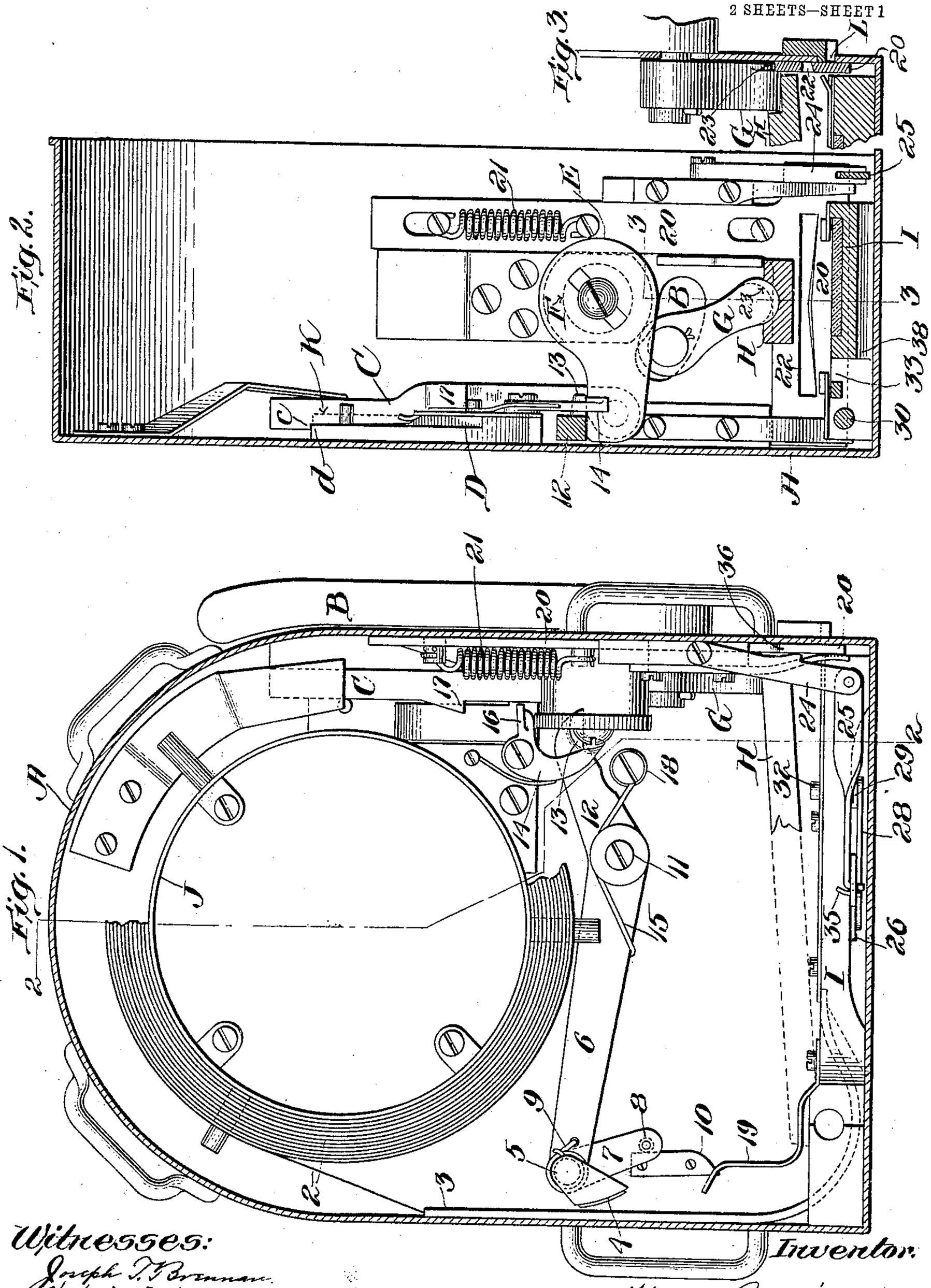
No. 822,830. PATENTED JUNE 5, 1906.

H. H. CUMMINGS.

# TICKET STAMPING AND DELIVERY MACHINE.

APPLICATION FILED MAR. 14, 1905.

2 SHEETS—SHEET 1

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2 SHEETS—SHEET 2.

