

No. 863,749.

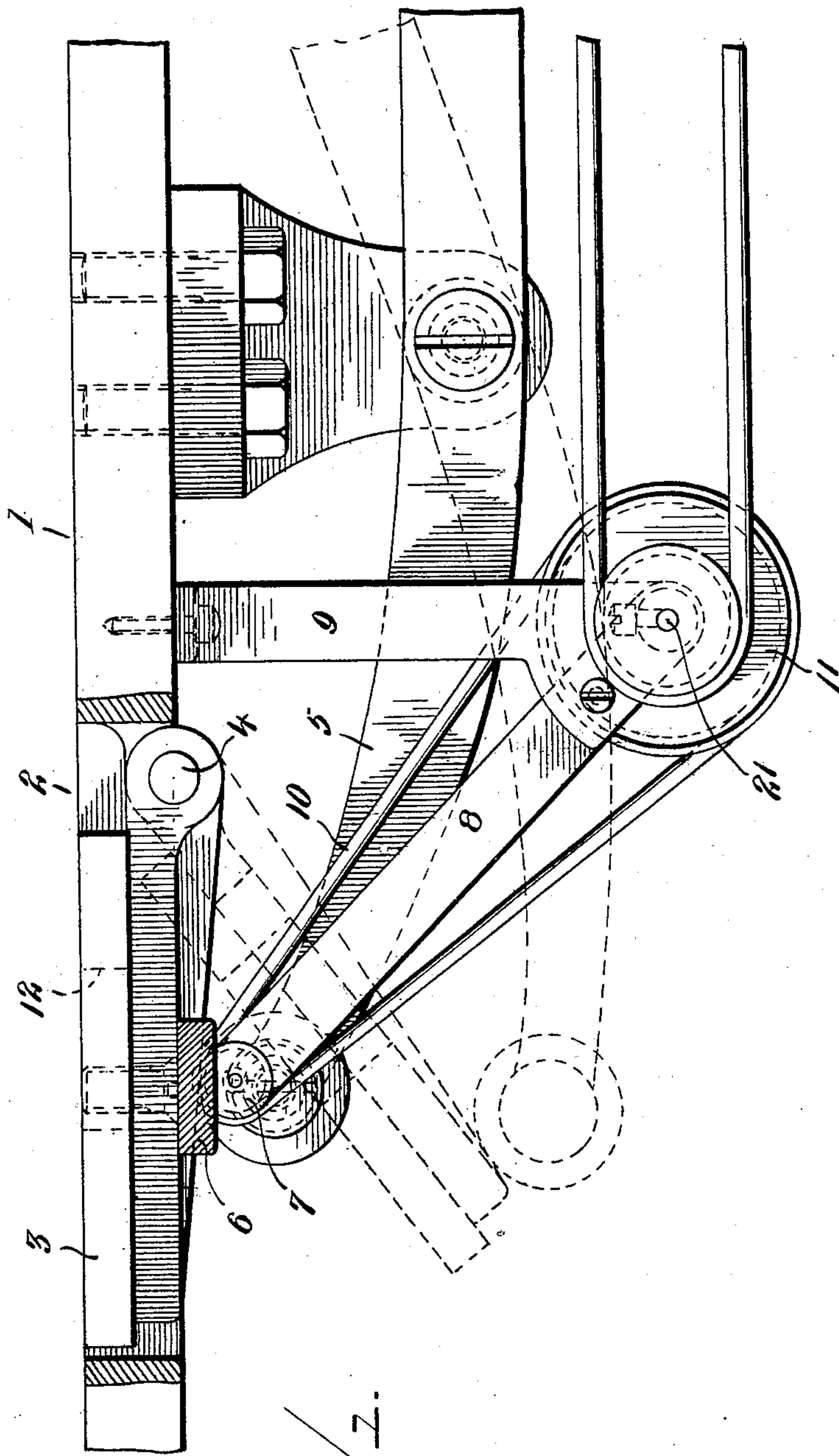
PATENTED AUG. 20, 1907.

B. PAHLITZSCH.

DELIVERY MECHANISM FOR ENVELOP MACHINES.

APPLICATION FILED AUG. 9, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

*M. F. Hoyle*

*Florence Hurst.*

Fig. 1.

