

No. 652,356.

Patented June 26, 1900.

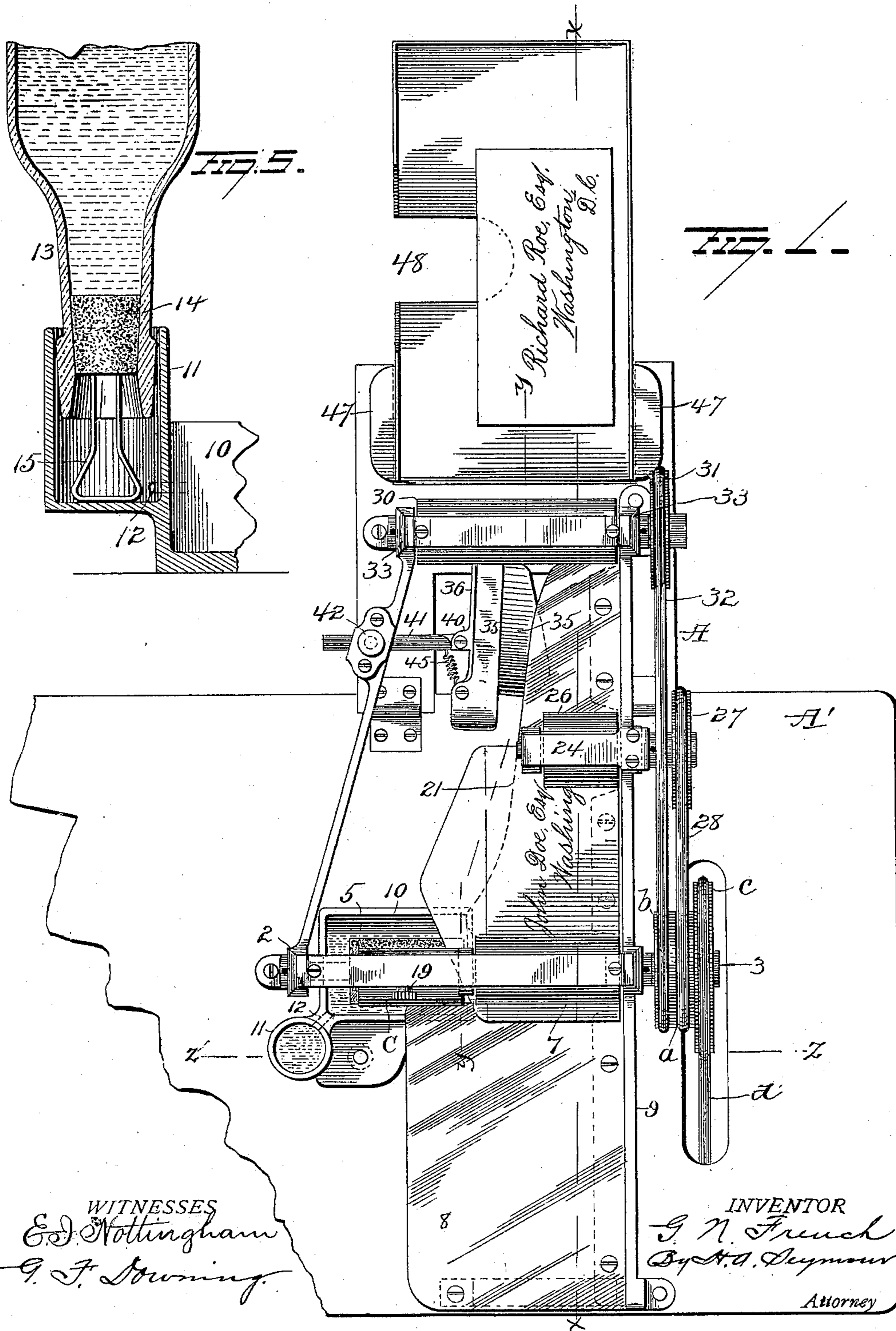
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APPARATUS FOR AUTOMATICALLY SEALING ENVELOPS.

