

J. F. RALEIGH.
STAMP AFFIXING MACHINE.
APPLICATION FILED FEB. 17, 1912.

1,052,691.

Patented Feb. 11, 1913.

4 SHEETS-SHEET 1.

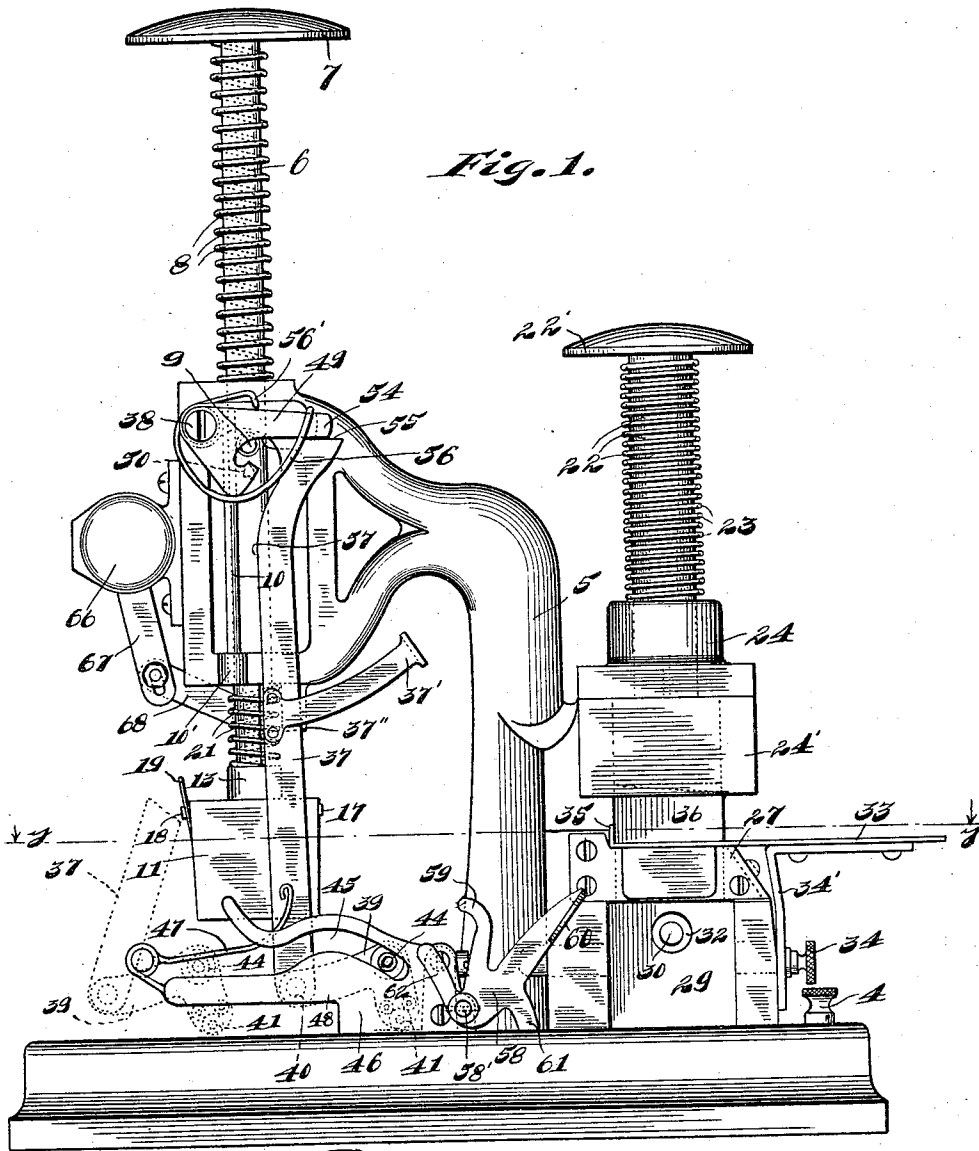
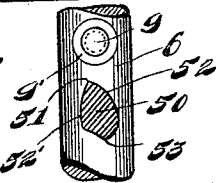


Fig. 2.



