March 26, 1929. H. L. DYER 1,707,080

ENVELOPE FEEDING APPARATUS FOR TYPEWRITERS

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FIG. 1.

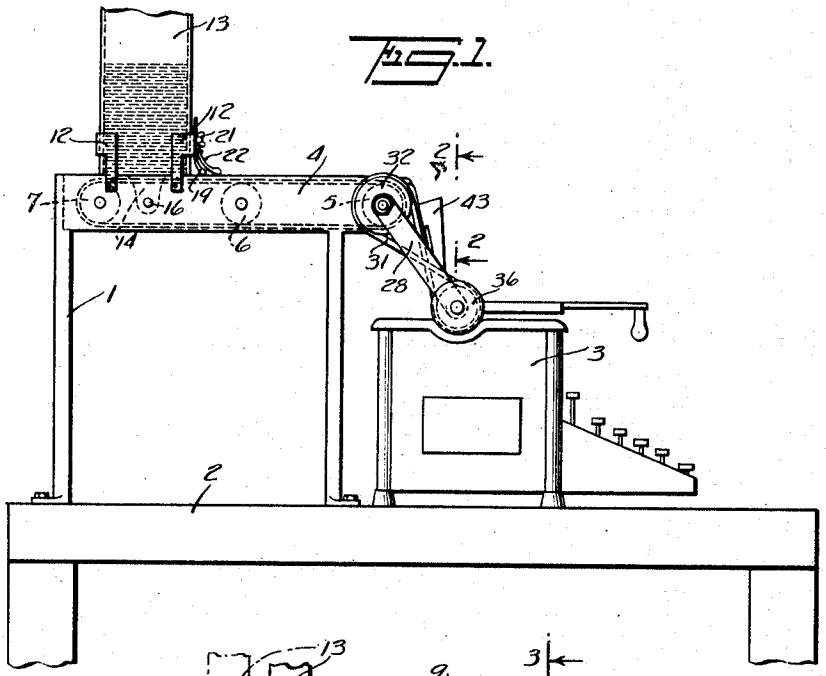
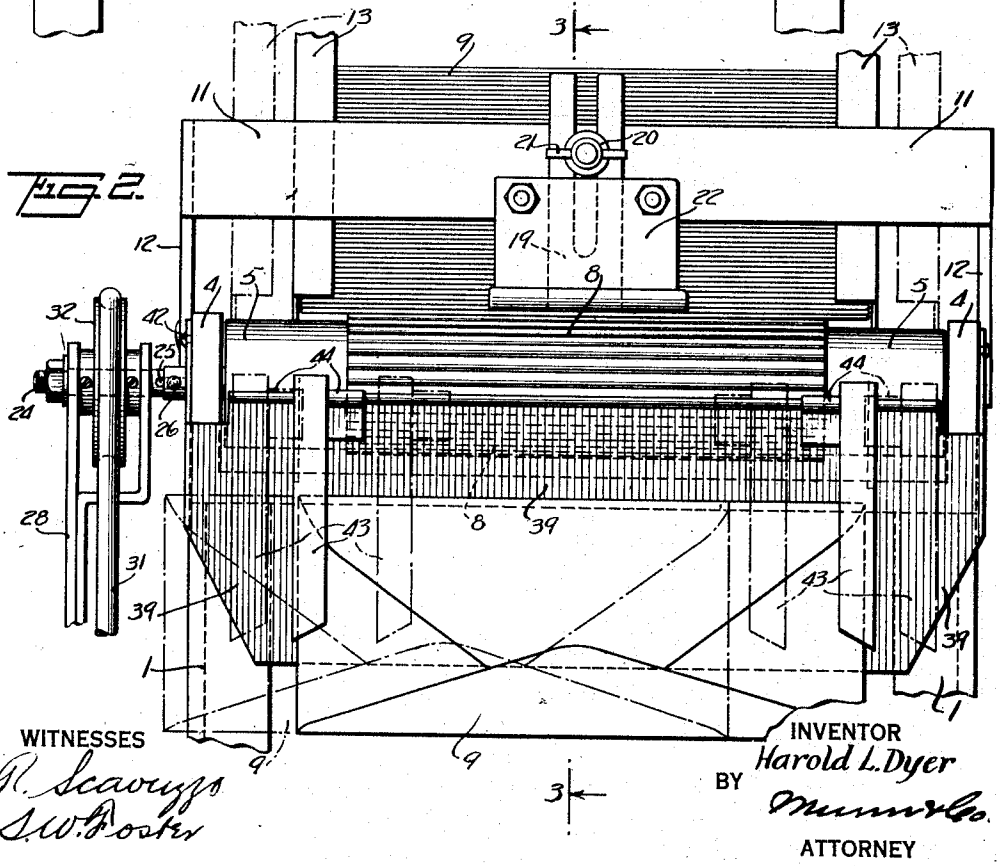