(Application filed Apr. 10, 1899.)

(No Model.)

3 Sheets—Sheet 1.



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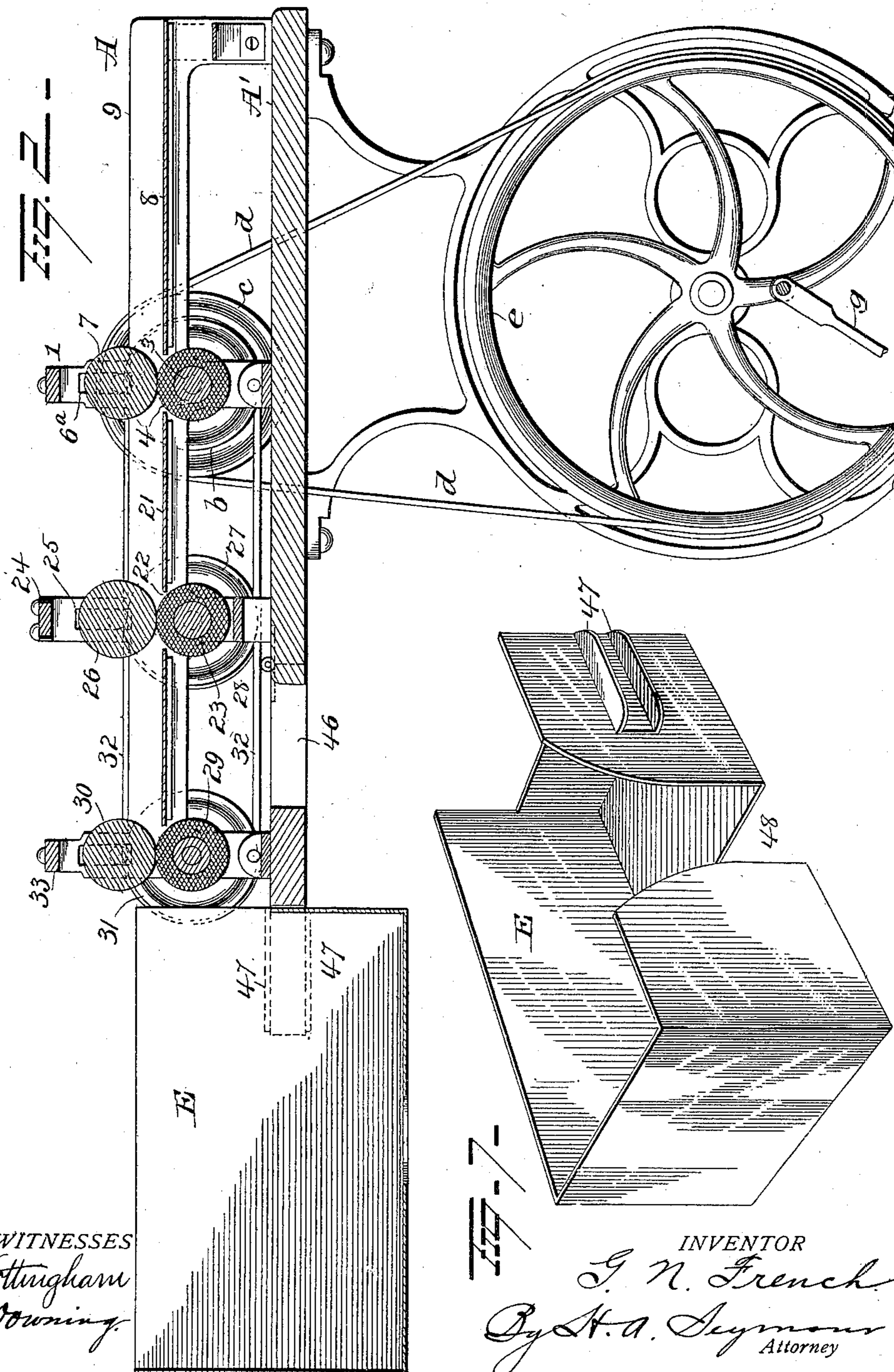
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WITNESSES
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