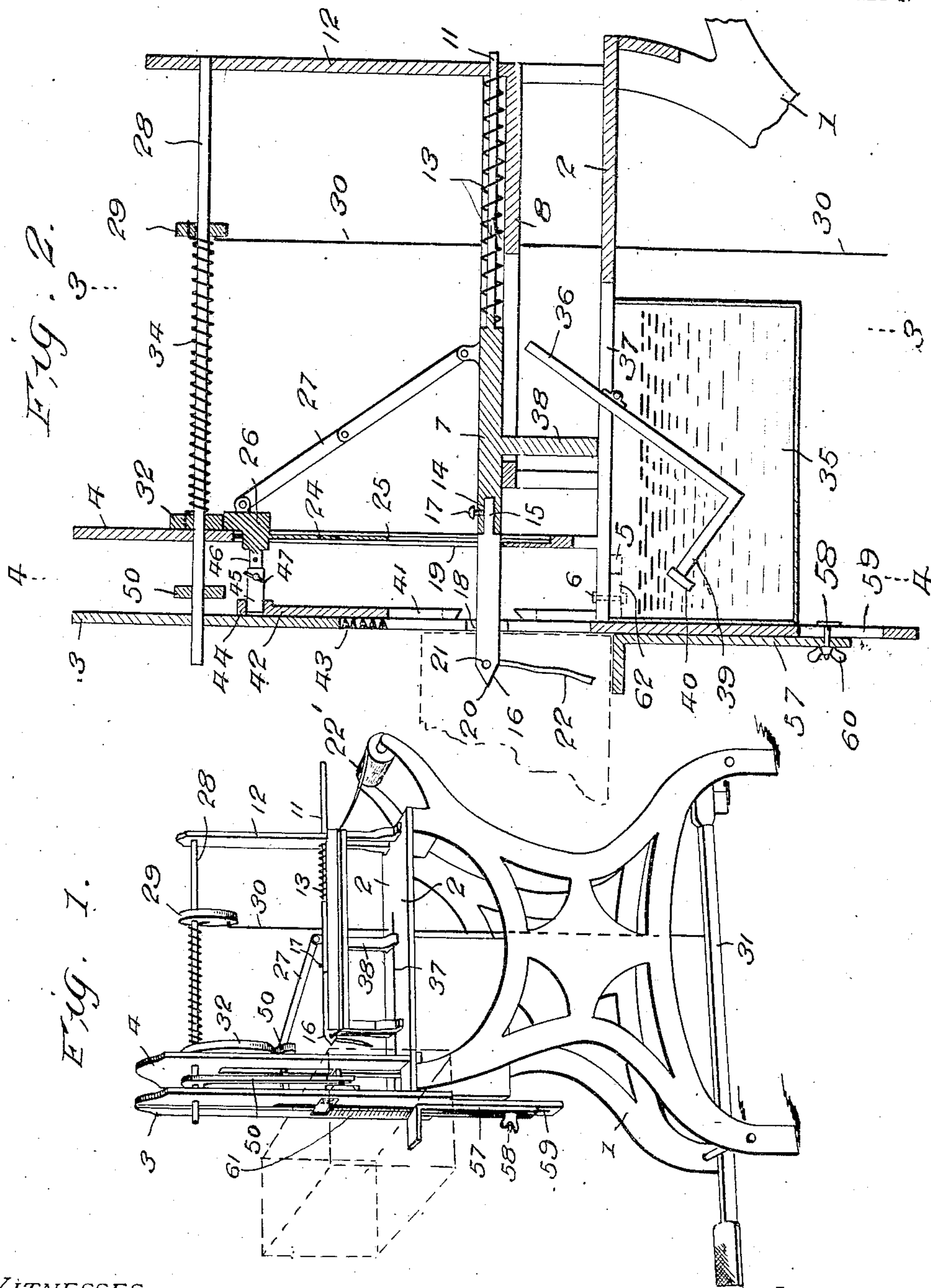


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M. B. DISKIN.
TAPE APPLYING MECHANISM.
APPLICATION FILED JAN. 22, 1908.

