

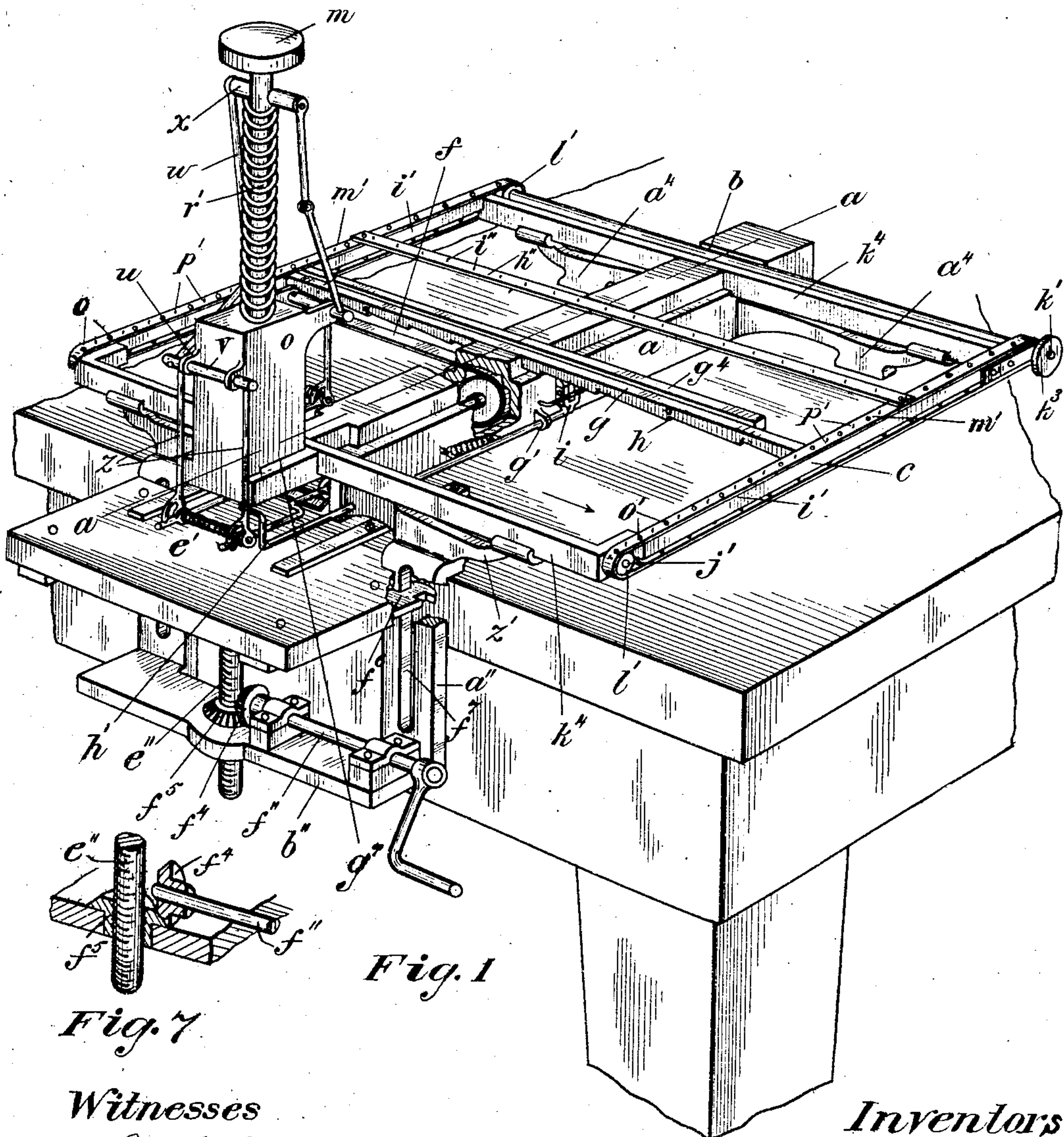
No. 785,856.

PATENTED MAR. 28, 1905.

D. CARTER & R. MACKERROW.
STAMP AFFIXING AND CANCELING MACHINE.

APPLICATION FILED SEPT. 28, 1903.

