(No Model.) 2 Sheets—Sheet 1.

A. SUSSMANN & F. ZAHN.

SELF ACTING APPARATUS FOR ISSUING TICKETS AND STAMPS.

No. 539,201. Patented May 14, 1895.

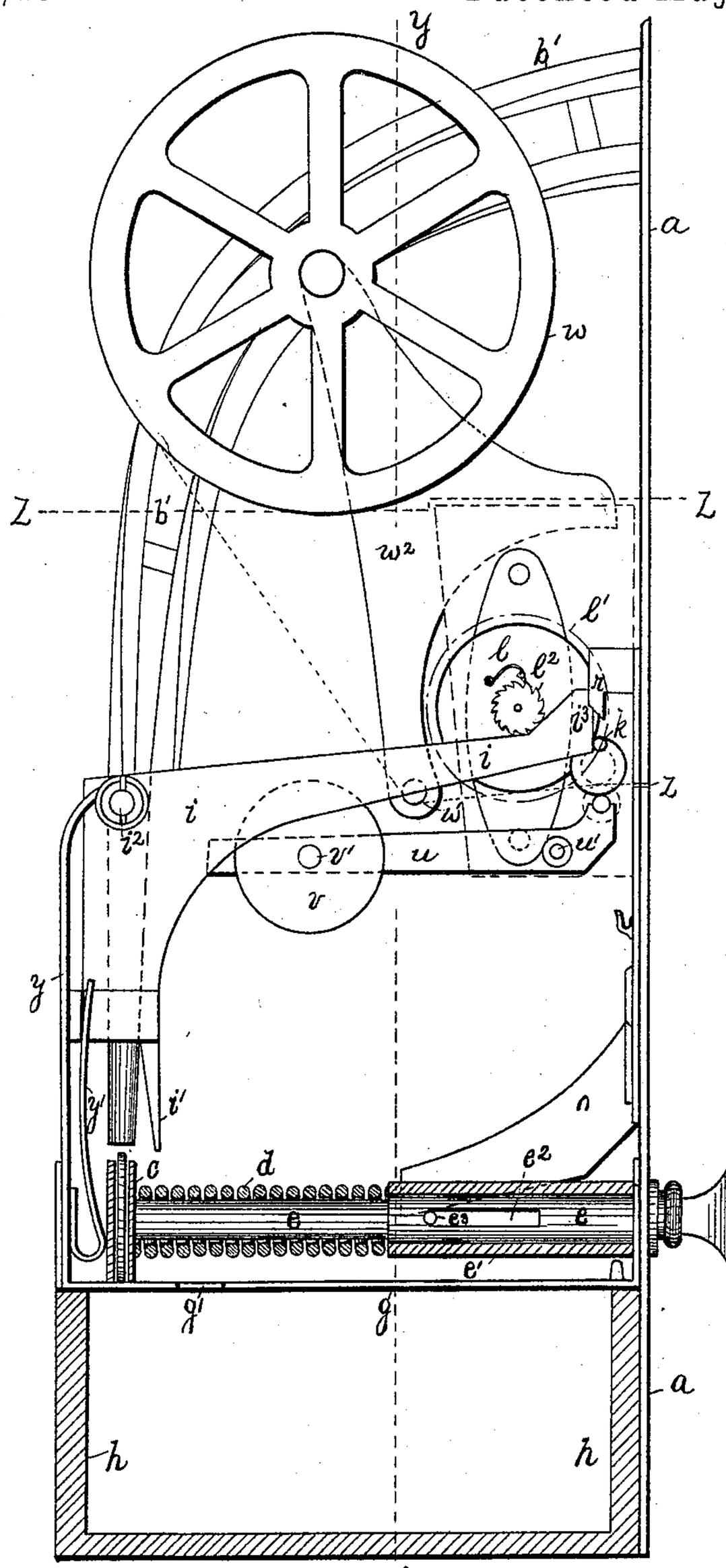

Fig. 1.

WITNESSES:
Charles Schafer.
Emma Stich.

INVENTORS.
Alvin Sussmann & Friedrich Zahn.
BY Reichelt & Oltsch.
ATTORNEY'S

(No Model.) 2 Sheets—Sheet 2.