Patented Feb. 16, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

Thomas Riley
Mary J. Burke

INVENTOR
Moses B. Diskin

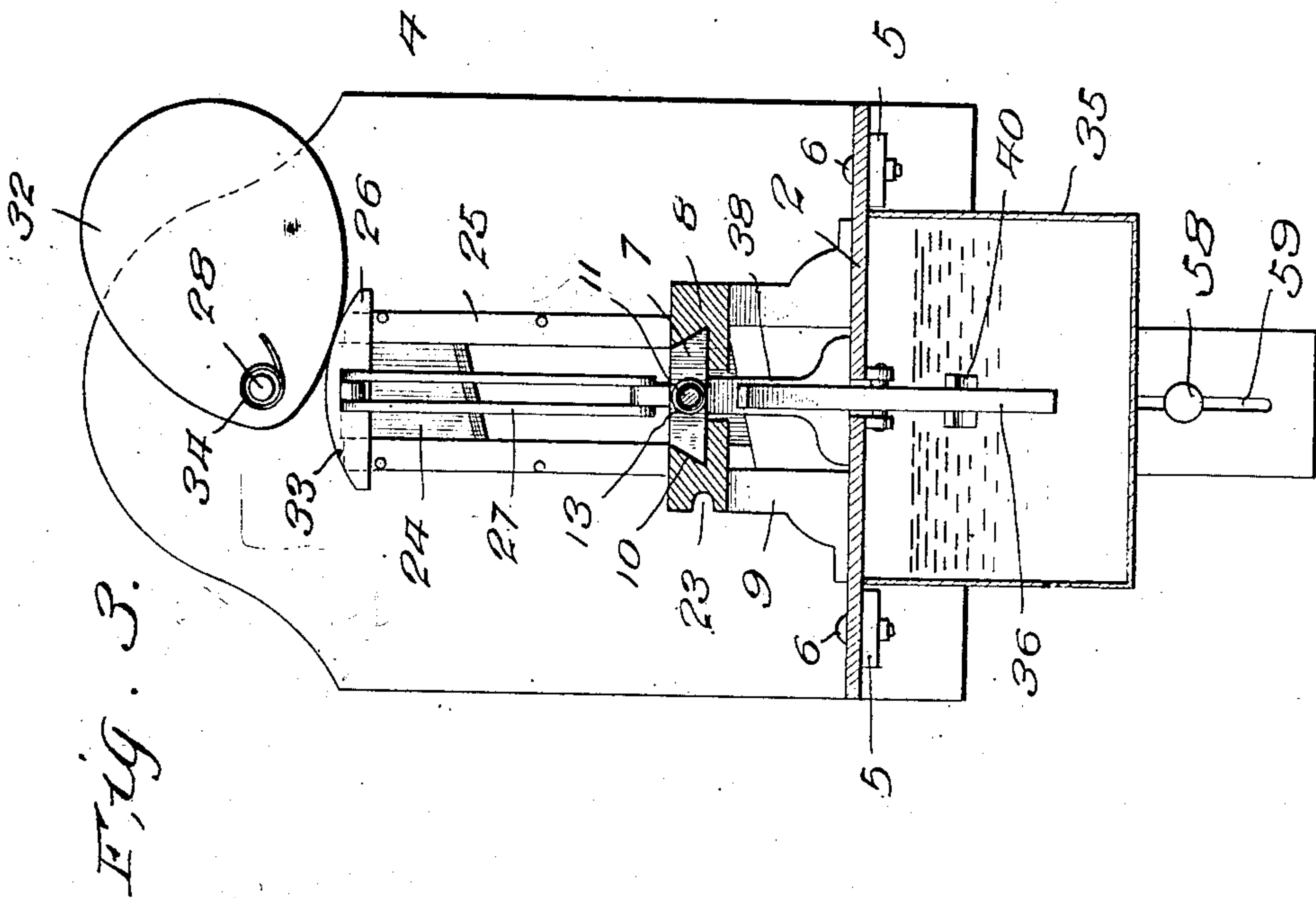
