

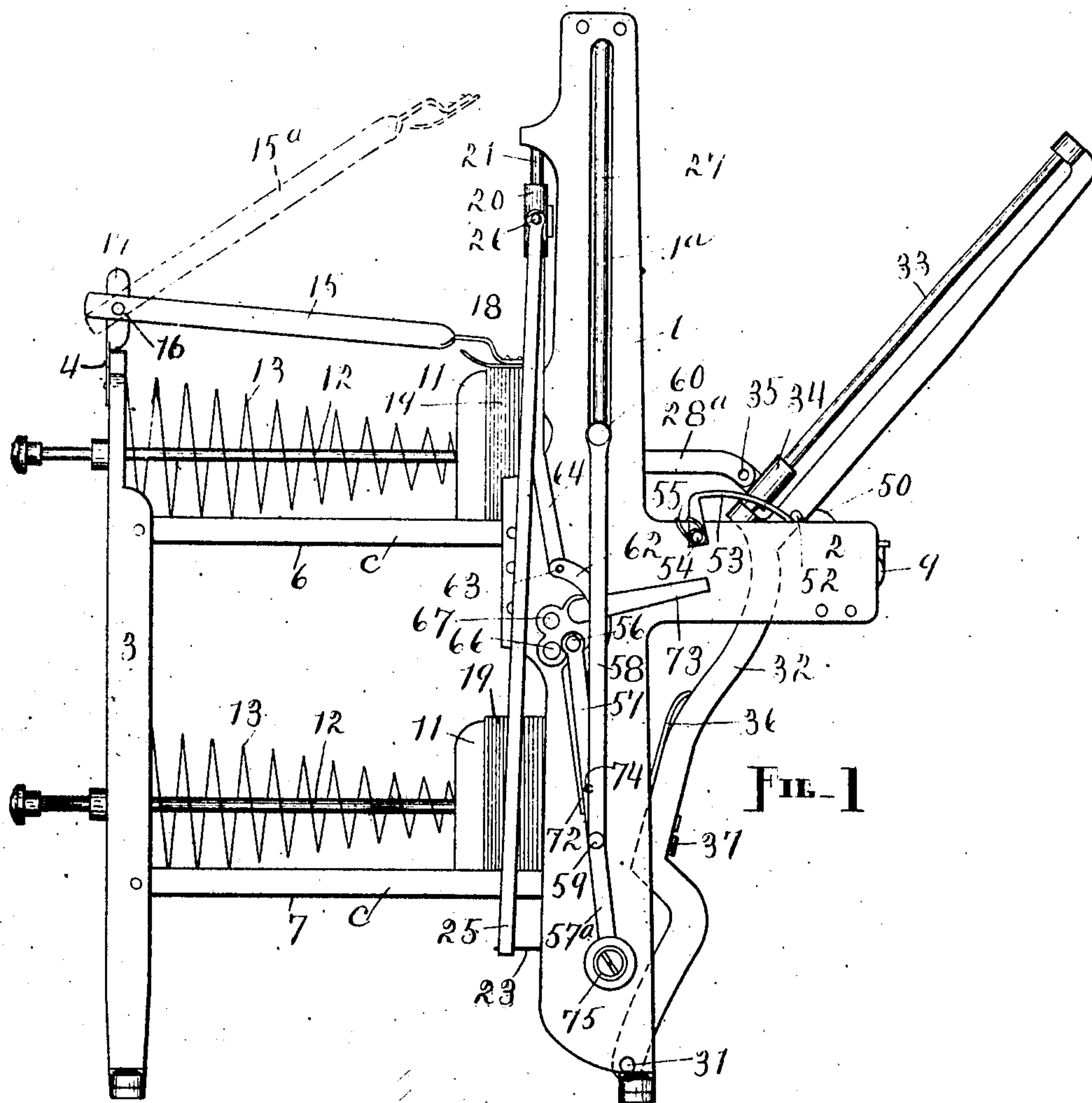
No. 812,263

PATENTED FEB. 13, 1906.

C. J. FANCHER & H. S. PARMELEE.
ENVELOP SEALING MACHINE.

APPLICATION FILED SEPT. 28, 1904.

5 SHEETS—SHEET 1.



Witnesses.

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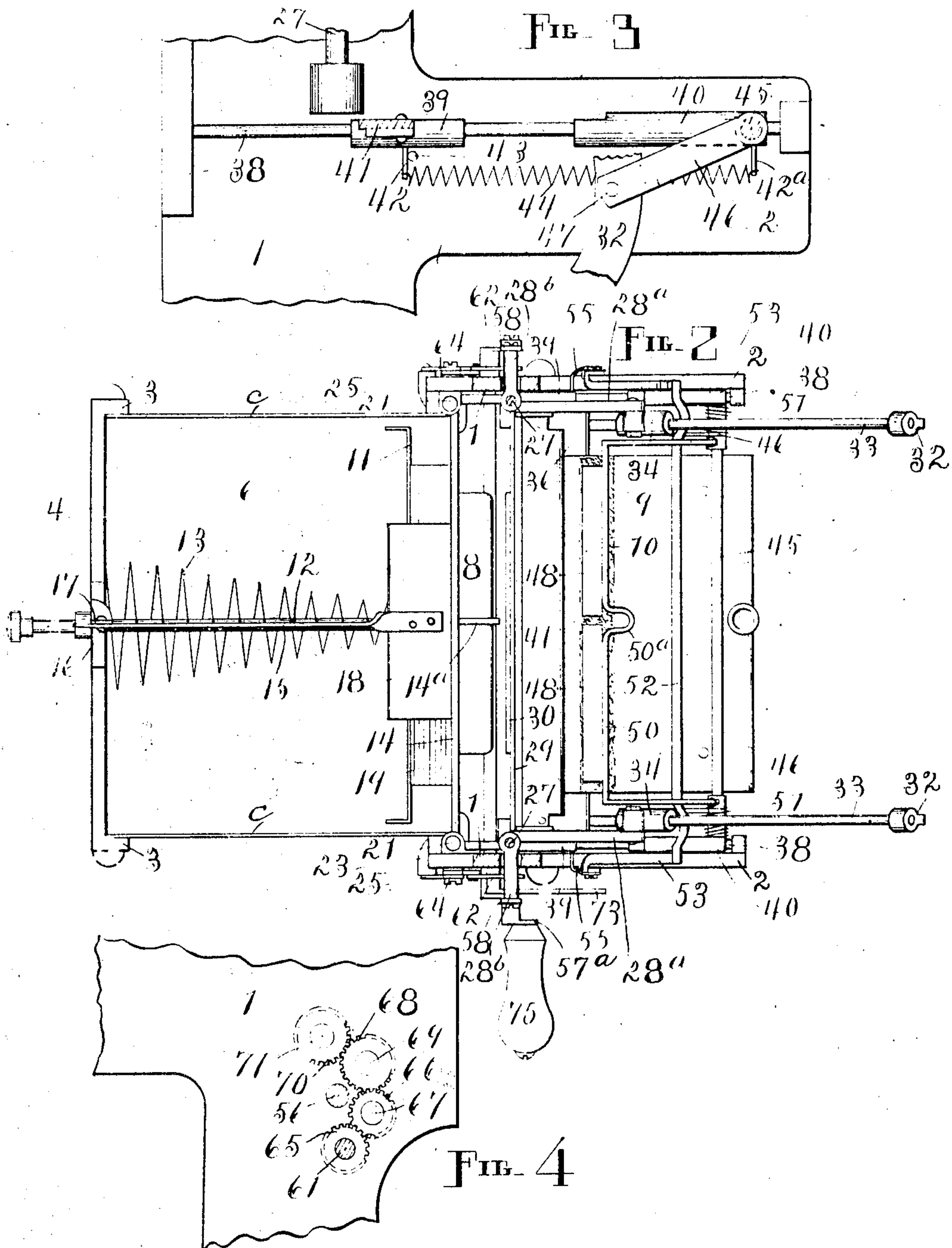
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5 SHEETS—SHEET 2.