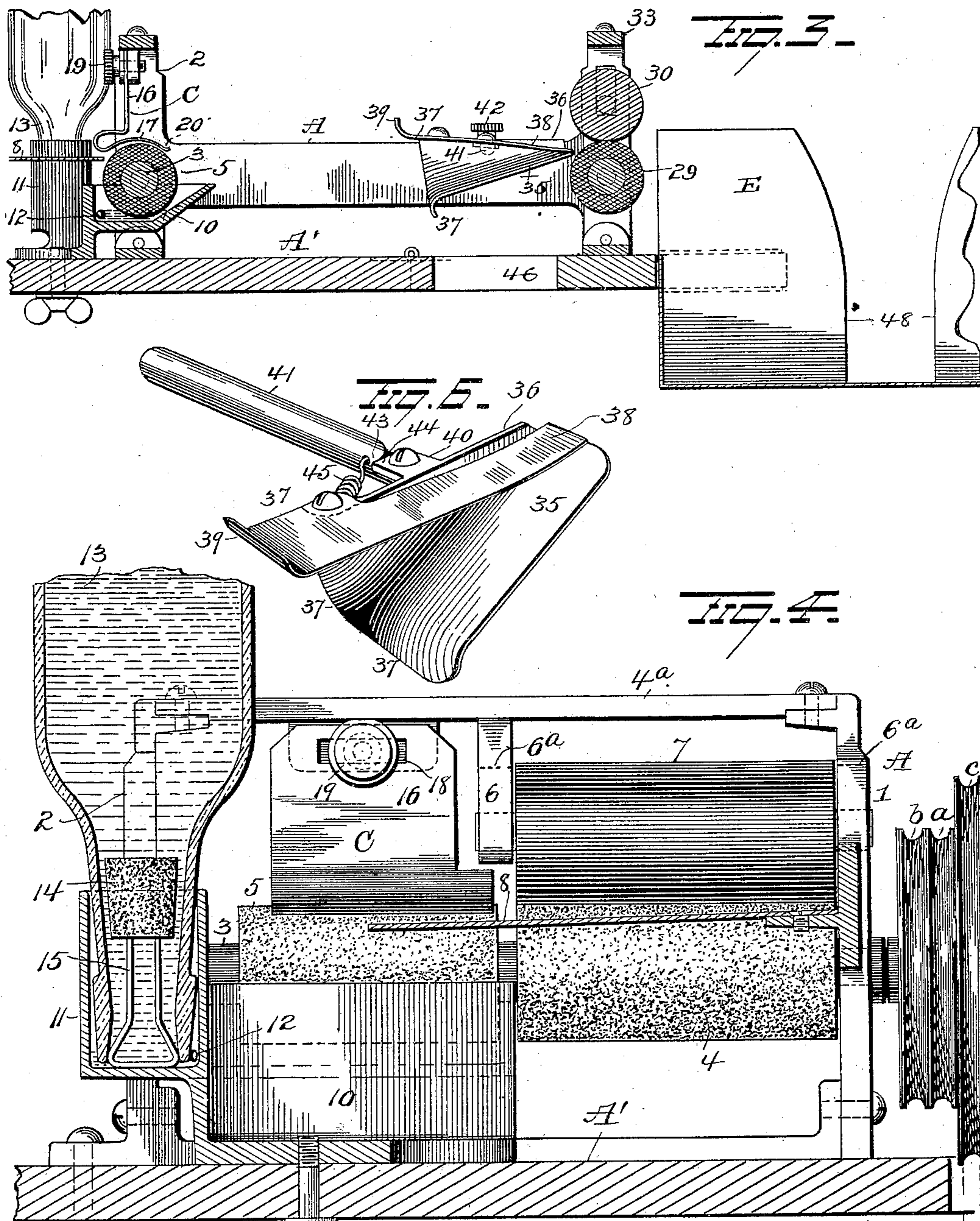
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

GEORGE N. FRENCH, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR,
BY MESNE ASSIGNMENTS, TO THE AMERICAN SEALING MACHINE COM-
PANY, OF ALEXANDRIA, VIRGINIA.