BY

INVENTOR

*Bruno Pahlitzsch*

*Lucy M. Cullman & Co.*

Attorneys

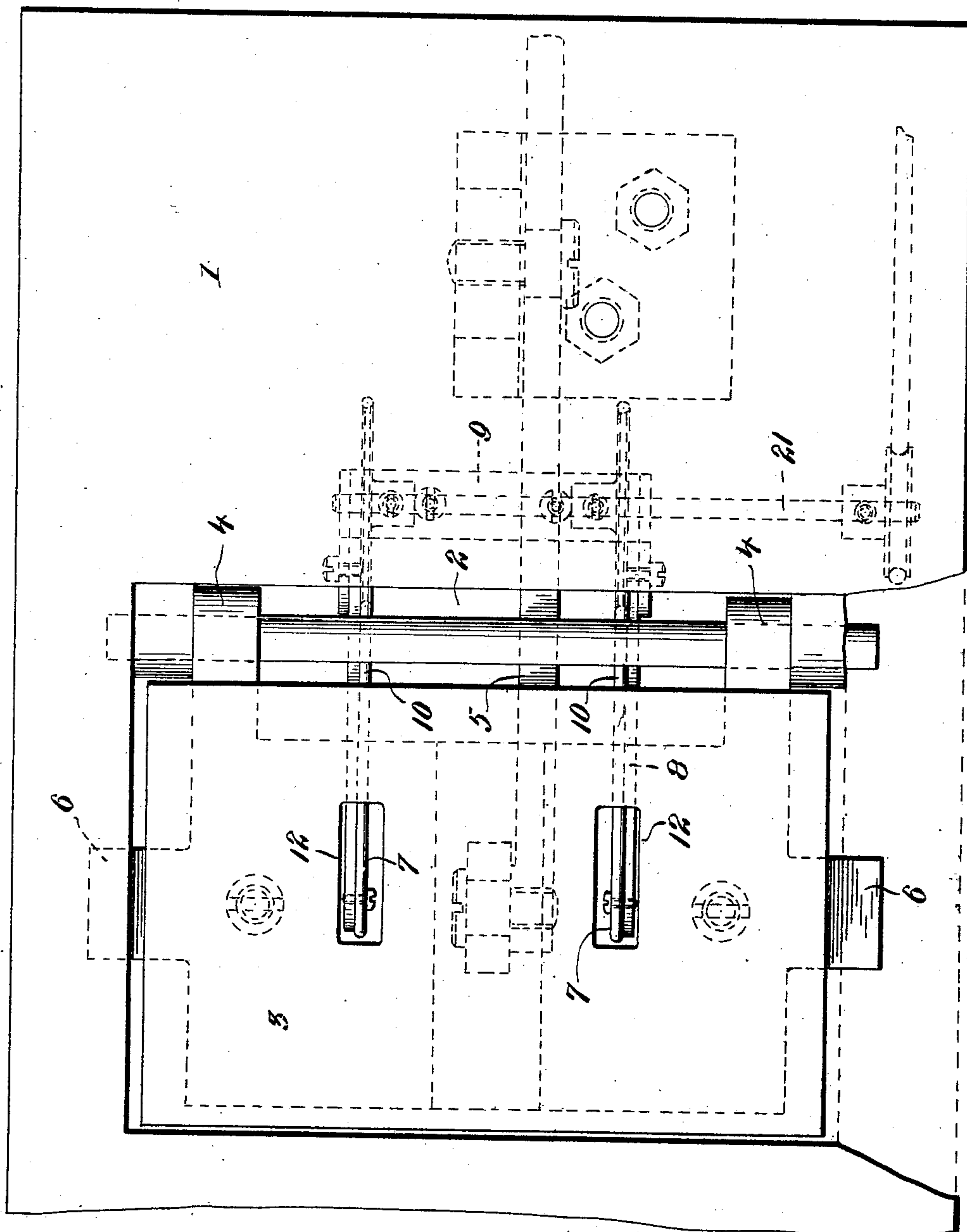
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WITNESSES:

Wm F. Kyle.

Florence Hurst

INVENTOR

INVENT  
Bruno Pahlitzsch

 $B_Y$ 

Surgery, Leukemia & P...  
 1890

*Attorneys*



# UNITED STATES PATENT OFFICE.

BRUNO PAHLITZSCH, OF BERLIN, GERMANY, ASSIGNOR TO UNITED STATES ENVELOPE COMPANY, A CORPORATION OF MASSACHUSETTS.