FIG. 2.



WITNESSES

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ENVELOPE FEEDING APPARATUS FOR TYPEWRITERS

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FIG. 3.

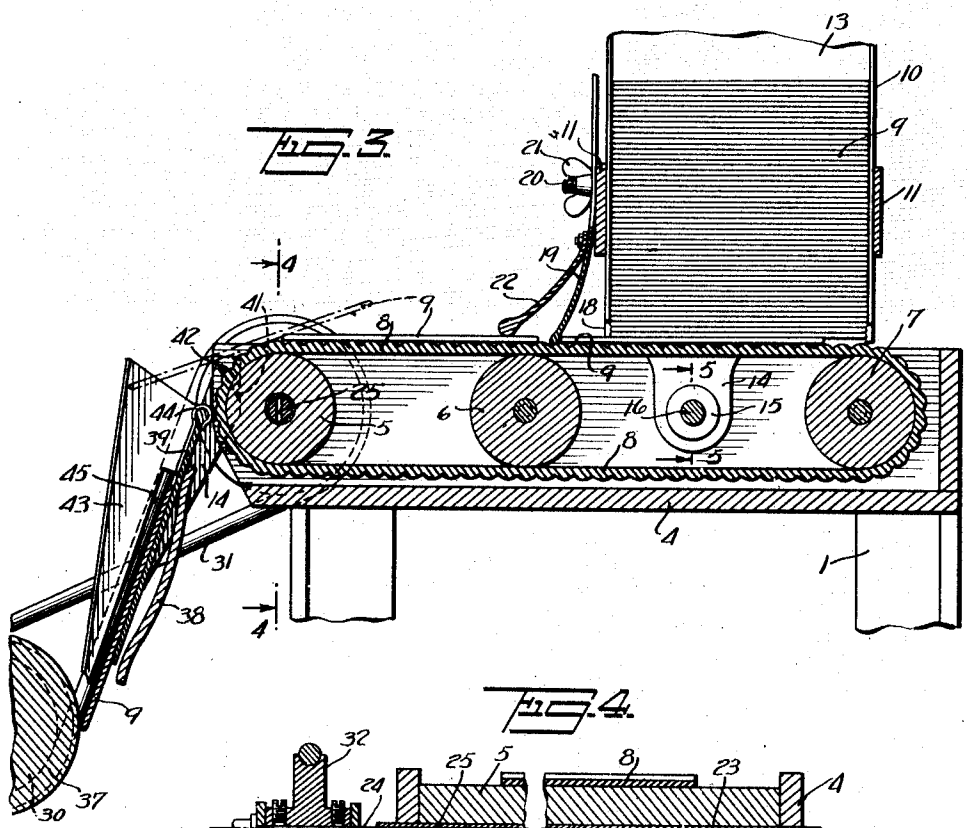


FIG. 4.