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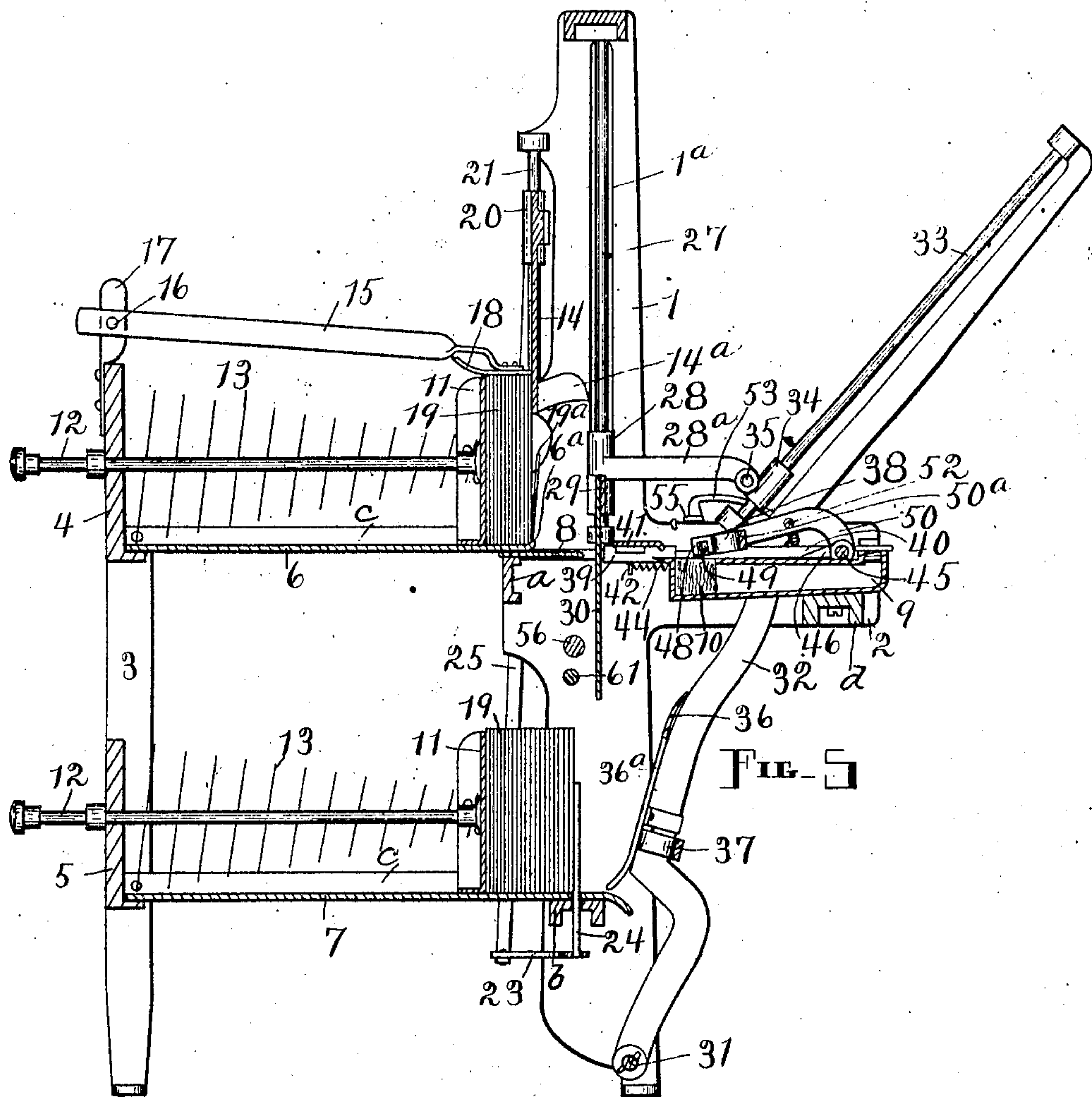
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5 SHEETS—SHEET 3.



