

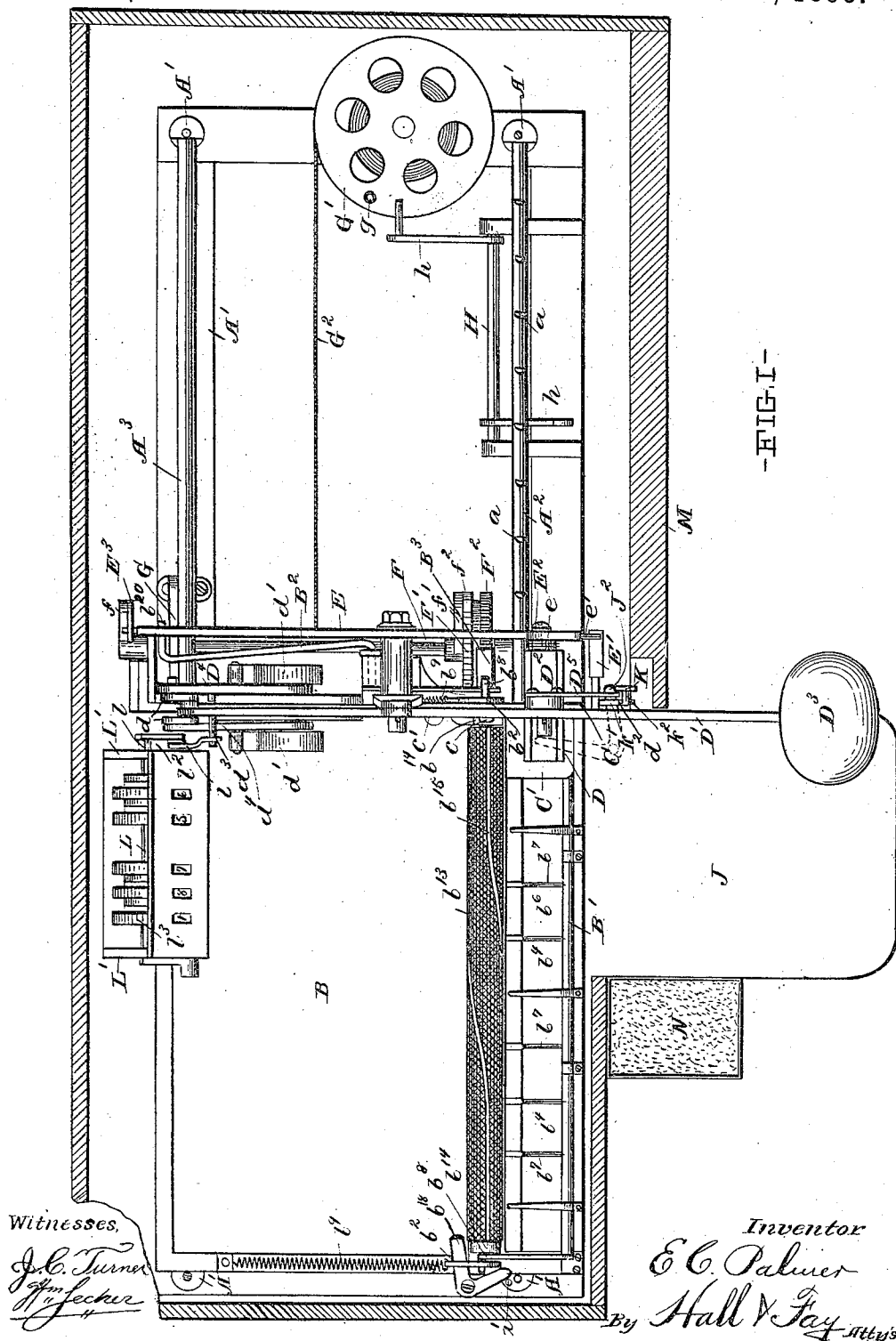
(No Model.)

7 Sheets--Sheet, 1,

E. C. PALMER.
STAMP AFFIXING MACHINE.

No. 536,358.

Patented Mar. 26, 1895.



(No Model.)