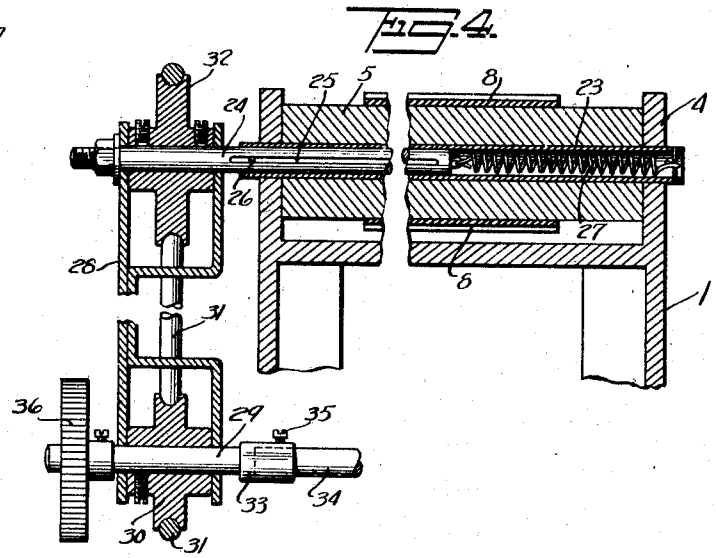
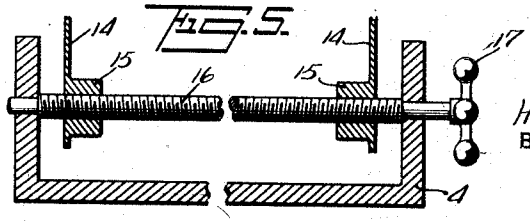


FIG. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

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ENVELOPE-FEEDING APPARATUS FOR TYPEWRITERS.

Application filed June 25, 1928. Serial No. 288,271.

This invention relates to envelope feeding apparatus for typewriters.

An object of the invention is to provide an apparatus which will properly feed envelopes to a typewriter so that they may be addressed without the necessity of the operator handling the envelope until the addressing operation is completed.

A further object is to provide an apparatus of this character which will accommodate and care for any ordinary sized envelope, which will feed the envelopes one at a time to the typewriter and which will be operated and controlled by the turning movement of the typewriter platen or roller.

A further object is to provide an apparatus of this character which will operate in connection with any make of typewriter and which will greatly facilitate the speed of addressing envelopes.

A further object is to provide an apparatus of this character which can be secured upon a table or support and in a position for operative engagement with a typewriter, which may be placed upon the support or removed therefrom as occasion may require.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings—

Figure 1 is a view in side elevation illustrating my improved apparatus in operative connection with a typewriter;

Figure 2 is a fragmentary view in front elevation, the view being taken on the line 2—2 of Figure 1;

Figure 3 is a view in longitudinal section, the view being taken on the line 3—3 of Figure 2;

Figure 4 is a broken view in transverse section taken on the line 4—4 of Figure 3;

Figure 5 is a broken view in transverse section taken on the line 5—5 of Figure 3.

My improved apparatus has a frame 1 which may be secured to a table or other support 2 leaving room on the table or support for a typewriter 3, it being understood of course that the typewriter can be removed from the support and used for any ordinary purpose and can be placed on the support whenever it is desired to address envelopes.

The frame 1 of my improved apparatus is of general rectangular form having a box-like casing 4 at its upper portion, in which a series of rollers have rotary mounting. I have shown three of these rollers, indicated by the reference numerals 5, 6 and 7 although I may of course employ any number of rollers.

The rollers are arranged in parallelism and an endless envelope feeding apron 8 is mounted on the rollers and is caused to move to feed the envelopes 9 from a reservoir or hopper 10. This reservoir or hopper 10 is located adjacent the rear end of the box or casing 4, with the apron 8 constituting the bottom of the hopper.

A pair of transversely spaced bars 11, fixed to or constituting integral parts of uprights 12 at their ends, is secured to the side members of the casing 4 and constitutes guides or supporting members for the adjustable upright side members 13, 13 which form the hopper 10.

