

J. SLAYBAUGH & W. L. SCHROEDER.

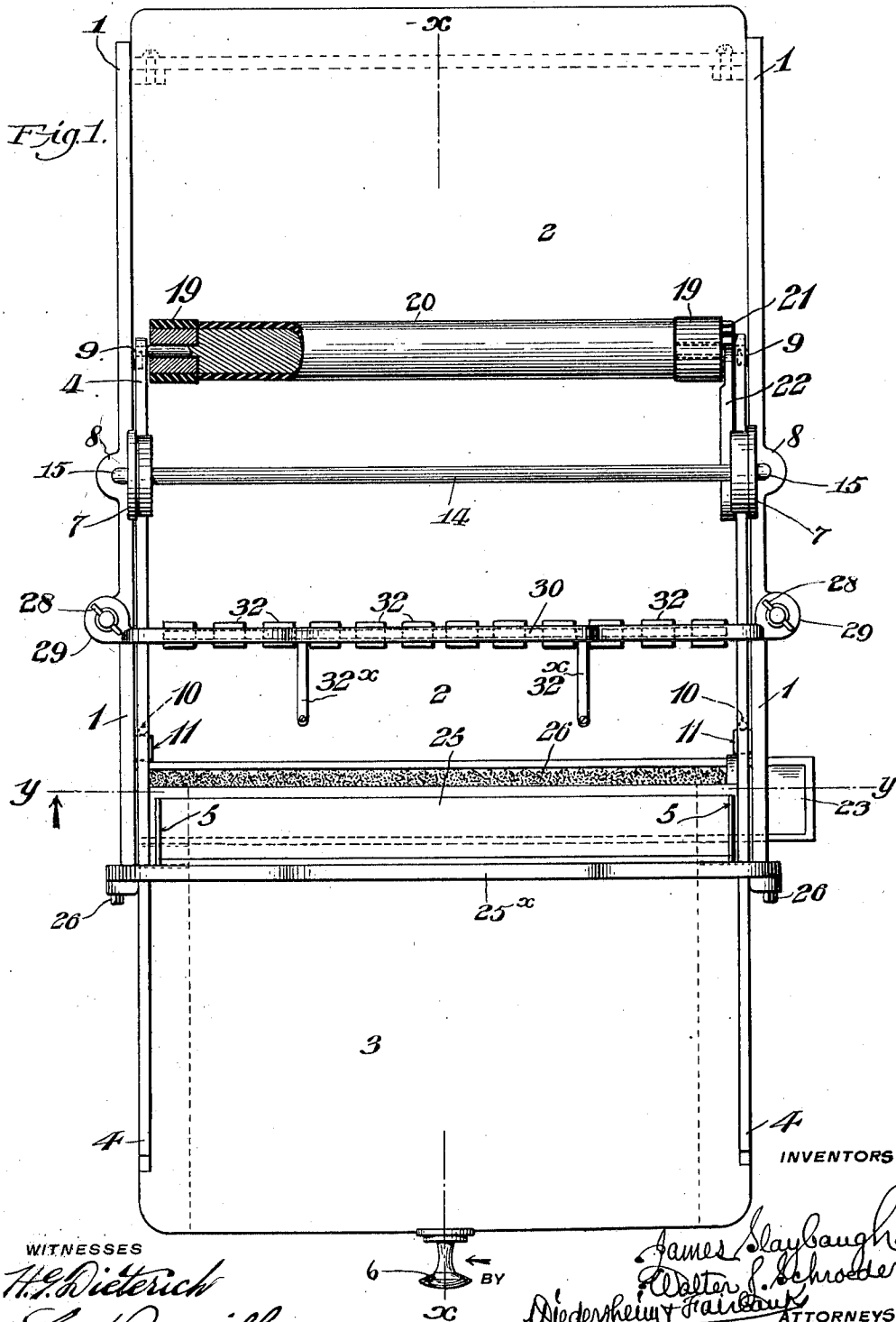
ENVELOP SEALING DEVICE.