## DELIVERY MECHANISM FOR ENVELOP-MACHINES.

No. 863,749.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Application filed August 9, 1906. Serial No. 329,873.

*To all whom it may concern:*

Be it known that I, BRUNO PAHLITZSCH, a subject of the Emperor of Germany, residing at Berlin, Germany, have invented new and useful Improvements in Delivery Mechanism for Envelop-Machines, of which the following is a specification.

In envelop machines now commonly in use, it is customary to provide a forming-well, or creasing and folding box, as it is variously termed, to which the blank, properly gummed by suitable gumming mechanism, is fed by any suitable device, a forming-plunger, or equivalent element, adapted to reciprocate in said forming-well being provided, which plunger will, at proper intervals, force the gummed and positioned blank into the well, and against the bottom thereof; after which said plunger recedes, and suitable flap-folders turn the gummed flaps down against the body of the blank, press them to effect proper adhesion, and the envelop is complete and ready for delivery.

The delivery of the completed envelop from the well is effected in different ways, but one method of ejecting the same now commonly in use, is by making the bottom of the forming-well movable, preferably by hinging it at one side, so that it may be tilted, and the completed envelop caused to slide to the packing table by gravity. This form of delivery mechanism is desirable because of the simplicity of its construction, but it has been found that in many of the high-speed machines now in use an appreciable loss of time occurs in delivering the finished envelop from the forming well to the packing table by gravity, due to the fact that the bottom of the forming-well must drop or swing from its normal horizontal position to that critical angle at which the envelop will slide by gravity from the tilted bottom to the packing table, and again return to normal position each time an envelop is made. Not only does this result in a limitation of the output of the machine, but it has sometimes happened that the completed envelops would not be uniformly delivered by the tilting table in the interval of its delivery movement, but such table would return to its horizontal position before complete delivery had been effected and jam the envelop between it and the walls of the forming-well. In order to improve this delivery mechanism, and supplement the advantageous features of the drop-bottom delivery with means for positively ejecting the envelop, so that not only will the delivery mechanism operate with absolute certainty, but the finished envelops will be ejected faster, and consequently the output of the machine materially increased, by reason of this saving of time at the delivery point, I have devised the present improvements. Briefly stated, this positive delivery element comprises envelop-ejecting means, which acts at the in-

stant the tilting well-bottom, dropping from its horizontal position, reaches an inclined one, said ejecting means preferably engaging the envelop frictionally and sliding it down the inclined well-bottom to the packing table.

In order that the invention may be understood by those skilled in the art, I have illustrated in the drawings herewith one embodiment of my invention, and in said drawings,—Figure 1 shows, conventionally, a forming-well of any suitable type or design, in side elevation, a portion of the well being broken away to disclose the drop bottom of the well, which is shown in full lines in its normal position and in dotted lines in delivery position, the cooperating, positively-acting delivery element which ejects the envelop, being shown in proper functional relation; and Fig. 2 is a plan view of the mechanism shown in Fig. 1.

Referring to the drawings by numerals, 1 indicates a table provided with an opening 2, having the drop-bottom 3, which is preferably hinged at one side as at 4, and provided with any suitable mechanism as, for example, lever 5, operated by a cam (not shown) on the main shaft of the machine, by means of which at the proper time in the operation of the machine, it may be dropped to the inclined position shown in dotted lines to permit delivery of the envelop which has been completed and rests upon it; said bottom 3 being provided with suitable stops, as 6, which contact with the underside of the table, and to limit the upward movement of the bottom.

Below the bottom 3 and closely adjacent thereto are two idlers 7, supported by a suitable frame comprising arms 8, and hangers 9 depending from the bed-plate, said idlers carrying belts 10, preferably of rubber, which pass around and are driven by sheaves 11, carried by a rotary shaft 21 mounted in the hangers 9 and driven by any suitable connection with the power-shaft of the machine or other prime-motor.

The side belts 10 and idlers 7 are continuously rotated, and are fixed relative to the drop-bottom 3, which drop-bottom is provided with openings 12, so located relative to the idlers 7 that, as the bottom 3 drops to the inclined position shown in Fig. 1, said idlers will pass through and project above the surface of the bottom 3, whereupon the belts 10 will frictionally engage the underside of the envelop and positively carry it down the inclined bottom 3, and out on the packing table.