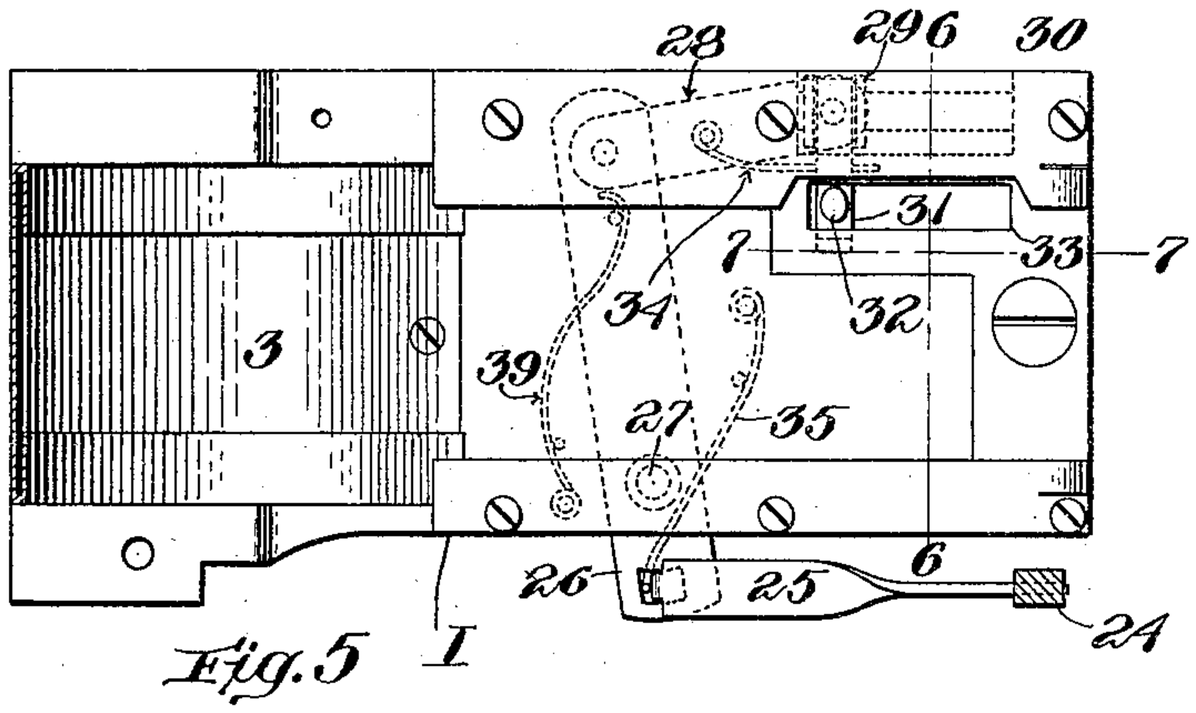


Fig. 5

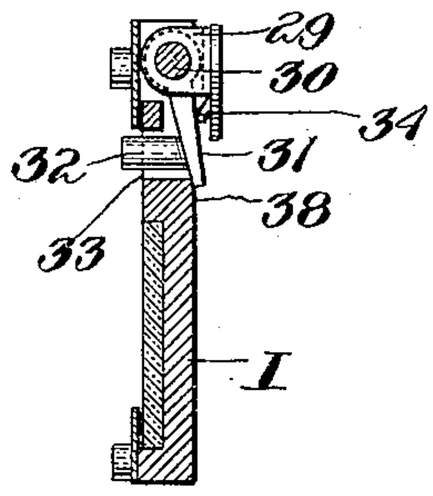


Fig. 6.

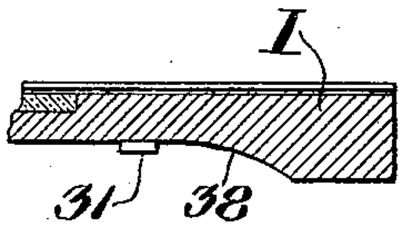


Fig. 7.

Fig. 8.