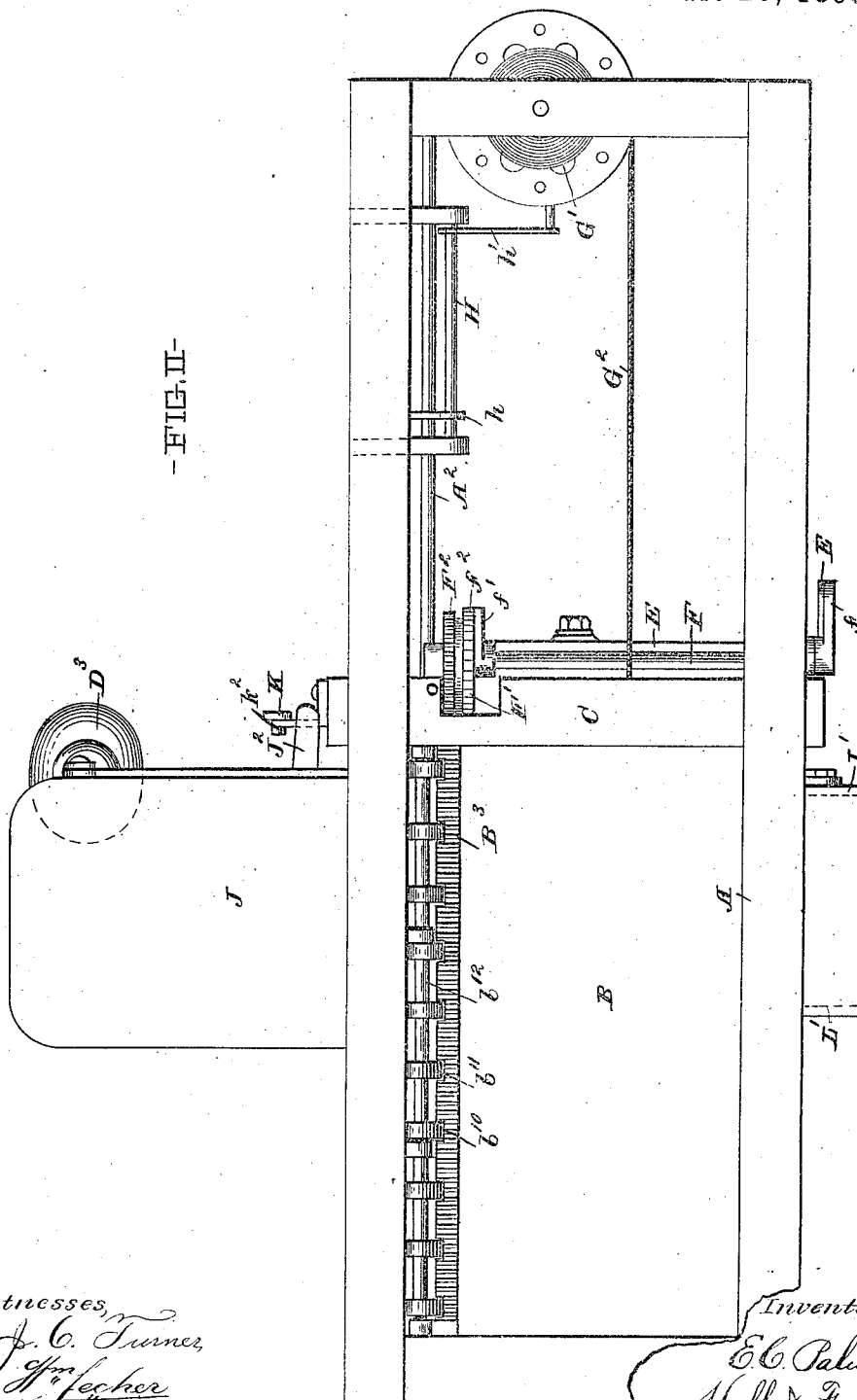
7 Sheets—Sheet 2.

E. C. PALMER.
STAMP AFFIXING MACHINE.

No. 536,358.

Patented Mar. 26, 1895.

-II-515-



Witnesses,
J. C. Turner,
J. C. Fecher

Inventor,
E. C. Palmer
By Hall & Fay Atty's.

(No Model.)

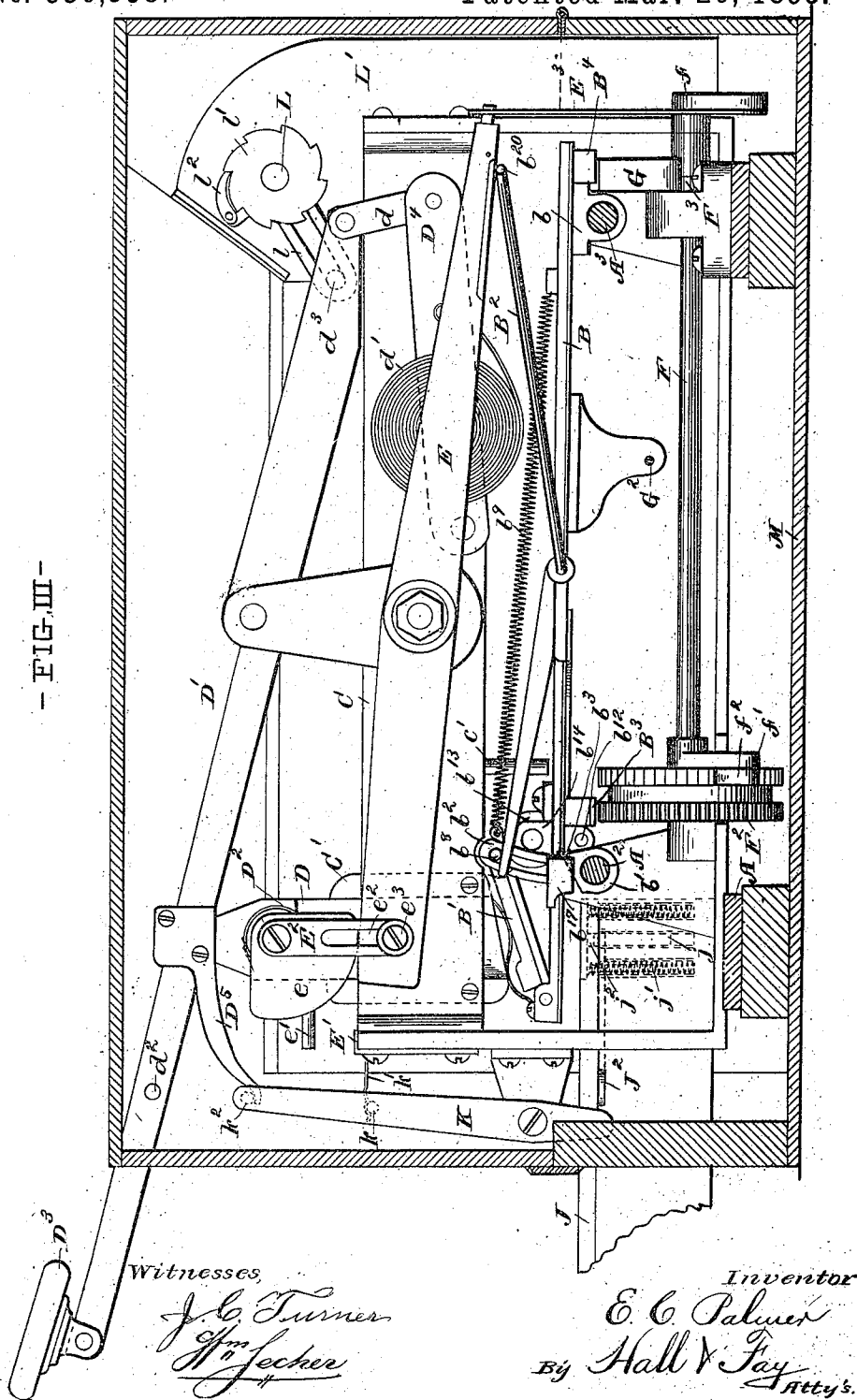
7 Sheets—Sheet 3.