APPLICATION FILED OCT. 28, 1910.

1,031,296.

Patented July 2, 1912.

2 SHEETS—SHEET 1.

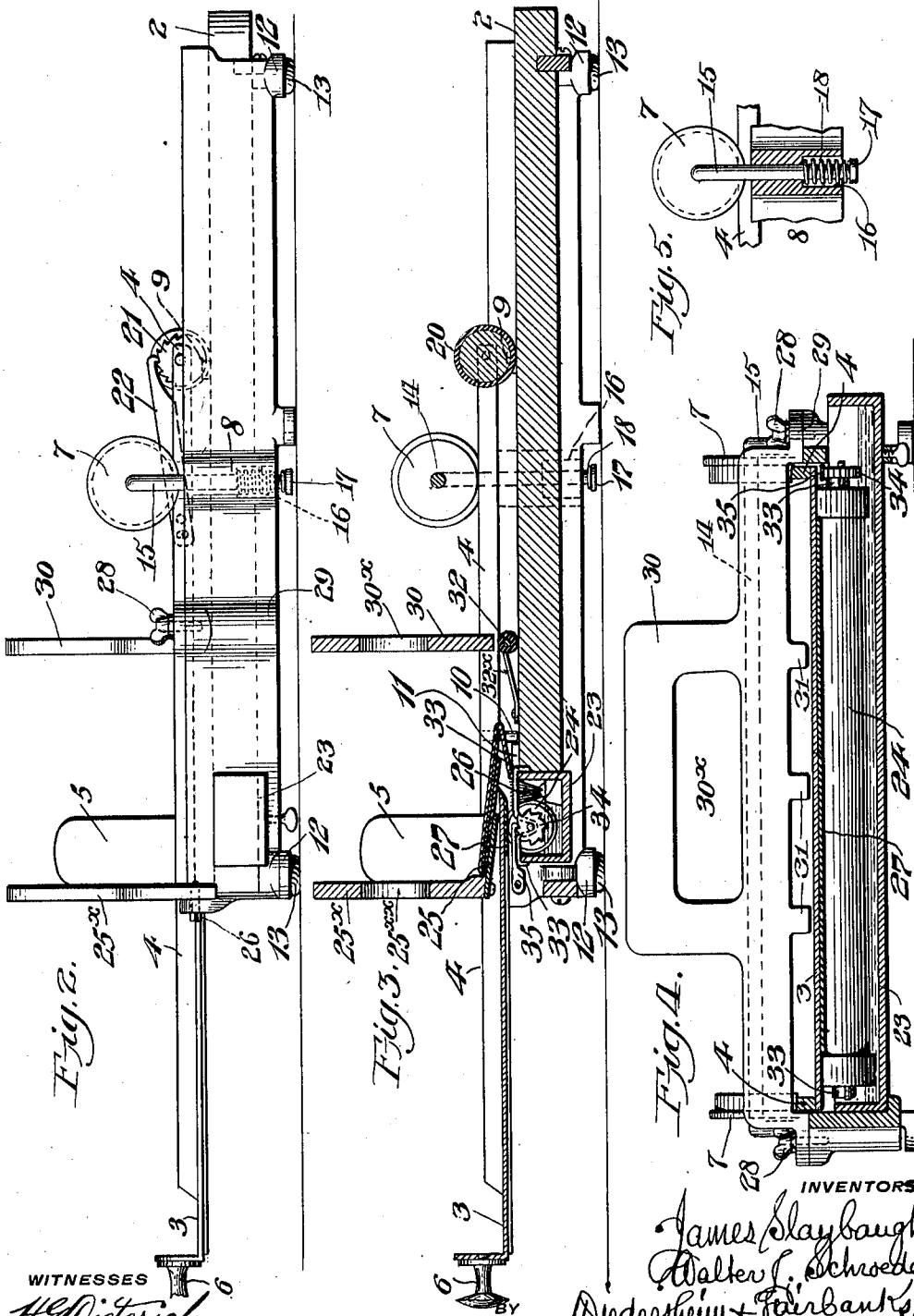


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UNITED STATES PATENT OFFICE.