Witnesses:

C. E. Wessels.

A. A. Olson

Indentor,

James F. Raleigh,

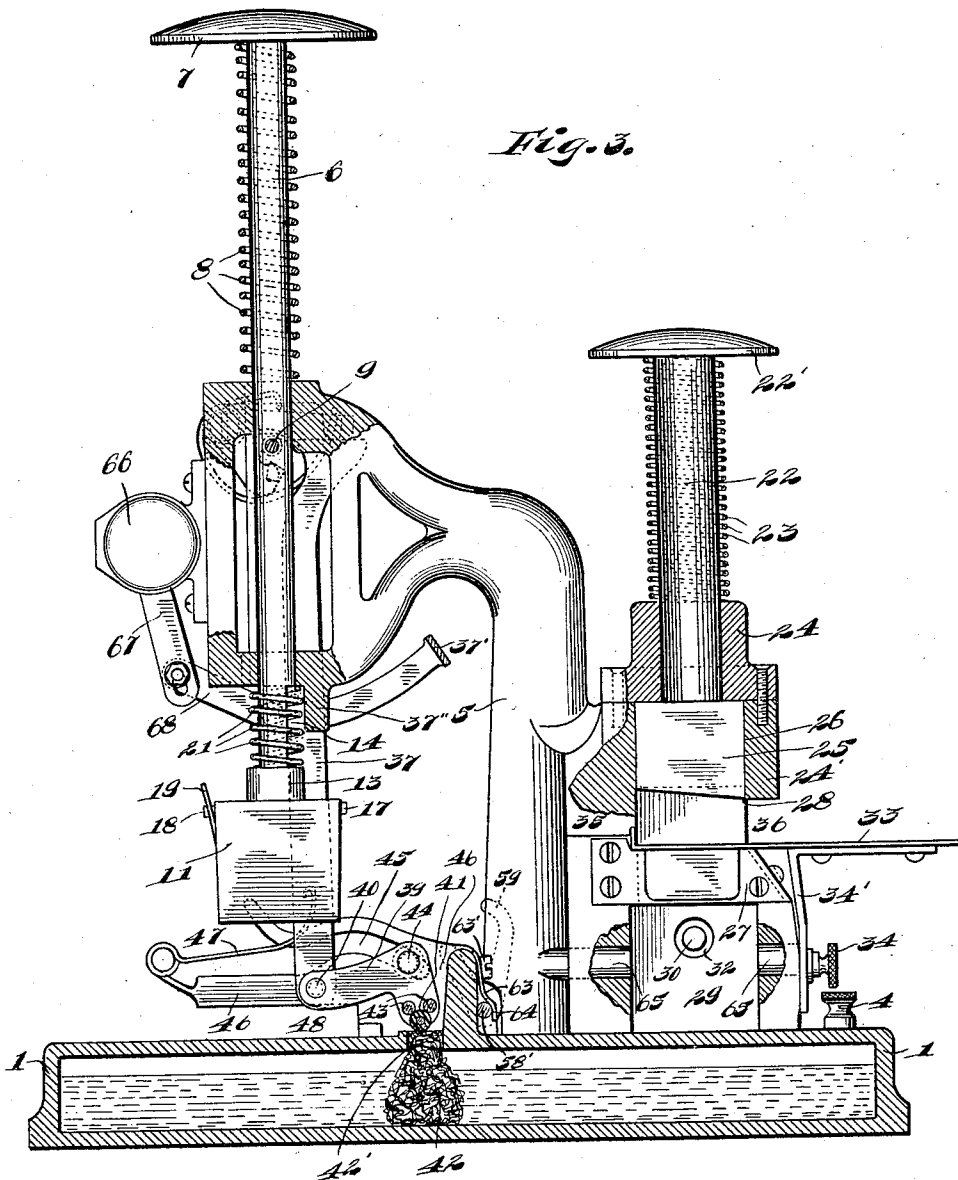
By *Joshua H. Horn*
his Attorney.