APPARATUS FOR AUTOMATICALLY SEALING ENVELOPS.

SPECIFICATION forming part of Letters Patent No. 652,356, dated June 26, 1900.

Application filed April 10, 1899. Serial No. 712,453. (No model.)

To all whom it may concern:

Be it known that I, GEORGE N. FRENCH, of Washington, in the District of Columbia, have invented certain new and useful Improve-
5 ments in Apparatus for Automatically Sealing Envelops; and I do hereby 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
10 to make and use the same.

My invention relates to an improvement in apparatus for automatically sealing envelops, one object of the invention being to improve, in various respects, the machine upon which
15 Letters Patent were granted to Josiah Dupaw, April 19, 1898, and designated by No. 602,801.

A further object is to provide the apparatus with a folder which will operate to accurately fold the flap of the envelop, present the en-
20 velop to the sealing-rollers in such manner as to hold the flap against the body of the envelop before and during the passage of the envelop between said sealing-rollers, which can be readily adjusted for envelops of different
25 widths, and which will automatically accommodate itself to irregularities in the feeding of the envelops and adjust the latter to proper position to pass between the sealing-rollers.

With these objects in view the invention
30 consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is
35 a plan view. Fig. 2 is a sectional view on line $x x$ of Fig. 1. Fig. 3 is a sectional view on line $y y$ of Fig. 1. Fig. 4 is a sectional view on line $z z$ of Fig. 1. Fig. 5 is a detail view of a portion of the moistener. Fig. 6 is a de-
40 tail view of the folder, and Fig. 7 is a detail view of the receptacle for sealed envelops.

A represents the frame of my improved apparatus, which is secured to and supported by a table A'. The frame A is provided near
45 its inner end, at diametrically-opposite sides, with standards 1 2, in the lower portions of which the respective journals of a shaft 3 are mounted. Two rollers 4 5, of rubber or other suitable material, are spaced apart on the
50 shaft 3 and secured thereto, and one journal

of said shaft is extended laterally beyond its bearing in the frame A and provided with wheels $a b c$, the wheel c being larger than the others and adapted to receive a strap d , which receives motion from a large driving-
55 wheel e , mounted in the framework under the table. The wheel e is driven by means of a treadle, with which it is connected by means of a pitman g .

The standards 1 2, above referred to, are
60 connected by a cross-bar 4^a , from an intermediate part of which an arm or hanger 6 depends. The arm or hanger 6 and the upper portion of the standard 1 are made with elongated slots 6^a for the reception of the jour-
65 nals of a weighted roller 7, disposed immediately over the roller 4 and coöperating therewith to feed envelops from a platform 8 at the inner end of the apparatus, said platform being secured to the frame A in such manner
70 as to leave a guide-flange 9 projecting upwardly at one side. The platform 8 is of such width as to extend the full length of the lower feed-roller 4 and about half the length of the roller 5, that portion of the platform adjacent
75 to the latter being depressed somewhat, so as to be disposed below the plane of said roller 5. The roller 5 is for the purpose of moistening the adhesive material on the flap of the en-
80 velop and receives water from an open tray 10, located under it. A vertical tubular extension 11 is cast with or secured to the tray and communicates with the latter by means of a duct or channel 12. A water-reservoir
85 13, provided with a closed upper end, communicates at its lower end with the tubular extension and serves to automatically maintain a definite supply of water in the tray. The reservoir may conveniently consist of a
90 glass bottle, inverted and having its neck portion placed in the tubular extension 11. A valve or stopper 14 will preferably be disposed in the neck of the water bottle or reservoir to facilitate the placing thereof in the tubular
95 extension after having been filled, and said valve or stopper is provided with an arm or stem 15, adapted to project some distance beyond the mouth of the bottle or reservoir and engage the bottom of said tubular extension
100 for the purpose of raising the valve or stop-

per, and thus permitting the escape of water from the reservoir into the tubular extension, from which it will be fed automatically to the tray as the supply of water in the latter diminishes.