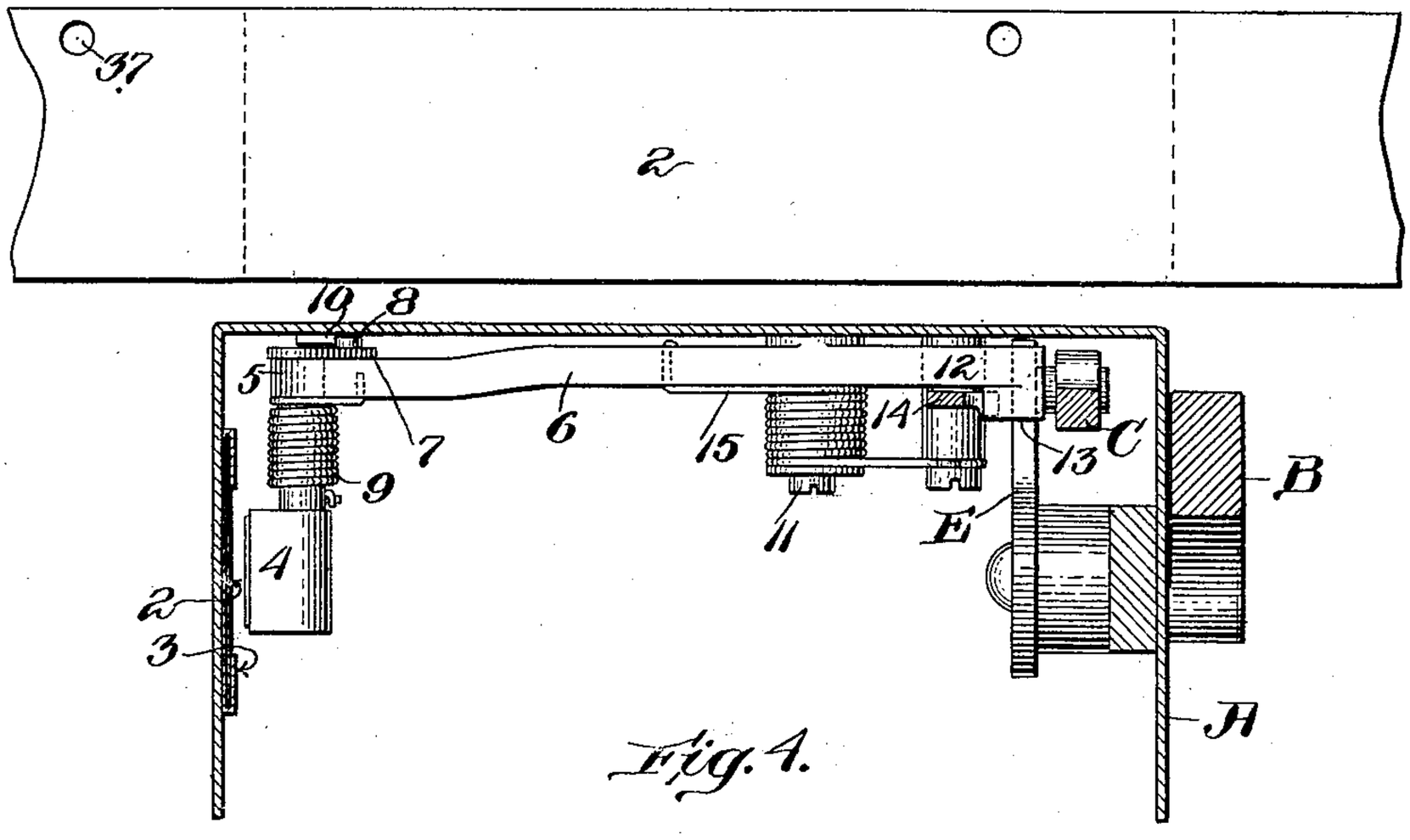


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## TICKET STAMPING AND DELIVERY MACHINE.

No. 822,830. Specification of Letters Patent. Patented June 5, 1906.

Application filed March 14, 1905. Serial No. 250,019.

*To all whom it may concern:*

Be it known that I, HENRY H. CUMMINGS, a citizen of the United States, and a resident of Newton, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Ticket Stamping and Delivering Machines, of which the following is a specification.

My invention relates to ticket stamping and delivering machines—such, for example, as is shown and described in an application filed by me February 19, 1904, Serial No. 194,334.

