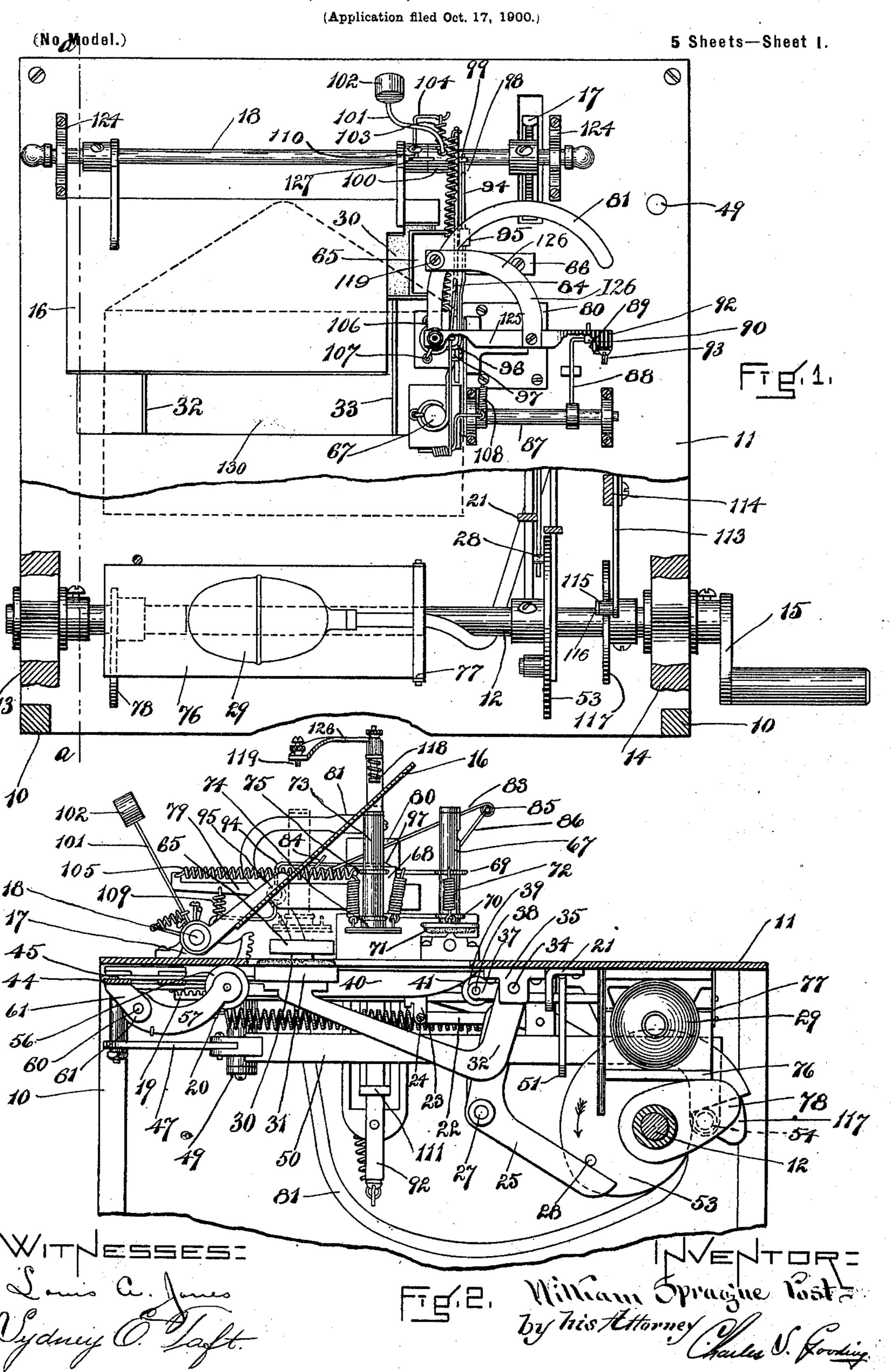
W. S. POST.

MACHINE FOR MOISTENING, CLOSING, AND APPLYING STAMPS TO ENVELOPS.



Patented Mar. 26, 1901.

W. S. POST.

MACHINE FOR MOISTENING, CLOSING, AND APPLYING STAMPS TO ENVELOPS.