3 SHEETS—SHEET 1.



Witnesses

W. S. Guest
H. A. Anderson

Inventors

Daniel Carter
Robert Mackerrow
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Their Attorney

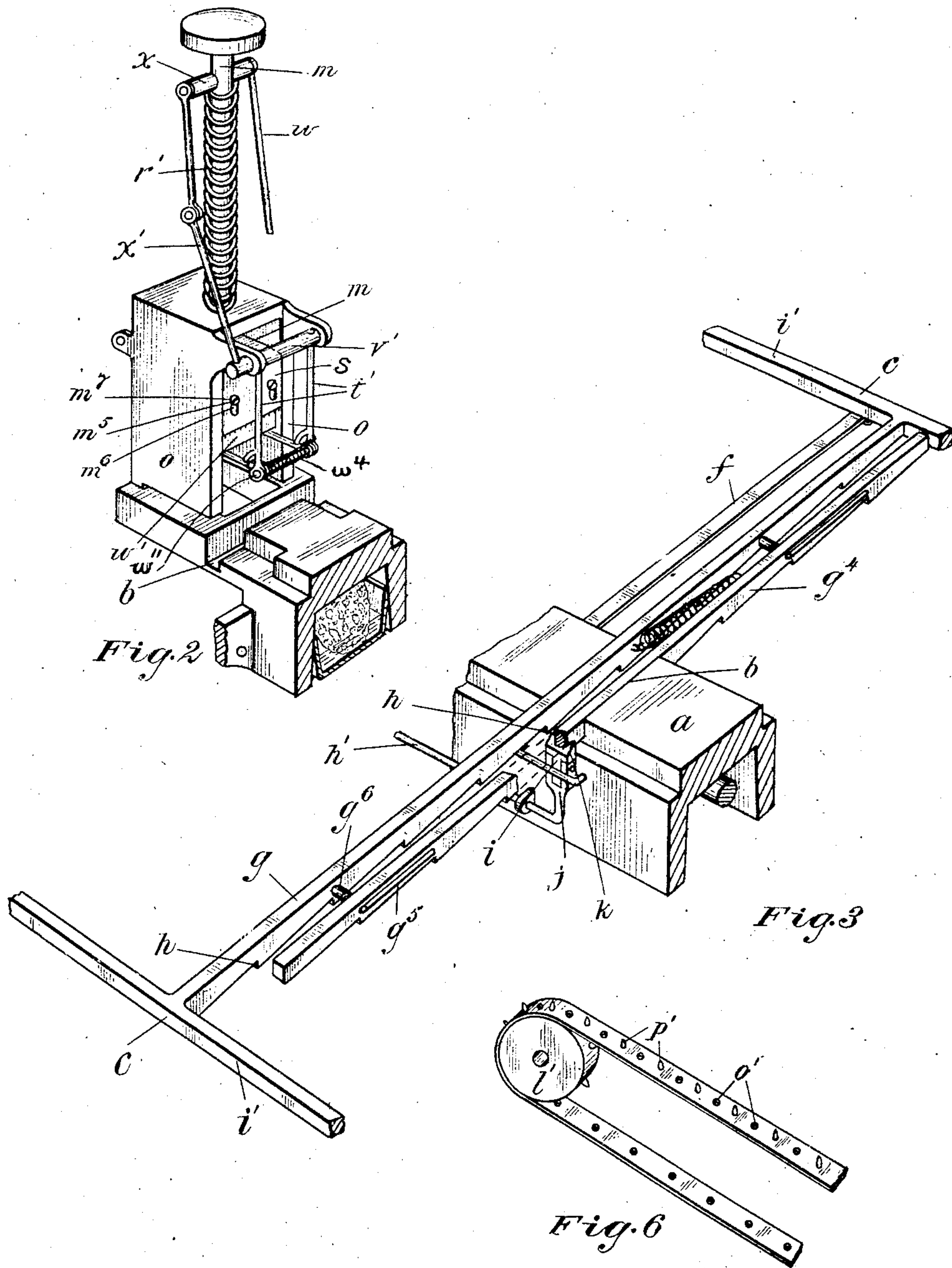
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3 SHEETS—SHEET 3.

