

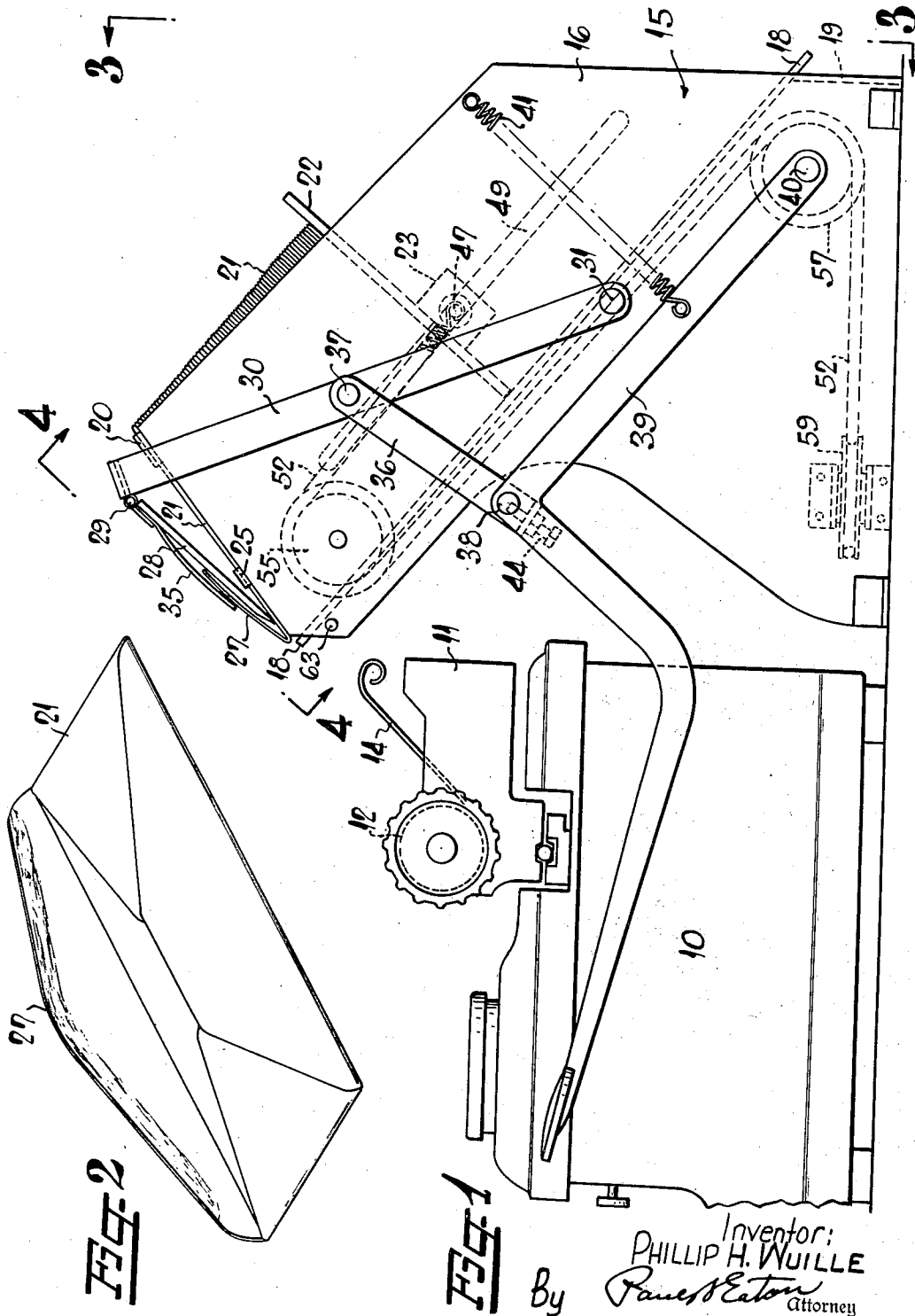
Sept. 10, 1940.