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ENVELOP-SEALING DEVICE.

1,031,296.

Specification of Letters Patent.

Patented July 2, 1912.

Application filed October 28, 1910. Serial No. 589,511.

To all whom it may concern:

Be it known that we, JAMES SLAYBAUGH and WALTER L. SCHROEDER, both citizens of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Envelop-Sealing Device, of which the following is a specification.

Our invention consists of an envelop sealing device embodying novel means for feeding an envelop, for moistening the flap thereof, for closing the envelop, and for discharging the same, as will be hereinafter set forth.

For the purpose of explaining our invention, the accompanying drawing illustrates a satisfactory reduction of the same to practice, but the important instrumentalities thereof may be varied, and so it is to be understood that the invention is not limited to the specific arrangement and organization shown and described.

Figure 1 represents a plan view of an envelop sealing device embodying our invention. Fig. 2 represents a side elevation thereof. Fig. 3 represents a longitudinal section on line $x-x$ Fig. 1. Fig. 4 represents a transverse section on line $y-y$ Fig. 1. Fig. 5 represents a partial side elevation and a partial vertical section of a detached portion.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—1 designates upright plates or sides of the frame of the device, and 2 designates a bed or table connected therewith. At the entrance end of said bed is the sliding pusher 3, which is connected at its side with the horizontally arranged rails 4, said pusher and rails being movably fitted between the plates 1 and above the bed 2. Guards 5 are provided on the sides of the frame for preventing lateral displacement of envelops when in their first position. Connected with the relative end of the pusher is the knob 6, whereby said pusher may be readily moved in opposite directions.

7 designates tension wheels or rollers which are adapted to bear on the rails 4 toward the outlet end of the device, said rollers being mounted in the transversely extending shaft 14, the ends of which are extended downwardly forming the limbs 15 which are fitted freely in bosses 8 on the sides of the frame, said bosses having there-

on the chambers 16, which are occupied by the springs 18, the latter encircling the limbs 15 and bearing downwardly on the top walls of said chambers as shoulders, the lower ends of the limbs 15 being provided with nuts 17, whereby the tension of the springs may be adjusted, the effect of which is communicated to the rollers 7, whereby more or less downward pressure may be imparted to the rollers 7, and the rails 4. On the bed are the stops 9 and 11, and on the rails 4, are the depending screws 10, said stops being spaced apart in such manner that they may be engaged by said screws so as to limit the advance and return motions respectively of the pusher 3, and preventing displacement of the same from the frame of the device. On said frame are the supporting legs 12, which are provided with rubber feet or cushions 13, for evident purposes.

On the end of the rails 4 are mounted the gudgeons or journals of a pressure and friction roller 20 which extends transversely over the bed 2, said journals having thereon the freely rotating rollers 19, which as is evident, occupies positions at the ends of said roller 20. Connected with one of said journals is the ratchet 21, and the teeth of which engages the pawl 22 which is pivotally connected with the adjacent portion of the rail 4, whereby in the advance motion of the pusher 3, the roller 20 is prevented from rotating, and on the return direction thereof said roller is permitted to rotate, as will be referred to hereinafter.

In the frame of the device near the entrance end thereof is secured the water trough 23, which occupies a position beneath the pusher 3, and contains the roller 24 and brush 26, said roller being adapted to dip into the water in said trough, and the brush projecting upwardly in front of said roller, it being noticed that the under sides of the pusher 3 has a pad 27 thereon, the same being adapted to contact with the roller 24 and to be moistened by the same and said roller 24 to be wiped by said brush so as to remove the surplus water or moisture therefrom.