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- FIG. III -



(No Model.)

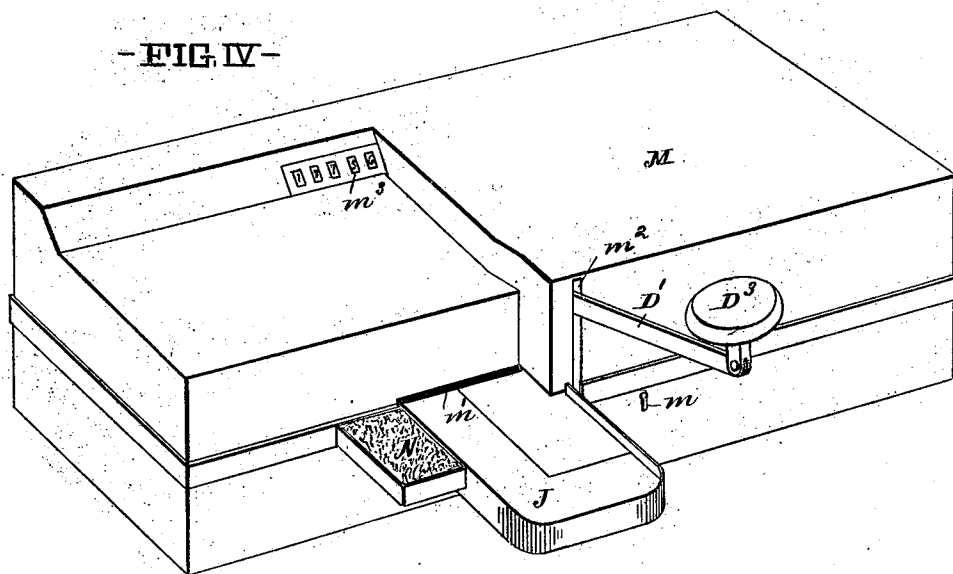
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E. C. PALMER.
STAMP AFFIXING MACHINE.

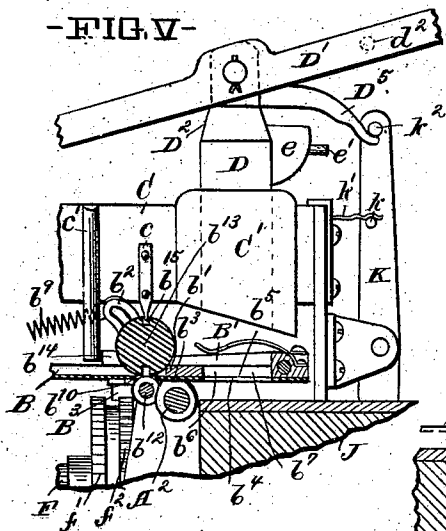
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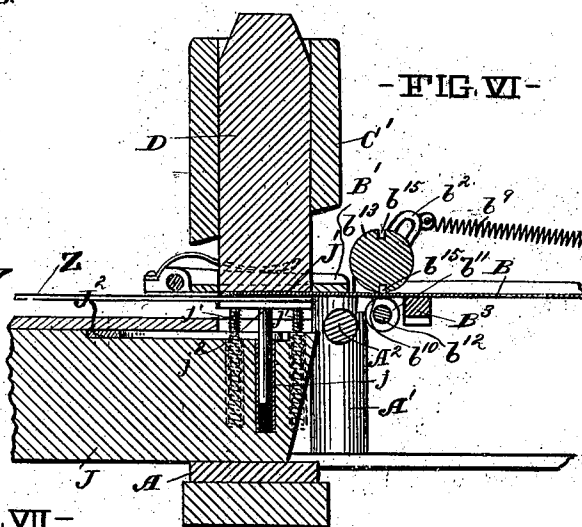
- FIG. IV -