A. SUSSMANN & F. ZAHN.

SELF ACTING APPARATUS FOR ISSUING TICKETS AND STAMPS.

No. 539,201. Patented May 14, 1895.

Fig. 2.

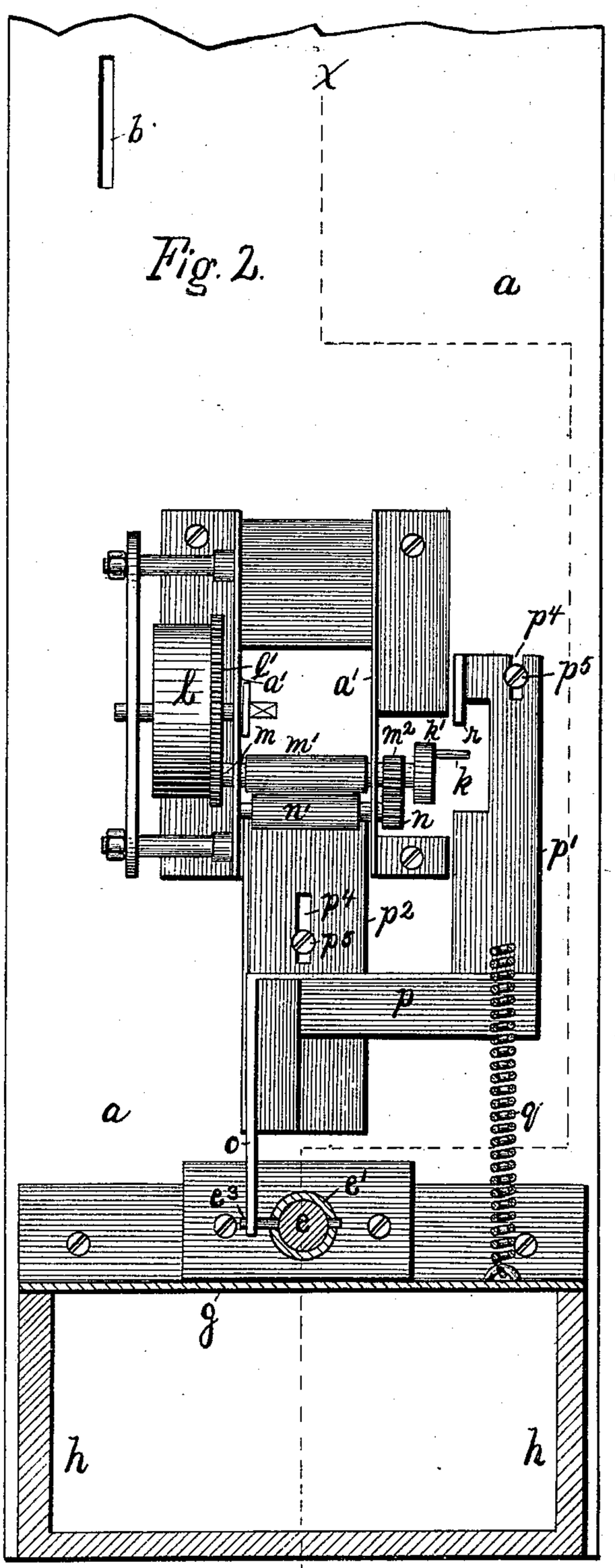

Fig. 3.