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ENVELOPE FEEDING MECHANISM

2,214,265

Filed July 31, 1939

2 Sheets-Sheet 1



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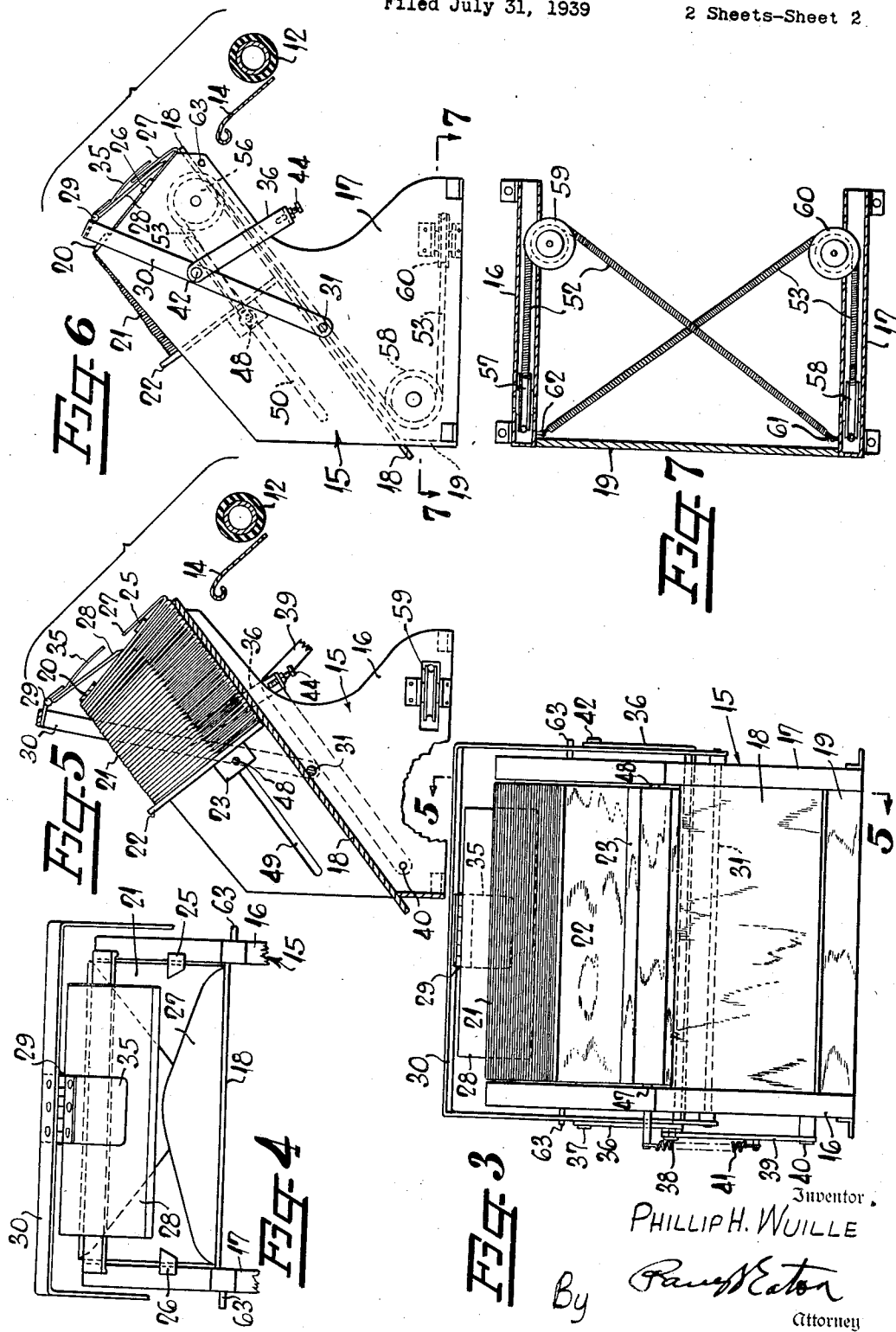
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## UNITED STATES PATENT OFFICE

2,214,265

## ENVELOPE FEEDING MECHANISM

Phillip H. Wuille, Charlotte, N. C.