The belts are driven at a fairly high rate of speed, so that as the idlers 7 and their belts 8 are projected through the slots 12 in the bottom 3 as it drops to delivery position, the envelop will be quickly and positively caught up and shifted from its normal to its delivered position.

It will be seen that by my invention a very simple



construction is provided for securing a positive, certain, and quick delivery of the envelopes. Furthermore, it will be apparent that the invention is capable of being readily and conveniently adapted to any existing machines in which the drop-bottom is used, simply by slotting the bottom to form apertures for the idlers, and installing the idlers, belts, and drive sheaves in proper position below the well.

It is obvious that mechanical changes and expedients may be adopted in carrying out my invention, other than those in the embodiment illustrated and herein set forth, and I do not, therefore, limit myself to details of construction shown and described, except in so far as I am limited by the prior art to which the invention belongs.

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

1. In a machine of the character described, delivery mechanism comprising a support for the envelop movable from normal to delivery position, and traveling ejecting means fixed relative to the path of movement of said support to lift and deliver the envelop from said support when it reaches delivery position.

2. In a machine of the class described, delivery mechanism comprising a support for the envelop movable from a horizontal envelop-receiving position to an inclined envelop-delivering position, and traveling ejecting means fixed relative to the path of movement of said support to lift and deliver the envelop from said support when it reaches an inclined position.

3. In a machine of the character described, delivery mechanism comprising a perforated support for the envelop movable from an envelop-receiving to an envelop-delivering position, and traveling ejecting means fixed relative to the path of movement of said support to frictionally engage the envelop through said perforated support, lift it from the support, and deliver it when said support reaches a delivery position.

4. In a machine of the character described, delivery mechanism comprising a perforated support for the envelop movable from normal to delivery position, a belt support fixed relative to the path of movement of said perforated bottom and adapted to project through the same when it moves from normal position, and an ejecting belt mounted on said belt support to engage and remove the envelop from said support.

5. In a machine of the character described, delivery mechanism comprising a perforated support for the envelop movable from normal to delivery position, a belt support fixed relative to the path of movement of said perforated bottom and adapted to project through the same when it moves from normal position, and a friction belt mounted on said belt support to engage the under face of and remove the envelop from said support.

6. In a machine of the character described, delivery

mechanism comprising a support for the envelop movable from normal to delivery position and having slots there-through, idler pulleys mounted in fixed relation to the path of movement of said bottom and adapted to project through the slots therein when the bottom moves from normal position, envelop engaging belts supported by said idlers, and sheaves to drive said belts and eject the envelop.

7. In a machine of the character described, delivery mechanism comprising a support for the envelop movable from normal to delivery position and having slots there-through, adjustable supporting arms adapted to project through the slots in said bottom when the bottom moves from normal position, idler pulleys carried by said adjustable arms, friction belts running on said idlers, and sheaves to drive said belts and eject the envelop.

8. In a machine of the character described, a forming well, delivery mechanism comprising an envelop support movable to and from said forming-well, an endless belt supported at its forward end beneath said support to engage an envelop when the envelop support moves from or out of the forming-well, and means for driving said belt so as to move the envelop toward the lower edge of said support.

9. In a machine of the character described, and in combination, a forming-well, an envelop support normally closing the bottom of said well, means for moving said support from its normal to an inclined delivery position, an endless belt beneath said support to engage the envelop when the support reaches delivery position, and means for driving said belt to effect a quick delivery of the envelop from said support.

10. In a machine of the character described, and in combination, a forming-well, an envelop support normally closing the bottom of said well, means for moving said support from normal to delivery position, fixed belt-supporting arms extending outwardly beneath said support in position to engage an envelop when the support reaches delivery position, belt-supporting pulleys on said arms, endless belts mounted on said pulleys, and means for driving said belts to move the envelop toward the delivery edge of said support and effect a quick delivery.

11. In a machine of the class described, the forming-well 2, the slotted envelop support 3 movable to close and open the bottom of said well, a shaft-supporting bracket 9 adjacent said well, a driving shaft 21 mounted therein, supporting arms 8 extending forwardly from said bracket 9 beneath said slotted support, in position to enter the slots therein when the support 3 reaches delivery position, supporting pulleys 7 on said arms 8, driving pulleys 11 on said shaft 21, and endless belts carried by said pulleys to frictionally engage and effect a quick delivery of the envelop from said support, 3.

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

BRUNO PAHLITZSCH.

Witnesses:

HENRY HASPER,

WILLIAM MAYNER.