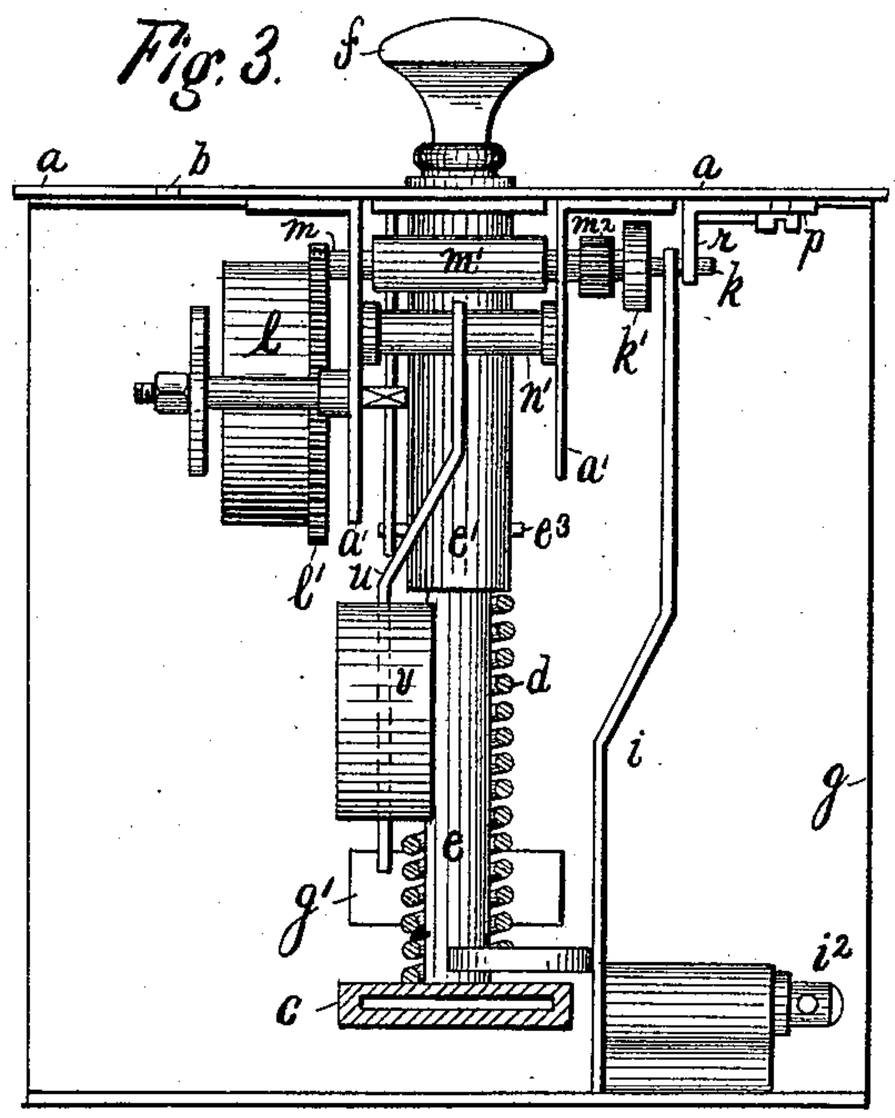

Fig. 6.

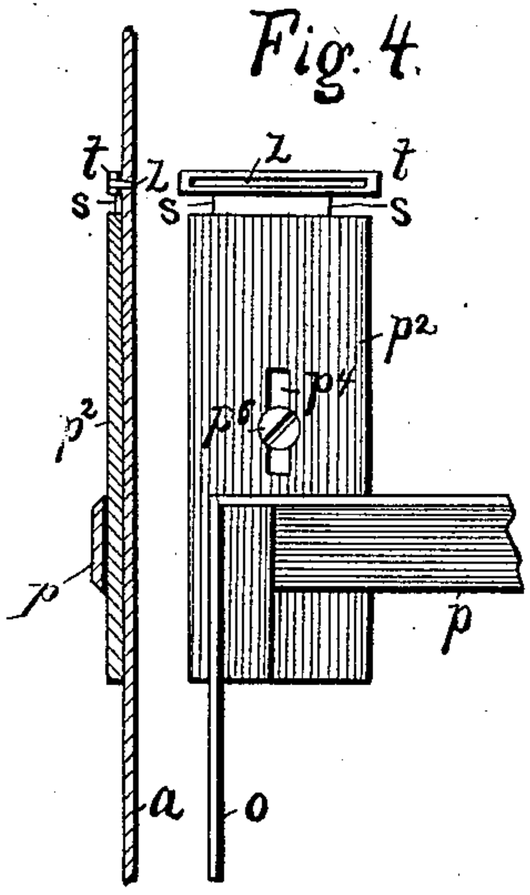

Fig. 4.

