D. G. SAUNDERS, Jr.

ENVELOP FEEDING MACHINE.

APPLICATION FILED APR. 1, 1914.

1,136,171. Patented Apr. 20, 1915.

Fig. I.

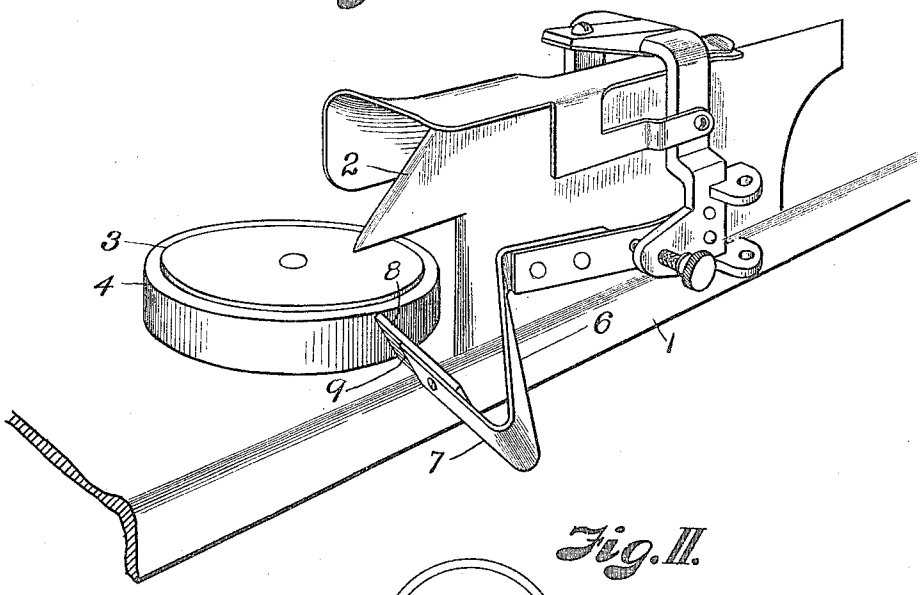


Fig. II.

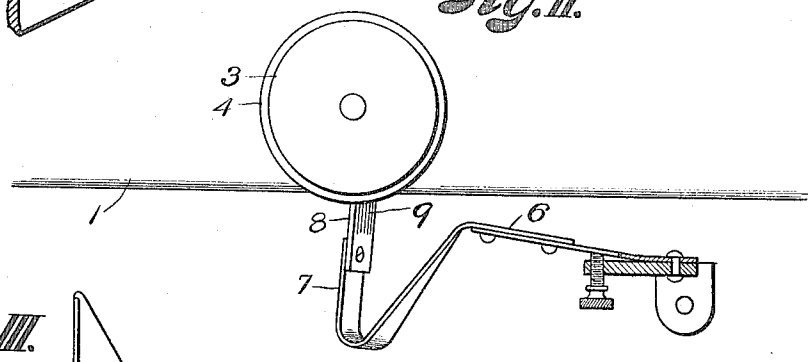


Fig. III.

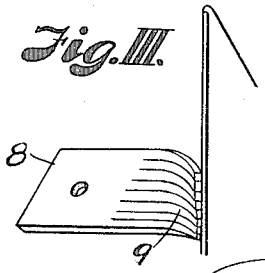
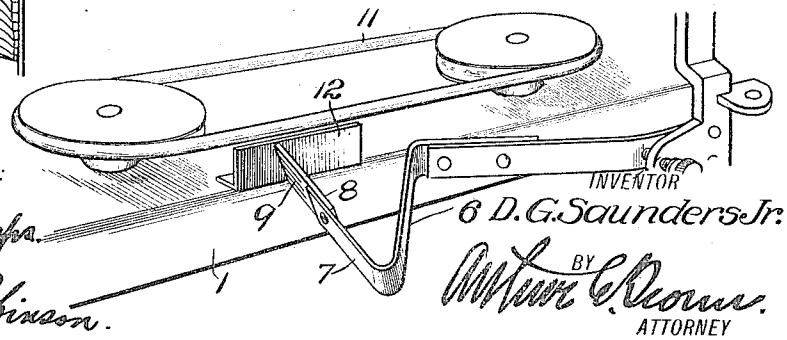


Fig. IV.



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ENVELOP-FEEDING MACHINE.

1,136,171. Specification of Letters Patent. Patented Apr. 20, 1915.

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To all whom it may concern:

Be it known that I, DANIEL G. SAUNDERS, Jr., a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Envelop-Feeding Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to envelop feeding machines, and more particularly to a retarder for use in connection with envelop forwarding mechanism, to insure the advancement of envelops singly to flap moistening and sealing parts; the principal object of the invention being to provide a retarder which will permit the advancement of a single envelop but will hold or retard other envelops until a preceding one has passed the retarding member. In accomplishing this object, I have provided improved details of structure; the preferred forms of which are illustrated in the accompanying drawings, wherein:—

Figure I is a perspective view of part of an envelop sealing machine, particularly illustrating my improved retarder, only enough of the main machine being illustrated to give an understanding of the use of the present improvements. Fig. II is a plan view of the forwarder and retarder with the guide parts removed, illustrating the preferred arrangement of the parts relative to the table. Fig. III is a detail perspective view of the slit retarder lip. Fig. IV is a perspective view of the retarder, illustrating its use with a forwarding belt.