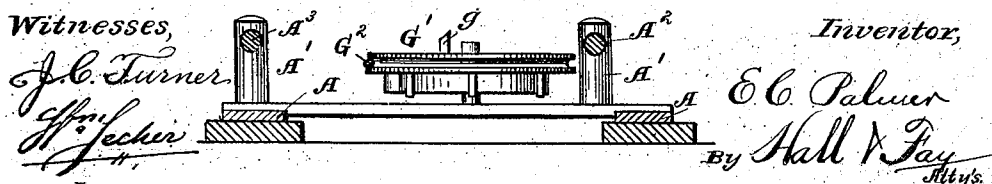
-FIG. V-



- FIG. VI -



- FIG. VII -



Witnesses,

A. C. Turner

J. H. Secher

Inventor,

E. C. Palmer

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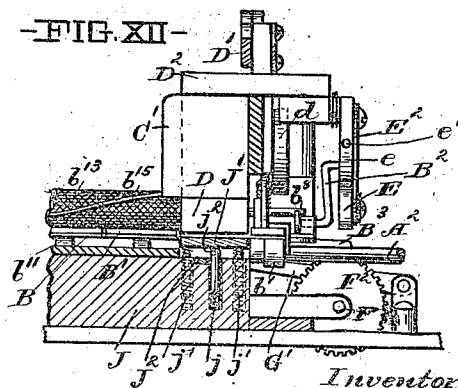
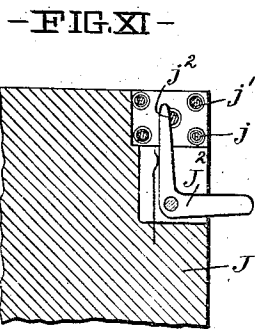
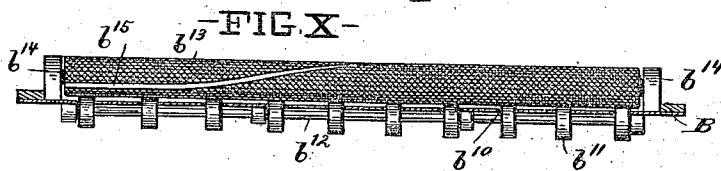
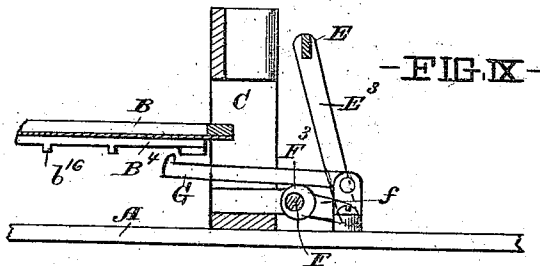
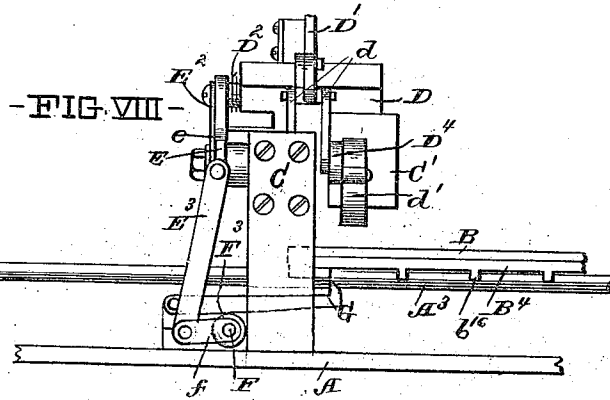
(No Model.)

7 Sheets—Sheet 5.

E. C. PALMER.
STAMP AFFIXING MACHINE.

No. 536,358.

Patented Mar. 26, 1895.



Witnesses,

J. C. Turner
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(No Model.)

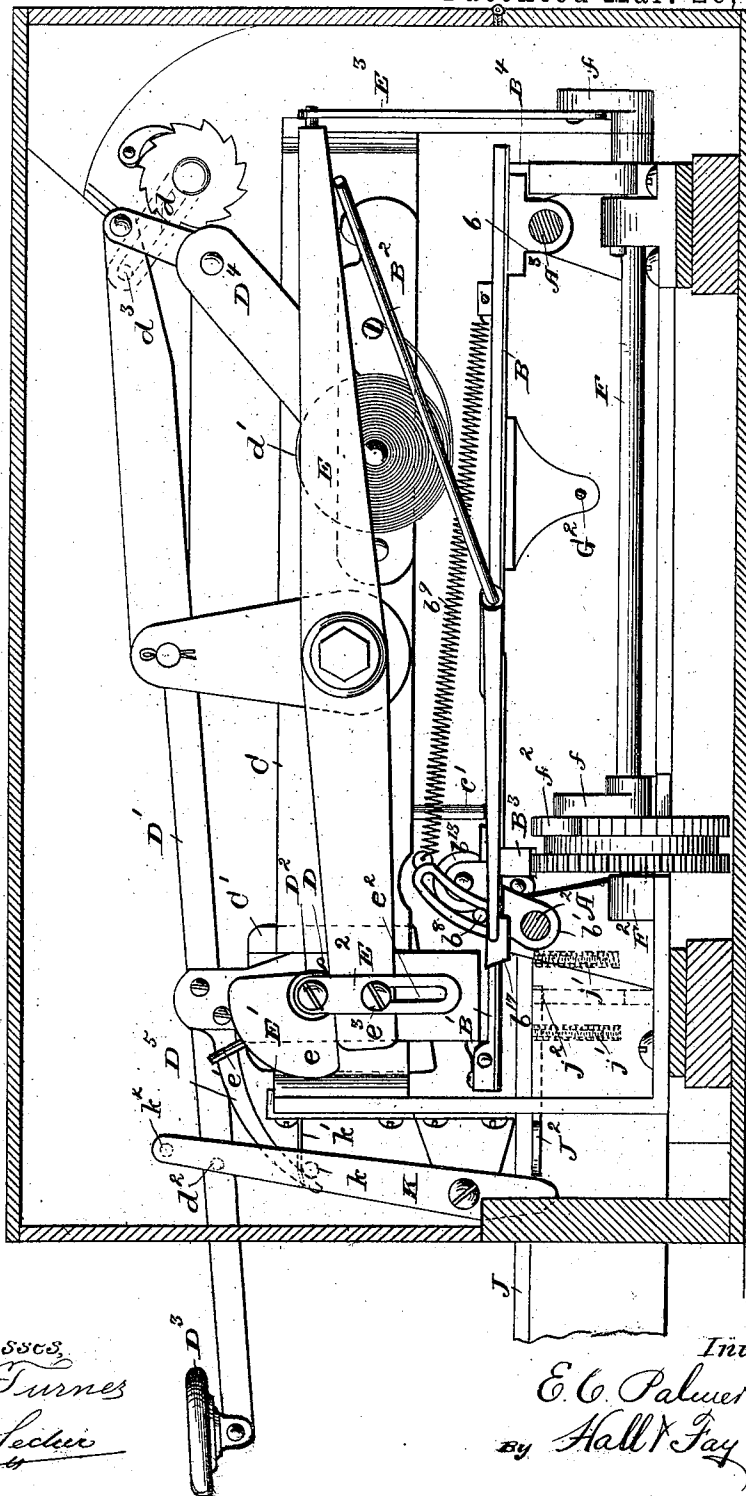
7 Sheets—Sheet 6.