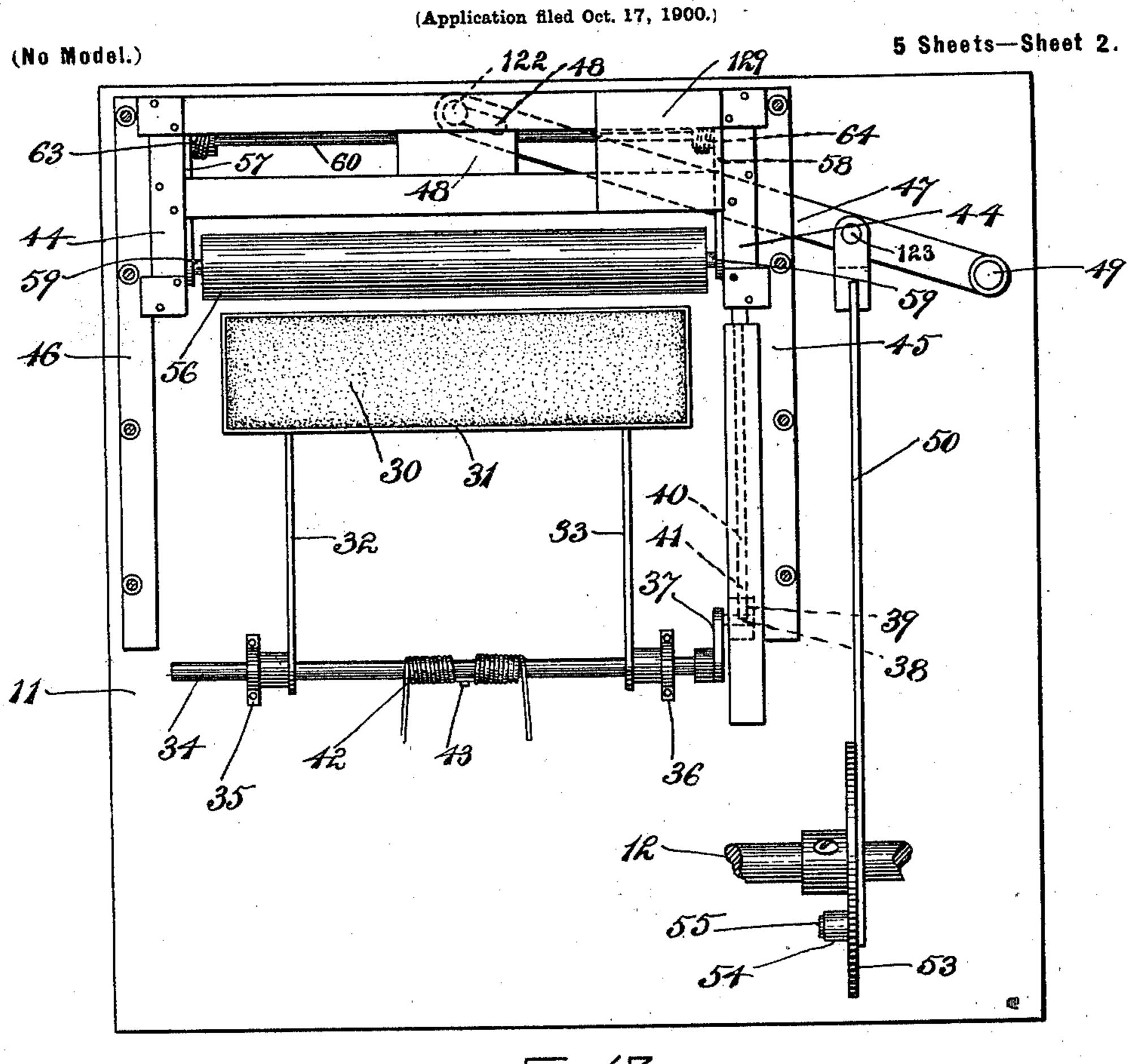
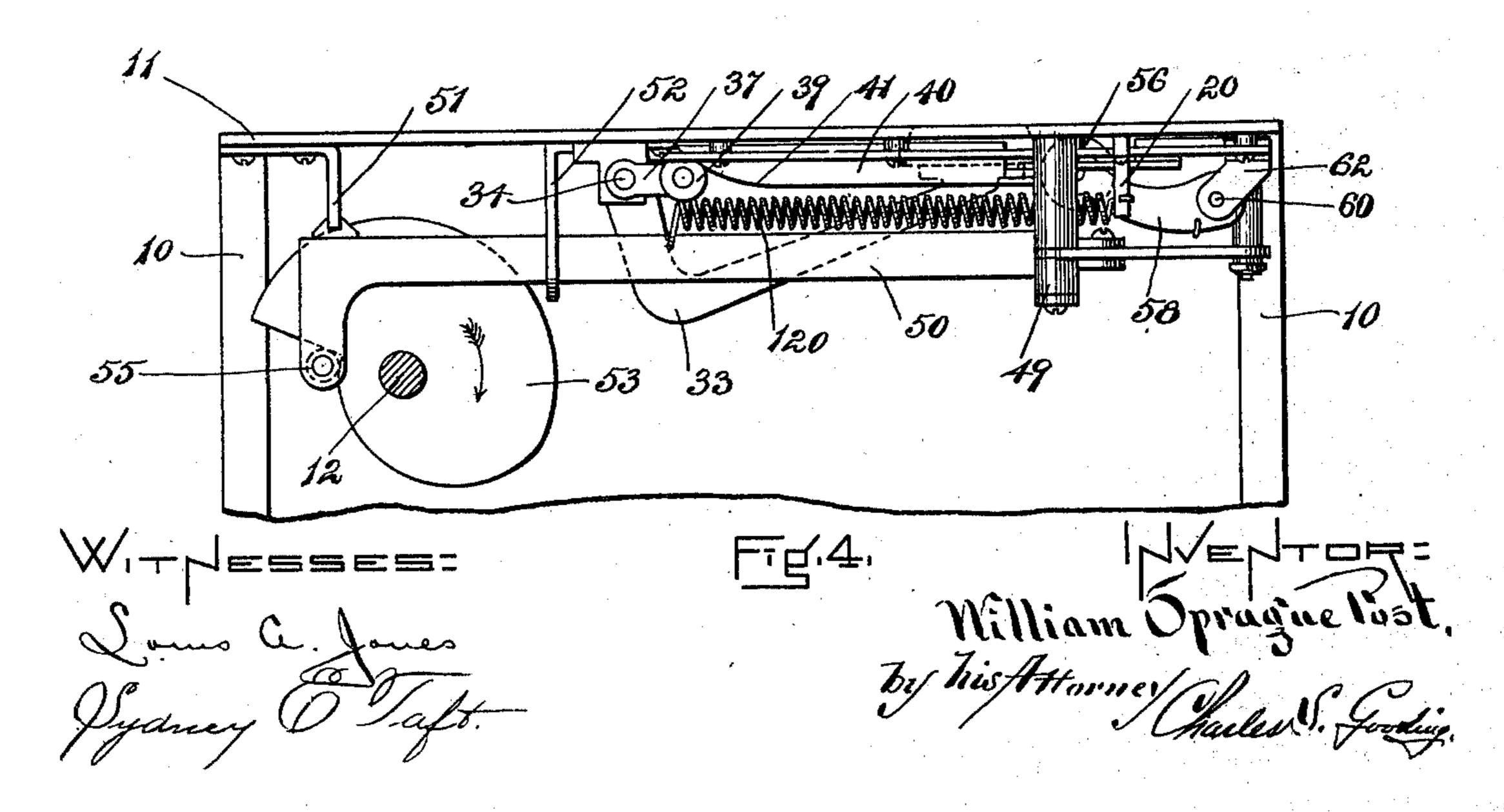


Fig.S.