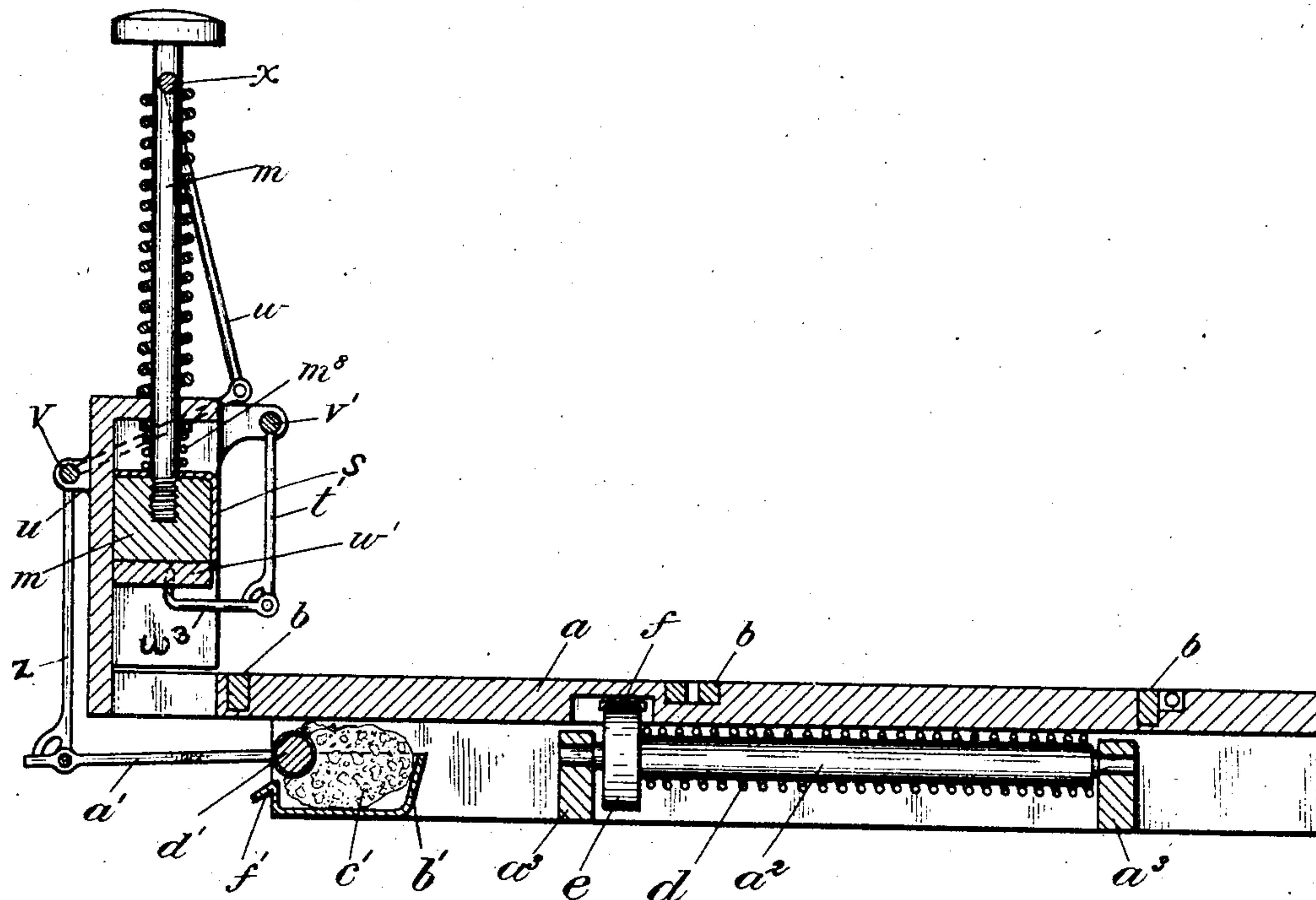


Fig. 4

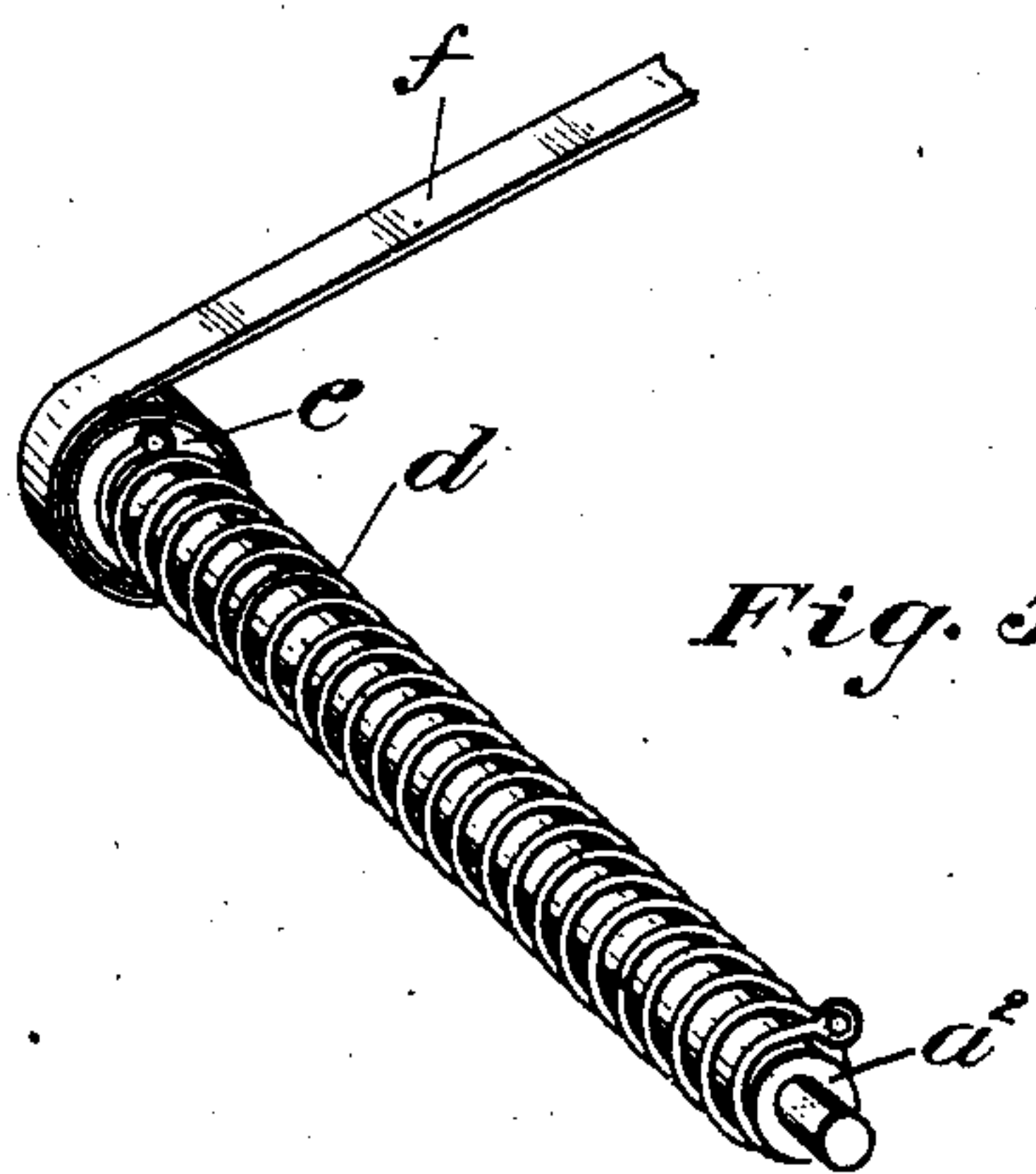


Fig. 5

Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL CARTER AND ROBERT MACKERROW, OF TORONTO, CANADA.

STAMP AFFIXING AND CANCELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 785,856, dated March 28, 1905.

Application filed September 28, 1903. Serial No. 174,874.

To all whom it may concern:

Be it known that we, DANIEL CARTER and ROBERT MACKERROW, residents of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Stamp Affixing and Canceling Machines; and we hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to a stamp affixing and canceling machine in which the stamp-feeding mechanism will work with absolute accuracy when positioning the stamp to be engaged by the stamp-affixing mechanism, the peculiar character of which demands that the stamp-affixing plunger on its initial stroke will sever the positioned stamp from the remainder of the sheet and then carry it to the positioned surface to which it is to be affixed.

For a full understanding of the invention reference is to be had to the following description and to the accompanying drawings, in which—

Figure 1 is a perspective view of the complete machine. Fig. 2 is a perspective view of the stamp affixing and canceling mechanism. Fig. 3 is a perspective view of the detent mechanism for the stamp-carriage. Fig. 4 is a longitudinal section on the lines *a a*, Fig. 1. Fig. 5 is a view of the motor-spring for the stamp-carriage. Fig. 6 is a detail view of the stamp-feeding mechanism of the stamp-carriage. Fig. 7 is a sectional view of the table-adjusting mechanism.

Like letters of reference refer to like parts throughout the specification and drawings.

In the top of the frame *a* are laterally-disposed grooves *b* to guide the stamp-carriage *c* during its initial and return movements, and projecting laterally from the sides of the frame *a* are the carriage-supporting arms *a*⁴ to support and maintain the carriage in a substantially horizontal position while at rest and in motion. Secured to the frame are bearings *a*³, in which is journaled a shaft *a*², upon which is coiled a motor-spring *d*, one end of which is connected to the adjacent bearing *a*³ and the other end to a circular or semicircular drum *e*. Fastened to the drum is one end of a strap *f*, the other end of which is con-

nected to the carriage *c*, the rotation of the drum caused by the unwinding action of the motor-spring actuating the strap to draw the stamp-carriage forward across the frame in the direction indicated by arrow in Fig. 1 when the carriage-detent mechanism has been released by the operation of the stamp-affixing mechanism, the return movement of the carriage rotating the drum to retension the spring for the next operation of the machine.