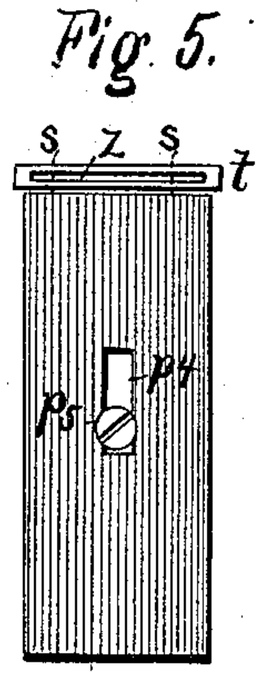

Fig. 5.

WITNESSES:
Charles Schafer.
Emma Stech.

INVENTORS
Alvin Sussmann & Friedrich Zahn.
BY Reichelt & Ottsch.
ATTORNEY'S

UNITED STATES PATENT OFFICE.

ALVIN SUSSMANN, OF BERLIN, AND FRIEDRICH ZAHN, OF SPANDAU, GERMANY.

SELF-ACTING APPARATUS FOR ISSUING TICKETS AND STAMPS.

SPECIFICATION forming part of Letters Patent No. 539,201, dated May 14, 1895.

Application filed October 13, 1894. Serial No. 525,820. (No model.)

To all whom it may concern:

Be it known that we, ALVIN SUSSMANN, residing at Berlin, and FRIEDRICH ZAHN, residing at Spandau, in the Kingdom of Prussia and German Empire, subjects of the King of Prussia, German Emperor, have invented certain new and useful Improvements in Self-Acting Apparatus for Issuing Tickets and Stamps, of which the following is a specification.

Our invention relates to an automatic apparatus for issuing tickets and stamps, by first dropping a coin within the same, and then withdrawing a knob, which will release a clock mechanism and cause the stamp or ticket to be projected between two rollers and from the apparatus through a slot or opening, one at a time, as will hereinafter appear with reference to the accompanying drawings, which represent so much of the working mechanism as may be employed to carry out our invention, and wherein—

Figure 1 is a vertical sectional elevation of the apparatus in line *x x* of Fig. 2; Fig. 2, a similar representation of the same in line *y y* of Fig. 1, looking from rear to front, a portion of the apparatus being removed with the section; Fig. 3, a longitudinal section in line *z z* of Fig. 1, looking down upon a part of the mechanism; Fig. 4, a detail in elevation of the stamp-separating guide-plate partly raised, and Fig. 5 an elevation thereof fully raised to engage with perforations between the stamps and facilitate their detachment one from the other as they are projected through the slot in the front of the casing. Fig. 6 is a transverse view of Fig. 4.

The front plate *a* of the apparatus is of rectangular shape and is provided near its upper left hand corner with a slot *b*, through which the coin is inserted to cause the operation of the device.

A guide way or chute *b'* conducts the coin from the slot *b* to a box *c*, at the lower end of the chute, which is attached to the inner end of a plunger *e*, supported in a guide cylinder *e'*, and provided with a knob *f* at its outer end, by which it may be conveniently operated.

The outer end of the guide cylinder *e'*, is fixed to the front plate *a*, and a coiled spring *d* surrounding the plunger *e*, and pressing between the inner end of the cylinder *e'* and the coin box *c*, admits of the coin being brought forward in the box from the chute and deposited through a slot *g'* in the bottom of a base plate *g*, fixed to the front plate *a*, and deposit the same in a drawer receiver *h*. When the knob *f*, is pulled out the spring *d* restores the plunger *e* to its normal position to bring the coin box *c* again beneath the chute *b'*, ready to receive the next coin that is dropped therefrom.

An angle lever *i* has a dependent lever *i'* which is lifted by the upper edge of the coin projecting from the coin box *c*, and is pivoted at i^2 to the upturned rear end *y* of the base plate *g*. The forward end of the angle lever *i* has an upwardly projecting foot i^3, which serves as a stop, to normally hold a rotary spring actuated pin *k*, upon a disk secured to one end of the upper feed roller *m'*, and when said foot is lifted by the movement of the angle lever *i*, acted upon by the coin and plunger as hereinbefore described, the pin *k* is released and caused to make a single revolution by means of a spiral-spring-actuated-barrel *l*, carrying a spur gear *t'*, which drives a pinion *m* upon the other end of the said upper feed roller *m'*.