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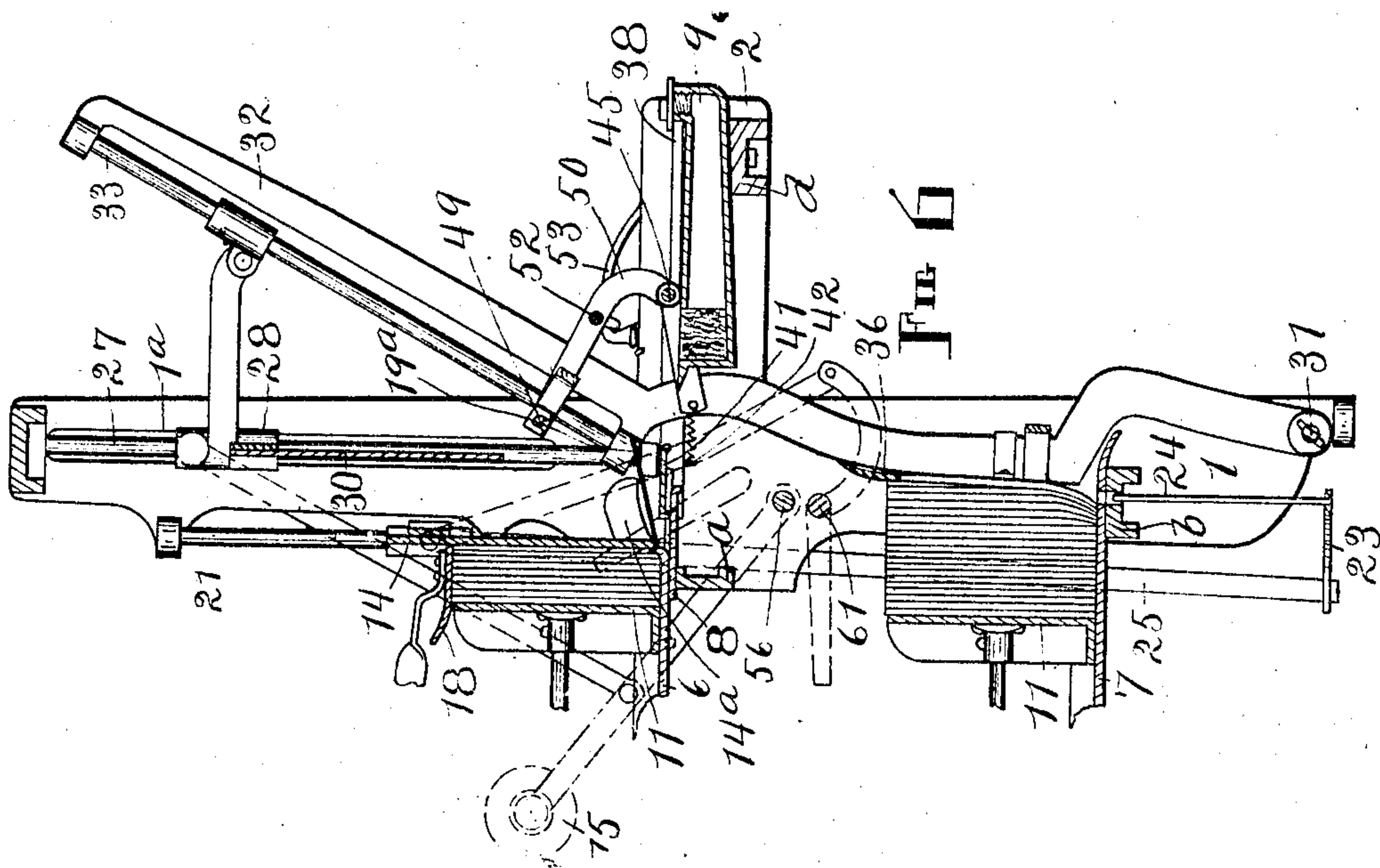
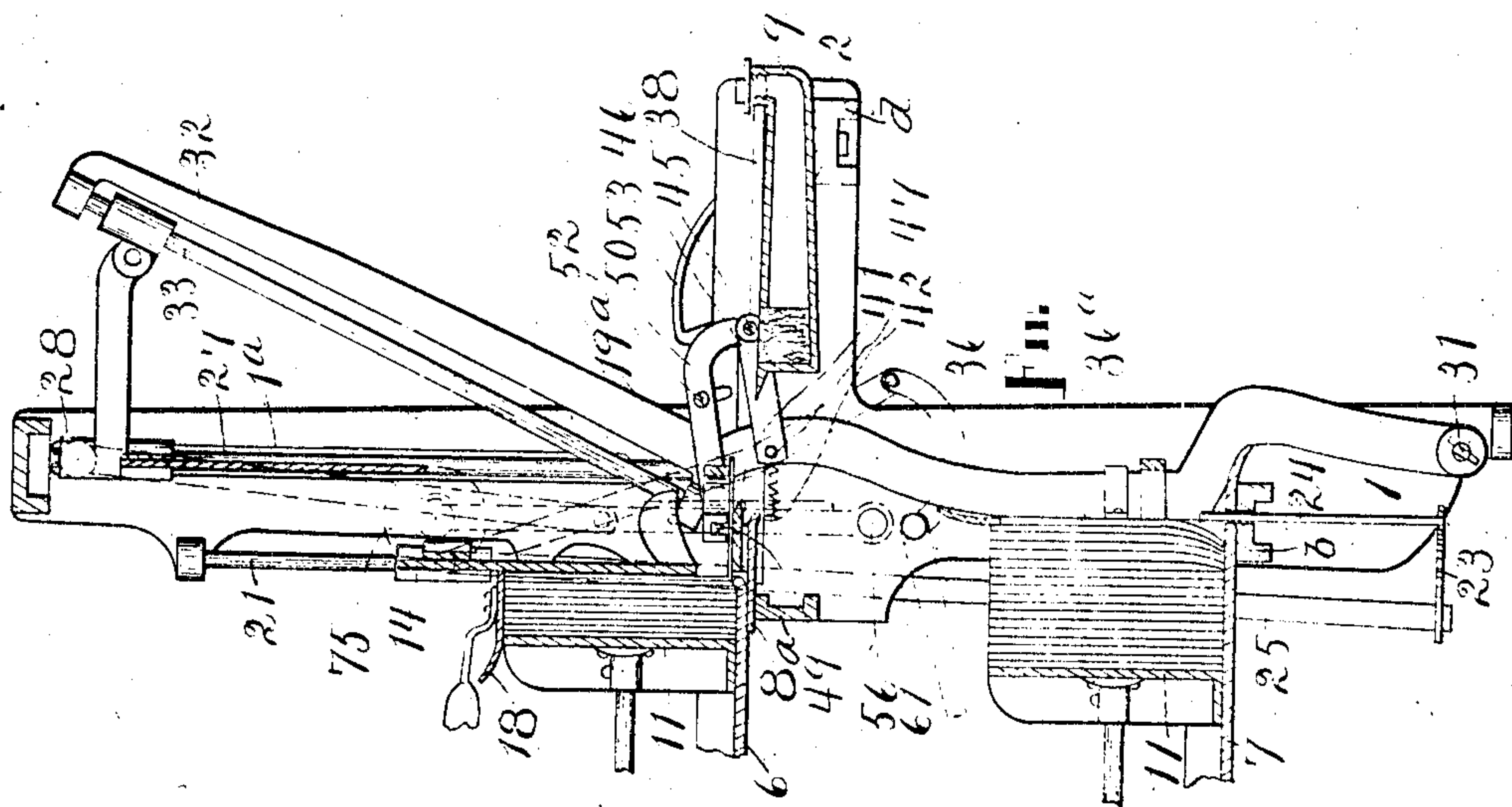
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5 SHEETS-SHEET 4.