Fitted to the carriage is a rack *g*, having detent-teeth *h* to be successively engaged by the reciprocating pawl *i*, movably connected to one side of the frame. The reciprocating pawl *i* comprises a body portion *j* and a detent-dog *k*, pivoted to the body portion so as to normally engage in succession the detent-teeth of the rack *g* and arrest the movement of the carriage until the stamp-affixing plunger commences its return stroke. During the return movement of the stamp-affixing plunger the reciprocating pawl is released from engagement with the detent-tooth of the rack *g* and is moved into engagement with the positioned detent-tooth of the spring-tensioned check-rack *g*⁴ to arrest the forward movement of the check-rack until the next operation of the stamp-affixing plunger. On the next operation of the stamp-affixing plunger the reciprocating pawl is released from engagement with the positioned detent-tooth of the check-rack *g*⁴, and the check-rack under the influence of its tension-spring moves forward until the end of the longitudinal slot *g*⁵ comes into contact with the stop *g*⁶, carried by the rack *g*, the length of the slot corresponding to the pitch of the detent-teeth of the racks *g* and *g*⁴. The reciprocating pawl when being released from engagement with the tooth of the rack *g*⁴ moves into engagement with the positioned tooth of the rack *g* to arrest the movement of the rack and carriage while the stamp-affixing plunger is completing its initial and commencing its return stroke. During the return stroke of the stamp-affixing plunger the reciprocating pawl is moving back into engagement with the positioned detent-tooth of the spring-tensioned check-rack, which it securely holds to prevent its forward movement, when the carriage,

which is then released, moves forward under the influence of its motor-spring until the stop g^6 engages the front end of the longitudinal slot g^5 and arrests the further progress of the carriage until the stamp-affixing plunger has been again operated. During the return of the stamp-carriage to its initial or starting position the teeth of the spring-tensioned check-rack displace the pivoted detent-tooth of the reciprocating pawl, so that there will be no impediment in the path of the rack to interfere with the return of the carriage, the pitch of the detent-teeth of both racks corresponding to the width of the stamps, so that the carriage on each operation of the machine will move forward a sufficient distance to feed a stamp through the slot g^7 and accurately position it where it will be engaged by the stamp-affixing plunger m .

The stamp-affixing plunger is vertically movable in plunger-guides o , located in front of the carriage, and fitted to the plunger m is a vertically-adjustable stamp-severing knife having a serrated edge to cut the perforated material between rows of stamps and sever the positioned stamp from the sheet as the plunger descends, the plunger engaging the severed stamp and carrying it with it and affixing it to the positioned surface, which has been previously moistened by the moistener d' . The moistener d' is moved across the positioned surface by the moistener-carrier a' , connected by swing-arms z to the rock-shaft v , journaled in lugs u , forming part of the plunger-guides, the rock-shaft v being actuated by a toggle-jointed lever w , rotatable on the wrist-pin x , carried by the plunger m . To recharge the moistener d' on each operation of the machine, a reservoir b' is formed in the frame a , and contained in the reservoir is a sponge c' , which projects toward the path of the stamp-affixing plunger to engage the moistener d' as it is moved back and forth over the positioned surface by the moistener-carrier during the operation of the machine, the front of the moistener d' being raised into position to engage the sponge c' as the moistener-carrier moves toward it by an inclined surface f' at the front of the reservoir b' . On the return movement of the rock-shaft v one of the swing-arms z engages a spring-tensioned lever h' , longitudinally movable in guides g' , connected to the side of the frame a , and actuates it to reciprocate the pawl i . During the descending movement of the stamp-affixing plunger m the wrist-pin x actuates the toggle-jointed lever w to rock the shaft v in its bearings and turn the swing-arms z outwardly from the frame a to remove the moistener-carrier from the path of the descending plunger. This movement of the moistener-carrier draws the moistener across the face of the envelop, card, or other article placed upon the table or bed e' to prepare it to receive the positioned stamp which the plunger during its descent has sev-

ered from the sheet of stamps, the plunger on the completion of its downward stroke affixing the stamp to the moistened or prepared surface. During the return stroke of the stamp-affixing plunger the wrist-pin x actuates the toggle-jointed lever w to return the rock-shaft and swing-arms z to their normal position, the return of which moves the moistener-carrier a' into position below the plunger-guides o and brings the moistener d' into contact with the reservoir-sponge. One of the swing-arms z during the return stroke of the stamp-affixing plunger engages the adjacent end of the spring-tensioned lever h' and actuates it to move the pawl i from engagement with the detent-tooth h into engagement with the positioned detent-tooth of the spring-tensioned check-rack g^4 , so that the carriage can move forward a distance of one tooth under the influence of the motor-spring d .