The machine of the application referred to was intended particularly to be carried by a car-conductor and used by him to stamp and deliver transfer-tickets to passengers. The tickets, in the form of a strip, were confined within a box, together with all of the operating parts of the machine, except the handle by which the machine was operated. This handle or operating member was arranged upon the outside of the box in an accessible position, while the box was locked closed so that the other working parts of the machine and the ticket-strip were inaccessible except to persons having a key to the box. The handle or operating member was controlled by coin-operated means, so that only by inserting a coin in a coin-slot leading into the box could the handle be freed and operated. When the handle was thus freed, the operator swung it in one direction to effect a partial feed of the ticket-strip, enough to cause the end of the strip to project through a ticket-exit in the wall of the box. Then the handle was swung in the opposite direction to stamp the ticket about to be delivered. The operator then grasped the projecting end of the strip and drew the latter out of the box until further outward movement of the strip was arrested by an automatic gage or stop which coöperated with perforations in the strip to limit the length of strip delivered by the machine at each operation. When the strip was thus stopped, the operator, using the side of the strip-exit as a straight-edge, tore the strip transversely, detaching the stamped end ticket of the strip. While this machine was in most respects admirably adapted to the work for which it was designed, yet an objectionable feature was that if the operator was not careful in pulling out the strip the latter was liable to be torn when the automatic gage or stop engaged one of the perforations. Also the operator had to use care in tearing off the end ticket of the strip not only to prevent an uneven tear, but also to prevent the automatic gage or stop from tearing through the strip at the perforation.

The object of my present invention is to obviate the above-noted objections, as well as otherwise to improve the construction and mode of operation of machines of this class.

A feature of my invention resides in the combination, with means to effect a partial or preliminary feed of the strip sufficient to project the end of the latter from the strip-exit, of means operated by further movement of the strip for automatically severing a predetermined length from the end of the strip, whereby I not only obviate the use of the automatic stop above referred to, but also relieve the operator of the necessity of tearing the strip himself, and of the care necessary to that operation.

Another feature of my invention consists in providing means to prevent the preliminary or partial feed of the strip until after the operating member or handle has been moved to stamp the strip. In this way I make it impossible to deliver an unstamped ticket from the machine.

Other features of my invention are hereinafter pointed out.

In the accompanying drawings, which show a preferred form of my invention, Figure 1 is a front elevation, partly in section, of a ticket stamping and delivering machine embodying my invention. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is a section on line 3 3 of Fig. 2. Fig. 4 is a detail plan view of the strip-feeding means. Fig. 5 is a plan view of the platen, hereinafter described. Fig. 6 is a section on line 6 6 of Fig. 5. Fig. 7 is a section on line 7 7 of Fig. 5. Fig. 8 is a plan view of a portion of a ticket-strip.

Having reference to the drawings, A represents the box or casing of my improved ticket stamping and delivering machine; B, the operating member or handle; C, the coin-operated latch projecting into the coin-passage D and connected with handle B through the arm E and the arbor F; G, the toggle member, connecting arm B with type-carrier H; I, the platen for supporting the strip while it is being stamped; J, the strip-holder into which coin-passage D discharges; K,

the slot for the entrance of the coin into passage D, and L the exit-slot for the strip. These parts, except as noted below, are much the same as set forth in my application above noted.