E. C. PALMER.
STAMP AFFIXING MACHINE.

No. 536,358.

Patented Mar. 26, 1895.

—III—GII—



Witnesses,
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(No Model.)

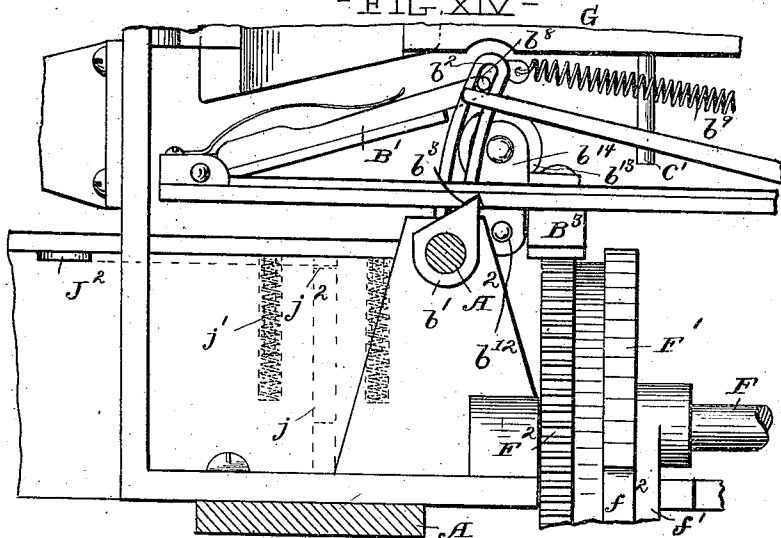
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E. C. PALMER.
STAMP AFFIXING MACHINE.

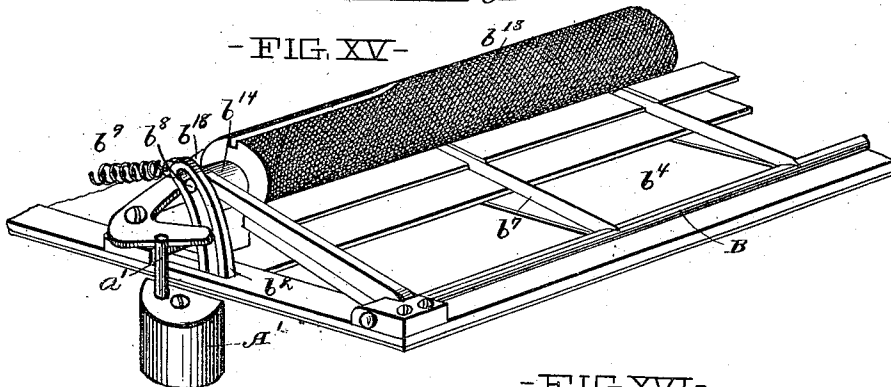
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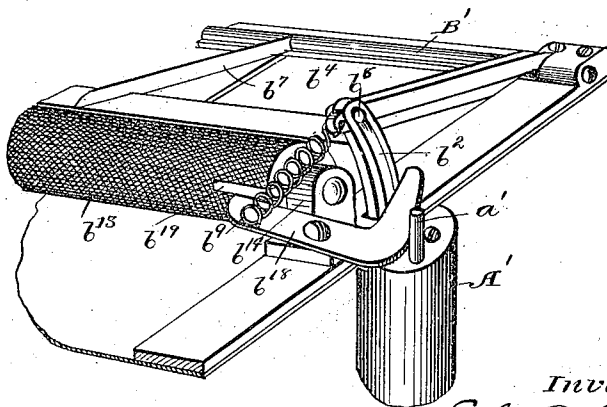
- FIG. XIV -



- FIG. XV -



-FIG. XVI-



Witnesses,

J. C. Turner
J. M. Lecher

Inventor,

By *E. C. Palmer*
Hall & Fay
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UNITED STATES PATENT OFFICE.

EDWIN C. PALMER, OF CLEVELAND, OHIO.

STAMP-AFFIXING MACHINE.

SPECIFICATION forming part of Letters Patent No. 536,358, dated March 26, 1895.

Application filed November 11, 1893. Serial No. 490,626. (No model.)

To all whom it may concern:

Be it known that I, EDWIN C. PALMER, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Stamp-Affixing Machines, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

The annexed drawings and the following description set forth in detail, one mechanical form embodying the invention; such detail construction being but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawings—Figure I represents a top plan view of my improved stamp affixing machine removed from its casing; Fig. II, a bottom plan view of the same; Fig. III, a vertical transverse section of the machine and casing; Fig. IV, a perspective view of the machine inclosed in the casing; Fig. V, a transverse sectional detail view of a part of the carriage, plunger, feed roller and lug for the same; Fig. VI, a transverse sectional detail view of the plunger, carriage, and spring platform, illustrating a stamp and an envelope in position between the plunger and platform; Fig. VII, a view of the spring barrel; Fig. VIII, a detail rear view of the transverse frame and the mechanism thereon; Fig. IX, a detail view of the carriage stopping dog and the lug rail upon the carriage; Fig. X, a view of the feed rollers; Fig. XI, a detail view of the platform retaining latch; and Fig. XII, a sectional detail view illustrating the spring platform; Fig. XIII, a vertical transverse section of the machine and casing, showing the handle and plunger depressed; Fig. XIV, a sectional detail view of the parts of the machine at the forward portion of the carriage, showing parts removed to more clearly illustrate the parts behind them, and Figs. XV and XVI, perspective views of one end of the carriage, viewed from opposite directions.