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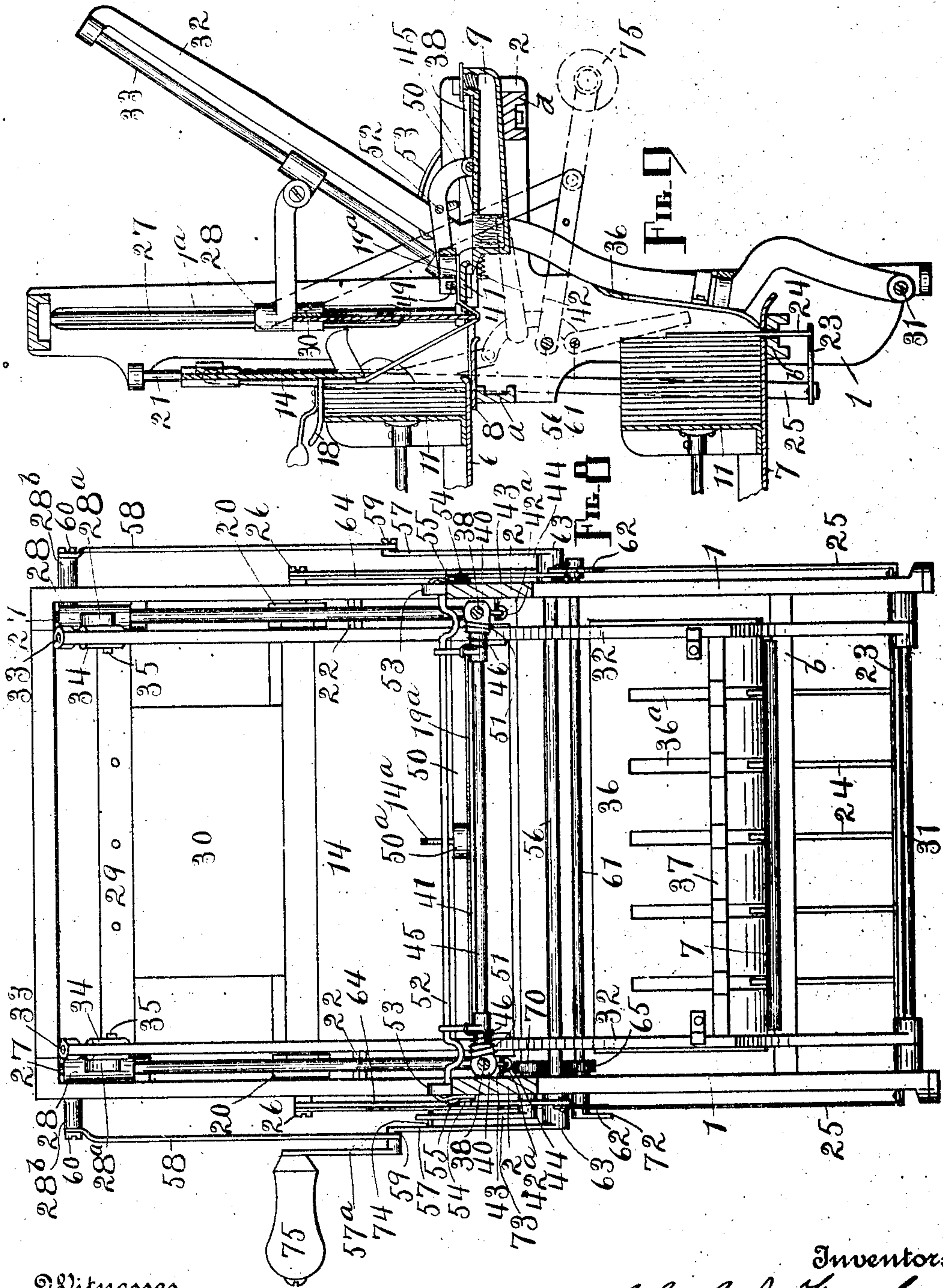
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ENVELOP SEALING MACHINE.

APPLICATION FILED SEPT. 28, 1904.

SHEETS-SHEET 5.



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UNITED STATES PATENT OFFICE.

CHARLES J. FANCHER AND HUBERT S. PARMELEE, OF WEST GRANBY, CONNECTICUT, ASSIGNORS TO SIMPLEX MANUFACTURING COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

ENVELOP-SEALING MACHINE.

No. 812,263.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed September 28, 1904. Serial No. 228,397.

to all whom it may concern:

Be it known that we, CHARLES J. FANCHER and HUBERT S. PARMELEE, citizens of the United States of America, and residents of West Granby, in the county of Hartford and State of Connecticut, have invented a certain new and useful Envelop-Sealing Machine, of which the following is a specification.

Our invention relates to automatic machines for sealing envelopes in which the envelopes may be placed in a bunch or package at one horizontal level and upon the operation of the machine the envelopes will be removed one by one from such bunch or package and at the same time have their sealing-flaps moistened and then be deposited in bunch or package formation at a lower horizontal level, where the flaps are pressed into place and the envelopes securely sealed. In its general organization the machine embodies an upper or delivery platform and a lower or receiving platform, automatic mechanical means for transferring envelopes from the first to the second named platform and to moisten the gummed flaps in transit, actuating mechanism for operating the parts which do the actual work, and certain other details of construction and auxiliary or subsidiary members which will be hereinafter set forth. Heretofore rolls have been employed in machines of this class; but such actuating mediums are far from satisfactory, especially when the envelopes to be handled are considerably distended by their contents; and the primary object of our invention is to overcome this difficulty by producing a machine into the construction of which rolls do not enter, but which successfully handles the envelopes by a series of positive predetermined and sequential steps, to the end that there can be no ineffectual slipping of the operating members relative to the envelopes or clogging of the machine.

Further objects of our invention are to produce a machine which is capable of handling different sizes of envelopes both as to dimension and bulk, which is rapid in operation, and which is withal entirely practicable and efficient.

This specification is a clear description of one form or embodiment of our invention, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of what may be termed the "working side" of the machine, since the handle and other devices by which the mechanism is directly actuated are here located, the parts being "initially" disposed, so to speak, and the confining-arm shown in an elevated position in broken lines; Fig. 2, a plan view of the machine with the parts disposed as in the preceding view, the top cross-bar being removed and the upper ends of the supporting-uprights of the frame being broken off; Fig. 3, an enlarged detail view of the sliding mechanism which carries one end of the wiper-shaft and one end of the wiper-support, the members appearing as they would with the parts initially disposed; Fig. 4, an enlarged detail view of the pinions associated with the actuating mechanism on the working side of the machine; Fig. 5, a central longitudinal vertical section showing the parts disposed as in the first and second views; Figs. 6 and 7, sectional views similar to Fig. 5 except that the rear end of the machine is broken off and the parts are differently disposed relative to each other and to the first section in order to show two different steps in the operation of the machine; Fig. 8, a front view or elevation of the working end of the machine with the parts disposed as in Fig. 7, the forward parts of the frame being broken off and the water-tank omitted; and Fig. 9 a sectional view showing another step in the operation. In Figs. 6, 7, and 9 the different positions of the actuating mechanism on the working side of the machine are shown in broken lines.

Similar figures and letters refer to similar parts throughout the several views.

Although the illustrations show a machine designed to be operated by hand, it is obvious that by the employment of more mechanical skill the machine can be driven by power.

The frame of the machine consists of side pieces or uprights 1-1, provided with forwardly-extending arms 2-2 and connected by suitable horizontal cross-pieces *a* and *b*, uprights 3-3, connected with each other by horizontal cross-pieces 4 and 5 at the back, and suitable side pieces *c* between the uprights 1 and 3. The frame supports a delivery-platform 6 and a receiving-platform 7, the first being above the second. The front edge of the platform 6 is turned upward slightly, as

shown at 6^a, to prevent the envelops from crowding over the edge of said platform; but an auxiliary platform, consisting of a short horizontal strip 8, is provided to receive any envelop or envelops that may be inadvertently pushed off of the delivery-platform and prevent the same from dropping before the proper time, said strip extending from below said edge 6^a forward of the same.

Supported by a suitable cross-bar *d*, extending between the arms 2, is a water tank or reservoir 9, having an interior mass 10 of some absorbent material, as felt, at the rear, such material being exposed through an opening in the top of said reservoir. Each platform is provided with a follower for the envelops, consisting of a plate 11 on the front end of a rod 12 and a conical spring 13, interposed between said plate and either of the cross-pieces 4 or 5, as the case may be. The rear terminals of the follower-rods 12 extend through suitable openings in the cross-pieces 4 and 5 and have knobs on their free ends to facilitate the manual operation of the followers. The upper follower serves to press the package of envelops on the platform 6 forward, so that the mechanism can remove one envelop at a time without difficulty, and the lower follower serves to press the envelops together as they are deposited on the platform 7 and insure the thorough sticking of the flaps to the backs of the envelops. In order to prevent the first few envelops at the front of the package on the platform 6 from being forced upward with the stop and flap-opening plate 14, presently to be described, in its upward travel, an arm 15 is provided, pivoted at its rear end at 16 to a bracket 17, rising from the cross-piece 4 and having at its front end a confining-plate 18, designed to rest upon the envelops on said platform. The weight of the arm 15 and plate 18 is sufficient to hold the envelops in place. By slightly bending the rear end of the arm 15 provision is made for holding said arm in an elevated position, as indicated by the broken lines 15^a in Fig. 1, by frictional contact between such bent portion and the bracket 17, so that the confining device may be out of the way when it is desired to place a fresh package of envelops on the delivery-platform. In the drawings a package of envelops 19 is shown on each platform and the action upon a single envelop and its flap traced from the time the first movement is made relative to the front envelop on the platform 6 to the finish, where such envelop becomes the last one to be deposited in the package on the platform 7.