The strip of tickets 2 is coiled upon holder J, and its outer end extends through a trough-shaped guideway 3 and then over platen I to exit L. Opposite trough 3 is a strip pusher or feeder 4, pivoted at 5 on a carrier 6, so as to swing thereon toward and from the strip in trough 3. Pusher 4 has rigidly connected with it an arm 7, carrying a stud 8 at its lower end, normally held by a spring 9 against a cam 10, fixed to box A. Carrier 6 is pivoted at 11 to box A, so that when swung on said pivot pusher 4 is moved back and forth lengthwise of strip 2. Integral with carrier 6 is an arm 12, which extends into the path of arm E and is made with a lateral projection 13. Pivoted to box A adjacent to arm 12 is a spring-pressed latch 14, which normally engages projection 13 and holds arm 12 against movement toward arm E under pressure of a spring 15, which acts on carrier 6 in a direction to raise the latter and lower arm 12. Latch 14 is made with a tailpiece 16, which normally lies in the path of a projection 17 on the coin-controlled latch C, so that if latch C be moved endwise in one direction projection 17 will engage tailpiece 16 and disengage latch 14 from projection 13 on arm 12. Carrier 6 will then be lifted by spring 15 far enough to carry stud 8 past the upper end of cam 10, movement of carrier 6 in this direction being limited by arm 12 engaging a stop 18. Normally, however, latch C is held against downward movement by the engagement of a shoulder *c* on said latch with an abutment *d;* but when a coin is pushed into slot K under latch C shoulder *c* is disengaged from abutment *d* and handle B freed. The operator thereupon swings handle B in a direction to force type-carrier H down onto platen I by means of toggle member G, and during this movement of handle B arm E and latch C are lowered, thus causing projection 17 to engage the tailpiece 16 of latch 14, with the result that arm 12 is freed and stud 8 lifted above the upper end of cam 10 by spring 15, as above described. This allows spring 9 to swing pusher 4 against strip 2, and when pusher 4 is thus swung by spring 9 the stud 8 is carried from the right-hand side of cam 10, as viewed in Fig. 1, over the top of said cam to the other side thereof. The operator then swings handle B in the opposite direction, which allows a spring (not shown) to lift type-carrier H clear of that part of strip 2 on platen I. This second movement of handle B is carried beyond the normal position thereof, and during the latter part of this second movement arm E engages and lifts arm 12 far enough to carry stud 8 below cam 10. As stud 8 passes the lower end of cam 10 a resilient deflector 19 thrusts said stud back to the right-hand side of cam 10 again, thus swinging pusher 4 away from strip 2. If handle B is then released, spring 15 will return all of the parts to their normal positions and pusher 4 while returning will be held by cam 10 away from strip 2.

The movement imparted to strip 2 during the downward travel of pusher 4 causes the forward end of the stamped ticket at the end of strip 2 to project through outlet L far enough for the operator to grasp that end and pull the stamped ticket out of the machine. As the operator pulls the stamped ticket out of the machine it is automatically severed from the rest of the strip by the mechanism which will now be described.

Mounted upon the inner face of one of the side walls of box A and adjacent exit L is a knife-slide 20, normally held elevated by a spring 21, and this slide is made with a slot 22, whose lower side coöperates with the upper side of exit L to form a cutter adapted when operated, as will be described presently, to sever the strip transversely. Slide 20 is moved in one direction by toggle member G and in the opposite direction by spring 21, said toggle member being made with a shoulder 23 to engage the top of a lateral extension at the lower end of slide 20, as shown in Figs. 2 and 3. Pivoted to box A, adjacent slide 20 is a latch 24, connected by a link 25 with one end of a lever 26, (see Fig. 5,) pivoted at 27 to the under side of platen I. Provision is made at the joint between link 25 and lever 26 for a small amount of lost motion, and, as herein shown, this is accomplished by making the end of link 25 with a hook engaging a slot in lever 26. The other end of lever 26 is connected by a link 28 with the bottom cross-piece of a yoke 29, whose two branches are mounted to slide on a bar 30, fixed at its ends to platen I. Between the two branches of yoke 29 and loosely mounted on bar 30 is a dog 31, which can both swing and slide on said bar. This dog is made with a stud 32, projecting up through a slot 33 in platen I into the path of strip 2 and yieldingly supported in that position by a light spring 34, projecting from link 28, upward movement of the dog being limited by its engagement with the under side of platen I. A spring 35, fixed to the under side of platen I, exerts its pressure on link 25 in a direction toward knife-slide 20.

In stamping the ticket to be delivered toggle member G is forced downwardly during the first movement of handle B, as above described, and through the engagement of shoulder 23 with the lateral extension at the lower end of slide 20 the toggle member carries said slide down with it. As soon as a shoulder 36 on slide 20 passes the tooth of latch 24 spring 35, acting through link 25 and by reason of the lost motion provided for between link 25 and lever 26, moves latch 24