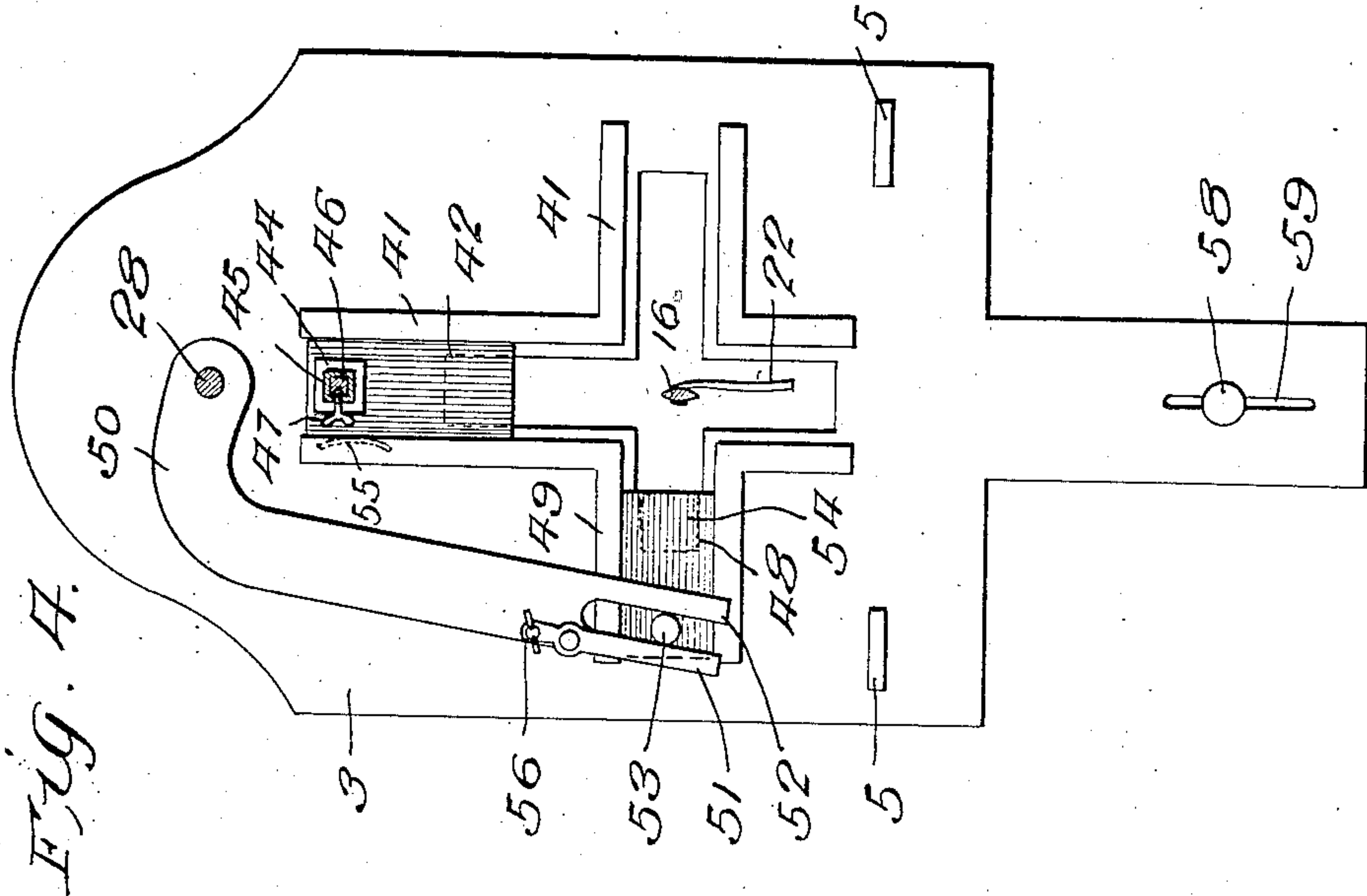
BY
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UNITED STATES PATENT OFFICE.