Referring more in detail to the parts: 1 designates a table upon which envelops to be fed into the machine may be stacked, and 2 a guide rail over which the envelops are adapted to travel.

Revolubly mounted above the table 1 is a horizontal forwarding roller 3, preferably comprising a rubber or like friction-inducing band 4, the periphery of which is adapted to travel adjacent the edge of the table or the path of the envelops from the table to the guide rail 2.

Pivotally mounted adjacent the forwarding roller is an arm 6 having its free end 7 turned toward the forwarding roller and forwardly in the line of feed, and provided with a flexible lip 8; the free end of which projects beyond the end of the carrying arm and terminates adjacent the periphery of the forwarding roller; the end 7 of the carrying arm being inclined and the lip 8 being flat, so that when in its inclined position its free edge extends at an angle across the periphery of the horizontal roller.

When the retarder is used with the roller forwarder, the end of the lip 8 is beveled, as shown in Figs. I, II and III, in order that it may contact the roller over its entire end surface; it being apparent that with the lip set to contact the roller at or back of a perpendicular line, relative to the table and roller, the incline of the lip would carry the lower portion of its end away from the roller unless the end were beveled, as described. It is also apparent that if the lip is sufficiently stiff, the envelops might be bent when pushed thereagainst by the forwarding roller, but that by inclining the lip, as illustrated, the end of the envelop may first contact a corner of the lip, and, as it is forwarded, may engage the full end thereof progressively; as in this manner a part of the body of the envelop may be projected between the retarder and forwarding roller before the full tension of the lip is encountered and thereby help to pull the envelop along without throwing the entire burden of the forwarding movement on the end of the envelop. In order to further facilitate the easy feeding of the end of the envelop past the retarder, I slit the free ends of the lips longitudinally to provide individual fingers 9 thereon; each of which may yield independently of the other to create the pressure against the end of the envelop. I also preferably turn the end 7 of the carrying arm 6 backwardly, or in the direction of the envelop feed, as with this arrangement, a chute is formed, into which the envelops feed, and are thereby prevented from being deflected laterally when they contact the retarder.

In using the device, envelops are placed on the edge of the table 1 and fed to the forwarding mechanism in the stack; the periphery of the forwarding roller engaging the end envelop in the stack and carrying same forwardly into the chute formed between the roller and the backturned carry-

ing arm 7, and against the retarding lip. When friction of the forwarding roller carries the envelop toward the lip, the end of the envelop engages the upper free finger of the lip, pushing this finger out of the way and engaging the succeeding fingers in turn, until the body of the envelop has entered between the retarder and forwarding roller, and is conducted to the other forwarding mechanism; the other envelops in the stack being held by the body of the retarder lip until the end envelop has passed from between the roller and retarder, when the next envelop is advanced in like manner.

While I prefer to use the horizontal roller as the forwarding member, it is apparent that a belt 11, such as that shown in the modified form (Fig. III), may be substituted therefor, and that instead of the lip engaging the forwarder it may engage the face of the plate 12, or the like, that is arranged at one side of the forwarder, so that the envelops may be advanced without wearing the forwarder or retarder by direct contact of these parts with each other.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters-Patent, is:—

1. The combination with a forwarding member, of an inclined retarder having a free edge arranged in proximity to the forwarder, and adapted for progressive engagement by the edge of an envelop as the latter advances therealong.

2. The combination with a forwarding member, of a retarder having a flexible contact portion arranged at an incline relative to the axis of the forwarding member.

3. The combination with a revoluble forwarder, of a retarder inclined longitudinally and transversely relative to the axis of the retarder.

4. The combination with a forwarder, of a retarder having a flexible free end located adjacent the forwarder and inclined across the face of and rearwardly relative to said forwarder.

5. The combination with a forwarder, of a retarder comprising a flexible member inclined across the line of travel of an article advanced by the forwarder and inclined toward the line of travel.

6. The combination with a forwarder, of a retarder comprising a single piece of flexible material having a free end slit longitudinally to form individual contact fingers, and inclined across the plane of travel of an article advanced by the forwarder, whereby the article may contact the several fingers of the retarder progressively as the article is advanced.

7. The combination with a forwarder having a friction-inducing periphery, of a yieldable arm having a backturned free end directed toward the retarder, a flexible lip on said arm having a free end arranged at an incline to the axis of the retarder, and slit to form individual fingers, for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL G. SAUNDERS, JR.

Witnesses:
LYNN A. ROBINSON,
L. E. COATS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."