A rectangular base frame, A, is provided with upright posts, A', at its corners, and two longitudinal rails, A² and A³, are respectively

secured at their ends, to the upper ends of said posts.

A sheet support or carriage, B,—preferably of sufficient size to have a sheet of postage stamps spread upon its upper side,—has boxes, b, secured to its under side, at the rear edge, which boxes fit and slide upon the rear rail A³. Boxes, b', slide upon the front rail, and have curved and slotted arms, b², projecting upward from their flat upper sides, through slots in the carriage.

The under side of the carriage is formed with notches, b³, at the points where it rests upon the upper flat sides of the forward boxes, so that the rear, pointed ends of said flat sides may enter the notches and hold the forward edge of the carriage raised, when the boxes and slotted arms are tilted forward.

The portion of the carriage, along the front edge of the same, is formed with a series of rectangular openings, b⁴, each of the size and shape of a postage stamp, and separated from each other by means of partitions, b⁵, see Fig. V, having sharp upper edges, upon which the perforated separating lines between the stamps in a sheet may rest.

A clamping frame, B', is hinged to the forward edge of the carriage, and has openings, b⁶, corresponding to and registering with the openings in the carriage. Partitions, b⁷, in the frame register with the partitions between the openings in the carriage, and bear against the same, thus clamping the perforated lines of the stamp sheet. The ends of the clamping frame have laterally projecting studs, b⁸, which project into and slide in the slots of the curved arms, b², so that the clamping frame may be tilted down in its clamping position by pulling back upon said curved arms. Springs, b⁹, are secured to the ends of the curved arms and to the carriage, and have a normal tendency to force the arms back. Immediately to the rear of the free edge of the frame, the carriage is formed with a longitudinal series of slots, b¹⁰, through which slots, a number of rollers, b¹¹, upon a common shaft, b¹², project. The shaft for the rollers is suitably supported beneath the carriage. A sheet feeding roller, b¹³, is journaled in suitable bearings, b¹⁴, at the ends of the carriage, immedi-

ately above the slots and lower rollers, and said feeding roller has two spiral grooves, b^{15} , extending from one end to the other, and forming each a one half turn around the roller.

- 5 An L-shaped dog, b^{18} , is horizontally pivoted at one end of the carriage and engages notches, b^{19} , in the end of the roller, so that the roller may be held in exact position with the spiral grooves in their proper positions.
- 10 A lever, B^2 , is fulcrumed at one end of the carriage, and has its forward arm projecting beneath one of the projecting studs b^8 of the stamp clamping frame, so that the latter may be raised by depressing the rear arm of the lever. The rear arm of the lever is preferably turned upward, and has a laterally projecting end, b^{20} .

A rack bar, B^3 , is secured to the under side of the carriage, near the front edge of the same, and a bar, B^4 , is secured to the under side of the carriage, at the rear edge of the same, and has a number of equidistant lugs, b^{16} , see Fig. VIII which correspond in number and relative distances to the partitions between the front openings of the carriage. The forward rail A^2 has a series of notches, a , which is engaged by a lip, b^{17} , upon one end of the carriage.

A frame, C , is secured to the main frame, 10 to extend transversely across said frame at its middle and to span the path of the carriage. A lug, c , projects downward from the horizontal portion of this frame, and may engage one of the spiral grooves of the sheet feeding roller, 15 when the forward edge of the carriage is raised, so that the roller may be revolved one half of a revolution by being moved endwise beneath the lug when raised by the carriage. The forward end of the cross frame C has a vertical 20 box, C' , in which slides a plunger, D , of a shape and size corresponding to the interior area of the openings in the carriage and clamping frame, so that the plunger may cut off and affix a stamp from the sheet, when depressed 25 into one of said openings.

A lever, D' , is fulcrumed upon the transverse frame, at about the middle of the same, and has its forward arm pivoted to a cross head, D^2 , upon the plunger,—said forward 30 arm extending beyond the plunger and having a suitable handle, D^3 , by means of which it may be manipulated. The rear end of the lever is pivotally connected, by means of links, d , to two arms, D^4 , pivoted upon the 35 cross frame and having strong springs, d' , which serve to depress said arms, and,—through the arms and the links,—the rear end of the lever.

A lever, E , is fulcrumed upon the cross 40 frame at the same point as the plunger actuating lever, and a quadrant-shaped cam, e , is pivoted at the center of its segmental edge, to the cross head of the plunger, bearing against the forward end of the lever E with its lower corner.

A stud, e' , projects from the forward seg-

mental edge of the quadrant cam, and may strike a stop, E' , upon the forward end of the cross frame, when the plunger, cross head and cam are depressed. A link, E^2 , having a longitudinal slot, e^2 , in its lower portion, is pivoted upon the pivotal center of the quadrant cam, and has its slot playing upon a stud, e^3 , upon the forward end of the lever E .

