the claw may, of course, be altered to suit the particular size of the stencils employed but, as the opening in the stencil frame is, to a large extent, of standard size, it will be clear that the mechanism in this respect will adapt itself to practically all normal operating conditions without substantial change.

It will be understood that various changes may be resorted to in the form, construction and arrangement of the several parts without departing from the spirit and scope of my invention; and hence, I do not intend to be limited to the details herein shown and described except as they may be included in the claims.

What I claim is:

1. Stencil feeding mechanism comprising, an element fitted to engage an inside edge and the lower side surfaces of a stencil frame, and means for reciprocating said element.

2. Stencil feeding mechanism comprising, a reciprocatory element, said element having a portion fitted for substantially continuous contact with the lower side surface of the stencil frame during reciprocation, and a portion fitted for engagement with an inside edge of the stencil frame during one stroke of reciprocation.

3. A stencil feeding element having its operative end bifurcated, said bifurcations being cut away to form shoulders at their outer sides for contacting with the lower surface of the stencil frame.

4. Stencil feeding mechanism comprising, a reciprocatory element having depressed side portions and an elevated intermediate portion, whereby, during reciprocation, the depressed portions may ride in contact with the lower side portions of the stencil frame and the elevated portion travel within the frame.

In testimony, that I claim the foregoing as my invention, I have signed my name this 6th day of June, 1927.

ROBERT OLIVER.