The stamp-carriage, as shown in the drawings, consists of two side bars i , united at their front and rear ends by end bars k^4 , and journaled in the side bars i are rotatable shafts j' and k' , respectively, upon which are mounted spiked idlers or wheels l' , alining in pairs, and passing around each pair of spiked idlers or wheels is a metal belt m' , having apertures o' , into which enter the spikes of the idlers or wheels l' to cause the united rotation of the belts, with the idlers, and projecting outwardly from the metal belts l' are stamp-engaging spikes p' , arranged at intervals corresponding to the stamp intervals of the sheet to enter the lines of perforations between the stamps and carry the stamps forward during the rotation of the shafts, the shaft k' being fitted with a thumb-wheel k^3 , by means of which it is rotated to cause the forward rotation of the stamp-carrying belts. To engage the selvage along the back edge of the sheet of stamps, the metal belts m' are provided with a spiked cross-piece h'' , the spikes i'' of which enter the transversely-disposed perforations between the last row of stamps and the selvage to insure an even feed of the stamps to the stamp-affixing plunger during the rotation of the shaft k' . Encircling the shank of the stamp-affixing plunger is the plunger-return spring r' , one end of which engages the top of the plunger-guide o and the other end the wrist-pin x .

Journaled at the front of the plunger-guide o is a rock-shaft v' , and connected to the rock-shaft v' are the links t' , in which is mounted the spring-tensioned shaft w'' for the inking-pad arms w^3 , carrying the inking-pad w' , and actuating the rock-shaft v' is a toggle-jointed lever x' , connected to the plunger m . When the stamp-affixing plunger is in its normal position, the inking-pad w' projects into the path of the plunger and engages its stamp-affixing face to apply to it the stamp-canceling ink, being held in contact therewith by the action of the spring-tension-

sioned shaft w'' . The inking-pad during the descent of the stamp-affixing plunger is moved by the toggle-jointed lever x' outwardly from the path of the plunger to allow it to complete its initial and return strokes, the inking-pad being again positioned by the toggle-jointed lever below the plunger, the tension-spring w^t for the shaft w'' causing it to engage the stamp-affixing face of the plunger when the plunger has completed its return stroke.

Projecting outwardly from the side of the frame a in close proximity to its front end are brackets z' , to which is rigidly connected a vertically-disposed apron a'' , having at its lower end a horizontal offset b'' , which is provided with a vertical bearing in which is journaled a bevel-pinion f^5 , having a screw-threaded bore through which moves the screw-threaded standard e'' of the adjustable table, and journaled in bearings mounted on the horizontal offset b'' is a crank-shaft f'' , fitted with a bevel-pinion f^4 , meshing with the bevel-pinion f^5 to cause its rotation when adjusting the height of the table, the movement of the table being guided by the guide-heads f^6 , moving in the vertical guideways f^7 of the apron a'' .

To provide for the vertical adjustment of the stamp-severing knife s , the plunger m is fitted with knife-holding bolts m^5 , which project through vertical slots m^6 , formed in the stamp-severing knife for that purpose, the bolts m^5 having heads m^7 to engage the stamp-severing knife at the sides of the slots and movably hold it to the plunger. The stamp-severing knife being loosely held by the bolts m^5 is forced downward by the spring m^8 until its serrated edge normally projects below the stamp-affixing face of the plunger, so that it will engage and sever the positioned stamp as the plunger descends, the knife, by means of the knife-holding bolts and slots, remaining stationary where it engages the positioned surface while the plunger completes its stroke, so that the positioned surface will not be unnecessarily mutilated.

The operation of the machine: A sheet of stamps is so placed on the metal belts m' and cross-pieces h'' that the stamp-engaging spikes p' and i'' will enter the perforations separating the rows to enable the metal belts and cross-pieces to carry the stamps forward to the stamp-affixing plunger. During the movement of the stamp-feeding carriage all the stamps of the same row are successively positioned to be engaged by the stamp-affixing face during the descent of the stamp-feeding plunger, the descending movement of which causes the knife s to sever the positioned stamp from the remaining stamps of the sheet, this stamp when severed being carried downward by the plunger and affixed to the surface positioned to receive it. The descending movement of the stamp-affixing

plunger actuates the rock-shaft to remove the moistener-carrier and moistener from its path and draw them across the surface to which the stamp is to be affixed, the return movement of the plunger actuating the rock-shaft to return the moistener to its normal position. The return of the moistener to its normal position actuates the lever h' to oscillate the pawl i to release the stamp-carriage and permit it to move forward a predetermined distance under the influence of its motor-spring and position the next successive stamp to be engaged by the stamp-affixing plunger.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a stamp affixing and canceling machine the combination of a stamp-affixing mechanism, and a longitudinally-movable stamp-feeding carriage having stamp-carrying belts revoluble transversely to the longitudinal motion of the stamp-feeding carriage.

2. In a stamp affixing and canceling machine the combination of a stamp-affixing mechanism, a longitudinally-movable stamp-feeding carriage and stamp-carrying belts for the carriage revoluble transversely to the longitudinal motion of the stamp-feeding carriage and having stamp-engaging spikes.