Connected with the frame, approximately above the trough 23 is the ledge 25, the same extending in slightly inclined condition over the pusher 3, and connected with the lower end of an upright plate 25*, which is screwed or otherwise fastened to the frame, and has

an opening 25^{xx} therein forming a grip for carrying purposes.

Rising from the sides of the frame are bosses 29 in which are fitted the set screws 28 which pass freely through eyes in the sides of the gravitating feed plate 30, which extends vertically over the bed 2, and has depending legs 31 whose lower ends, when the nuts 28 are loosened so that the plate 30 will have a limited movement, may be adjusted in height relatively to the thickness of the envelops to pass under the same by proper rotation of the screws 28, said plate having an opening 30^x forming a grip for carrying purposes. Below said plate 30 is the shouldered roller 32, which has resilient bearings 32^x, the latter being secured to the bed 2 and rising therefrom so as to exert upward pressure on said roller, said roller being separated from the lower end of said plate forming a space through which an envelop and the pusher 3 is permitted to pass, as will be hereinafter described.

The moistening roller 24 is mounted on the side bearings 33 which are supported on the trough 23, so that said roller may exert the proper pressure on the pad 27 in supplying the latter with water. The said roller is rotated by contact with said pad in one motion of the pusher 3, said roller being prevented from rotation in the other motion of said pusher by the action of a ratchet 34 on the journal of the roller 24, and a resilient pawl 35 engaging therewith, said pawl being attached to the adjacent portion of the frame of the device.

The operation is as follows:—An envelop is placed on the ledge 25, so that the flap of the envelop is below said ledge thus acting as a divider or separator for the body and flap, see Fig. 3, where the envelop in the position named is shown in section. The pusher is now advanced whereby its forward position enters between the body and flap of the envelop and the pad 27 is over the adhesive material on the flap, said pad having been supplied with a proper amount of water or moisture by the roller 24. The envelop is then directed by the advancing pusher to the space or passage between the plate 30 and roller 32 and forced through the same by the pusher, said passage permitting but a single envelop to enter the same, the plate being adjusted to the same by the height of the rails 4. The roller 32 now presses the envelop upwardly against said plate whereby the adhesive material of the flap is advanced against the pad 27, and so moistened or wet. The pusher is now returned when the envelop abuts against the legs 31, and the envelop is stripped from the pusher and drops on the bed 2 where it rests. The pusher again advances when the roller 20 now being prevented from rotation owing to the ratchet 21 and pawl 22 frictionally

engages the upper face of the envelops and said roller 20 slidably carrying the first named envelop forward on the bed while in a measure pressing down on the same, partially sealing it and depositing it near the terminal of the bed. Meanwhile, a second envelop has been fed to the pusher and advanced and deposited in front of the plate 30. Then the pusher returns and the roller 20 rotates over the first named envelop and completely seals the same, it remaining at rest on the bed 2. Now the second envelop has followed the motions and manipulation of the first envelop, when the roller 20, again advancing, forwards the second envelop and contacts with the first envelop at the rear edge thereof, and forces it fully sealed from the bed and consequently from the device. Meanwhile, a third envelop is supplied to the pusher and manipulated when the second envelop is discharged, and so the work continues as long as there are envelops to seal, this being done in an efficient, uniform and practical manner, it being seen that the device in its organization is of simple, durable, and inexpensive construction.

Having thus described our invention what we claim as new and desire to secure by Letters Patent, is:—

1. In an envelop sealing device, a bed, an envelop supporting ledge over the latter, a gage back of said ledge, a pusher below said ledge movable over said bed to and from said ledge, a gravitating feed plate disposed vertically over said bed, an operating pressing member in the path of the envelop beyond said ledge and between which and the feed plate the envelop is forced by said pusher, a combined pressure and feeding device and means for preventing rotation thereof when the same is moved longitudinally in one direction.