into position above shoulder 36, so that when toggle member G is raised during the second or reverse movement of handle B, slide 20 is held down by latch 24, with spring 21 under tension. Normally slide 20 covers outlet L, but when lowered, as described, exit L is uncovered, and the end of strip 2 can be projected therethrough by feeder 4, which effects the preliminary or partial feed near the conclusion of the second movement of handle B. The ticket to be delivered having been stamped and partially fed through exit L is then removed from the machine by the operator grasping the projecting end of the ticket and drawing it out. While the strip is being moved in this fashion, one of a series of perforations 37 made in said strip near one side thereof is brought into position immediately above stud 32 of dog 31 and thereupon spring 34 lifts said dog and thrusts stud 32 into the perforation. Continued movement of the strip shifts dog 31 and yoke 29 along rod 30, and as yoke 29 is connected with lever 26 by link 28 said lever is swung on its pivot 27 and acts through link 25 to disengage latch 24 from slide 20. Slide 20 is then elevated by spring 21, and as the lower side of slot 22 passes the upper side of exit L the stamped ticket is severed from the strip at its junction with the next ticket of the strip. After a ticket has been thus severed it is necessary that dog 31 should be disengaged from the perforation and returned to its normal position, and in order to accomplish this that part of the under side of platen I engaged by dog 31 is made as a cam 38, so shaped and arranged that as dog 31 moves toward exit L with the strip cam 38 swings said dog on rod 30 downwardly and withdraws stud 32 from the perforation, the disengagement of stud 32 and the perforation 37 being timed to occur practically simultaneously with the freeing of slide 20, said disengagement being assisted also by the upward buckling of the end of strip 2, due to the upward movement of slide 20. When dog 31 is thus freed from the strip, a spring 39, fixed to the under side of platen I and acting on lever 26, returns said lever, link 28, yoke 29, and dog 31 to their normal positions, with stud 32 resting against the under side of strip 2 in position to engage the next perforation 37 when the machine is again operated.

What I claim is—

1. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, means controlled by the operating member for effecting a partial feed of the strip; a strip-cutter; a spring for actuating the cutter; a latch for controlling the cutter; and means operated by further movement of the strip for operating the latch to free the cutter and sever a predetermined length from the strip.

2. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, means controlled by the operating member for effecting a partial feed of the strip; a strip-cutter; a spring for shifting the cutter in one direction, said cutter being shifted in the opposite direction by means of the operating member; a latch for holding the cutter against movement by the spring, and means operated by further movement of the strip for operating the latch to free the cutter and sever a predetermined length from the strip.

3. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, means controlled by the operating member for effecting a partial feed of the strip; a strip-cutter; a movable dog projecting into the path of the strip to engage perforations in the latter, and means through which movement of the dog actuates the cutter to sever a predetermined length from the strip when movement is imparted to the strip and one of the perforations of the latter engages the dog.

4. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, means controlled by the operating member for effecting a partial feed of the strip; a strip-cutter; a dog projecting into the path of the strip to engage perforations in the latter; means through which movement of the dog with the strip actuates the cutter to sever a predetermined length from the strip when movement is imparted to the strip and one of the perforations of the latter engages the dog, and means to disengage the dog from the strip and return said dog to normal position, when the cutter has been actuated.

5. A ticket stamping and delivering machine having in combination a strip-holder, a strip-cutter; a movable dog projecting into the path of the strip to engage perforations in the latter, and means through which movement of the dog actuates the cutter to sever a predetermined length from the strip when movement is imparted to the strip and one of the perforations of the latter engages the dog.

6. A ticket stamping and delivering machine having in combination a strip-holder, a strip-cutter; a dog projecting into the path of the strip to engage perforations in the latter; means through which movement of the dog with the strip actuates the cutter to sever a predetermined length from the strip when movement is imparted to the strip and one of the perforations of the latter engages the dog and means to disengage the dog from the strip and return said dog to normal position when the cutter has been actuated.

7. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, means controlled by the operating member for effecting a partial feed of the strip; a strip-cutter; a spring for

actuating the cutter; a latch for controlling the cutter; a movable dog projecting into the path of the strip to engage perforations in the latter, and means connecting the dog with the latch through which movement of the dog operates the latch to free the cutter and sever a predetermined length from the strip when a further movement is imparted to the strip and one of the perforations of the latter engages the dog.