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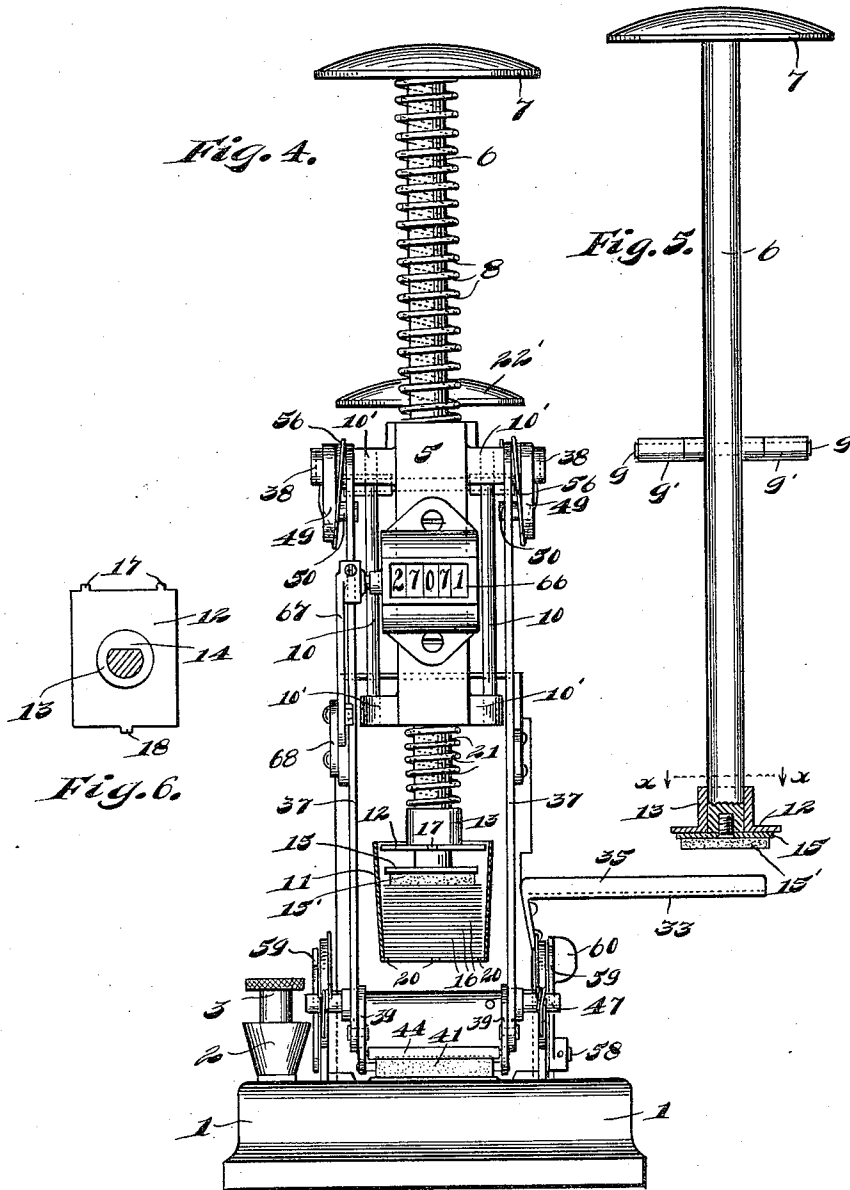
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4 SHEETS—SHEET 3.



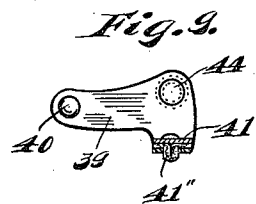
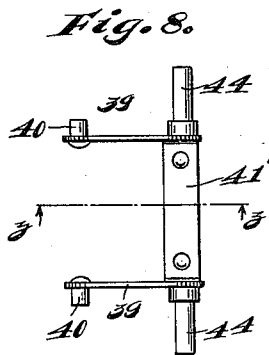
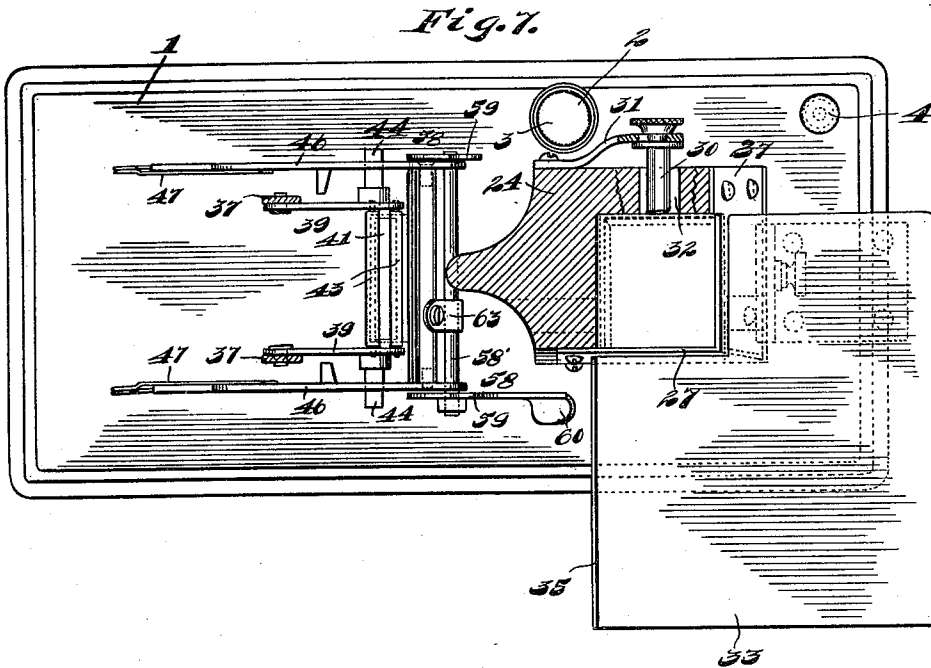
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