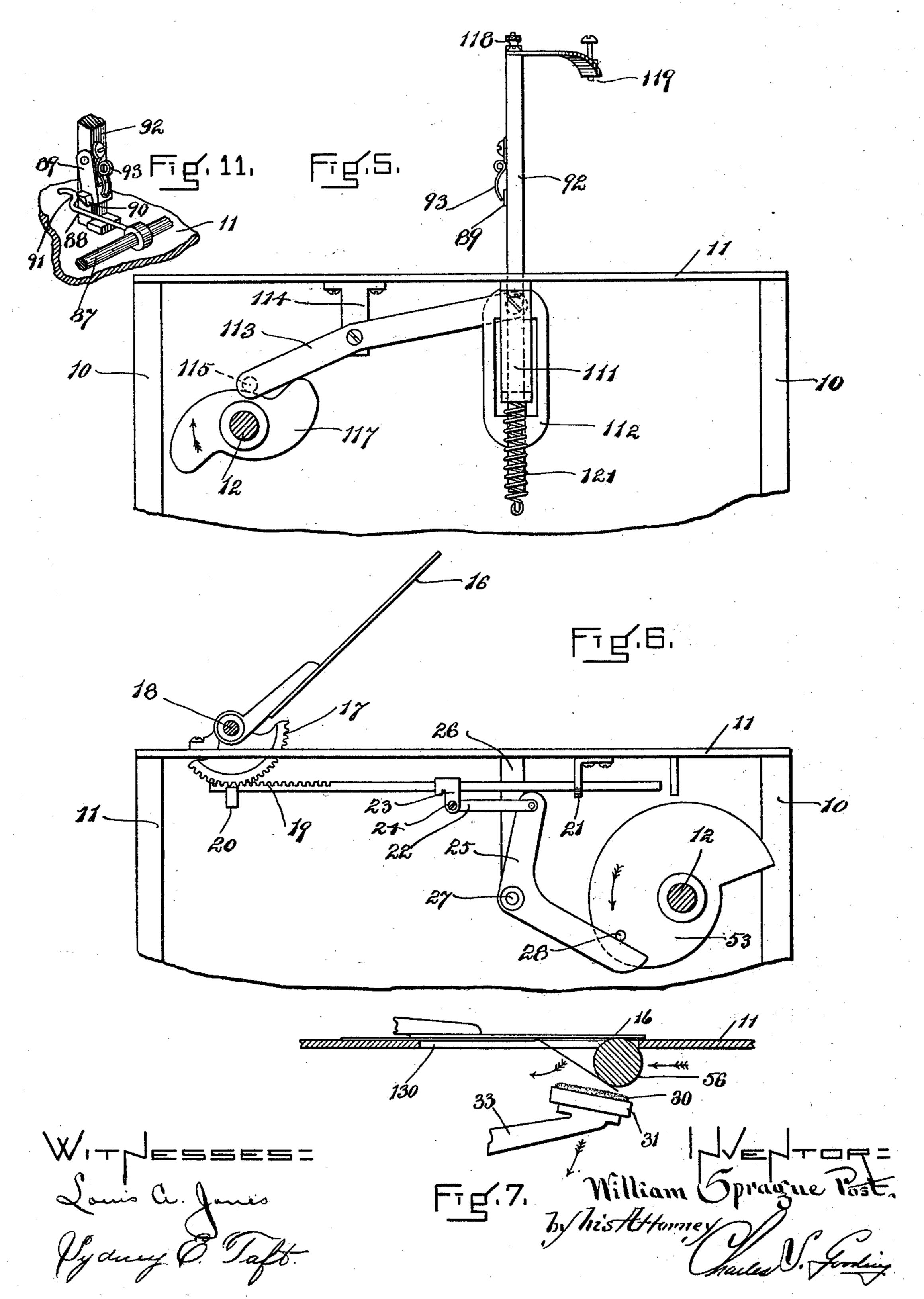
W. S. POST.

MACHINE FOR MOISTENING, CLOSING, AND APPLYING STAMPS TO ENVELOPS.

(Application filed Oct. 17, 1900.)

(No Model.)

