

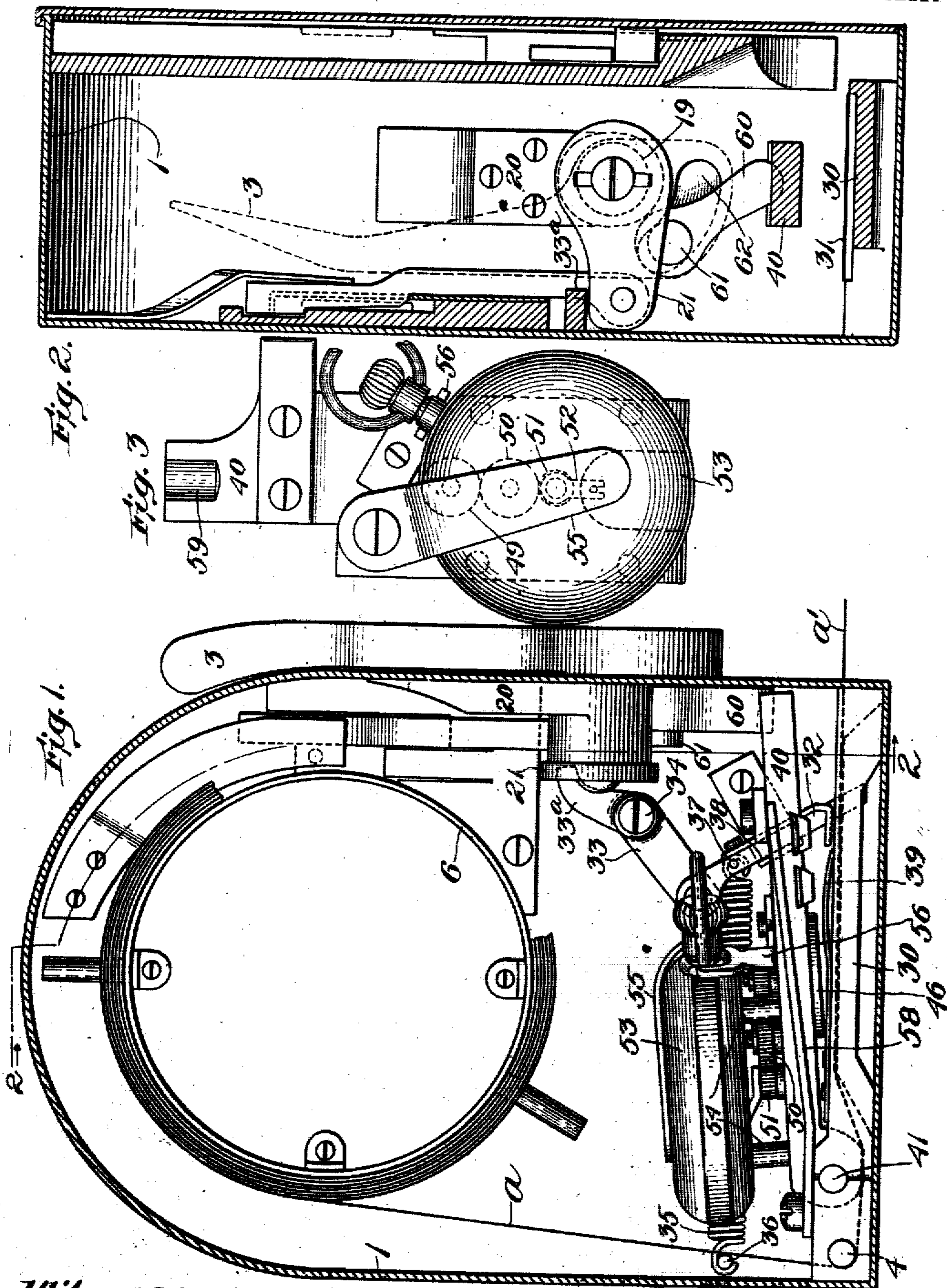
No. 822,855.

PATENTED JUNE 5, 1906.

H. H. CUMMINGS.
TICKET STAMPING AND DELIVERING MACHINE.

APPLICATION FILED NOV. 5, 1904.

2 SHEETS—SHEET 1.



Witnesses:
Joseph T. Brimmer
Margaret H. Daniker.

Inventor:
Henry H. Cummings
by Robert H. Lusk
Attorneys.