MOSES B. DISKIN, OF NEW YORK, N. Y.

TAPE-APPLYING MECHANISM.

No. 912,545.

Specification of Letters Patent.

Patented Feb. 16, 1909

Application filed January 22, 1908. Serial No. 412,090.

To all whom it may concern:

Be it known that I, MOSES B. DISKIN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Tape-Appling Mechanism; 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 to make and use the same.

My invention relates to new and useful improvements in tape applying mechanism and more particularly to that class adapted to be used in applying tapes to boxes, whereby articles may be secured in the boxes and my object is to provide means for introducing the tape through the walls of a box.

A further object is to provide means for severing the tape in lengths.

A still further object is to provide means for securing the severed end of the tape to the walls of the box and a still further object is to provide an adjustable support for the boxes, whereby boxes of various heights may be operated upon.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a perspective view of my improved tape applying mechanism ready to be applied to use. Fig. 2 is a detail sectional view thereof on an enlarged scale. Fig. 3 is a sectional view as seen on line 3—3, Fig. 2, and, Fig. 4 is a sectional view as seen on line 4—4, Fig. 2.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a frame, which may be constructed in the usual or any preferred manner and has secured to its upper end, a platform 2. Adjacent one end of the platform 2, are parallel plates 3 and 4, the plate 3 being provided with angular extensions 5, which extend below the platform 2 and are adjustably secured to said platform by means of bolts, or the like, 6, while the plate 4 is secured at its lower end to the upper face of the platform 2 preferably integral therewith.

Slidably mounted above the platform 2, is a plunger 7, said plunger being mounted between guide plates 8 supported above the platform 2 in any preferred manner, as by

means of standards 9, the meeting faces of the guide plates 8 having dove-tail channels 10 therein, in which the edges of the plunger 7 are adapted to take, said edges being tapered to fit the dove-tail channels, thereby preventing the plunger from casual removal from the guide plates and at the same time permitting said plunger to move longitudinally. One end of the plunger terminates in a rod 11, which rod is of sufficient length to extend through an opening in an auxiliary standard 12 extending upwardly from the rear end of the guide plates 8, that portion of the rod between the auxiliary standard and the end of the plunger 7 being surrounded by a spring 13, whereby the plunger will be normally held at the forward end of the guide plates.

The forward end of the plunger 7 is provided with a socket 14, into which is adapted to take the shank 15 of a needle 16, said shank being held in the socket in any preferred manner, as by means of a binding screw 17, the needle being of sufficient length to extend through slots 18 and 19 in the plates 3 and 4, respectively and a distance beyond the plate 3, whereby the pointed end 20 of the needle will extend through the wall of a box, or the like, placed against the outer face of the plate 3. The pointed end of the needle 16 is provided with an eye 21, through which is adapted to extend one end of a tape 22, said tape being carried in bulk on a reel 22' at the rear of the frame 1, the tape in its passage from the reel to the eye of the needle, extending through a groove 23 in the outer face of one of the guide plates 8. After the needle has moved forwardly and passed through the wall of the box, the free end of the tape is pulled through the eye of the needle until the proper length of tape has been obtained, when the needle is moved rearwardly out of engagement with the box and the tape severed at a point between the box and the end of the needle by means of a knife 24, said knife being vertically movably mounted in ways 25 on the inner face of the plate 4, said knife depending from a head 26, which is in turn secured to the plunger 7 by means of links 27, the upper ends of said links being pivotally secured to the head 26, while the lower ends thereof are pivotally secured to the plunger 7 and it will be readily seen that as said plunger moves rearwardly, the knife will be lowered

and the tape severed and when the plunger moves forwardly, the knife will be correspondingly elevated and moved out of the path of the needle.

- 5 As the spring 13 normally holds the plunger 7 at the forward end of the guide plates 8, I have provided means for moving the plunger to the rear end of the guide plates, which consists of a shaft 28, which shaft is
10 rotatably mounted at one end in the upper ends of the plates 3 and 4 and at its opposite end in the auxiliary standard 12, said shaft having fixed thereto a lever 29, to the outer end of which is secured a pitman 30, said pitman being in turn secured at its lower end to
15 a treadle bar 31, and by delivering pressure to the outer end of said treadle bar, the end of the lever 29 will be lowered and the shaft 28 rocked.
- 20 Loosely mounted upon the shaft 28 and at a point immediately above the head 26, is a cam 32, which cam is adapted to engage the curved surface 33 of the head 26 and depress said head, thereby lowering the knife 24 and
25 moving the plunger 7 to the rear of the guide plates 8. The cam 32 is yieldingly secured to the lever 29 by means of a coil spring 34, said spring being wound around the shaft 28 and having one of its ends secured to the lever 29 and the opposite end to the cam 32,
30 the tension of said spring being sufficient to lower the head 26 and move the plunger rearwardly, but, if for any reason, the plunger 7 should fail to move rearwardly to clear the
35 needle 16 of the knife 24, the spring 34 will yield sufficiently to prevent the destruction of the needle or knife.