A description of the mechanism which operates directly on the envelops and the actuating mechanism therefor will now be given.

The vertical stop-plate and flap-opener 14 is located directly above the upturned edge 6^a of the platform 6 and provided with lat-

eral slides 20-20, mounted to reciprocate vertically on rods 21-21, fixed in suitable lugs extending rearwardly and inwardly from the back edges of the uprights 1. Yielding buffers 22-22 are placed on the rods 21 to serve as cushions for the slides 20 when the plate 14 descends. A projection or beak 14^a extends forward from the center of the plate 14 at the bottom thereof. Some portion of the plate 14 is always in front of the package of envelops on the platform 6, so that said plate serves as a stop, and it has the additional office of pressing down or opening the envelop-flaps in the manner to be hereinafter described. Below the platform 7, a little back of the front edge thereof, is a carrier-piece 23, from which rises a series of pins or stop-fingers 24, operating vertically through holes in said platform and in the cross-piece *b* of the frame which supports the front end of the same. The ends of the carrier-piece 23 are connected by bars 25-25 with laterally-extending lugs on the slides 20, to which the upper ends of said bars are pivoted at 26-26. The connection between the carrier-piece 23 and the plate 14 is such that both rise and fall together. When said plate is elevated, the fingers 24 are raised to a position in front of the lower follower or of the envelops interposed between said fingers and said follower, and when the plate is depressed said carrier-piece is lowered to withdraw the fingers from contact with the follower or envelops.

The uprights 1 have vertical slots 1^a-1^a therein, and just inside of said uprights are vertical rods 27-27, supported at the top and bottom by suitable lugs. Slides 28-28 are mounted to reciprocate vertically on the rods 27, and these slides are connected by a cross-bar 29, from which depends a depressor-plate 30. Each slide 28 is provided with a forwardly-extending arm 28^a and with a laterally-extending arm 28^b, the latter passing outward through the adjacent slot 1^a.

A shaft 31 extends between the bases of the uprights 1, and the lower terminals of two oscillating arms 32 are mounted on said shaft inside of the frame. The upper portion of each arm 32, above a point approximately on the same level with the associated arm 2, is provided with an oblique rod 33, held by suitable lugs a little remote from the upper or rear edge of such portion. A slide 34 is mounted on each rod 33 and pivoted at 35 to the adjacent depressor-plate slide-arm 28^a. By this construction it will be seen that when the depressor-plate slides 28 are elevated the arms 32 must be drawn backward, and when said slides are depressed said arms will be moved forward through the medium of the arms 28^a, slides 34, and rods 33.

A presser-plate 36 extends across the front of the machine with its base about on a level and over the front end of the platform 7 and is securely attached to the arms 32. Verti-

cal slots 36^a are formed in the presser-plate 36 in line with the stop-fingers 24. The plate 36 may be stiffened by means of a brace 37 across the front thereof, which brace is provided with forwardly-extending U-shaped projections adjacent the slots 36^a. The lower portion of the plate 36 is curved rearward, and the office of this plate when in active service is to press the envelopes back against the lower follower to insure the sticking of the flaps, also to move the package on the platform 7 far enough back to enable the fingers 24 to come up in front of the envelop last deposited on said platform.

Inside of each upright 1 and arm 2 a horizontal rod 38 is supported by suitable lugs, as is best shown in Fig. 3, and two slides 39 and 40 are mounted to reciprocate on such rod. Suitable lugs on the slides 39 are connected by a horizontal wiper-support 41, extending across the machine approximately on a level with the platform 6. The wiper-support is in front of the line of travel of the depressor-plate 30. A pin 42 depends from the bottom of each slide 39, and a stop in the form of a pin 43 projects inward from the adjacent face of the frame and extends into the path of said pin 42 to limit the forward movement of said slide. A pin 42^a extends downward from each slide 40 in line with the associated pin 42, and a spring 44, having its ends connected with both of said pins, constantly tensions the sleeve 39 toward the sleeve 40, it being understood that the latter has a positive connection at all times and is not subject to the action of said spring. The positive connection just referred to consists of a shaft 45, mounted in inwardly-extending bearings on the slides 40, and links 46-46, mounted at their front ends on said shaft and pivoted at their rear ends (at 47) to the inner faces of the arms 32.

The wiper proper, which moistens the flaps of the envelopes, consists of two inverted troughs 48, filled on the inside with masses 49 of some absorbent material, as felt, and these members are firmly attached to the rear of the cross-bar of a frame 50, the front ends or arms of said frame being mounted on the shaft 45 inside of the links 46. The two sections of the actual wiper are separated on the longitudinal median line of the machine sufficiently to clear the beak 14^a when said sections are actuated into the vicinity of the same, and the cross-bar of the frame 50 is bent forward, as shown at 50^a, also for the purpose of clearing said beak. Springs 51-51 are so arranged on the bearings for the shaft 45 as to engage adjacent parts of the frame 50 and tension the same with the wiper-sections downward. The parts are so arranged that the masses 49 contact with the mass 10 in the reservoir 9 and with the wiper-support or the gummed side of an envelop-flap thereon during each cycle made by the

machine. When the shaft 45 and the connected wiper-sections are actuated backward by means of the arms 32 through the medium of connecting parts already described, the frame 50, with said sections, is elevated against the resiliency of the springs 51 by means of a rod 52, extending through and projecting beyond the arms of said frame behind said shaft, and cams 53-53 have their rear ends pivoted at 54-54 to the sides of the arms 2, the front ends of said cams normally resting on the upper edges of said arms 2. Springs 55-55, connecting with the pivots 54, arms 2, and cams 53, tend to depress the latter with their front ends normally in contact with said arms. The complete operation of these members will be hereinafter fully explained.