JAMES F. RALEIGH, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-THIRD TO RICHARD ABRAM AND ONE-THIRD TO WILLIAM FURLONG, BOTH OF CHICAGO, ILLINOIS.

STAMP-AFFIXING MACHINE.

1,052,691.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed February 17, 1912. Serial No. 678,331.

To all whom it may concern:

Be it known that I, JAMES F. RALEIGH, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Stamp-Affixing Machines, of which the following is a specification.

My invention relates to improvements in stamp affixing machines, and more particularly to a machine for applying postage stamps to envelopes, cards, or other mail matter, the object of the invention being the production of a machine of this character which will be of simple construction and which will be efficient in operation.

Other objects will appear hereinafter.

With these objects in view, my invention consists in the combinations and arrangements of parts hereinafter described and claimed.

My invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which—

Figure 1 is a side elevation of a stamp affixing machine embodying my invention, Fig. 2 is an enlarged sectional detail illustrating the relative position of one of the cam rollers upon the operating plunger and the cam coöperating therewith, Fig. 3 is a substantially central vertical longitudinal section of the machine, Fig. 4 is a front elevation of the machine, the stamp receptacle being shown in section, Fig. 5 is a detail of the operating plunger detached, the lower end of said plunger being shown in section, Fig. 6 is a section taken on line *x x* of Fig. 5, Fig. 7 is a horizontal section taken on substantially line *y y* of Fig. 1, Fig. 8 is a plan view of a modified form of wiper which may be used if desired, and Fig. 9 is a section taken on line *z z* of Fig. 8.

The preferred form of construction, as illustrated in the drawings, comprises a base 1 which is rectangular in outline and comparatively flat, the same being hollow in order to constitute a fluid reservoir for the machine. A filling cup 2 of ordinary construction is provided, by means of which the moistening fluid may be poured into the reservoir, a screw plug stopper 3 being provided for closing said cup. An air vent 4

is provided to be open during the filling of the reservoir.

Extending upwardly from the base 1 is a standard or frame 5 in which is mounted for reciprocatory movement a plunger 6 which is provided at its upper end with a head 7. Surrounding the upper end of the plunger 6 and interposed between the head 7 and the upper end of the standard or frame 5, is a helical compression spring 8 which is adapted normally to return said plunger to its elevated position or to its upper terminal position, when released from depressed position. In order to prevent the plunger 6 from rotating in its bearing, the same is provided with laterally projecting arms 9 upon which are provided suitable rollers 9', the latter alleviating friction, as will be understood from the following. The rollers 9' engage against rods 10 which are mounted in the upper end of the frame 5 at opposite sides of said plunger, ears 10' being provided in which the respective extremities of said rods are secured. With this arrangement it will be seen that upon operation of the plunger, the rollers 9' will travel upon the rods 10 to prevent relative rotary movement of said plunger, the provision of said rollers, whereby the friction is alleviated, as above mentioned, conducing to free and easy operation of the plunger.