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5 Claims. (Cl. 271-2)

This invention relates to an envelope feeding device which is adapted to be used in conjunction with typewriters and the like.

An object of this invention is to provide an improved article of this type having means for successively feeding envelopes, one at a time, from a magazine into a typing machine where it is subsequently addressed. The structure employed to carry out this result comprises a magazine for holding a compressed stack of envelopes together with a reciprocable dog which is adapted to pass back and forth across the uppermost envelope of the stack to engage the closure flap and transfer the envelope to the typing machine. By providing such an apparatus, the envelope can be easily and uniformly positioned in the typing machine, thus insuring that the typed matter will occupy the proper position on the envelope. Also the entire feeding operation is expedited with less waste of time. Heretofore, this operation has been carried out by slow hand feeding which was by no means uniform or accurate.

It is a further object of this invention to provide an envelope feeding device of the class described which is simple in construction, easy to manufacture, low in first cost, efficient in operation, requiring practically no adjustment and which serves as a time and labor saving device.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds when taken in connection with the accompanying drawings, in which—

Figure 1 is an elevation of my improved device shown in conjunction with an ordinary typewriter;

Figure 2 is an isometric view showing the details of an envelope which is adapted to be used with this improved feeding device;

Figure 3 is an elevation looking along the line 3-3 in Figure 1;

Figure 4 is a view looking along the line 4-4 in Figure 1;

Figure 5 is a vertical sectional view taken along the line 5-5 in Figure 3;

Figure 6 is an elevation of the feeding device, showing the platen of a typewriter in section, looking from the opposite side from that shown in Figure 1;

Figure 7 is a sectional plan view taken along the line 7-7 in Figure 6.

Referring more specifically to the drawings, the numeral 10 denotes a typewriter having a carriage 11 in which is rotatably mounted a platen 12. Also associated with the carriage 11 and platen 12 is a shield 14 which serves to guide

paper envelopes and the like into the typewriter. The apparatus which will hereinafter be described is adapted to feed envelopes, one at a time, downwardly upon the shield 14 and against the platen 12 so that it can be turned to the proper position merely by rotating the platen.

The device for feeding these envelopes is broadly designated by the reference character 15. This feeding apparatus comprises sidewalls 16 and 17, said sidewalls being hollow and having their proximate faces joined together by means of inclined board 18 and back wall 19. The uppermost portions of the sidewalls 16 and 17 are tied together by a metallic strap 20. This strap serves to limit the position to which envelopes 21 may be pressed. These envelopes are stacked one upon the other and the other end of the stack is normally pressed toward the strap 20 by means of a suitable board 22, said board, in turn, being supported by a bar 23. The strap 20 is assisted in retaining the envelopes in the stack by a pair of laterally projecting members 25 and 26, which projections are adapted to engage the ends of the uppermost envelope 21 and prevent it from escaping from the magazine or stack except when it is pulled sidewise. All of the envelopes 21 have a closure flap 27 which normally rests against one side of the envelope. When the envelopes are placed in the magazine it is desirable to place them so that the flap 27 will be disposed upwardly in the manner shown in Figures 1, 4, 5 and 6. By providing the short projections 25 and 26 adjacent the ends of the exposed envelope, the intermediate portion of the envelope is caused to bulge outwardly so that the closure flap 27 will move away from the side of its envelope. When in such a position a dog 28 can more easily engage the flap.

The dog 28 is pivoted as at 29 to a U-shaped bar 30. This bar has the ends of its legs fixedly secured to the ends of a suitable transversely disposed shaft 31. Since the ends are fixedly secured to this shaft, it is evident that any rotative pressure exerted upon the shaft will be transmitted to the dog 28. It will be noted that the free end of the flap or dog 28 normally rests upon the uppermost envelope 21. In Figures 1 and 6, the dog 28 is shown in a position which is slightly lower than its uppermost position. At this time, the dog is about ready to engage the closure flap 27 to move it downwardly onto the shield 14 and against the platen 12. Figures 4 and 5, however, show the dog 28 in its uppermost position.