- After the tape has been introduced through the wall of the box and the tape severed at a
40 point between the needle and box, the severed end of the tape is then secured to the outer wall of the box and preferably by pasting, and to readily accomplish this result, I locate a paste tank 35 below the platform 2
45 and pivotally mount a substantially L-shaped lever 36 to the platform 2, the lever extending into the paste tank through a slot 37 formed substantially at the axial center of the platform, said lever being pivotally
50 mounted in position and having its pivot point adjacent one end thereof, so that the longer end of the lever will be normally immersed in the paste. The shorter end of the lever 36 is adapted to extend in the path of a
55 presser foot 38 carried by the plunger 7, so that as said plunger is moved rearwardly, the extended end of the lever 36 will be engaged by said presser foot and the opposite end of said lever elevated, and by forming the angular extension 39 of the lever of sufficient
60 length to extend into the path of the tape and securing to the upper end thereof any suitable form of dauber 40, that portion of the tape between the box and the end of the
65 needle, will be supplied with a coating of the

paste, the elevation of the lever being so timed with respect to the movement of the plunger, as to engage the dauber 40 with the tape as soon as the point of the needle has been withdrawn from the slot 18 in the plate 3, it being understood, of course, that the tape will be pulled longitudinally through the opening formed in the box, the distance of the stroke of the plunger.

Slidably mounted in suitable guide ways 75 41, on the inner face of the plate 3, is a slide 42, said slide being provided adjacent its lower end with a brush 43, the object of said brush being to force the pasted end of the tape firmly against the outer face of the box, 80 whereby the paste will adhere thereto and anchor the end of the tape, said slide being lowered simultaneously with the lowering of the head 26 and to accomplish this result, a socket 44 is formed adjacent the upper end of 85 the slide 42, in which is adapted to take a sleeve 45 extending from the end of a shank 46 carried by the head 26, the sleeve being held in its adjusted position on the shank by means of a set screw 47. 90

Instead of extending the pasted end of the tape downwardly or vertically, the same may be extended horizontally, and to accomplish this result, an auxiliary slide 48 is slidably mounted in horizontal guide-ways 49 95 and is moved longitudinally across the path of the tape by means of an arm 50, the upper end of the arm being fixed to the shaft 28, while the lower end thereof is bifurcated to form fingers 51 and 52, said fingers being 100 adapted to extend on opposite sides of a stud 53 carried by the auxiliary slide 48, the inner end of the slide being provided with a brush 54, similar to the brush on the slide 42 and adapted to accomplish the same purpose. 105 When the pasted end of the tape is being extended horizontally, the slide 42 is disengaged from the head 26 by releasing the set screw 47 and moving the sleeve 45 towards the head 26 and out of engagement with the 110 socket 44, the slide 42 being held in its elevated position by means of a spring 55 and likewise when the auxiliary slide 48 is not in use, the finger 51 is swung to a horizontal position and out of engagement with the stud 115 53, said finger being pivotally secured to the arm 50 and held in its adjusted position by means of a binding screw 56.

The class of boxes to which the tapes are secured, are preferably formed of card- 120 board and particularly of that class in which shirts, hats or similar articles are to be stored, and in retaining the boxes in position to receive the end of the needle, I provide a bracket 57, said bracket being adjustably 125 secured to the depending end of the plate 3 by introducing a bolt 58 through a slot 59 and through the lower end of the bracket 57, the threaded end of said bolt being provided with a wing-nut 60, whereby the bracket 130

may be clamped in its adjusted position, and to more readily gage the point of intersection of the needle with the wall of the box, the front wall of the plate 3 is provided with 5 graduations 61, so that by ascertaining the height of the wall of the box, the bracket 57 may be set in accordance with the graduations indicated on the plate 3, thereby insuring that the needle will pierce the wall of 10 the box at the proper point.

The extensions 5 are provided with slots 62, through which the bolts 6 extend, so that the plate 3 may be moved towards or away from the plate 4, thereby forming a shorter 15 or longer section of tape to be pasted, the shaft 28 being of sufficient length to permit of such adjustment and likewise the sleeve 45 may be extended to compensate for such adjustment.