5 Sheets-Sheet 3.

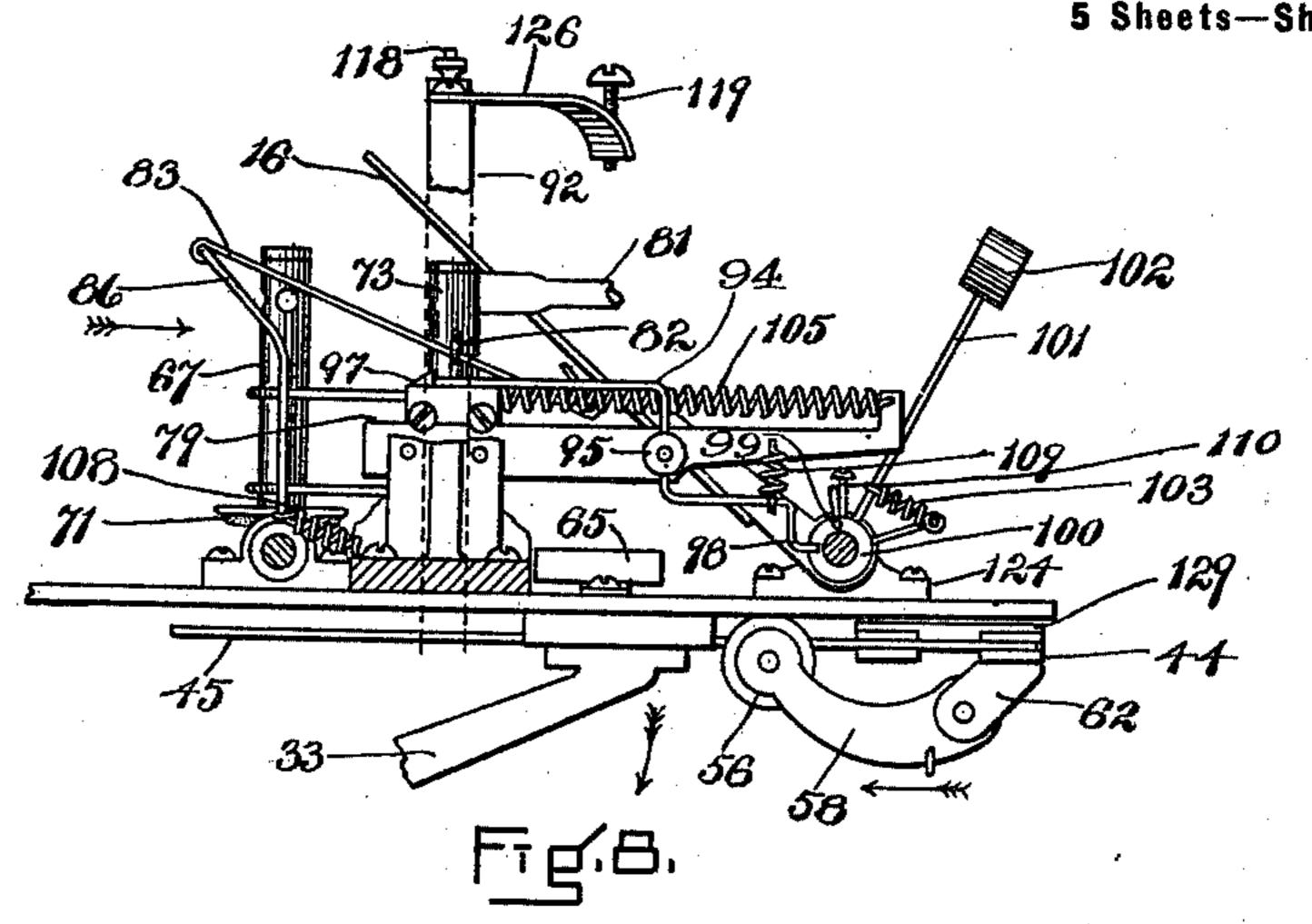


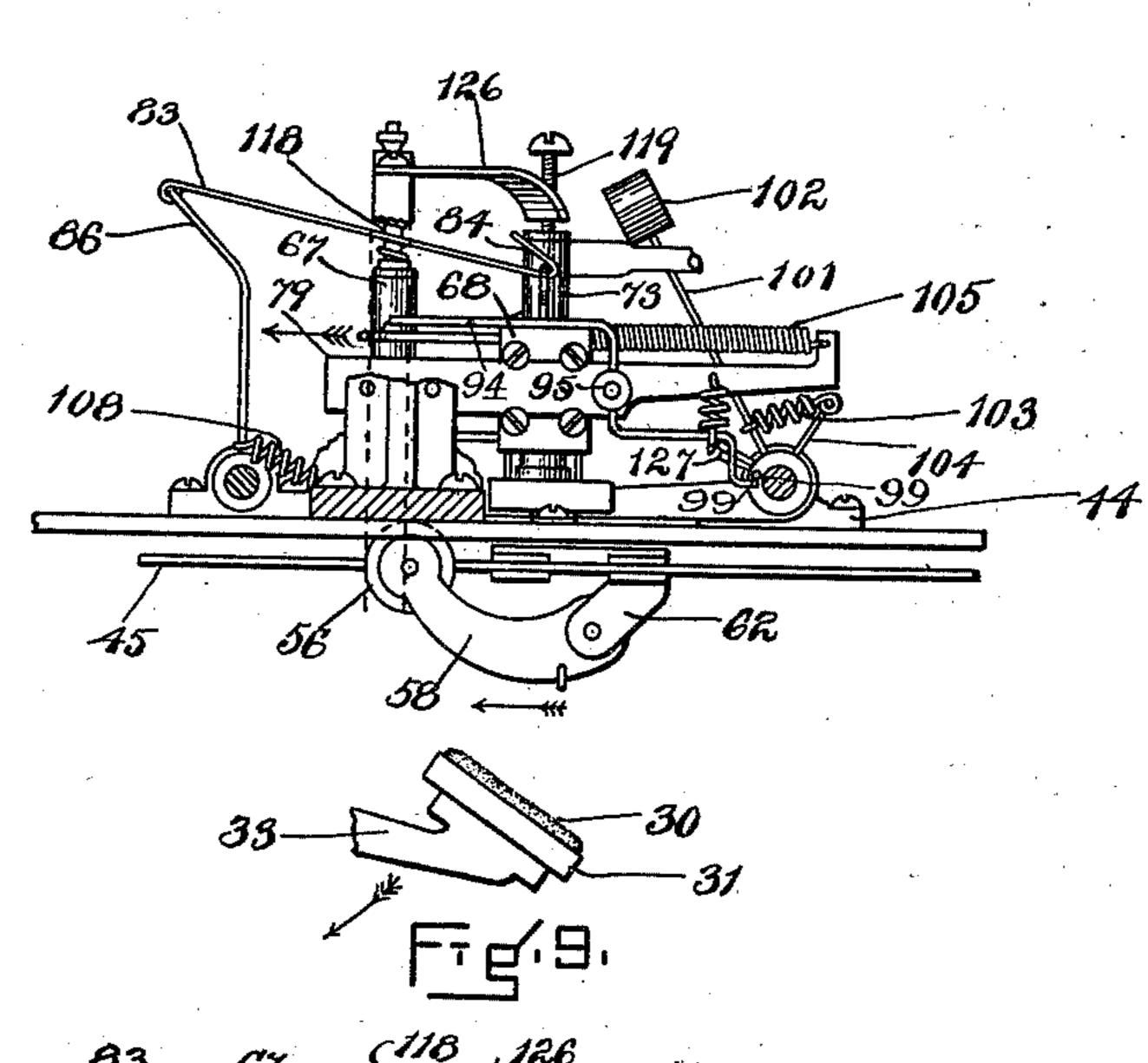
W. S. POST.

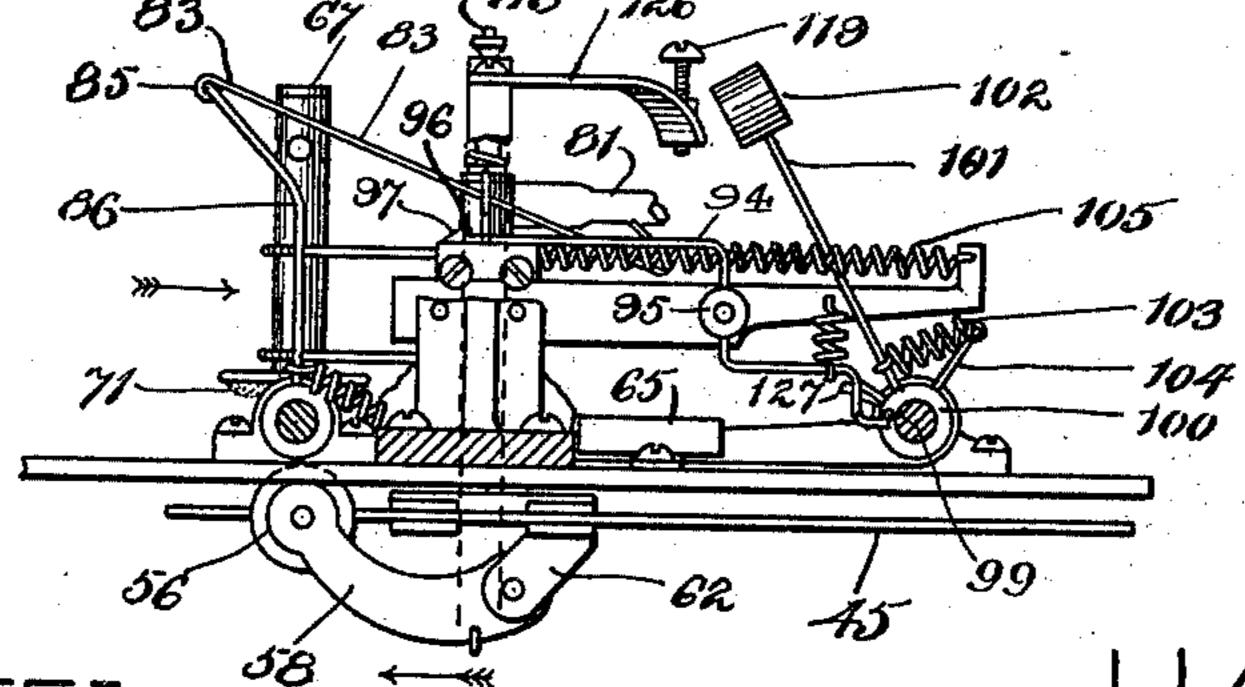
MACHINE FOR MOISTENING, CLOSING, AND APPLYING STAMPS TO ENVELOPS. (Application filed Oct. 17, 1900.)

(No Model.)

5 Sheets—Sheet 4.







Patented Mar. 26, 1901.

W. S. POST.

MACHINE FOR MOISTENING, CLOSING, AND APPLYING STAMPS TO ENVELOPS.

(Application filed Oct. 17, 1900.)

(No Model,) 5 Sheets—Sheet 5. 94

Fig. 12.