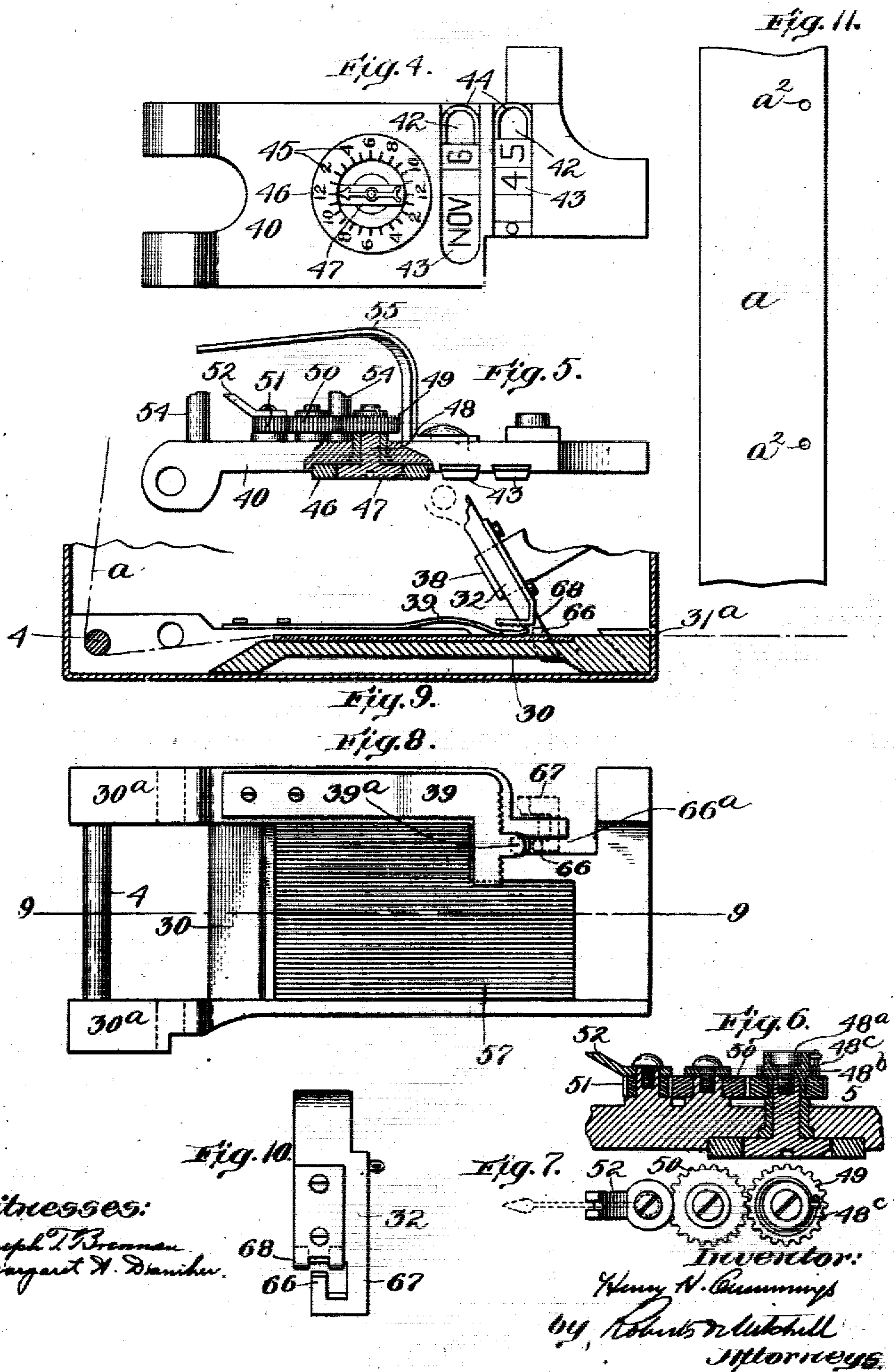
No. 822,855.

PATENTED JUNE 5, 1906.

H. H. CUMMINGS.
TICKET STAMPING AND DELIVERING MACHINE.

APPLICATION FILED NOV. 5, 1904.

2 SHEETS—SHEET 2.



Witnesses:
Joseph T. Brennan
Margaret H. Daniker.

Inventor:
Harry H. Cummings
by Robert M. Hutchell
Attorneys.

UNITED STATES PATENT OFFICE.

HENRY H. CUMMINGS, OF MALDEN, MASSACHUSETTS, ASSIGNOR TO
ADAMS D. CLAFLIN, OF NEWTON, MASSACHUSETTS.

TICKET STAMPING AND DELIVERING MACHINE.

No. 822,855.

Specification of Letters Patent.

Patented June 5, 1906.

Original application filed February 19, 1904, Serial No. 194,334. Divided and this application filed November 5, 1904. Serial No. 231,541.

To all whom it may concern:

Be it known that I, HENRY H. CUMMINGS, a citizen of the United States, and a resident of Malden, 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; and the object of my invention is to provide a light portable machine of improved construction which can be carried by a car conductor and used by him to stamp and deliver tickets to passengers.