A spring presser-plate C is disposed over the moistening-roller 5 and is constructed in such manner as to press the gummed flap of an envelop firmly against the roller, and thus insure the thorough wetting and softening of the gum throughout the entire length thereof. The presser-plate comprises a vertical member 16 and an integral horizontally-disposed member 17. The vertical member 16 is provided near its upper end with a horizontal elongated slot 18 for the passage of a thumb-screw 19, by means of which the presser-plate is adjustably secured to a lug on the cross-bar 4^a. The horizontal member 17 of the presser-plate is curved eccentric to the roller 5 and projects at one edge slightly over the edge of the platform adjacent to said roller. The forward edge of the member 17 is bent to form a curved lip 20, which is normally disposed in very close proximity to the moistening-roller 5, so as to press the flap of the envelop firmly against said roller. Thus it will be seen that when an envelop (with the flap thereof projected, as shown in Fig. 1) is passed between the feeding-rollers the flap will be bent by the member 17 of the presser-plate and made to partially embrace the moistening-roller, while the lip 20 will press the flap firmly against said roller and insure the thorough moistening of all the gum thereon. After passing the feed-rollers 4 7 and the moistener the envelop will be deposited upon a plate 21, which in effect constitutes a continuation of the platform 8. The plate 21 is made at a point about midway between its ends with an opening 22 for the accommodation of a rubber feed-roller 23, mounted in suitable bearings in the frame A. The frame A is provided with a bracket 24 over the opening 22, and the upright members of this bracket are made with elongated slots 25 for the reception of the journals of a weighted roller 26, which normally bears upon the roller 23 and coöperates therewith to feed the envelop forward through the folder and then to the sealing-rollers. The feed-roller 23 is provided with a wheel 27, to which motion is imparted by means of a strap 28, passing over the wheel *a*.

The sealing-rollers above referred to comprise two rollers 29 30, disposed at the forward end of the plate or extension 21 of the platform. The lower roller 29 is preferably made of rubber and provided with a wheel 31, to which motion is transmitted by means of a strap 32, passing over the wheel *b*. The upper roller 30 of the pair of sealing-rollers is made heavy or weighted, and its journals are mounted in elongated bearings in standards 33, projecting upwardly from the frame A.

One side of the frame is made to form a

flange projecting above the platform and its extension from one end to the other to form a lateral guide for the envelops passing through the apparatus.

The folder above alluded to is located between the feed-rollers 23 26 and the sealing-rollers and somewhat laterally from the inside edge of the extension 21 of the platform, so as to receive the flap of the envelop as the latter passes from the feed-rollers 23 26 and deliver the envelop with the flap folded thereon to the sealing-rollers.