The upper feed roller *m'* and the lower feed roller *n'*, are geared together by pinions m^2 and *n* upon their respective arbors, and the arbor of the roller *m'* is supported in angle plates *a'*, secured to the front plate *a*, and caused to revolve at equal speed; the arbor of the lower roller *n'* being supported upon said plates *a'* as hereinafter described. When the pin *k* and with it the feed rollers *m' n'*, have been released by the upward movement of the lever foot i^3, to make a single revolution of the feed rollers and deliver a single stamp, a further movement thereof is arrested until the said foot i^3 again drops below the pin *k*, by the following described means.

The guide cylinder *e'* has a longitudinal slot e^2 upon each side thereof through which passes a pin e^3 secured to and moving with the plunger *e*. An arm *o* with its under edge resting upon said pin e^3, is inclined from front to rear, will be allowed to descend when the plunger *e* is drawn out, and will be pushed up in place as shown in Fig. 1, when the

spring d restores the plunger e to its place within the case. The arm o is joined at its end to a rectangular plate p, and branch plates p' p^2, each of which have vertical slots p^4 in which are secured screws p^5 upon the front plate a, by which means the plates p p' p^2 are held in place against the back of the front plate a, and permitted to move up and down thereon together with the arm o, a positive downward movement of said plates being effected by a spring q secured at one end to one of the plates, as p' in Fig. 2, and at the other end to the base plate g of the frame. A stop or trigger plate r, secured to plate p', is beveled upon its inner edge to pass close against the forward side of the pin k a sufficient distance to secure the interception of said pin in front of the foot i^3, when it is released by the upward movement of said foot, and caused to revolve by the clock work, thus preventing the pin k with the feed rollers m' and n', from making more than a single revolution, by the withdrawal of the knob f and the action of the mechanism connected therewith.

In order that a single stamp may be separated at each operation of the apparatus, two pins s shown in two positions respectively in Figs. 4 and 5, are secured to the upper edge of the plate arm p^2 and pass through holes in a rectangular slotted plate t secured to the inner face of the front plate a to inclose the stamp issuing slot z therein, and thus facilitate the separation of the stamps one at a time after they have been pushed through the said slot z by the rotation of the feed rollers m' n', the pins s being guided by the plate t to pass accurately through two of the perforations formed in the lines of separation as usual in a sheet or ribbon of stamps.

The lower roller n' of the feed rollers, is supported in bearings to revolve in the double armed lever u, supported upon pivot bearings u' in the plate a', and is held with sufficient frictional force against the upper roller m', to feed the stamps by means of a weight v secured upon the free end of the lever u, and adjusted thereon by means of a set screw v'. The stamps are printed or separated from sheets in strips or in a ribbon and wound upon the reel w, and are guided around the roller w', secured upon arms w^2, pendent from the arbor of reel w, and the stamps are then conducted to the feed rollers m' n' and issuing slot z, in the line shown by dots and dashes in Fig. 1.

The angle lever i is caused to return to its normal position with a quick positive movement, after it has been acted upon by the coin and plunger, by means of a plate spring y' secured to the depending arm of said lever, and held at its lower end by the upturned rear end of the plate g, and the standard plate y.

The operation of the apparatus will be readily understood from the foregoing description, and is briefly summarized as follows: A coin or coins of sufficient value or diameter to just fill the space within the coin box c, and beneath the lower end of the chute b', is placed within the latter through the slot b, and the plunger e is then withdrawn and acts upon the depending arm i' of the angle lever. Should the diameter of the coin be too great, it will not issue from the chute, and should it be too small, the arm i' will not be operated sufficiently to permit the pin k to escape from the foot i^3. When of the diameter required, the angle lever i will be tripped by the coin until the pin k is released, and the spring actuated clock work will cause the feed roller to make a single revolution; the arm o, plates p' and trigger r being pulled down by spring q, when the plunger e is withdrawn, and the pin e^3 thereon withdrawn from beneath the inclined under side of said arm o, thus causing the trigger r to take its place in front of the revolving pin k of the clock work, a sufficient distance, before it is released by the foot i^3 of the angle lever, and catch the said pin k at the end of its revolution and hold it securely until the foot i^3 of the angle lever drops below the pin k a sufficient distance to again intercept and hold it in place. The trigger r being then lifted by the return movement of the plunger e, and pin e^3, which push against the inclined under side of the arm o, and again push it and the trigger upward together with the pins s, which latter pass through the perforations between the stamps and secure their ready separation.