These side members 13, 13 are of general channel form so as to enclose the ends of the envelopes 9 and at their lower ends have depending tongues 14 with threaded nuts 15 thereon receiving an adjusting shaft 16 mounted in the box or casing 4, and having a handwheel or other analogous device 17 at one end.

The shaft 16 has right and left screw threads thereon operatively engaging nuts 15 so that by turning said shaft the members 13 may be moved toward and away from each other to adjust the size of the hopper in accordance with the size of the envelopes used.

The envelopes rest directly upon the apron 8 so that when the upper run of this apron is moved to the left of Figure 3 the lowermost envelope will be drawn out of the hopper and moved toward the front or forward end of the box or casing 4.

The side flanges of the channel shaped members 13 are notched at their lower ends, as shown at 18, to allow an envelope to pass from the hopper, and said apron 8 has an irregular surface, preferably by having transversely extending webs and recesses between them, so as to insure proper feeding of the envelope; and to retard the feeding of the enevelope sufficiently to prevent an accumulation of envelopes at the typewriter I provide a spring tongue 19.

This spring tongue 19 has a slotted upper

portion for the reception of a stud 20 on the front bar 11, and a wing nut 21 on said stud engages the spring tongue 19 to secure it at any adjustment so as to bear upon the apron with any force desired.

I have shown in addition to the bar 11 a resilient brake 22 secured to the spring tongue and which engages the apron and the envelope forward of the tongue to further retard the movement of an envelope, but in most cases this additional brake is not necessary.

The intermediate roller 16 is preferably located under the upper run of the apron 8 where pressure on the apron is given by the tongue 19 and brake 20 to prevent any downward collapse of the apron, and of course, as above stated, any desired number of such rollers may be employed.

The apron is preferably of rubber or other composition which has a highly frictional surface that also aids in the movement of the envelopes.

The forward roller 5 is fixed to turn with a tubular shaft 23 mounted in the box or casing 4, and this shaft 23 has an open end receiving a shaft 24 which telescopes therein and has a longitudinal slot 25 receiving a crosspin 26 projecting through the shaft 23 so as to hold these shafts against independent rotary movement but to allow shaft 24 to telescope freely in shaft 23.

In the shaft 23 a coil spring 27 is located, secured at one end to the shaft 23 and at its other end to the shaft 24, exerting a pull on the shaft 24, tending to draw said shaft inwardly and compel said shaft to move with the platen of the typewriter 3.

On the outer end of shaft 24 a frame 28 is pivotally mounted and supports a shaft 29 adjacent its free end. A pulley 30 is fixed to the shaft 29 in the frame 28 and is connected by an endless belt 31 with a pulley 32 fixed to the shaft 24 in the frame 28.

The shaft 29 has a coupling sleeve 33 on one end adapted to receive the end of the typewriter platen shaft 34 and be secured thereon by a set screw 35 or other suitable means. Before this coupling sleeve can be secured on the shaft 34 it is necessary to remove the knob 36 from the platen shaft 34, and this knob can be secured to the outer end of the shaft 29 and function in the ordinary manner to turn the platen 37 of the typewriter and in addition to cause the motion to be transmitted to my improved apparatus to feed the envelopes, as will more fully hereinafter appear.

In Figure 3 of the drawings I illustrate a portion of the typewriter platen 37 with its ordinary guide plate 38 in section, and in front of the typewriter guide plate 38 I locate a guide plate 39, removably connected to my improved apparatus, and with this idea in view I provide end flanges 40 on the plate which extend upwardly beyond the plate and have notches 41 therein receiving pins 42 on the sides of the box 4 at its forward end.

The plate 39 supports a pair of guides 43 which have spring tongues 44 at their upper ends engaging over the upper edge of the guide plate 39 so that they may be adjusted toward or away from each other in accordance with the size of the envelope in use.

These guides 43 are also made with slots 45 therein through which an envelope can pass while the carriage of the typewriter is being moved back and forth in the event an envelope is on the guide plate 39 awaiting entrance under the platen 37.