Arranged at the lower end of the plunger 6 is a stamp receptacle 11, which is of substantially rectangular form, preferably tapering slightly toward its lower end. Said receptacle is connected with the plunger 6 through the medium of a plate 12 which is slidably mounted upon said plunger. The member 12 is provided with a central hub 13 which is adapted to slide vertically over the lower end of the plunger, the latter being provided with a flat portion 14, and the opening in said hub being correspondingly formed to fit said flat portion, thus forming a spline connection between the member 12 and said plunger, which prevents relative rotation of said parts. An enlargement 15 and a felt pad 15' are provided at the lower end of said plunger for abutting the stamps 16 which are arranged thereunder in the stamp receptacle. The stamp receptacle is detachably secured to the member 12 through the medium of outwardly projecting pins

17 and 18 provided at opposite edges of said member 12 and which engage corresponding perforations in the adjacent sides of the receptacle close to the upper edge thereof, a resilient portion 19 being provided at one side of said receptacle in order to permit of the projection 18 entering the corresponding opening or to permit of the release of said projection when detachment of the receptacle is desired. The portion 19 is projected upwardly, as shown, to constitute a finger piece whereby the same may be readily sprung outwardly in effecting disengagement thereof from the projection 18. The stamps in the receptacle 11 are normally held in the position shown by means of short inwardly projecting teeth 20 which engage under the edges of the lower stamp. Interposed between the lower portion of the frame 5 and the hub 13 is a helical compression spring 21 which serves to maintain the member 12 in normal engagement with the enlargement 15, as clearly shown in Fig. 1.

In order to provide stamps for the stamp receptacle 11, a stamp cutter is provided which is adapted to sever several stamps at a time, when sheets of stamps are properly positioned therein. The stamp cutter comprises a vertical reciprocatory plunger 22 having a head 22' at its upper extremity. Surrounding the plunger 22 is a helical compression spring 23 interposed between the upper end of the housing 24 of the cutter and the head 22', said spring being adapted to return said plunger 22 to its normal elevated position after depression. Carried at the lower end of the plunger 22 is a cutter 25 which is simply a substantially rectangular block which is slidably mounted in a correspondingly formed opening 26 provided in said housing 24. Screwed to the housing 24 is an L-shaped cutter 27, the upper edges thereof being beveled for cooperation with the adjacent cutting edges of the cutter 25. The cutting edges of the cutter 25 are inclined downwardly toward the point 28 so that in operation, the initial cutting will take place at this point, which will be followed by a shearing cut due to the inclination of said edges. In operation, the receptacle 11 is arranged in the opening 29 which is formed for the reception thereof below the cutter 27 so as to receive the stamps which will drop thereinto as the same are severed, as above described. Ejection of the receptacle from the opening 29 after the same has been supplied with stamps, is effected through the medium of an ejector 30 which is carried by a leaf spring 31, as shown in Fig. 7, the inner end of said ejector passing through an opening 32 provided for the reception thereof in the wall of the opening 29 opposite the mouth of the latter. The spring 31 is adapted to hold the member 30 normally in inoperative po-

sition, ejection of the stamp receptacle being effected upon depression of the outer end or head of said ejector.

Arranged coplanar with the cutting edges of the cutting member 27, is a table 33 which is secured in position by a screw 34 which engages the lower end of a bracket 34'. The table 33 serves to support the sheets of stamps during the severing operation of the stamps, an upwardly projecting flange 35 provided at one side of the table 33 in registration with one side of the cutter opening 26, serving as a gaging means for properly positioning the stamps for severance when the plunger 22 is depressed. Two sides of the housing 24 coplanar with the table 33 are cut away at 36 in order to permit of the insertion of the stamps.

Preparatory to the application of a stamp to an envelop, it is required to moisten the surface of the latter to which the stamp is to be applied. The mechanism for effecting this moistening comprises a pair of levers 37 which are pivotally secured at their upper ends to the frame or standard 5 by means of screws 38. At the lower ends of the levers 37 is carried a wiper or moistener which comprises a pair of arms 39 corresponding ends of which are pivotally secured to the lower ends of the levers 37 by means of trunnions 40 which project from the arms 39 and which engage perforations provided for the reception thereof in said ends of said levers. Carried at the opposite ends of the arms 39 is a transversely extending roller 41 preferably covered with a resilient or absorbent covering, such as rubber. The roller 41 is adapted, with the levers 37 in their normal positions, to contact with the upper ends of a wick 42 which is arranged in the reservoir 1, the upper end of said wick projecting through an opening 42' formed in the upper side of said reservoir. The roller 41 is adapted to carry the moistening fluid from the upper end of the wick so as to moisten the surface with which the same is brought into contact, as herein-after mentioned. Distributing rollers 43 are preferably provided above the roller 41 for distributing the liquid uniformly over the surface of the roller 41 during rotation of the latter. Projecting laterally from the free ends of the arms 39 above the roller 41 are studs 44 which slidably engage curved slots 45 formed in the plates 46 secured upon the upper side of the base member 1. The slots 45 are of such formation that, upon outward tilting of the lower ends of the levers 37, the free ends of the arms 39 and hence the wiping roller 41 will be first elevated and then moved downwardly, the arrangement being such that during this operation the wiping roller will be moved from contact with the moistening wick 42 and will not be moved downwardly for contact