The flap 27 has a deflecting shield 35 secured to the upper side thereof with its lower end spaced

a slight distance away from the upper side of the dog. This shield is thus spaced so that when the free end of the dog 28 engages the closure flap 27 the lower end of the closure flap will be confined beneath the member 35.

In order to rotate the U-shaped member 30 together with its associated dog 28, a U-shaped member 36 has been provided, one leg of said member being pivoted as at 37 to one leg of U-shaped member 30, and the lower portion of this same leg being pivoted as at 38 to an operating lever 39. The operating lever is pivoted as at 40 to sidewall 16. A suitable spring 41 is employed in order to normally hold the parts 28 to 39 inclusive in normal uppermost position.

By observing Figure 6, it will be noted that the U-shaped member 36 has its other leg pivotally secured as at 42 to the other leg of U-shaped member 30. Secured in an intermediate portion of the U-shaped member 36 is a set screw 44, the end of which is adapted to engage the sidewall 16, when the dog 28 and its associated U-shaped members 30 are in uppermost position. This screw may be adjusted so as to vary the uppermost position of these members.

It is, therefore, seen when it is desired to feed the uppermost envelope 21 from the magazine that it is only necessary to apply pressure to the left end of operating lever 39 (Figure 1) and upon the rotation of this operating lever the dog 28 will engage the closure flap 27 of the uppermost envelope 21 and cause the entire envelope to be pulled sidewise from beneath the strap 20 and lateral projections 25 and 26, and onto the shield 14 of the typewriter.

The lower portion of the stack of envelopes 21 is normally pressed upwardly by means of the members 22 and 23 which have been previously described. The ends of the member 23 have pins 47 and 48 extending into slots 49 and 50 of sidewalls 16 and 17 respectively. Since the sidewalls 16 and 17 are hollow there is room for suitable coiled spring cords 52 and 53, respectively, therein. One end of each of these spring cords is connected to the pins 47 and 48. The cords 52 and 53 are adapted to pass over rollers 55 and 56, and downwardly over a second pair of rollers 57 and 58, respectively, both pairs of rollers being rotatably mounted in the hollow sidewalls 16 and 17. After passing over the rolls 57 and 58, the spring cords 53 and 52 pass over another set of rollers 59 and 60, which rollers are anchored to the sidewalls 16 and 17 respectively (see Figures 6 and 7). The lower ends of the cords 52 and 53 are anchored as at 61 and 62 respectively to sidewalls 17 and 16.

The object of providing the spring cords 52 and 53 with such an extended length is to have substantially a uniform tension in the cords regardless of whether the magazine is filled or nearly empty. If short cords were provided, then the tension in the stack of envelopes would be considerably greater when the magazine was filled than it is when the magazine was about empty. By providing these long spring cords, the compressive stress in the stack of envelopes is more nearly the same regardless of whether the magazine is filled or empty.

Special attention is called to the members 25 and 26 and their relation to the uppermost envelopes (Figure 4). By providing these short lateral projections, the pressure which is exerted on the bottom of the stack of envelopes will cause the closure flap 27 to bulge slightly outwardly so that when the lower free end of dog 27 reciprocates

downwardly it will easily engage this flap so as to cause the entire envelope to be moved sidewise into the typewriter. It will also be noted that the stack of envelopes is slightly wider along its lower edge than it is on the upper edge due to the increased thickness of each envelope on account of the flap 27. This necessitates the stack being fan-shaped, and, therefore when the uppermost envelope is confined by the projections 25 and 26, the flap 27 is free to move out of contact with the side of the envelope so that the dog 28 can engage the same.

In order to limit the downward stroke of U-shaped member 30 and its associated members 28 and 35, a pin 63 has been provided in the sidewalls 16 and 17. These pins extend laterally into the path of U-shaped member 30 and serve as stops. When the pins are engaged, the uppermost envelope has been completely freed from the members 20, 25 and 26 so that it can fall upon shield 14.