The operation is as follows:

By turning the platen 37 of the typewriter, through the medium of the knob 36, rotary motion is imparted to the roller 5 through the medium of pulleys 30 and 32 and belt 31, as has been explained. This motion of the roller 5 causes the apron 8 to move and carry an envelope forwardly from the hopper 10.

The speed of movement is so arranged that the envelopes will be fed just as fast as they are needed, and to prevent a too rapid feed of the envelopes the spring tongue 19 is utilized as above explained.

The envelopes when they reach the forward end of apron 8 fall onto the guide plate 39 between the guides 43 and are in position for movement under the platen 37.

While I have illustrated what I believe to be a preferred embodiment of my invention it is obvious various changes and alterations might be made in the general form of the parts described without departing from my invention and hence I do not limit myself to the precise details set forth but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

I claim:

1. An envelope feeding apparatus for typewriters, comprising a frame, an endless apron on the frame, means operatively connecting the apron with the platen shaft of a typwriter, means for guiding a column of envelopes with the bottom envelope resting directly on the apron and means for directing envelopes from the opron into position on the typewriter.

2. An envelope feeding apparatus for typewriters, comprising a frame, an endless apron on the frame, means operatively connecting the apron with the platen shaft of a typewriter, means for directing envelopes onto the apron, means for directing envelopes from the apron into position on the typewriter, said apron having a transversely ribbed surface, and a spring tongue engaging said surface and retarding the movement of envelopes on the apron.

3. An envelope feeding apparatus for typewriters, comprising a frame, an endless apron on the frame, means operatively connecting the apron with the platen shaft of a typewriter, a hopper located above the apron and guiding a column of envelopes with the bottom envelope resting directly on the apron, and means for directing envelopes from the apron into position on the typewriter.

4. An envelope feeding apparatus for typewriters, comprising a frame, an endless apron on the frame, means operatively connecting the apron with the platen shaft of a typewriter, a frame above the apron, channel-shaped uprights movable in the frame and constituting a hopper for envelopes, downwardly projecting tongues on the uprights having screw-threaded portions, and a right and left hand screw-threaded shaft engaging the threaded portions of the tongues and adapted when turned to adjust the upright members toward and away from each other.

5. An envelope feeding apparatus for typewriters, comprising a frame, an endless apron on the frame, means operatively connecting the apron with the platen shaft of the typewriter, and a guiding plate on the frame for guiding envelopes from the apron into operative engagement with the platen of the typewriter, said guiding plate removably connected to said first-mentioned frame.

6. An envelope feeding apparatus for typewriters, comprising a frame, an endless apron on the frame, means operatively connecting the apron with the platen shaft of the typewriter, a guiding plate on the frame for guiding envelopes from the apron into operative engagement with the platen of the typewriter, said guiding plate removably connected to said first-mentioned frame, guides movably supported on the guiding plate, and slots in said guides through which an envelope may pass when the typewriter platen is moved longitudinally.

7. An envelope feeding apparatus for typewriters, comprising a frame, an endless apron on the frame, a driving roll for said apron, a tubular shaft in the driving roll, a shaft telescoping in the tubular shaft and and keyed to turn therewith, a spring in the tubular shaft connected to the other shaft and exerting a pull on the latter to draw the same inwardly, and means operatively connecting the last mentioned shaft with the shaft of the typewriter.

8. An envelope feeding apparatus for typewriters, including a frame, an endless apron on the frame, a roll imparting motion to the apron, a shaft fixed to turn with said roll, a frame pivotally connected to the shaft, a pair of pulleys in the frame, one of said pulleys fixed to said shaft, a coupling shaft in the pivoted frame on which the other of said pulleys is secured, an endless belt connecting the pulleys, and a coupling on said coupling shaft adapted to couple with the end of a platen shaft when the end of said platen shaft is removed, and said platen shaft adapted to receive said knob thereon.

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