with the envelop or mail matter which is positioned on the base member 1, until said roller is directly over the portion of the envelop to which it is desired to affix the stamp, when said roller will move horizontally upon said surface to effect the moistening thereof. Wire springs 47 are provided at the outer extremities of the plates 46 which are positioned for engagement with the studs 44 in order to force the moistening roller into close engagement with the surface engaged thereby. The free or operative ends of the springs 47 are inclined, as clearly shown in the several views, the inclination being such as to tend to force the studs 44, when engaging the latter, toward inoperative position, there being a sort of "scissors action," this arrangement serving to facilitate the return of the wiper to inoperative position, as hereinafter described. The outer ends of the plates 46 are cut away at 48 in order to afford clearance for the envelop in positioning the same directly under the stamp receptacle.

If desired, a wiper of a construction as shown in Figs. 8 and 9, may be employed. The moistener there shown is generally of the same construction as the wiper above described, the modification being in the provision of a transversely extending plate 41' which extends between the free ends of the arms 39 to the under side of which is secured a felt tongue 41'', the latter being adapted to engage the upper end of the moistening wick 42, in the same manner as the moistening roller 41 above described.

Oscillation of the levers 37 in order to effect the drawing of the wiper across the envelop, as before mentioned, is secured through the provision of arms 49 which are pivotally secured to the standard 5 by the screws 38. The arms 49 are formed at their inner sides with inwardly projecting cams 50 which are disposed in the path of the rollers 9' which are carried by the laterally projecting arms or studs 9 of the plunger 6. The cam members 50, as clearly shown in Fig. 2, are so constructed that, upon depression of the plunger 6, the vertices 51 of said cams will be positioned in non-alinement with the plane of movement of the axes of said rollers, and so that upon contact of said rollers with said cams, the former will ride upon the surfaces 52 of said cams and effect downward swinging of the free ends of the arms 49. The lower vertices 53 of the cams 50 are so positioned that, upon return movement of the plunger, the rollers 9' will ride upon the opposite surfaces 52' of said cams, the arms 52 being permitted to swing upwardly in this operation to permit of the passage of said rollers. The free extremities of the arms 49 are formed with inwardly projecting fingers 54 which engage shoulders 55 formed at the upper extremi-

ties of the levers 37 so that, upon downward swinging of the free ends of the arms 49, as above mentioned, when the plunger 6 is depressed, the levers 37 will be rocked outwardly in order to draw the wiper carried thereby to operative position or to the dotted line position as shown in Fig. 1. Wire torsional springs 56 are provided in order to return the arms 49 to normal position engaging the shoulders 55 of the levers 37 after said arms have been rocked upwardly by reason of contact of the rollers 9' with the cams 50 during return movement of the plunger 6. The ends 56' of the springs 56 are fixed to the upper ends of the levers 37, the opposite or free ends of said springs engaging over the free ends of the arms 49, as shown. In order to maintain the levers 37 in proper relative position, a U-shaped bridge 37'' is provided which extends from one of said levers to the other, the central portion of said bridge being adapted to contact with a boss 37''' depending from the lower end of the head of the standard 5 for limiting the throw of said levers. The return of said levers to normal position is effected by the rollers 9' which are adapted to contact with the outer edges of said levers, after passing the recessed or inwardly curved portions of the front edges of said levers at the upper extremities thereof, the return of said levers occurring almost instantaneously upon the contacting of said rollers with the portions 57 of the front edges of said levers. With this construction it will be seen that a quick action of the levers 37 is secured upon depression of the plunger 6, the outward swinging of said levers and also the return thereof taking place during the downward movement of said plunger.