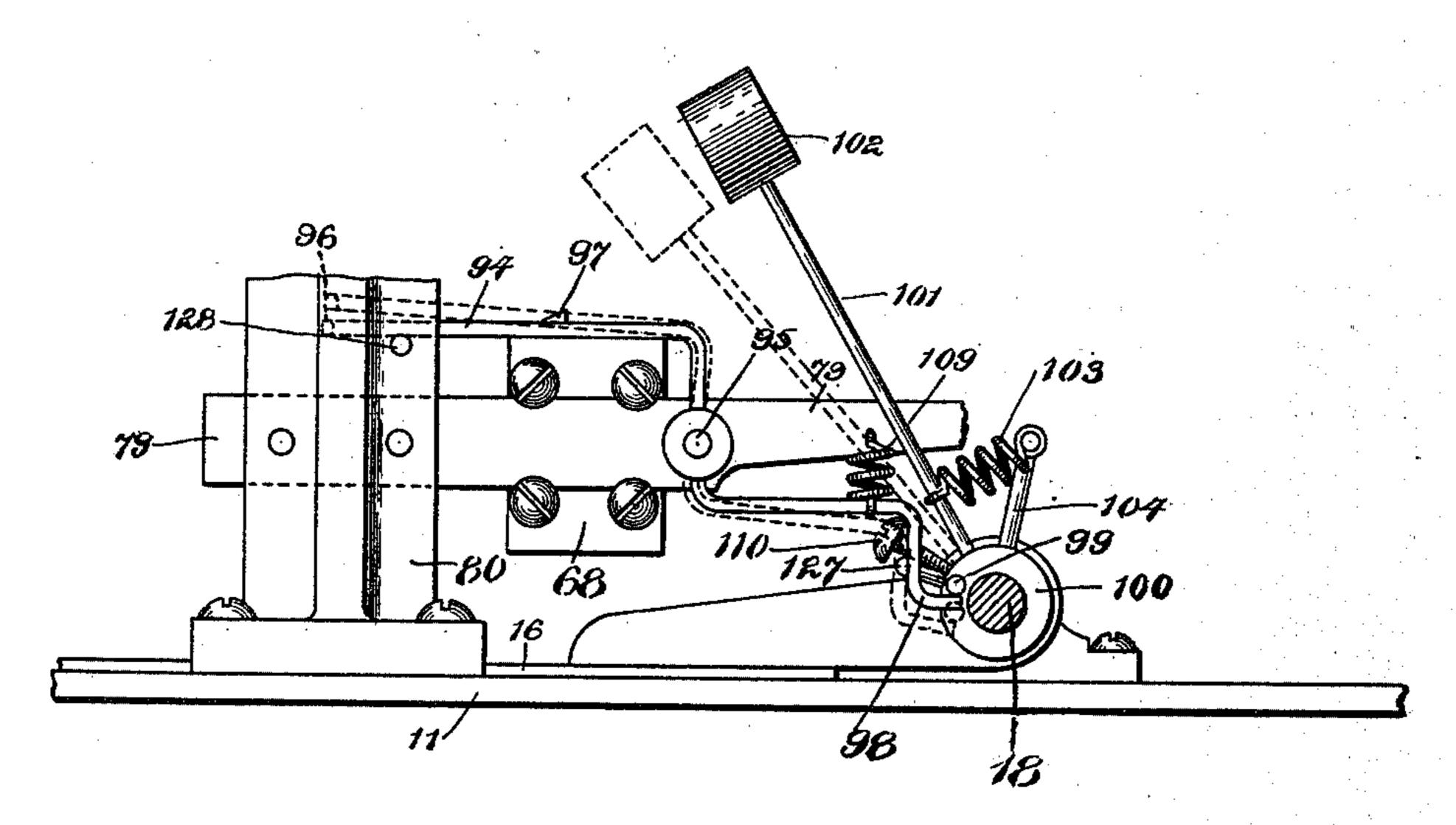


Fig. 13.

William Sprague Post.

by his ottomer Charles V. Looding.

United States Patent Office.

WILLIAM SPRAGUE POST, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO JOHN M. ATWOOD AND FRED S. POST, OF SAME PLACE, AND WILLIAM E. POST, OF MELROSE HIGHLANDS, MASSACHUSETTS.

MACHINE FOR MOISTENING, CLOSING, AND APPLYING STAMPS TO ENVELOPS.

SPECIFICATION forming part of Letters Patent No. 670,729, dated March 26, 1901.

Application filed October 17, 1900. Serial No. 33,361. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SPRAGUE POST, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Machines for Moistening, Closing, and Applying Stamps to Envelops, of which the following is a specification.

The object of this invention is to produce a machine which will automatically moisten the mucilage upon the flap of an envelop, close said flap against the body of the envelop, and press it thereagainst, so as to seal the same, and, further, to moisten the face of the envelop at the point where it is desired to attach a stamp and to attach a stamp to said envelop by pressing it against said moistened surface on the face thereof.

The invention consists in the combination and arrangement of parts set forth in the following specification and particularly point-

ed out in the claims thereof.

Referring to the drawings, Figure 1 is a top plan of my improved machine for moisten-25 ing, closing, and applying stamps to envelops, partly broken away to show the drivingshaft and mechanism thereon. Fig. 2 is a vertical section taken on line a a, Fig. 1, and looking toward the right in said figure. Fig. 30 3 is a detail top plan with table removed, showing the roll-reciprocating and pad-lowering mechanism. Fig. 4 is a detail side elevation viewed from the right of Fig. 1, partly in section, showing the roll-reciprocating and 35 pad-lowering mechanism. Fig. 5 is a detail side elevation viewed from the right of Fig. 1, partly in section, showing the mechanism for lowering the two plungers. Fig. 6 is a detail side elevation, partly in section, show-40 ing the mechanism for operating the rocking envelop-holding plate. Fig. 7 is a diagram viewillustrating the flap-folding mechanism. Figs. 8, 9, and 10 are illustrative side elevations taken from the right of Fig. 1. Fig. 11 45 is a detail perspective view. Fig. 12 is an enlarged detail of the carriage - releasing mechanism, the several parts being shown in the same positions as in Fig. 8. Fig. 13 is a view similar to Fig. 12, showing the parts in 50 the positions shown in Fig. 9.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 10 is the frame of the machine, and 11 the table thereof. The main driving-shaft 12 has bearings 13 and 14, fast 55 to the under side of said table, and is rotated by a crank-handle 15, fast thereto, or by a pulley and belt, if it is desired to operate the

machine by power.