A shaft 56 is journaled in the uprights 1 below the platform 6, and crank-arms 57-57 on the outer ends of said shaft are connected by links 58-58 with the depressor-arms 28^b, each of such links being pivoted at 59 to the associated crank-arm and at 60 to the associated depressor-arm. A shaft 61 is journaled in the uprights 1 below the shaft 56, and on the outer ends of this lower shaft are curved crank-arms 62-62, pivoted at 63-63 to links 64-64, having their upper ends with the connecting-bars 25 pivoted at 26 to the laterally-extending lugs on the slides 20. A pinion 65 is tightly mounted on the shaft 61 inside of the upright 1 on the working side of the machine, and a pinion 66, mounted on a stud 67, projecting from said upright, meshes with said pinion 65. The stud 67 is so located behind the shafts 61 and 56 that the pinion 66 clears the latter. Meshing with the pinion 66 is a pinion 68 on a stud 69 above the stud 67, and still another pinion 70 meshes with the pinion 68, a stud 71 above and forward of the stud 69 being provided for said pinion 70. The pinion 70 is tight on the stud 71, and both the latter and the stud 69 are mounted in the same upright with the stud 67. A trip-arm 72 is fast on the end of the shaft 61, which projects on the working side of the machine, and a trip-arm 73 is fast on the outer end of the stud 71. Both of the aforesaid trip-arms are long enough to extend into the path of a pin 74, projecting from the inside of the associated crank-arm 57, during certain portions of its revolution. The crank-arm 57 on this side of the machine has an extension 57^a, provided with a handle 75, by means of which the machine is manually operated. The action of the several crank-arms, links, trips, &c., will be described in detail in the full explanation of the machine which follows.

Referring to the mechanism as it stands in Figs. 1, 2, 3, and 5, attention is called to the following points: First, a package of envelopes 19 is in position on the platform 6 between the upper follower, on the one hand, and the

upturned edge 6^a of the platform and the plate 14, on the other, with the confining device resting on the upper edges of some or all of the same, the envelops resting on their flap edges, with the flaps toward the front; second, another package of envelops is in the same position on the platform 7 between the lower follower and the fingers 24, which latter with said plate are in their highest positions, where they are held by the crank-arms 62 and the links 64, the pivotal points 63 being located a little behind the vertical center of the shaft 61, whereby the aforesaid rising-and-falling members are locked in place, since said crank-arms are now in contact with projections on the uprights 1, through which the shaft 56 passes, and further movement to the rear is thereby prevented; third, the depressor-plate 30 has been carried to approximately its lowest position by the crank-arms 57 and the links 58, and this low position of the depressor-plate mechanism has forced the arms 32 forward to practically their full extent; fourth, the extreme forward movement of the arms 32 has located the wiper on the felt in the reservoir and brought the wiper-support slides 40, or rather their pins, into contact with the stop-pins 43, thus locating said support in front of the depressor-plate, and such movement of said arms also locates the presser-plate 36 some little distance from the envelops on the platform 7, and, fifth, the handle 75 is nearly at the bottom of the circle which it is adapted to describe, the pin 74 rests against the now depending trip-arm 72, and the trip-arm 73 projects forward. When the handle 75 is moved from the position shown in Fig. 1 to that shown in Fig. 6, the pin 74 actuates the trip-arm 72, which immediately rotates the shaft 61, unlocks the crank-arms 62 and links 64, and causes the plate 14 and fingers 24 to descend, all before said pin 74 clears said trip-arm. At the same time the crank-arms 57 and links 58 raise the depressor-plate 30 and draw inward the arms 32 through the medium of the intervening connections. The plate 14 in its descent engages the flap 19^a of the front envelop on the platform 6 and with the beak 14^a presses it downward. The presser-plate 36 has moved back to engage the envelops on the platform 7 and hold them in position in lieu of the fingers 24, which have descended entirely below the top of said platform. When the arms 32 rock back, the ends of the rod 52 ride up onto the cams 53, the force of the springs 51 being overcome, and elevate the wiper from the absorbent material in the reservoir, the absorbent masses 49 having become moistened by contact with the mass 10, it being understood, of course, that the reservoir 9 contains water. The action of the arms 32 and intervening mechanism and the presence of the cams 53 poise the wiper in position ready to come down onto the gummed

surface of the flap 19^a. During the backward movement of the slides 40 they contact with the slides 39 and force the support 41 beneath the flap 19^a. Further movement of the handle 75 into the position shown in Fig. 7 causes the arms 32 to be drawn back still farther and the ends of the rods 52 to leave the cams 53, when the springs 51 immediately force the wiper down onto the gummed surface of the flap 19^a, which is now firmly held between said wiper and the wiper-support 41. At the same time the plate 30 is still further elevated and the plate 36 forced farther back and tightly pressed against the envelops on the platform 7 to compress them and cause their flaps—those which are not yet dry—to adhere securely to the backs. The pin 74 contacts with and actuates the trip-arm 73, which latter, through the medium of the pinions shown in Fig. 4, commences to cause the shaft 61 to rotate and elevate the plate 14 and the fingers 24. The continued movement of the handle 75 into the position shown in Fig. 9 raises the plate 14 into its highest position through the medium of the pin 74 and the trip-arm 73, where said plate is locked in the manner hereinbefore described before said pin rides off of the end of said trip-arm. During this time the crank-arms 57 and the links 58 begin to draw down the depressor-plate 30 and through the medium of the arms 28^a and the arms 32 move both the wiper and the wiper-support forward with the flap of the envelop grasped between them. The support 41 moves forward under the influence of the springs 44 until the pins 42 contact with the pins 43, when further forward movement of said support is checked. Since the flap of the envelop in transit is in the grasp of the wiper and its support and the plate 14 with its beak has risen to a position near the top of such envelop, the latter is drawn forward over the upturned edge 6^a, and the plate 30 comes down onto said envelop at or near the junction of the flap with the body thereof. This envelop is now held at its upper part between the package on the platform 6 and the plate 14 and by the flap, as explained, while the plate 30 is on the point of forcing said envelop out of the grasp of the upper follower. The ends of the rod 52, which had before been forced off of the cams 53, now pass over the edges of the arms 2 beneath said cams. The cycle is completed when the handle 75 passes from the position shown in Fig. 9 to that shown in Fig. 1 to leave the parts in what has hereinbefore been termed their "initial" positions. As said handle leaves the position indicated in Fig. 9 the arms 32 are forced forward, the wiper is drawn forward off of its support, which latter cannot move any farther in this direction on account of the stops or pins 43, against which the pins 42, depending from the slides 39, are held by the springs 44, said wiper dropping off of said

support with some little force, owing to the presence of the springs 51, onto the absorbent material in the reservoir, across which material it is dragged. The somewhat violent contact of the wiper with the absorbent material or mass 10 and the dragging of said wiper over said mass, under the influence of the springs 51, tends to thoroughly moisten the wiper material or masses 49, so that the same is ready to act upon the gummed surface of the flap of the next envelop. The plate 30 has now been depressed into its lowest position, carrying with it the envelop being acted upon. As the aforesaid plate descends it draws the flap from beneath the wiper before the latter leaves the support 41 and also drags it free from the gripping force at the top of the envelop. The envelop now drops onto the front of the receiving-platform between the presser-plate 36 and the fingers 24. The envelop is securely sealed during the next cycle of the mechanism at the time the presser-plate 36 moves into its extreme rearward position, (shown in Fig. 7,) and at this time the package and the follower on the receiving-platform are forced backward and the fingers 24 come up in the slots 36^a in front of the envelops, between which fingers and the lower follower said envelops are held when said presser-plate moves forward again. Just as the cycle is completed the ends of the rod 52 pass out from beneath the front ends of the cams 53, which rock upon their pivots 54 against the resiliency of the springs 55 and are in position on the upper edges of the arms 2 to ride up on said cams during the next cycle.