A connecting link, E^3 , is pivoted to the rear 75 end of the lever E , and has its lower end pivoted to a crank arm, f , upon the rear end of a shaft, F , journaled transversely to the main frame, and beneath the rails. The forward portion of the shaft has an arm, f' , the outer 80 end of which carries a spring pawl, f^2 , which engages a ratchet wheel, F' , journaled upon the shaft, and secured to a cog wheel, F^2 , similarly journaled upon the shaft and engaging the rack bar B^3 of the carriage. The throw 85 of the lever E , and the relative lengths of the connecting arm and crank arms, and the radii of the ratchet wheel and cog wheels are such that each depression of the forward end of the lever E will cause the carriage to be moved 90 a distance equal to the width of an opening in the carriage or the width of a postage stamp. As the depression of the plunger would give the carriage actuating lever E , too great a throw, the trip cam e is interposed, so 95 that the forward end of the carriage actuating lever will not be depressed or raised as far as the plunger, and, consequently, the carriage will not be moved while the plunger cuts out the stamp and affixes the same to the envelope. The transverse shaft F has a cam F^3 , near its rear end, which cam bears against a dog, G , the free end of which may be forced up 100 by the cam to engage the lugs upon the rear bar B^4 so as to stop the carriage after it has moved the space of a stamp.

A stop, a' , is provided at one end of the forward rail A^2 , so as to strike and tilt the L-shaped dog for the feeding roller, to disengage the dog from the notch in the roller, 110 when the carriage arrives at the end of the operative portion of its travel. Another stop, c' , projects from the cross frame C , and serves to again throw the dog into engagement with the notch in the roller, when the carriage arrives at the end of the return portion of its travel. 115

A peripherally grooved spring barrel, G' , is journaled in one end of the frame, and has a cord, G^2 , winding upon it. The other end of 120 said cord is secured to the carriage, so that the spring barrel and cord may draw the carriage back when it has completed the operative portion of its travel.

A rock shaft, H , is journaled upon the bed 125 frame of the machine, and has a forwardly and upwardly projecting arm, h , which may raise the forward edge of the carriage, when tilted, and an arm, h' , which may be engaged by a lug, g , upon the spring barrel, so that 130 the rock shaft will be rocked and the forward arm tilted upward, when the carriage arrives

at the end of the return portion of its travel.

A horizontal envelope support, J, extends at about the middle of the base frame, beneath the plunger box, and the portion immediately beneath the plunger is separate from the support to form a vertically movable platform, J'. Said platform has vertical guide rods, j, and springs, j', which normally raise it above the surface of the envelope support.

One of the guide rods of the platform has a notch j², which is engaged by an L-shaped latch, J², one arm of which projects out at the side of the envelope support, in front of the front end of the transverse frame C. A lever, K, is fulcrumed upon the front end of said frame, and has its lower arm bearing against the projecting arm of the latch. The upper arm of the lever K is provided with a stud, k, which is engaged by a notched spring catch, k', upon the front end of the transverse frame, when the lever is in such position that its lower arm just bears against the projecting arm of the latch J without tripping the latter. A stud, k², projects from the upper end of the upper arm of the lever, and may be engaged by a stud, d², upon the plunger operating lever, when the latch releasing lever is in the position with its lower arm just bearing against the projecting arm of the latch. The stud d² will slip to the rear of the stud k², when the plunger operating lever is depressed, so as to push the upper end of the latch releasing lever forward, thereby pushing the lower arm of said lever rearward and tripping the latch to release the platform. A curved arm, D², projects from the cross head of the plunger, and engages both studs of the lever K,—engaging the lower stud k, upon the down stroke of the plunger and its lever, to throw the upper arm of the latch releasing lever inward, and engaging the upper stud k², upon the up stroke of the plunger and its lever, to throw the upper arm of the latch releasing lever outward, into the position in which its lower arm just bears against the latch.

A stud, d³, projects laterally from the rear end of the plunger actuating lever, and engages a slotted arm, l, pivoted upon a shaft, L, which is journaled, parallel to the base frame, in brackets, L', upon said frame. The end of said shaft has a ratchet wheel, l', secured upon it, which is engaged by a spring pawl, l², upon the slotted arm l. The shaft L carries a series of register disks, B, which are suitably connected so as to indicate either the number of stamps severed and affixed, or their money value.

The entire machine is inclosed within a casing, M, the top of which is suitably hinged, and secured by a lock, m. The only openings in the casing are a slot, m', for the insertion of the letters or envelopes to be stamped; a slot, m², in which the plunger actuating lever plays, and an opening, m³, through which the row of register numerals show. It is thus ob-

vious that the stamps or the register cannot be tampered with, but that the only manner of obtaining a stamp will be by affixing a stamp to an envelope; and such act will be registered.

If desired, a sponge cup, N, or other moistening device for the envelope, may be provided at one side of the envelope support.

In practice, a sheet of stamps is placed upon the carriage, and the first row of stamps upon the sheet is drawn out between the feed rollers and beneath the clamping frame, which is thereupon released to clamp the perforated separating lines of the sheet. The insertion of the sheet is preferably done when the carriage is at the end of the operative portion of its travel, and the release of the clamping frame is performed at the end of the return portion of the travel. When the moistened corner of an envelope Z is inserted beneath the carriage and plunger and the handle is depressed, a stamp is punched out from the sheet and affixed to the envelope. The downward movement of the plunger and forward arm of the plunger actuating lever, causes said latter lever to rock the carriage actuating lever which moves the carriage forward so as to bring a stamp opening and a stamp beneath the plunger. When the opening in the carriage is beneath the descending plunger, the cam upon the carriage actuating shaft F raises the stop dog so as to stop and hold the carriage at that point, while the plunger descends and punches out and affixes a stamp. The stud upon the forward arm of the plunger actuating lever will strike the stud upon the upper end of the lever K, and will force the lower end of said lever against the platform retaining latch J², causing said latch to release the platform, which will rise toward the plunger, which will thus bear against the platform, with the stamp and envelope interposed between its lower end and said platform. The stamp will thus be firmly clamped between the end of the plunger and the platform, and the stamp may be severed from the sheet at the edges of the stamp opening in the carriage without danger of tearing it, as it is firmly clamped at all points of its area. As the plunger descends with the envelope and stamp supported from below and held firmly against it, the stamp is severed from the sheet and affixed to the envelope. When the platform is fully depressed to the level of the envelope support, the curved arm D² which projects from the cross head of the plunger, will rock the lever which trips the platform retaining latch, so as to allow said latch to again engage the notch in the guide rod of the platform and retain the latter in its position, level with the envelope support. The carriage is prevented from being drawn back by the returning spring, by the lip b¹⁷ engaging the notches in the forward rail, as well as by the fact that the carriage actuating cog wheel cannot revolve backward on