Assuming the parts to be in the relative po- 60 sitions shown in Figs. 1 and 2, the first step in the operation of the machine as the main shaft is rotated by the crank 15 is to moisten the gummed surface of the envelop-flap. In order to accomplish this result, the envelop 65 is placed face upward, with the flap extended in the position shown by dotted lines, Fig. 1, the gummed surface thereof resting upon a moistening-pad 30. The shaft 12 is then rotated, and the rocking plate 16 is brought to 70 bear against the flap of the envelop, as hereinafter described, and presses the gummed surface of said flap firmly against the moistened surface of the moistening-pad, thus moistening said gummed surface. The rock- 75 ing plate 16 is fast to a rock-shaft 18, having bearings 124, fast to the upper side of the table 11. An intermittent rocking motion is imparted to said rock-shaft by a segmental gear 17, fast thereto and meshing with a recip- 80 rocating rack 19, which slides in brackets 20 21, fast to the under side of the table 11, and is reciprocated by a lever 25, pivoted upon a stud 27, fast to a bracket 26 upon the under side of the table 11. The lever 25 is connect- 85 ed by a link 22 to a stud 24, fast to an ear 23 upon the slide-rack 19, and is rocked upon its pivotal stud 27 by a pin 28, fast to a cam 53 upon the main driving-shaft 12, Fig. 6. As the cam 53 rotates in the direction of the ar- 90 row, Fig. 6, the pin 28 passes by the end of the arm of the lever 25, and the weight of the plate causes it to descend to a horizontal position, pressing the flap of the envelop against the moistening-pad 30. The moistening-pad 95 30 is held in a case 31, fast to a pair of arms 32 33. Said arms are rigidly fastened to a rock-shaft 34, having bearings 35 36, fast to the upper side of the table 11. The rockshaft 34 has an intermittent rocking motion 100

imparted thereto by an arm 37, fast thereto. Said arm has a stud 38 thereon, with a friction-roll 39 mounted and free to rotate upon said stud. The roll 39 engages an inclined 5 surface 41 upon a horizontally-reciprocating arm 40 and is held against said slide by the torsional spring 42. The central portion of said spring bears against a pin 43, fast to the rock-shaft 34, and the free ends thereof bear 10 against the under side of the table 11. The arm 40 is reciprocated by a horizontally-reciprocating slide 44, to which it is rigidly fastened. The slide 44 is guided in ways 45 46, fast to the under side of the table 11, and 15 is reciprocated by a lever 47, pivoted to a stud 49, fast to the under side of the table. The lever 47 is slotted at 48 and engages a pin 122, fast to the slide 44, and is rocked upon the stud 49 by a cam 53, which engages 20 a roll 54 upon a stud 55, fast to the slide 50. Said slide 50 is guided in ways upon brackets 51 52 and is connected to the lever 47 by a pin 123. A spring 120, fast at one end to the slide 50 and at the other end to a pin fast to 25 the table 11, holds the roll 55 in engagement with the cam 53. As soon as the gum upon the flap of the envelop has been moistened, as hereinbefore described, the slide 44 is brought forward, Fig. 2, and the inclined sur-30 face 41 strikes the roll 39, rocking the shaft 34 and lowering the pad 30 away from the flap of the envelop. As the pad is lowered it clings slightly to the gummed surface of the flap, and this, together with the natural tend-35 ency of the flap to spring downwardly, leaves the flap in the position shown in Fig. 7, projecting through an opening 130 in the table 11. As the slide 44 is moved forward the flap of the envelop is turned back and pressed 40 against the main body of the envelop by a roll 56. Said roll is preferably formed of rubber and is fast to a shaft 59, which rotates in bearings in the arms 57 and 58. The arms 57 and 58 are pivotally mounted upon a rod 60, 45 fast to brackets 61 62 upon the under side of the table 11. The roll 56 is held in contact with the under side of the table 11 and as it moves forward is pressed against the flap of the envelop, as hereinbefore described, by tor-50 sional springs 63 64, one end of each of said springs being fast to the rod 60 and the other bearing against the under side of the arms 57 and 58, respectively.

The stamps to be affixed one by one to the envelop are placed in a column in the receptacle 65, supported upon a bracket 66, fast to the top of the table 11. To attach a stamp to the face of the envelop, I first moisten the portion of the envelop to which the stamp is to be attached, at the same time picking up a stamp from the column of stamps in the receptacle 65; second, remove the moistening device from above the portion of the envelop previously moistened thereby and transfer the stamp-attaching device to the position formerly occupied by said moistening device, and, third, press the stamp carried by said stamp-

attaching device to the moistened surface on the face of said envelop. The mechanism whereby these successive steps are performed 70 consists of a moistening-pad 71, fast to the lower end of a vertically-reciprocating hollow tube or plunger 67. Said plunger is guided in ways 69 70, fast to a reciprocatory carriage 68. The tube 67 is filled with ab- 75 sorbent material, such as felt, and said absorbent material is kept moistened with water, and this water keeps the pad 71 moist. The moistening-pad 71 is brought in contact with the face of the envelop at the proper 80 time by a plunger-lowering mechanism, hereinafter described, and is returned to its normal position by a spring 72.

The mechanism for picking up the stamps one by one from the receptacle 65 and trans- 85 ferring them to the moistened surface of the face of the envelop consists of a flat plate 74, fast to the lower end of a vertically-reciprocating hollow suction tube or plunger 73. Said plunger is guided in ways 75, fast to the 90 reciprocatory carriage-68. The plunger 73 is lowered at the proper time by mechanism hereinafter described and is returned to its normal position by springs 106 and 107. The suction whereby the stamp is picked up from 95 the receptacle 65 is obtained from a rubber bulb 29, connected to the plunger-tube 73 by a flexible rubber tube 81. The bulb is deflated by a flat plate 76, pivoted at 77 to the under side of the table 11 and pressed against 100 said bulb to deflate the same by a cam 78, fast to the main driving-shaft 12. It is evident that when the bulb 29 is being deflated the air will tend to blow the stamp off the flat plate 74, which is at that time pressed 105 against the face of the envelop, and that when the bulb 29 is being inflated the air will form a suction to pick up the top stamp in the receptacle 65, against which the plate 74 is pressed at the time of the inflation of the 110 bulb 29.

In Fig. 8 the parts are shown in the same relative positions as in Fig. 2, but are viewed from the opposite direction thereto. The carriage 68 slides upon a guide 79, fast to a bracket 115 80 upon the top of the table 11, and is drawn to the left from the position shown in Fig. 8 to that shown in Fig. 9 by a spring 105. The moistening-plunger 67 and suction-plunger 73 are pushed down, Fig. 9, one against the 120 face of the envelop and the other against the column of stamps in the receptacle 65 by a vertically-reciprocating slide 92. Said slide terminates at its upper end in a horizontal arm 125, with a spring-pin 118 in the end thereof 125 arranged to bear alternately upon and depress, first, the moistening-plunger until it touches the face of the envelop, and, second, the suction-plunger, with a stamp thereon, against the moistened surface on said envelop 130 as said plungers are brought beneath said spring-pin, as hereinafter described.

To the horizontal arm 125 is fastened a spring-arm 126, having an adjustable set-

screw 119 in the outer end thereof, arranged to bear against and depress the suction-plunger when said plunger is above the stamp-re-

ceptacle, Fig. 9.