In constructing the folder I employ a plate 35, curved upwardly at its outer edge to form a flange 36, and the inner end of said plate and its flange are curved to form lips 37, which insure the passage of the flap of the envelop over said plate. The flange 36 of the plate 35 is made with an inclined upper edge and terminates in close proximity to the forward end of the plate. At the higher end of the flange 36 a spring-plate 37^a is secured, said plate extending in the form of a spring-finger 38 to the forward end of the plate 35 and normally bearing thereon. The rear or higher end of the plate 37 is bent to form an up-turned lip 39 to insure the entrance of the edge of the envelop under the said plate and its spring-finger. The flange 36 of plate 35 is provided on its outer face with a lug 40, to which a bar or shank 41 is pivotally connected, said bar or shank being mounted on side of the frame A and held adjustably in position by means of a set-screw 42. The bar or shank 41 is made with a shoulder 43, against which a shoulder 44 on the lug 40 is normally pressed by means of a coiled spring 45, attached at its respective ends to the bar or shank and the higher or larger end of flange 36 of plate 35. The shoulders 43 44 are so arranged relatively to each other and the shank is so mounted in the frame A that the forward end of the flange 36 of the folder will be slightly nearer the guide-flange of the frame than the rear end, so that should an envelop in passing through the feeding devices be moved away from said guide-flange it will still enter the larger end of the folder and be pushed laterally toward the guide-flange by the forward portion of flange 36, said folder being so adjusted that the space between the forward end of its flange 36 and the guide-flange of the frame will be equal to the width of the envelop. Should the envelop become considerably displaced laterally in passing through the feed-rollers or should it not be started through the first pair of feed-rollers close to the guide-flange of the frame, the folder will yield and permit the entrance of the envelop and then push the letter laterally toward the guide-flange, as above explained, so that it will be in position to pass between the sealing-rollers. It is apparent that when the flap of the envelop engages the curved folder-plate (the body of the envelop being disposed on the plate or

extension 21 of the platform) the flap will be bent up against the body of the envelop and held there by the spring-finger.

The folder will be so set as to deliver the envelop to the lower sealing-roller somewhat below the plane thereof, and the spring-finger will tend to pass downwardly on the envelop, so that the latter will partially embrace the roller and the flap be thus held against the body of the envelop before it passes between the two rollers.

The table A' is provided with arms 46, (preferably hinged thereto to facilitate packing for shipping,) and on these arms the forward end of the frame A rests. A receptacle E for sealed envelops delivered from the sealing-rollers is disposed between the free ends of the arms 46 and supported on said arms by means of ears or flanges 47. One side and bottom of the receptacle is preferably slotted, as at 48, to facilitate the removal of sealed envelops therefrom.

Various slight changes might be made in the details of construction of my invention without departing from the spirit thereof or limiting its scope, and hence I do not wish to limit myself to the precise details herein set forth.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an envelop-sealing machine, the combination with a frame, a moistening-roller, a cross-bar above the same, and feeding-rollers disposed to one side of the moistening-roller, of a curved plate having a vertical arm or member provided with a transverse elongated slot, a thumb-screw passing through said slot and attached to the cross-bar, said plate disposed over and partially embracing the moistening-roller and adapted to press the gummed flap of an envelop thereon.

2. In an envelop-sealing machine, a flap-folder consisting of a curved plate and a spring-finger secured to the inner end of said plate and bearing at its free end upon the free forward end of said plate.

3. In an envelop-sealing machine, a flap-

folder consisting of a plate having an upwardly-curved flange at one edge and having a downwardly and outwardly curved inner end, and a plate secured to the inner end of said flange and having an upturned inner end, the forward portion of said last-mentioned plate terminating in a spring-finger bearing upon the free end of said first-mentioned plate.

4. In an envelop-sealing machine, a flap-folder consisting of a bar or shank, a folder-plate having an upturned curved flange pivotally attached to said shank, stops or shoulders for limiting the movement of said plate in one direction and a spring attached to said bar or shank and plate for retaining the latter normally in and returning it to its normal position.

5. In an envelop-sealing machine, the combination with a frame and sealing-rollers, of a flap-folder arranged with its delivery end below the upper plane of the lower sealing-roller.

6. In an envelop-sealing machine, the combination with a platform, a flange at one edge of said platform and sealing-rollers, of a flap-folder pivotally connected with the frame, a spring for affording a yielding connection of the folder with the frame adjacent to the free edge of said platform, said folder having an upturned flange so disposed that its forward end will be nearer the flange at the side of the platform than the rear end.

7. In an envelop-sealing machine, the combination with a frame, a platform and sealing-rollers, of a bar or shank adjustably attached to the frame, a folder pivotally attached to said bar or shank, stops for limiting the folder in one direction and a spring attached at its respective ends to said bar or shank and said folder.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEO. N. FRENCH.

Witnesses:

FRED. WEILER,
JNO. S. ANDERSON.