The spring within the barrel l, is wound up with a key and is held in the usual way by the click wheel and pawl l^2, until released at intervals by the rotation of the feed rollers.

We claim as our invention and desire to secure by Letters Patent—

1. An apparatus for issuing stamps or tickets, comprising clock work actuated feed rollers, a stop lever, a coin carrying plunger and a vertically moving trigger plate actuated by said plunger, substantially as described.

2. An apparatus for issuing stamps or tickets, comprising a case and chute, a coin chest and plunger, clock work actuated feed rollers, and an angle lever actuated by the coin to release and start the feed rollers, substantially as described.

3. An apparatus for issuing stamps or tickets, comprising clock work, actuated feed rollers, a coin carrying plunger, an angle lever actuated by the coin to release and start the feed rollers, and a trigger plate to arrest the movement of said feed rollers, substantially as described.

4. An apparatus for issuing stamps and tickets, comprising a feed roller, a plunger connected therewith to control the action thereof, and a plate carrying pins actuated by said plunger, to intercept the stamps by passing through the perforations therein to admit of their separation, substantially as described.

5. In a stamp and ticket issuing apparatus, the combination with front plate a, of recip-

rocating plate *p*, for controlling the issue of stamps or tickets, the angle arm *o*, and reciprocating plunger *e*, for actuating said arm, substantially as described.

6. In a stamp and ticket issuing apparatus, the combination with the front plate *a*, having coin slot *b*, issuing slot *z* and guide frame *t* of feed rollers, and a plunger for actuating the same, and a plate carrying pins operated by the plunger to engage with perforations in the said guide frame and intercept the movement of the stamps, substantially as described.

7. In a stamp and ticket issuing apparatus, the combination with the casing having a coin slot and issue slot, of a spring actuated clock work roller *m'* geared thereto, a plunger and stop lever to control the movement thereof, and a roller *n'* supported beneath the roller *m'* upon a pivoted weighted lever to feed the stamp between them by the movement of the plunger, substantially as described.

8. In a stamp and ticket issuing apparatus, comprising the front plate *a*, having coin and ticket issuing slots, the chute *b'*, stamp or ticket drum *w*, guide roller *w'*, rollers *m' n'*, clock work mechanism *l l'*, *m m*^{2} *n*, stop pin *k*, angle lever *i*, trigger *r* and coin carrying plunger *e* for actuating the same, substantially as described.

9. An apparatus for issuing stamps, comprising a spiral spring, actuated feed rollers *m' n'*, a pin *k* projecting from one of said rollers, a lever *i*, a plunger carrying coin chest for actuating said lever to release and intercept successively the rotation of said rollers, and cause the delivery of the stamp, substantially as described.

10. An automatic apparatus for issuing stamps or tickets, comprising clock work actuated feed rollers, a plunger *e*, stop lever *i* and trigger *r*, to release and catch the said rollers after a single rotation by the movement of the plunger, substantially as described.

11. In a stamp and ticket issuing apparatus, the combination with the casing plate *a*, having a coin and issue apertures therein, chute *b'*, coin chest *c*, plunger *e*, guide cylinder *e'*, spring *d*, base *g* having a coin aperture *g'*, drawer *h*, angle lever *i*, spring actuated rollers *m' n'*, and detent pin *k* released and intercepted by said lever, substantially as described.

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses.

ALVIN SUSSMANN.
FRIEDRICH ZAHN.

Witnesses.
CHAS. H. DAY,
W. HAUPT.