The mechanism is locked against operation by means of locking members 58 which are secured at the respective extremities of an oscillatory shaft 58'. Curved upwardly projecting fingers 59 of the members 58 are adapted to engage over the outwardly projecting ends of the studs 44 so as to prevent movement thereof in the slots 45, this locking of the studs 44 resulting in the locking of the entire mechanism, as will be readily understood. Swinging of the members 58 to locking position is effected by a finger piece 60 which is formed upon one of said members 58, stops 61 and 62 being provided upon one of said members for limiting the oscillatory movement of said members in both directions, as will be readily understood. Said members 58 are normally held in inoperative position by means of a leaf spring 63 which is adapted to engage against a flat side 64 formed upon one side of the shaft 58', as shown in Fig. 3, the arrangement being such, however, that when the mem-

bers 58 are in locking position, the shaft 58' will be oscillated to such an extent that the flattened portion 64 will not be engaged by the spring 63 and so that in this position, said spring will serve merely as a means of applying friction to the shaft and hence to hold the same in this position. The base portion of the cutter housing 24 is formed in opposite walls with alining openings 65 which permit of the passage of a screw-driver in engaging the screw 63' which secures the spring 63.

Mounted upon the front side of the standard 5 is a registering device 66 of any ordinary or preferred design. The operating lever 67 of the register 66 is operatively connected by means of a link 68 with one of the levers 37 and so that, during operation of the device, each oscillation of the levers 37 and hence each application of a stamp will be registered.

In the operation of the machine, it is only required to insert the mail matter under the forward ends of the arms 46. Upon the depression of the plunger 6, the wiper will first be moved forwardly to effect the moistening of the surface of the envelop to which it is desired to apply the stamp. The wiper will be returned instantly, whereupon the stamp receptacle 11 will be forced downwardly into engagement with the moistened surface. After engagement of the lower end of the receptacle with the envelop, the plunger will continue to move downwardly until the pad 15' carried thereby contacts with the upper end of the stack of stamps arranged in the receptacle. The forcible engagement of this pad with the stack of stamps will serve to press the lowermost of the latter against the moistened surface of the envelop. The stamps being arranged with their gummed surfaces downward, upon contact thereof with the moistened surface of the envelop, as just mentioned, the stamp will be automatically withdrawn from the receptacle, upon the return of the latter to elevated position, by reason of the adherence of said stamp to the envelop.

With this machine, stamps may be affixed with great expedition, time and labor being saved.

When the supply of stamps in the receptacle has been exhausted, the same may be readily replenished through operation of the stamp cutting mechanism.

The construction set forth is positive in its operation, the same is durable and economical, and is of high efficiency in operation.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention.

I, therefore, do not wish to be limited to the exact details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. In a stamp affixing machine, a fluid reservoir; a frame connected with and rising from said reservoir; a plunger reciprocally mounted in said frame; a stamp receptacle carried at the lower end of said plunger; cam rollers journaled on said plunger; an oscillatory liquid conveying member pivoted on said frame; shoulders on said oscillatory liquid conveying member; bell crank levers pivoted on said frame and each having an arm resiliently engaging one of said shoulders; cams on the other arms of each of said bell crank levers, said cams being so positioned that they will be entirely compassed by said cam rollers upon reciprocation of such plunger, substantially as described.

2. In a stamp affixing machine, a fluid reservoir; a frame connected with and rising from said reservoir; a plunger reciprocally mounted in said frame; a stamp receptacle carried at the lower end of said plunger; two cam rollers journaled on said plunger in diametrically opposite positions thereon; an oscillatory liquid conveying member pivoted on said frame; shoulders on said oscillatory liquid conveying member; bell crank levers pivoted on said frame and each having one of its arms engaging one of said shoulders; springs resiliently maintaining said arms normally against said shoulders; a cam on the other arm of each of said crank levers, said cams being disposed on said arms in a manner to be compassed by their engaging cam rollers upon reciprocation of said plunger, substantially as described.

3. In a stamp affixing machine, a fluid reservoir; a frame connected with and rising from said reservoir; a plunger reciprocally mounted in said frame; a stamp receptacle carried at the lower end of said plunger and designed to release stamps from the bottom thereof; means operable by said plunger for transferring fluid contained in said reservoir to the stamp surface of mail matter positioned upon the upper side of said reservoir below said plunger, said last mentioned means comprising depending oscillatory levers secured to said frame and adapted when oscillated to effect the transfer of fluid from said reservoir to the stamp surface of the mail matter; laterally projecting arms on said plunger; cams adapted for engagement by said arms for effecting oscillation of said levers in one direction, direct engagement of said arms with said

levers effecting return oscillation of the latter upon depression of said plunger; and stationary guide surfaces slidably engaged by said arms for preventing relative rotation of said plunger, substantially as described.