5 The slide 92 is guided in ways in the bracket 111, Fig. 5, fast to the under side of the table 11, and is reciprocated vertically by a lever 113, pivoted upon a stud fast to the bracket. 114, said bracket being fast to the under side 10 of the table 11. The lever 113 is connected at one end to the slide 92 by a link 112 and is provided at the opposite end with a cam-roll 115, which turns upon a stud, Fig. 1, fast to said lever, and bears against a cam 117, fast 15 to the shaft 12. The cam 117 rocks the lever 113 twice to each rotation of the shaft 12, thus depressing the slide 92 a like number of times. The slide 92 is raised and the cam-roll 115 kept against the cam 117 by a spring 121, one 20 end of said spring attached to the slide 112 and the other end thereof to the bracket 111. The carriage 68 is moved to the left, Fig.

8, by a link 83b, which passes through an eye 82, fast to said carriage, and terminates in a 25 hook 84, which engages said eye when the link 83 is drawn to the left, Fig. 9, by the arm 86, to which said link is pivotally connected at 85. The arm 86 is fast to a rock-shaft 87, which rocks in bearings fast to the upper side 30 of the table 11 and is rocked by an arm 88, fast thereto. The arm 88 is raised by a springlatch 89, which is pivoted to the slide 92 and has a projection 90 thereon, with a beveled lower edge. Said projection slips over the 35 offset 91 upon the arm 88 when the slide 92 is descending, and when ascending said projection 90 engages the offset 91 upon the arm 88 and lifts said arm, rocking the shaft 87 and drawing the carriage 68 to the left, Fig. 9, by 40 means of the hooked link 83 and arm 86. When the slide 92 has been lifted high enough to clear the offset 91 upon the arm 88, said arm will be drawn down, and the rock-shaft 87 and arm 86 therewith, by a spring 108, one 45 end thereof fast to the arm 86 and the other to the top of the table 11. A spring 93, fast to the slide 92, with its free end bearing against an ear upon the latch 89, holds said latch in the position shown in Fig. 5, with 50 said ear bearing against the left side of said slide. The carriage 68 is held in the position shown in Figs. 8 and 10 by a lever 94, pivoted at 95 to the guide 79. The horizontal bend 96 at the left-hand end of said lever, 55 Figs. 8 and 9, bears against a stop 97 upon the carriage 68, holding said carriage in the position shown in said figures until it is disengaged therefrom by a pin 99, fast to the

shaft 18. When the plate 16, fast to the rock-shaft 18, descends to press the flap of the envelop against the pad 30, the rock-shaft 18 rocks to-

hub 100 of the arm 101. Said hub is loose

a weight 102, fast to the end of the arm 101.

A spring 103 connects the arm 101, fast to the

hub 100, to an arm 104, fast to the rock-

ward the left, Fig. 12, and the screw 110, fast to the said rock-shaft, rocks with it from the position shown in Fig. 12 to that shown in Fig. 70 13 and engages the horizontal bend of a pin 127. The pin 127 is bent at right angles, and the part which stands at right angles to said horizontal bend is driven into a hole drilled in the hub 100, so that as the screw 110 engages 75 the pin 127 the hub 100 will be rocked, with the said screw 110 and rock-shaft 18, until the horizontal pin 99, fast to the said hub 100, engages the end 98 of the lever 94 and pushing the said end downwardly will tip the le- 80 ver 94 upon its pivot, disengaging the horizontal bend 96 from the stop 97, Fig. 12, and allowing the spring 105 to draw the carriage 68 toward the right from the position shown in Fig. 12 to the position shown in Fig. 13. 85 When the pin 99 first strikes the end 98 of the lever 94, the respective parts are in the position shown in the full lines of said figure; but the momentum of the weight 102 causes the spring 103 to stretch after the plate 16 90 comes to a stop against the envelop on the pad 30 and also the spring 109 stretches (said spring 109 being fast at one end to the lever 94 and at the other end to the guide 79) until the parts assume the positions shown in 95 dotted lines, Fig. 13, said parts being immediately returned to the positions shown in full lines in said figure by the contraction of said springs 103 and 109. When the lever 94 is not in contact with the stop 97, it is held 100 against a pin 128, fast to the bracket 80, by the spring 109. The action of the weight 102, hereinbefore described, whereby the hub 100, pin 99, weight 102, and arm 101 continue their forward motion after the plate 16 has come 105 to rest against the envelop from the position in which said parts are shown in full lines, Fig. 13, to that in which they are shown in dotted lines, same figure, allows said pin 99 to strike the end 98 of the lever 94 and to tip 110 said lever upon its pivot to the position shown in dotted lines, Fig. 13, thus disengaging the horizontal bend 96 on the lever 94 from the stop 97 on the carriage 68 and allowing said carriage to be drawn to the right from the po- 115 sition shown in Fig. 12 to that shown in Fig. 13. The parts shown in Fig. 13 in dotted lines are immediately returned by springs 103 and 109 to the position shown in full lines in order that the horizontal bend 96 on the 120 lever 94 may be in position to engage the stop 97 upon the carriage 68 when said carriage 68 is brought forward again from the position in which it is located in Fig. 13 to that in which it is located in Fig. 12, as hereinaf- 125 ter described. This latter movement of the carriage 68 takes place while the plate 16 is 60 upon the rock-shaft 18 and is provided with resting upon the envelop, and it is therefore evident that if the pin 99 were fast to the rock-shaft 18, and thus to the plate 16, or if 130 the hub 100 were fast to the rock-shaft 18 said pin 99 would remain in the position shown in dotted lines, Fig. 13, after tripping the lever 94 and would hold said lever down

until the plate 16 was raised, and therefore that when the carriage 68 was brought forward to the position shown in Fig. 12 the horizontal bend 96 would be in its raised po-5 sition or in the position shown by dotted lines, Fig. 13, and would not spring into position behind the stop 97 and lock said carriage in position after it had been brought