20 In operation, the plunger and needle carried thereby is first moved to the position shown in Fig. 1 by depressing the treadle bar 31, after which a box is placed on the bracket 57 and the pressure on the treadle 25 bar removed, whereupon the spring 13 will move the plunger forwardly with sufficient force to drive the point of the needle through the wall of the box, said box being firmly held against the forward face of the plate 3 30 in any preferred manner. The operator then secures the free end of the tape and pulls forwardly on the same until a sufficient length of the tape has been pulled through the eye of the needle, when downward pressure is again directed on the treadle bar and 35 the plunger again moved rearwardly, this action elevating the dauber 40 into engagement with that portion of the tape between the end of the needle and the wall of the box and as the tape is pulled rearwardly by the 40 needle, the tape will be thoroughly saturated with the paste. After the tape has been thoroughly saturated with the paste, a continued downward pressure on the treadle 45 bar will bring the knife 24 into engagement with the tape and sever the same, the severed portion then being engaged by either the brush 43 or 54 and pressed into engagement with the outer face of the wall of the 50 box, the pressure of the brush being sufficient to cause the tape to adhere to the box.

It will thus be seen that I have provided a very cheap and economical means for 55 applying tape to the walls of boxes and one wherein the length of the pasted portion of the tape may be readily increased and disposed in different planes, this manner of applying the tape greatly facilitating the work, as well as reducing the expense thereof.

60 What I claim is:

1. In a tape applying machine, the combination with a box supporting mechanism; of means to introduce a tape through the 65 wall of a box, means connected to and operating the first named means to sever said

tape and means operated by the first named means to attach the severed portion of the tape to a wall of the box.

2. The herein described means for securing tapes to the walls of a box comprising means 70 for entering the tape through a wall of the box, means to apply adhesive to a portion of said tape, said first named means being connected to and operated by the second named means and additional means to force that 75 portion of the tape containing the adhesive into engagement with a wall of the box.

3. The herein described means for applying tape to the walls of a box comprising the combination with a needle; of means to extend said needle through the wall of the box, a severing device for the tape, said first named means being secured to and operated 80 by the severing device, means to apply adhesive to the severed end of the tape and 85 means carried by the severed ends of the tape containing adhesive into engagement with the wall of the box.

4. In a tape applying device, the combination with a needle; of means to reciprocate 90 said needle, of a knife mounted for movement intersecting the path of movement of the needle, a pasting device, connections between the knife and the needle for operating the same simultaneously and a contacting 95 means, said contacting means being adapted to force the pasted portion of tape in engagement with an object.

5. The herein described means for attaching tape to the walls of boxes comprising the 100 combination with a reciprocating needle; of a knife mounted for movement intersecting the path of travel of the needle, connections between the knife and the needle for moving the same simultaneously, an adhesive applying 105 device and a contacting means carried by the knife, said contacting means being adapted to force a pasted portion of tape in engagement with an object.

6. The herein described means for attaching 110 tape to boxes comprising the combination with a needle; a reciprocating plunger carrying said needle and a foot carried by said plunger, of a pivotally mounted lever with one arm normally in the path of said 115 foot adapted to be connected by said foot and brought into engagement with a portion of the tape whereby adhesive substance will be applied to the tape, means to sever the 120 tape and means to force the severed portion of the tape into engagement with the wall of the box.

7. In a tape applying device, the combination with a plunger; a spring adapted to move said plunger in one direction, means to 125 move the plunger against the action of the spring and a needle carried by said plunger, of a knife mounted for movement intersecting the path of travel of the needle to sever the tape, means to apply adhesive to a por- 130

tion of the tape, and a brush adapted to press the severed portion of the tape in position.

8. The herein described means for securing a tape to a receptacle comprising the combination with a reciprocating plunger and a needle carried by the plunger; of a cutting knife mounted to move in a direction intersecting the path of travel of the needle and means to connect said knife with the plunger, a cam adapted to cooperate with and lower said knife and means yieldingly secured to said cam to operate the same.

9. In a tape applying mechanism, the combination with a pair of parallel plates; one of said plates being provided with an adjustable means for supporting the box, a reciprocating knife carried by one of said

plates and tape applying means movable across the line of travel of the knife.

20

10. A tape applying mechanism comprising the combination with a reciprocating needle; of a pair of plates adjustable one with relation to the other, a reciprocating knife carried by one of said plates, a slide carried by the second plate, a brushing means carried by the slide and means connecting said plate with the cutting knife.

25

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

30

MOSES B. DISKIN.

Witnesses:

C. A. NEALE,

C. S. FRYE.