3. In a stamp affixing and canceling machine the combination of a stamp-affixing mechanism, a longitudinally-movable stamp-feeding carriage having stamp-carrying belts revoluble transversely to the longitudinal motion of the stamp-feeding carriage, and means for intermittently actuating the stamp-feeding carriage.

4. In a stamp affixing and canceling machine the combination of a stamp-affixing mechanism, a longitudinally-movable stamp-feeding carriage having stamp-carrying belts revoluble transversely to the longitudinal motion of the stamp-feeding carriage and having stamp-engaging spikes, and means for intermittently actuating the stamp-feeding carriage.

5. In a stamp affixing and canceling machine the combination of a stamp-affixing mechanism, a longitudinally-movable stamp-feeding carriage having stamp-carrying belts revoluble transversely to the longitudinal motion of the stamp-feeding carriage, means for actuating the stamp-feeding carriage and a detent mechanism to cause its intermittent movement.

6. In a stamp affixing and canceling machine the combination of a stamp-affixing mechanism, a longitudinally-movable stamp-feeding carriage having stamp-carrying belts revoluble transversely to the longitudinal motion of the stamp-feeding carriage and having stamp-engaging spikes, means for actuating the stamp-feeding carriage, and a detent mechanism to cause its intermittent movement.

7. In a stamp affixing and canceling machine the combination of the stamp-affixing plun-

ger, the plunger-guides, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft, depending arms for the rock-shaft, a moistener, and moistener-carrier arms connected to the rock-shaft arms.

8. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, the plunger-guides, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft, depending arms for the rock-shaft, a moistener, and spring-tensioned moistener-carrier arms connected to the rock-shaft arms.

9. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, the plunger-guides, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft, depending arms for the rock-shaft, a moistener, moistener-carrier arms connected to the rock-shaft and a spring to maintain the moistener-carrier arms in a position to hold the moistener in contact with the surface to be moistened.

10. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, plunger-guides therefor, a rock-shaft journaled in bearings forming part of the plunger-guides, a jointed pitman for the stamp-affixing plunger to actuate the rock-shaft, depending arms for the rock-shaft, an inking-pad normally opposed to the stamp-affixing plunger and spring-tensioned pad-carrying arms hinged to the rock-shaft arms.

11. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, plunger-guides therefor, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft depending arms for the rock-shaft, a moistener, moistener-carrier arms connected to the rock-shaft arms, a moistener-reservoir and a stationary moistener contained in the moistener-reservoir to engage the movable moistener.

12. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, plunger-guides therefor, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft, depending arms for the rock-shaft, a moistener, moistener-carrier arms connected to the rock-shaft arms, a moistener-reservoir, a stationary moistener contained in the moistener-reservoir to engage the movable moistener, and an inclined face for the moistener-reservoir opposed to the movable moistener.

13. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, the plunger-guides, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft depending arms for the

rock-shaft, a moistener, spring-tensioned moistener-carrier arms connected to the rock-shaft arms, a moistener-reservoir and a stationary moistener contained in the moistener-reservoir to engage the movable moistener.

14. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, the plunger-guides, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft, depending arms for the rock-shaft, a movable moistener, spring-tensioned moistener-carrier arms connected to the rock-shaft arms, and a moistener-reservoir having an inclined face opposed to the movable moistener.

15. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, the plunger-guides, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft, depending arms for the rock-shaft, a moistener, moistener-carrier arms connected to the rock-shaft, a spring to maintain the moistener-carrier arms in a position to hold the moistener in contact with the surface to be moistened, a moistener-reservoir and a stationary moistener contained in the moistener-reservoir to engage the movable moistener.

16. In a stamp affixing and canceling machine the combination of the stamp-affixing plunger, plunger-guides, a rock-shaft journaled in bearings forming part thereof, a pitman for the stamp-affixing plunger to oscillate the rock-shaft, depending arms for the rock-shaft, a moistener, moistener-carrier arms connected to the depending arms, a spring to maintain the moistener-carrier arms in a position to hold the moistener in contact with the surface to be moistened, and an inclined face for the moistener-reservoir opposed to the movable moistener.

17. In a stamp affixing and canceling machine the combination of a stamp-affixing mechanism, a longitudinally-movable stamp-feeding carriage having stamp-carrying belts revoluble transversely to the longitudinal motion thereof, a vertically-movable plunger located above the path of the stamp-feeding carriage, a knife slidably connected to the plunger to sever the positioned stamp from the sheet of which it forms a part as the plunger descends normally projecting below the stamp-engaging face of the plunger, a tension-spring to maintain the knife in its normal position and means to slidably connect the knife to the plunger.