forward. The operation of the machine as a whole is as follows: Assuming the parts to be in the relative positions shown in Figs. 1, 2, and 8, the envelop is first placed face upward with the flap extended and the gummed surface of 15 said flap resting upon the moistening-pad 30. The shaft 12 is now rotated. The pin 28, Fig. 6, passes the right-hand end of the arm of the lever 25, releasing said lever and allowing the envelop-holding plate 16 to descend by its 20 own weight to a horizontal position through the connections hereinbefore described, and particularly illustrated in Fig. 6. The plate 16 now holds the envelop firmly against the top of the table 11 and presses the gummed 25 surface of the flap thereof against the moistening-pad 30, said plate being made of a sufficient weight and thickness to perform said functions. Simultaneously with the descent of the envelop-holding plate 16 to a horizontal 30 position the screw 110 engages the pin 127, fast to the hub 100, and turning said hub to the left, Fig. 12, brings the pin 99 into engagement with the end 98 of the lever 94, tipping said lever upon its pivot 95 and disen-35 gaging the horizontal bent portion 96 thereof from the stop 97 upon the carriage 68. The carriage 68 upon being thus released is drawn to the right from the position shown in Fig. 8 to that shown in Fig. 9 by the spring 105 and 40 carries with it the envelop-moistening plunger 67 and the stamp-suction plunger 73. The flap-moistening pad 30 is next lowered away from the flap of the envelop and the slide 44 and roll 56 brought forward, folding the flap 45 against the envelop. (See Figs. 7 and 9.) The slide 92 now descends, bringing the setscrew at the end of the spring-arm 126 to bear against the upper end of the stamp-suction plunger 73 and the spring-pin 118 against the 50 upper end of the envelop-moistening plunger 67, depressing said plungers and bringing the plate 74 to bear against the top stamp in the receptacle 65 and the moistening-pad 71 against the upper face of the envelop, said 55 envelop being supported directly beneath the moistening-pad by a plate 129 on the slide 44. The cam 78 next releases the flat plate 76, thus releasing the pressure upon the bulb 29, and as said bulb inflates it draws the uppermost 60 stamp in the column of stamps against the plate 74. The slide 92 next moves upwardly, carrying the stamp on the plate 74. The projection 90 on latch 89 engages the arm 88, rocks the shaft 87 and arm 86, bringing the

65 hook 84 upon the link 83 into engagement

with the eye 82 upon the carriage 68 and

drawing said carriage to the left from the position shown in Fig. 9 to that shown in Fig. 10, together with the stamp-suction plunger 73 and the moistening-plunger 67. When the 70 carriage 68 arrives at the position shown in Fig. 10, the horizontal bend 96 in the lever 94 drops behind the stop 97 and locks said carriage in position against the action of the spring 105. The slide 92 again descends by 75 means of the double throw in the cam 117, and the spring-pin 118 is brought to bear upon the upper end of the stamp-suction plunger, depressing said plunger with the stamp thereon until said stamp is depressed against the 80 previously - moistened face of the envelop. The cam 78 now begins to compress the bulb 29, expelling the air therefrom through the tube 81 and tending to detach the stamp from the plate 74, while the slide 92 again rises, re- 85 leasing the suction-plunger 73, which springs up, while the envelop-holding plate 16, slide 44, and the other parts connected thereto return to the relative positions shown in Figs. 1, 2, and 8 in readiness to perform again the 90 operations hereinbefore described upon another rotation of the shaft 12.

Having thus described my invention, what I claim, and desire by Letters Patent to se-

cure, is---

1. In a machine of the character described, a table, a flap-moistening pad pivotally secured to said table to swing vertically thereon, an envelop-holding plate and mechanism for moving said envelop-holding plate toward 100 and away from said table and moistening-pad, clamping an envelop to said table and pressing the flap thereof against said moisteningpad.

2. In a machine of the character described, 105 a table, a moistening-pad located beneath said table, an envelop-holding plate located above said table, mechanism for moving said envelop-holding plate toward and away from said table and moistening-pad, and mechan- 110 ism for moving said moistening-pad toward and away from said table and envelop-holding plate; in combination with a reciprocatory envelop-flap-closing slide arranged to slide parallel to said table and between said 115 envelop-holding plate and moistening-pad.

3. In a machine of the character described, a stamp-receptacle, a horizontally-reciprocatory slide, a vertically-reciprocating envelopmoistening plunger and a vertically-recipro- 120 cating stamp-suction plunger, both of said plungers carried by said slide, and mechanism for depressing said plungers and bringing said moistening-plunger to bear against the face of an envelop placed thereunder and 125 said stamp-suction plunger to bear against a stamp in said receptacle.

4. In a machine of the character described, a stamp-receptacle, a plunger located above said receptacle, an air-chamber in said plun- 130 ger, a flexible bulb connected to the interior of said chamber, mechanism for inflating and

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deflating said bulb, and mechanism for imparting a vertical reciprocating motion to said

plunger.

5. In a machine of the character described, 5 a stamp-receptacle, a plunger located above said receptacle, an air-chamber in said plunger, a flexible bulb connected to the interior of said chamber, mechanism for inflating and deflating said bulb, and mechanism for im-10 parting a horizontal reciprocating motion to

said plunger.

6. In a machine of the character described, a stamp-receptacle, a horizontally-reciprocatory slide, a vertically-reciprocating stamp-15 suction plunger carried by said slide and mechanism for depressing said plunger and bringing it to bear against a stamp in said receptacle, in combination with mechanism for imparting a reciprocating motion to said 20 slide, whereby said stamp-suction plunger is carried to a point above the moistened surface of an envelop held in said machine, and mechanism for depressing said suction-plunger a second time and bringing the stamp 25 held thereon by suction against said moistened surface of the envelop.

7. In a machine for sealing envelops, a table, a moistening-pad pivotally secured to the under side thereof and mechanism for 30 rocking said pad vertically upon its pivot, to-

ward and away from said table.

8. In a machine for sealing envelops, a table, a flap-moistening pad pivotally secured to rock vertically upon the under side of said 35 table, an envelop-holding plate pivotally secured to the upper side of said table and mechanism for rocking said envelop-holding plate upon its pivot toward and away from said table and moistening-pad.

9. In a machine for sealing envelops, a table, a flap-moistening pad pivotally secured to rock vertically upon the under side of said table, an envelop-holding plate pivotally secured to the upper side of said table and mechanism for rocking said moistening-pad

vertically upon its pivot toward and away from said table and envelop-holding plate.

10. In a machine for sealing envelops, a table, a moistening-pad pivotally secured to the under side of said table, an envelop- 50 holding plate pivotally secured to the upper side of said table, mechanism for rocking said envelop-holding plate upon its pivot toward and away from said table and moisteningpad and mechanism for rocking said mois- 55 tening-pad upon its pivot toward and away from said table and envelop-holding plate; in combination with a reciprocatory envelopflap-closing slide arranged to slide parallel to said table and between said envelop-holding 60 plate and moistening-pad.

11. In a machine for closing envelops, a table, an opening in said table, mechanism for clamping an envelop face upward to said table with the flap of said envelop extending 65 into said opening, a reciprocatory slide arranged to slide parallel to said table and engaging said flap to fold it back against the body of said envelop substantially as de-

scribed.

12. In a machine for closing envelops, a table, an envelop-holding plate pivotally secured to the upper side of said table, an opening in said table and mechanism to rock said plate upon its pivot and clamp an 75 envelop face upward to said table with the flap of said envelop extending into said opening, a reciprocatory slide arranged to slide parallel to said table, a roll carried by said slide and engaging said flap to fold it back against 80 the body of said envelop, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM SPRAGUE POST.

Witnesses:

CHARLES S. GOODING, SYDNEY E. TAFT.