2. In an envelop sealing device, a bed, an envelop supporting ledge over the latter, a gage back of said ledge, a pusher below said ledge movable over said bed to and from said ledge, a gravitating feed plate disposed vertically over said bed, an operating pressing member in the path of the envelop beyond said ledge and between which and the feed plate the envelop is forced by said pusher, a combined pressure and feeding device and means preventing rotation thereof when the same is moved longitudinally in one direction said pressing and feeding member being resiliently mounted.

3. In an envelop sealing device, a bed, a pusher, means for supplying moistening material to said pusher, a gravitating plate located in advance of the pusher, a roller beneath said gravitating plate beyond the moisture-supplying device and between which and the plate said pusher moves, a spring support for said roller disposed in

the direction of the length of the bed, a combined pressure and feeding device and means for preventing rotation thereof when the same is moved longitudinally in one direction.

4. In an envelop sealing device, a bed, a pusher, means for supplying moistening material to said pusher, an inclined ledge above the pusher and between which and the moistening means said pusher is reciprocated, a gravitating plate beyond said ledge, a resiliently mounted roller beneath said plate and in vertical alinement therewith and between which plate and roller said pusher is movable, a combined pressure and feeding device and means for preventing rotation thereof when the same is moved longitudinally in one direction.

5. In an envelop sealing device, a bed, a pusher thereon, a bar connected with said pusher and movable therewith over said bed, an intermittently revoluble wheel adapted to rotate on said bed, means for preventing rotation of said wheel on its rearward movement only, and means for mounting said wheel on the frame of said envelop sealing device and for causing downward pressure thereon.

6. In an envelop sealing device, a bed, means for moistening the gummed flap of an envelop and for feeding it to said bed, a roller adapted to press the flap against the envelop and seal it, and locking means for said roller operative only by the forward movement of the roller whereby the latter is caused to act frictionally to advance the envelop to the discharge end of the bed.

7. In an envelop-sealing device, a bed, a roller adapted to traverse said bed, and means for preventing rotation of said roller in its forward direction of motion and permitting rotation of the same in the other direction thereof, said roller thus serving as a presser roller for closing and sealing an envelop thereunder, and a friction roller for carrying said envelop to the discharge end of said bed.

8. In an envelop sealing device, a bed, a pusher, means for moistening said pusher embodying a trough, a roller in the latter, resilient means on said trough for supporting the axis of said roller, a brush in said trough in advance of said roller, an envelop pressing and sealing means in advance of the pusher and between the mem-

bers of which said pusher moves, and locking means operative only in the forward movement of the roller.

9. In an envelop-sealing device, a bed, a pusher, rollers over said bed in advance of said pusher, one of said rollers being adapted to rotate in opposite directions on said bed, the other roller being attached to and movable with the pusher and adapted to rotate in one direction on said bed so as to press, close and seal the envelop and being provided with means whereby it is rendered non-rotatable in the other direction so as to frictionally engage said envelop and carry it to the discharge end of said bed.

10. In an envelop-sealing device, a bed, a pusher, a ledge above said pusher, means for moistening said pusher, a gravitating plate and a pressing roller below the latter, a bar connected with said pusher and carrying said roller and movable over said bed, a wheel mounted on the frame of the device and adapted to rotate on said bar, and means for exerting downward pressure on said wheel.

11. In an envelop-sealing device, a bed, a pusher, a ledge above said pusher, means for moistening said pusher, a gravitating plate and a pressing roller below the latter, a bar connected with said pusher and movable over said bed, a wheel mounted on the frame of the device and adapted to run on said bar, means for exerting downward pressure on said wheel, and an envelop sealing roller carried by said bar adapted to rotate on said bed.

12. In an envelop-sealing device, a bed, a pusher, a ledge above said pusher, means for moistening said pusher, a gravitating plate and a pressing roller below the latter, a bar connected with said pusher and movable over said bed, a wheel mounted on the frame of the device and adapted to run on said bar, means for exerting downward pressure on said wheel, an envelop sealing roller carried by said bar adapted to rotate on said bed, and a friction roller mounted on the axis of said sealing roller adapted to carry the sealed envelop to the discharge end of said bed.

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