18. In a stamp affixing and canceling machine, a stamp-carriage comprising a substantially rectangular frame, pulleys journaled therein and arranged in oppositely-disposed pairs, stamp-carrying belts passing around the pulleys and means for rotating the pulleys and belts, in combination with the stamp-

affixing plunger and means for intermittently actuating the stamp-carriage, substantially as specified.

19. In a stamp affixing and canceling machine, a stamp-carriage comprising a substantially rectangular frame, spiked wheels journaled therein, apertured belts passing around the spiked wheels having stamp-engaging spikes on its outer surface to engage the rows of perforations between the stamps and a spiked cross-piece to engage the row of perforations between the last row of stamps and selvage, and means for rotating the spiked wheels and belts, substantially as specified.

20. In a stamp affixing and canceling machine, a stamp-carriage comprising a substantially rectangular frame, spiked wheels journaled therein, apertured belts passing around the spiked wheels having stamp-engaging spikes on its outer surface to engage the rows of perforations between the stamps, a spiked cross-piece to engage the row of perforations between the last row of stamps and selvage, means for rotating the spiked wheels and belts, in combination with a motor for actuating the stamp-carriage, a detent mechanism to arrest the carriage to position the stamps and a stamp-affixing plunger actuating the detent mechanism on each operation, substantially as specified.

21. In a stamp affixing and canceling machine, a stamp-carriage comprising a substantially rectangular frame, spiked wheels journaled therein, apertured belts passing around the spiked wheels having stamp-engaging spikes on its outer surface to engage the rows of perforations between the stamps a spiked cross-piece to engage the row of perforations between the last row of stamps and selvage, means for rotating the spiked wheels and belts, a supporting-frame for the stamp-carriage, a rotatable shaft journaled in the supporting-frame, a drum mounted thereon, a spring to actuate the rotatable shaft and a strap connected to the drum and to the carriage, substantially as specified.

22. In a stamp affixing and canceling machine, a stamp-carriage comprising a substantially rectangular frame, spiked wheels journaled therein, apertured belts passing around the spiked wheels having stamp-engaging spikes on its outer surface to engage the rows of perforations between the stamps a spiked cross-piece to engage the row of perforations between the last row of stamps and selvage, means for rotating the spiked wheels and belts, a supporting-frame for the stamp-carriage, a rotatable shaft journaled in the supporting-frame, a drum mounted thereon, a spring to actuate the rotatable shaft, a strap connected to the drum and to the carriage, a detent-rack

connected to the carriage, a spring-tensioned check-rack connected to the detent-rack, a stop carried by the detent-rack contained in an elongated slot in the check-rack, a reciprocating pawl to engage the teeth of the detent and check racks and a lever for the pawl in combination with the stamp-affixing plunger and means actuated by the stamp-affixing plunger to operate the reciprocating pawl, substantially as specified.

23. In a stamp affixing and canceling machine, a stamp-carriage comprising a substantially rectangular frame, spiked wheels journaled therein, apertured belts passing around the spiked wheels having stamp-engaging spikes on its outer surface to engage the rows of perforations between the stamps a spiked cross-piece to engage the row of perforations between the last row of stamps and selvage, means for rotating the spiked wheels and belts, a supporting-frame for the stamp-carriage, a rotatable shaft journaled in the supporting-frame, a drum mounted thereon, a spring to actuate the rotatable shaft a strap connected to the drum and to the carriage, a detent-rack connected to the carriage, a spring-tensioned check-rack connected to the detent-rack, a stop carried by the detent-rack contained in an elongated slot in the check-rack, a reciprocating pawl to engage the teeth of the detent and check racks, a lever for the pawl in combination with the stamp-affixing plunger, a moistener-carrier, a rock-shaft for the moistener-carrier journaled in bearings connected to the machine-frame, and a toggle-jointed lever connected to the rock-shaft and to the stamp-affixing plunger, substantially as specified.

24. In a stamp affixing and canceling machine, the combination of the machine-frame, a plunger-guide, a stamp-affixing plunger movable therein, an apron depending from the machine-frame having at its lower end a horizontal offset, a crank-shaft journaled in bearings carried by the horizontal offset, a bevel-pinion mounted on the crank-shaft, a pinion rotatable in a vertical bearing in the horizontal offset and having a screw-threaded bore, a vertically-adjustable table opposed to the stamp-affixing plunger, a screw-threaded standard for the table vertically movable through the screw-threaded bore of the bevel-pinion and guide-heads for the table vertically movable in vertical slots formed in the apron, substantially as specified.

Toronto, September 5, 1903.

D. CARTER.

R. MACKERROW.

In presence of—

L. F. BROCK,

CHAS. H. RICHES.