account of its ratchet wheel and the pawl engaging the same. When one row of stamps has been punched out, and the carriage arrives at the end of the operative portion of its travel, the lever, B² which raises the stamp clamping frame will have its rear arm depressed by the descending rear arm of the carriage actuating lever, so that the stamp clamping frame will be raised and the boxes upon the forward guide rod tilted so as to raise the front edge of the carriage. This disengages the lip of the carriage from the notched rail, and the rack bar from the actuating cog wheel, and allows the returning spring and cord to pull the carriage back. As the front edge of the carriage is raised, the spiral groove of the feed roller is brought into engagement with the lug upon the transverse frame. The roller will thus be revolved to feed the stamp sheet forward during the return portion of the travel of the carriage. When the carriage arrives at the end of said return trip, the lug upon the spring barrel trips the rock shaft H so as to cause its forward arm to give the carriage an upward tap from beneath. This releases the notches in the under side of the carriage from the edges of the boxes upon the forward rail, and allows the springs to draw the slotted arms of said boxes backward, thereby placing the carriage in operative engagement with the propelling mechanism. The carriage is now ready for another trip.

If desired, a roll of several stamp sheets may be provided for upon the carriage, for example, by placing it upon a roller, so that a number of sheets may be placed in the carriage at one time.

Other modes of applying the principle of my invention may be employed for the mode herein explained. Change may therefore be made as regards the mechanism thus disclosed, provided the principles of construction set forth respectively in the following claims are employed.

I therefore particularly point out and distinctly claim as my invention—

1. In a stamp affixing machine, the combination of a stamp support formed with an opening of the size and shape of a stamp, a plunger of a shape and size corresponding to the interior area of the opening, a platform opposed to said plunger, and connecting means between said platform and plunger constructed to allow the platform to move toward the plunger and to move with the same when the latter passes through the stamp opening, substantially as set forth.

2. In a stamp affixing machine, the combination of a support upon which a sheet of stamps may rest and which is formed with a series of openings at one edge, said openings corresponding in size and shape to the size and shape of the stamps, a plunger corresponding in shape to the interior of each of said openings, and means for moving one of said elements relatively to the other so as to

successively bring the openings to register with the plunger, substantially as set forth.

3. In a stamp affixing machine, the combination of a support upon which a sheet of stamps may rest and which is formed with a series of openings at one edge, each opening of the size and shape of a stamp, a plunger of a shape and size corresponding to the interior area of an opening in the support, and a mechanism connected to said plunger and constructed to move the support the space of one stamp opening at each depression of the plunger, substantially as set forth.

4. In a stamp affixing machine, the combination of a support upon which a sheet of stamps may rest and which is formed with a series of openings at one edge, said openings corresponding in size and shape to the size and shape of the stamps, a plunger corresponding in shape to the interior of each of said openings, means for moving one of said elements relatively to the other to successively bring the openings to register with the plunger, and mechanism for automatically feeding the stamp sheet over the stamp openings in the support at each return of the moving element to the starting point of the operative portion of its travel, substantially as set forth.

5. In a stamp affixing machine, the combination of a longitudinally traveling support upon which a sheet of stamps may rest and having a series of openings at one edge, each opening of the size and shape of a stamp, a plunger of a shape and size corresponding to the interior area of an opening in the carriage, mechanism connected to the plunger and support for successively moving the latter the space of one stamp opening in one direction by each depression of the plunger, and mechanism for automatically feeding the stamp sheet over the stamp openings in the support at each return of the latter to the starting point of the operative portion of its travel, substantially as set forth.

6. In a stamp affixing machine, the combination of a longitudinally traveling support upon which a sheet of stamps may rest, a sheet feeding roller upon the same provided with a spiral groove, and a lug engaging said groove and revolving the roller at the return portion of the travel of the support, substantially as set forth.

7. In a stamp affixing machine, the combination of a longitudinally traveling support upon which a sheet of stamps may rest and having a series of stamp openings at one edge corresponding in size and shape to the stamps, a plunger corresponding in size and shape to the interior area of each of said openings, a stamp feeding roller journaled upon the support to bear against the sheet and having a spiral groove, and a stationary lug engaging said groove and thus revolving the roller at the return portion of the travel of the support, substantially as set forth.

8. In a stamp affixing machine, the combination of a reciprocating plunger, a support upon which a sheet of stamps may rest and having stamp openings at one edge corresponding to the size and shape of the stamps and connected to be successively moved forward by the reciprocation of the plunger for the space of one stamp opening, and a movable platform against which the plunger acts

when moved through a stamp opening, substantially as set forth.

In testimony that I claim the foregoing to be my invention I have hereunto set my hand this 9th day of November, A. D. 1893.

EDWIN C. PALMER.

Witnesses:

WM. SECHER,

J. C. TURNER.