To recapitulate briefly: The plate 14 serves as a stop for the follower, envelop, or envelops on the delivery-platform. It also on moving downward opens the flap or projects it forward, and, furthermore, said plate assists in holding the front envelop at the top just before it is precipitated downward by the plate 30. The depressor-plate 30 draws the flap of the envelop from between the wiper and the wiper-support, thus insuring thorough moistening of the gummed surface of said flap and releases the envelop from the upper members, so that it drops into the lower part of the machine. The wiper and associated support move backward beneath the plate 30. While the latter is elevated grasp the flap which has been depressed by the flap-opener and draw the bottom of the envelop from the bunch on the upper platform as they move forward again out of the path of travel of said plate 30, the flap being thoroughly moistened by the wiper meanwhile. The wiper-support is brought to a standstill and the wiper jumps to the moistening-bed to become replenished with moisture. The stop-fingers 24 and the presser-plate 36 operate intermittently and sequentially with the lower follower to com-

press the envelop or envelops on the lower platform and to insure the thorough sealing of the same, either the fingers or the plate being in active service all the time, in addition to which said presser-plate receives the force exerted by the lower follower, when said fingers are withdrawn from active service and subsequently overcomes this force to the extent necessary to permit the fingers to be returned to active service.

The term "initial" associated with "position" or "positions" and the divisions of the cycle as illustrated are merely arbitrary, since in practice a cycle may commence and end with the parts in any position, and the movements are too complex and rapid, as well as too numerous relative to change, to confine the different divisional limitations to the comparatively few views shown.

Numerous changes in form, size, and construction of our machine and its various parts may be made without departing from the spirit and scope of our invention. We consider ourselves entitled to all such variations as may lie within the intent of our claims.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In an envelop-sealing machine, horizontal envelop supports or platforms arranged at different levels and means to remove individual envelops from one such platform and permit the same to pass by gravity to another.

2. In an envelop-sealing machine, horizontal envelop-retaining means arranged at different levels, means to remove individual envelops from one such level and permit the same to pass by gravity to another, and means to moisten the envelop-flaps during the transfer.

3. In an envelop-sealing machine, envelop supports or platforms arranged at different levels, means to remove individual envelops from one such platform and permit the same to pass by gravity to another, and means to moisten the envelop-flaps during the transfer from one platform to the other and while leaving the first.

4. In an envelop-sealing machine, horizontal envelop-retaining means arranged at different levels and means to remove individual envelops from one such level and permit the same to pass by gravity to another.

5. In an envelop-sealing machine, envelop supports or platforms arranged at different levels, means to remove individual envelops from one such platform and permit the same to pass by gravity to another, means to moisten the envelop-flaps during the transfer from one platform to another and while leaving the first, and means to seal the envelops by compression.

6. The combination, in an envelop-sealing machine, with a platform and a follower

thereon tensioned in one direction, of a reciprocating plate adapted to constantly limit the movement of said follower in the direction of the force exerted by the tension means, the movement permitted said plate being such that its lower edge never rises above the level of the top of the follower or passes below the level of the bottom thereof.

7. The combination, in an envelop-sealing machine, with a platform, a spring-pressed follower thereon, and a reciprocating plate adapted to limit the movement of said follower in the direction of the force exerted by the spring, of a pivotally-mounted confining device adapted to rest upon and hold in place one or more envelops on said platform between the follower and plate and adjacent the latter, during the upward movement of the plate.

8. The combination, in an envelop-sealing machine, with a platform upturned at its front edge, and a follower on said platform, of a reciprocating plate operating above such upturned edge.

9. The combination, in an envelop-sealing machine, with a platform having an upturned edge, and an auxiliary platform or strip extending forward of such edge, of a follower on the first-mentioned platform, and a reciprocating plate in front of said follower.

10. The combination, in an envelop-sealing machine, with a platform and a follower, of a combined envelop stop and flap-opener in front of said follower, and means to reciprocate such combined stop and flap-opener only between the adjacent edge or end of said platform and some point below the level of the upper edge of the follower.

11. In an envelop-sealing machine, the combination with a platform having a follower thereon, and stop-fingers adapted to operate in front of said follower, of guide members, slides mounted on such members, bars connecting said fingers and slides, and means to reciprocate the slides, substantially as set forth.

12. In an envelop-sealing machine, the combination with a platform having a follower thereon, and stop-fingers adapted to operate in front of said follower, of guide members, slides mounted on such members, bars connecting said fingers and slides, arms pivotally mounted at their lower terminals, a presser-plate carried by such arms in front of the follower, operating means for said arms located above said plate, and means to reciprocate said slides and actuate such operating means, substantially as set forth.

13. The combination, in an envelop-sealing machine, with two platforms one above the other, and followers on said platforms, of a reciprocating stop-plate in front of the upper follower, reciprocating stop-fingers in front of the lower follower, and means to si-

multaneously actuate such reciprocating members.

14. In an envelop-sealing machine, two platforms, one above the other, reciprocating members at or adjacent the front ends of said platforms, and operating mechanism adapted to actuate said reciprocating members in each direction, during one cycle of the mechanism, with a rest between each movement of the reciprocating members.

15. In an envelop-sealing machine, two platforms, one above the other, reciprocating members at or adjacent the front ends of said platforms, operating mechanism adapted to actuate said reciprocating members in both directions, during one cycle on the mechanism, with a pause between each movement of the reciprocating members, and means to cause the latter to be fixed or locked during such pauses.

16. The combination, in an envelop-sealing machine, with a reciprocating stop and flap-opening plate, and reciprocating stop-fingers to assist in holding the envelops after being sealed, of actuating mechanism for such reciprocating members, trips connected with such mechanism, and a crank-arm adapted to sequentially engage and release said trips.

17. The combination, in an envelop-sealing machine, with a reciprocating stop and flap-opening plate, and reciprocating stop-fingers to assist in holding the envelops after being sealed, of actuating mechanism for such reciprocating members consisting of a shaft, a trip-arm on said shaft, a stud, a second trip-arm on said stud, a train of pinions between said shaft and stud, and a crank-arm adapted to sequentially engage and release said trip-arms.

18. In an envelop-sealing machine, the combination with a platform and a follower thereon, of arms pivotally mounted at their lower terminals, a presser-plate carried by such arms in front of said follower, operating means for said arms located above said plate, and means to actuate such operating means, substantially as and for the purpose set forth.

19. In an envelop-sealing machine, the combination with a platform and a follower thereon, of reciprocating stop-fingers adapted to operate in front of said follower, arms pivotally mounted at their lower terminals, a presser-plate carried by such arms in front of the follower and provided with slots opposite said fingers, operating means for said arms located above said plate, and means to actuate such operating means, substantially as and for the purpose set forth.

20. In an envelop-sealing machine, a continuously-reciprocating and intermittently-oscillating wiper and an intermittently-reciprocating wiper-support.

21. In an envelop-sealing machine, a con-

tinuously-reciprocating and intermittently-oscillating wiper, a reservoir provided with exposed absorbent material, and an intermittently-reciprocating wiper-support, said wiper being adapted to alternately contact with said absorbent material and said support.

22. In an envelop-sealing machine, a continuously-reciprocating wiper, an intermittently-reciprocating wiper-support, and means to cause said wiper to forcibly fall upon said support.