4. In a stamp affixing machine, a horizontal fluid reservoir; a frame connected with and rising from said reservoir; a vertically disposed plunger reciprocally mounted in said frame; a stamp receptacle carried at the lower end of said plunger and designed to release stamps from the bottom thereof; means operable by said plunger for transferring fluid contained in said reservoir to the stamp surface of mail matter positioned upon the upper side of said reservoir below said plunger, said last mentioned means comprising depending oscillatory levers secured to said frame and adapted to be oscillated upon depression of said plunger; a wiper carried at the lower end of said levers; means for conveying fluid contained in said reservoir to said wiper when the latter is in normal position; trunnions projecting from said wiper and engaging tortuous guide slots so that upon oscillation of said levers said wiper will be guided first upwardly and then downwardly into contact with the mail matter positioned upon the upper side of said reservoir; and spring arms cooperating with said trunnions for forcing said wiper into close engagement with the mail matter and for aiding the return movement of said wiper, substantially as described.

5. In a stamp affixing machine, a horizontal fluid reservoir; a frame connected with and rising from said reservoir; a vertically disposed plunger reciprocally mounted in said frame; a stamp receptacle carried at the lower end of said plunger and designed to release stamps from the bottom thereof; means operable by said plunger for transferring fluid contained in said reservoir to the stamp surface of mail matter positioned upon the upper side of said reservoir below said plunger, said last mentioned means comprising depending oscillatory levers secured to said frame and adapted to be oscillated upon depression of said plunger; a wiper carried at the lower end of said levers; means for conveying fluid contained in said reservoir to said wiper when the latter is in normal position; trunnions projecting from said wiper and engaging tortuous guide slots so that upon oscillation of said levers said wiper will be guided first upwardly and then downwardly into contact with the mail matter positioned upon the upper side of said reservoir; and spring arms engaging the upper sides of said trunnions for forcing said wiper into close engagement with the mail matter, said spring arms being so disposed as to be

adapted to facilitate the return movement of said wrapper, substantially as described.

6. In a stamp affixing machine, a horizontal fluid reservoir; a frame connected with and rising from said reservoir; a vertically disposed plunger reciprocally mounted in said frame; a stamp receptacle carried at the lower end of said plunger and designed to release stamps from the bottom thereof; means operable by said plunger for transferring fluid contained in said reservoir to the stamp surface of mail matter positioned upon the upper side of said reservoir below said plunger, said last mentioned means comprising depending oscillatory levers secured to said frame and adapted to be oscillated upon depression of said plunger; a wiper carried at the lower end of said levers; means for conveying fluid contained in said reservoir to said wiper when the latter is in normal position; means adapted upon oscillation of said levers to guide said wiper first upwardly and then downwardly into contact with the mail matter positioned upon the upper side of said reservoir; and means adapted for engagement with said wiper for locking the mechanism against operation, substantially as described.

7. In a stamp affixing machine, a horizontal fluid reservoir; a frame connected with and rising from said reservoir; a vertically disposed plunger reciprocally mounted in said frame; a stamp receptacle carried at the lower end of said plunger and designed to release stamps from the bottom thereof; means operable by said plunger for transferring fluid contained in said reservoir to the stamp surface of mail matter positioned upon the upper side of said reservoir below said plunger, said last mentioned means comprising depending oscillatory levers secured to said frame and adapted to be oscillated upon depression of said plunger; a wiper carried at the lower end of said levers; means for conveying fluid contained in said reservoir to said wiper when the latter is in normal position; trunnions projecting from said wiper and engaging tortuous guide slots so that upon oscillation of said levers said wiper will be guided first upwardly and then downwardly into contact with the mail matter positioned upon the upper side of said reservoir; and means adapted for engagement with said trunnions for locking the mechanism against operation, substantially as described.

8. In a stamp affixing machine, a horizontal fluid reservoir; a frame connected with and rising from said reservoir; a vertically disposed plunger reciprocally mounted in said frame; a stamp receptacle carried at the other end of said plunger and designed to release stamps from the bottom thereof; means operable by said plunger for transferring fluid contained in said reser-

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5 latory levers secured to said frame and
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said plunger; a wiper carried at the lower
end of said levers; means for conveying
fluid contained in said reservoir to said
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into contact with the mail matter positioned 15
upon the upper side of said reservoir; and
oscillatory means adapted for engagement
with said trunnions for locking the mecha-
nism against operation, substantially as de-
scribed. 20

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

JAMES F. RALEIGH.

Witnesses:

JOSHUA R. H. POTTS,
ARTHUR A. OLSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."