In the drawings and specification, there has been set forth a preferred embodiment of the invention, and although specific terms have been employed, they are used in a generic and descriptive sense only and not for purposes of limitation, the scope of the invention being set forth in the appended claims.

I claim:

1. Means for feeding envelopes to the platen of a typewriter, each of said envelopes having a closure flap folded against one side thereof, said means comprising a magazine disposed above the platen for holding a stack of compressed envelopes, each of which has its closure flap disposed upwardly on the forward face thereof, a U-shaped member having its ends pivoted to the sides of the magazine, a dog pivoted to the free end of said U-shaped member which dog has its free end normally resting upon the uppermost envelope in said stack, means for oscillating the free end of said U-shaped member across the top of said stack to cause the free end of said dog to engage both surfaces of the closure flap of the uppermost envelope and move it transversely of the stack to said platen.

2. Means for feeding envelopes to the platen of a typewriter, each of said envelopes having a closure flap folded against one side thereof, said means comprising a magazine disposed above the platen for holding a stack of compressed envelopes, each of which has its closure flap disposed upwardly, a U-shaped member having its ends pivoted to the sides of the magazine, a dog pivoted to the free end of said U-shaped member which dog has its free end normally resting against the forward face of the foremost envelope in said stack, means for oscillating the free end of said U-shaped member across the forward end of said stack to cause the free end of said dog to pass behind the closure flap of the foremost envelope and move it downwardly from the stack to said platen, and a guide member attached to the upper side of said pivoted dog and spaced therefrom to form a slot which passes on opposed sides of said closure flap upon the transfer of an envelope to the platen.

3. Means for feeding envelopes to the platen of a typewriter, each of said envelopes having a closure flap folded against one side thereof, said means comprising a magazine disposed above the platen for holding a stack of compressed envelopes, each of which has its closure flap disposed upwardly, a U-shaped member having its ends pivoted to the sides of the magazine, a dog

pivoted to the free end of said U-shaped member which dog has its free end normally resting upon the uppermost envelope in said stack, means for oscillating the free end of said U-shaped member across the top of said stack to cause the free end of said dog to engage the closure flap of the uppermost envelope and move it transversely of the stack to said platen, and projections on the discharge end of said magazine extending over the ends of said stack, whereby the pressure within the stack will cause the intermediate portion to bulge upwardly and allow the exposed closure flap to move away from its associated envelope.

4. Means for feeding envelopes to the platen of a typewriter, each of said envelopes having a closure flap folded against one side thereof, said means comprising a magazine disposed above the platen for holding a stack of compressed envelopes, each of which has its closure flap disposed upwardly, a U-shaped member having its ends pivoted to the sides of the magazine, a dog pivoted to the free end of said U-shaped member which dog has its free end normally resting upon the uppermost envelope in said stack, means for oscillating the free end of said U-shaped member across the top of said stack to cause the free end of said dog to engage the

closure flap of the uppermost envelope and move it transversely of the stack to said platen, a guide member attached to the upper side of said pivoted dog and spaced therefrom to form a slot which passes on opposed sides of said closure flap upon the transfer of an envelope to the platen, and projections on the discharge end of said magazine extending over the ends of said stack whereby the pressure within the stack will cause the intermediate portion to bulge upwardly and allow the exposed closure flap to move away from its associated envelope.

5. Apparatus for feeding envelopes to a position where rotation of the platen of the typewriter will place the envelope in a position to be addressed, comprising a magazine for storing the envelopes in upside down position and with their flaps disposed on the forward side of the envelopes, resilient means for advancing the envelopes, means for arresting the forward movement of the envelopes, and means for engaging one envelope at a time between its flap and the body of the envelope and feeding it into contact with the platen, and means on the engaging means for engaging the outer side of the flap to prevent rotation of the same.

PHILLIP H. WUILLE.