23. In an envelop-sealing machine, a continuously-reciprocating and intermittently-oscillating wiper, a reciprocating wiper-support, and means to cause said wiper to be withdrawn from said support by a dragging movement.

24. In an envelop-sealing machine, a continuously-reciprocating and intermittently-oscillating wiper, a reservoir located at the front of the machine, having exposed absorbent material therein, and means to cause said wiper when in its forward position to forcibly fall upon such material.

25. In an envelop-sealing machine, a continuously-reciprocating and intermittently-oscillating wiper, a reservoir located at the front of the machine, having exposed absorbent material therein, and means to cause said wiper, as it approaches the end of its forward movement, to be dragged over such material.

26. The combination, in an envelop-sealing machine, with a vertically-reciprocating flap-opener, of a continuously-reciprocating and intermittently-oscillating wiper, and an intermittently-reciprocating wiper-support.

27. The combination, in an envelop-sealing machine, with a vertically-reciprocating flap-opening plate provided with a forwardly-extending beak, of a continuously-reciprocating and intermittently-oscillating wiper and an intermittently-reciprocating wiper-support, both being adapted to move back adjacent to said plate and said wiper being adapted to pass both sides of said beak.

28. The combination, in an envelop-sealing machine, with a reciprocating flap-opener, of a wiper and a wiper-support, means to move said wiper and support into a position immediately adjacent said flap-opener, the wiper and support being separated and again united during such movement, and means to elevate the flap-opener while the wiper and support are adjacent thereto.

29. In an envelop-sealing machine, a vertically-reciprocating depressor, and a horizontally-reciprocating wiper and wiper-support, the depressor and the wiper with its support being adapted to cross each other's paths of travel.

30. The combination, in an envelop-sealing machine, of a vertically-reciprocating depressor, a horizontally-reciprocating wiper and wiper-support, and means to elevate said

depressor during the rearward movement of said wiper and its support and to withdraw the wiper and its support from beneath the depressor when the latter descends.

31. In an envelop-sealing machine, a vertically-reciprocating flap-opener, a vertically-reciprocating depressor, and a horizontally-reciprocating wiper and wiper-support adapted to play back and forth in front of the plane of said flap-opener beneath said depressor when the latter is elevated.

32. In an envelop-sealing machine, an intermittently vertically reciprocating flap-opener, a continuously-reciprocating depressor, and a horizontally-reciprocating wiper and wiper-support adapted to pass beneath said depressor when elevated, into contiguity with said flap-opener when depressed.

33. In an envelop-sealing machine, a reciprocating flap-opening plate provided with a forwardly-extending beak, and a reciprocating depressor operating in front of said beak.

34. In an envelop-sealing machine, an intermittently-reciprocating flap-opener, a continuously-reciprocating depressor, and means to elevate said depressor while said flap-opener is down and to depress the depressor while the flap-opener is in its elevated position.

35. The combination, in an envelop-sealing machine, of a slidingly-mounted wiper, a slidingly-mounted wiper-support, resilient connections between said wiper and support, stops arranged to limit the movement of the support in one direction, and means to directly actuate the wiper.

36. The combination, in an envelop-sealing machine, with cams, of a slidingly-mounted wiper provided with cam-engaging members arranged to ride over said cams, to raise the wiper and to pass beneath the same.

37. The combination, in an envelop-sealing machine, with cams and supports for the same, said cams being adapted to be elevated at one end from said supports, of a slidingly-mounted wiper provided with cam-engaging members adapted to ride over said cams, to raise the wiper, and to pass under and out beneath the free ends of the cams.

38. The combination, in an envelop-sealing machine, of a frame provided with guide members, arms pivoted at their bases to said frame, provided with obliquely-directed guide members and carrying a presser-plate adapted to assist in sealing the envelopes, sliding connections between the frame-guide members and the arm-guide members, and means to reciprocate said sliding connections on the guide members.

39. The combination, in an envelop-sealing machine, with a frame provided with guide members, of arms provided with obliquely-directed guide members and carrying a presser-plate adapted to assist in sealing

the envelops, and sliding connections between the frame-guide members and the arm-guide members, through the medium of which said arms and presser-plate are oscillated when said connections are reciprocated on the guide members.

40. The combination, in an envelop-sealing machine, of a frame provided with guide members, arms pivoted at their bases to said frame and provided with obliquely-directed guide members, sliding connections between the frame-guide members and the arm-guide members to oscillate said arms when said connections are reciprocated on the guide members, and wiper mechanism connected with and reciprocated by the arms.

41. The combination, in an envelop-sealing machine, of a frame provided with guide members, arms pivoted at their bases to said frame, provided with obliquely-directed guide members and carrying a presser-plate adapted to assist in sealing the envelops, and sliding connections between the frame-guide members and the arm-guide members to oscillate said arms and plate when said connections are reciprocated on the guide members.

42. The combination, in an envelop-sealing machine, of a frame provided with guide members, arms pivoted at their bases to said frame, provided with obliquely-directed guide members and carrying a presser-plate adapted to assist in sealing the envelops, sliding connections between the frame-guide members and the arm-guide members to oscillate said arms and plate when said connections are reciprocated on the guide members, and horizontally-reciprocating wiper mechanism connected with the arms.

43. The combination, in an envelop-sealing machine, with a frame provided with guide members, arms pivoted at their bases to said frame, provided with obliquely-directed guide members and carrying a presser-plate adapted to assist in sealing the envelops, and sliding connections between the frame-guide members and the arm-guide members, of a shaft journaled in the frame, crank-arms on said shaft, and links connecting said crank-arms with said sliding connections.

44. An envelop-sealing machine, comprising means to retain an envelop in a substantially upright position, such means consisting of a support for the lower edge of the envelop,

a forwardly-tensioned support at the back and a rising and falling support at the front, and other means to engage the sealing-flap of the envelop to withdraw said envelop from the retaining means.

45. An envelop-sealing machine, comprising means to retain an envelop in a substantially upright position, such means consisting of a support for the lower edge of the envelop, a forwardly-tensioned support at the back and a rising and falling support at the front, and other means to engage the sealing-flap of the envelop to withdraw said envelop from the retaining means and for moistening the flap.

46. An envelop-sealing machine, comprising means to retain an envelop in a substantially upright position, such means consisting of a support for the lower edge of the envelop, a forwardly-tensioned support at the back and a rising and falling support at the front, and other means to engage the sealing-flap of the envelop to withdraw said envelop from the retaining means and for moistening the flap, and additional means for sealing the flap.

47. In an envelop-sealing machine, a vertically-reciprocating depressor, and a horizontally-reciprocating wiper and envelop-flap support, the depressor and the support being adapted to cross each other's paths of travel.

48. In an envelop-sealing machine, a reciprocating wiper for the inner side of the flap, a reciprocating support for the flap and wiper, means to cause said wiper and support to move in the same directions, the former traveling farther than the latter, and means to cause the wiper to fall upon the support or the inner side of the flap thereon.

49. In an envelop-sealing machine, a reciprocating wiper for the inner side of the flap, a reciprocating support for the flap and wiper, and means to cause said wiper to travel in the same direction with said support for a greater distance than the support.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES J. FANCHER.
HUBERT S. PARMELEE.

Witnesses:

F. A. CUTTER,
J. M. STERNS.