8. A ticket stamping and delivering machine having in combination a closed casing whose interior is normally inaccessible, said casing adapted to hold a ticket-strip and having a strip-exit; an operating member upon the exterior of the casing; means within the casing and controlled by the operating member for effecting a partial feed of the strip to project the end thereof through the exit, and means within the casing and operated by further movement of the strip for automatically severing the ticket at the projecting end of the strip.

9. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, means to effect a partial feed of the strip; and means controlled by the operating member to prevent the partial feed being effected until after said member has been operated to stamp the strip.

10. A ticket stamping and delivering machine having in combination a strip-holder, a strip-feeder; and means controlled by the operating member for preventing the operation of the strip-feeder until the operating member is moved first in one direction and then in another direction.

11. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, a strip-feeder; and a latch for controlling the operation of the strip-feeder, said latch being operated to free the strip-feeder by movement of operating member.

12. A ticket stamping and delivering machine having in combination a strip-holder, a pusher for engaging the strip; a carrier on which the pusher is mounted to move toward and from the strip, said carrier being movable back and forth lengthwise of the strip; means to hold the pusher in engagement with the strip while the carrier is moved in one direction, and means to hold the pusher out of engagement with the strip, while the carrier is moved in the opposite direction.

13. A ticket stamping and delivering machine having in combination a strip-holder, a pusher for engaging the strip; a carrier on which the pusher is mounted to move toward and from the strip, said carrier being movable back and forth lengthwise of the strip; means to hold the pusher in engagement with the strip while the carrier is moved in one direction, and a stationarily-supported cam to hold the pusher out of engagement with the strip while the carrier is moved in the opposite direction.

14. A ticket stamping and delivering machine having in combination a strip-holder, a pusher for engaging the strip; a carrier on which the pusher is mounted to move toward and from the strip, said carrier being movable back and forth lengthwise of the strip; a spring to hold the pusher in engagement with the strip while the carrier is moved in one direction, and a stationarily-supported cam to hold the pusher out of engagement with the strip while the carrier is moved in the opposite direction.

15. A ticket stamping and delivering machine having in combination a strip-holder, a pusher for engaging the strip; a carrier on which the pusher is mounted to move toward and from the strip, said carrier being movable back and forth lengthwise of the strip; means to hold the pusher in engagement with the strip while the carrier is moved in one direction; a stationarily-supported cam to hold the pusher out of engagement with the strip while the carrier is moved in the opposite direction, and means to shift the pusher into coöperative relation with the cam at the completion of the feeding movement of the pusher.

16. A ticket stamping and delivering machine having in combination a strip-holder, a pusher for engaging the strip; a carrier on which the pusher is pivotally mounted to swing toward and from the strip, said carrier being movable back and forth lengthwise of the strip; a spring to hold the pusher in engagement with the strip while the carrier is moved in one direction, and a stationarily-supported cam to hold the pusher out of engagement with the strip while the carrier is moved in the opposite direction.

17. A ticket stamping and delivering machine having in combination a strip-holder, a pusher for engaging the strip; a carrier on which the pusher is pivotally mounted to swing toward and from the strip, said carrier being movable back and forth lengthwise of the strip; a spring to hold the pusher in engagement with the strip while the carrier is moved in one direction; a stationarily-supported cam to hold the pusher out of engagement with the strip while the carrier is moved in the opposite direction, and a resilient deflector to swing the pusher into coöperative relation with the cam at the completion of the feeding movement of the pusher.

18. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, a strip-pusher for engaging the strip; a carrier on which the pusher is pivotally mounted to swing toward and from the strip, said carrier being moved back and forth lengthwise of the strip by the operating member; a spring to hold the pusher in engagement with the strip while the carrier

is moved in one direction, and means to swing and hold the pusher out of engagement with the strip while the carrier is moved in the opposite direction.

19. A ticket stamping and delivering machine having in combination an operating member; a strip-holder, a pusher for engaging the strip; a pivoted carrier on which the pusher is pivotally mounted to swing toward and from the strip, said carrier being swung back and forth lengthwise of the strip by the operating member; means to hold the pusher in engagement with the strip while the carrier is moved in one direction, and means to swing and hold the pusher out of engagement with the strip while the carrier is moved in the opposite direction.

Signed by me at Boston, Suffolk county, Massachusetts, this 9th day of March, 1905.

HENRY H. CUMMINGS.

Witnesses:
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