My improved ticket stamping and delivering machine comprises an operating member, a ticket-holder, a stamping device worked by said operating member, and a ticket-feeder which is also preferably worked by the operating member. In the best form of my invention the stamping device and ticket-feeder are so connected with the operating member that the latter is moved in one direction from its normal position to operate the stamping device and is moved in the opposite direction from its normal position to operate the feeder.

Other features of my invention are herein-after pointed out.

In the accompanying drawings, Figure 1 is a front elevation, partly in section, of a ticket stamping and delivering machine embodying one form of my invention. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is a plan view of the top side of the type-carrier hereinafter referred to. Fig. 4 is a view of the under side of the type-carrier shown in Fig. 3. Fig. 5 is a side view, partly in section, of the type-carrier shown in Figs. 3 and 4. Figs. 6 and 7 are enlarged details of the type-carrier shown in Figs. 3, 4, and 5 and are hereinafter described. Fig. 8 is a plan view of the platen hereinafter referred to. Fig. 9 is a section on line 9 9 of Fig. 8. Fig. 10 is an elevation of the ticket-feeder hereinafter referred to. Fig. 11 shows a length of the ticket-strip used in my improved machine.

As herein shown, the operating member 3 of my improved ticket stamping and delivering machine is controlled by coin-operated mechanism, so that said member is normally locked against movement; but by depositing

in the machine a coin of the proper denomination said member can be freed and used to stamp and deliver a ticket. For an understanding of the construction and operation of this coin-operated mechanism, however, reference may be had to the original application, Serial No. 194,334, filed February 19, 1904, of which it forms the subject-matter and from which the present application has been divided.

The tickets used with my machine are in the form of a strip *a*, coiled loosely upon a strip-holder 6, herein shown as a cylindrical drum fixed within a casing 1. Strip *a* extends from holder 6 under a guide-rod 4 and thence over a platen 30 to an exit-slot 31, provided through the wall of casing 1 at one end of the platen.

The operating member 3 is fixed to a short shaft 19, journaled in a bearing 20, forming part of casing 1, and to the inner end of shaft 19 is fixed an arm 21, through which the ticket or strip feeder 32 is operated. Feeder 32 is herein shown as a pawl pivotally connected at its upper end to a lever 33, fulcrumed upon a stud 34, fast to casing 1. The hooked upper arm 33^a of lever 33 is held in the path of the arm 21 on shaft 19 by a spring 35, fastened at 36 to casing 1 and at 37 to feeder 32, the latter being held by said spring against a guide 38, fixed to casing 1. When it is desired to project the end of strip *a* from slot 31 sufficiently to allow the operator to grasp that end to remove a stamped ticket, the operating member 3 is swung in one direction from its normal position—i. e., to the right in Fig. 2. This movement of member 3 raises arm 21, thereby swinging lever 33 so as to lower feeder 32 until the lower end or foot of the latter engages the strip *a*, after which the lower end of feeder 32 slides over platen 30, (to the right in Fig. 1,) carrying strip *a* with it toward exit 31 and causing the end of said strip to project from exit 31, as indicated at *a'*, Fig. 1. When operating, member 3 and arm 21 are returned to normal position, spring 35 returns lever 33 and feeder 32 to normal position. During this return movement of feeder 32 backward movement of strip *a* is prevented by a leaf-spring 39, fixed at one end to one side of platen 30 and bearing at its other end upon strip *a*. The pressure of this spring, how-

ever, is insufficient to hold said strip against movement with feeder 32 when the latter makes its feeding stroke.

The strip of paper *a* is made through its length, as shown in Fig. 11, with a series of perforations a^2 near one edge, and one of these perforations is normally in engagement with a finger 66, provided on the lower end of feeder 32, said finger 66 extending upwardly through a slot 66^a, Figs. 8 and 9, in the platen 30. The feeder 32 is made with an offset extension 67, which extends downwardly at one side of strip *a* and then laterally under the strip, terminating in the finger 66, which is directly below the foot 68 of feeder 32. When feeder 32 is lowered, as above described, to feed the strip *a* a step, of course finger 66 is at the same time withdrawn from the perforation a^2 , and said finger does not reengage with that same perforation when feeder 32 is returned to its normal elevated position because of the lateral displacement of said perforation occasioned by the feed—that is, in feeding the strip a step the finger 66 is first withdrawn from the perforation a^2 , and the movement imparted to the strip *a* by the feeder carries that perforation out of range of finger 66 when it is raised with the feeder, so that it then bears upon an unperforated portion of the under side of strip *a*. After the stamping has been effected, as hereinafter described, the projecting end of strip *a* is grasped by hand and the strip drawn out through exit 31 until the next perforation a^2 reaches and engages finger 66, which prevents further outward movement of strip *a* until feeder 32 is again operated. As soon as the stamped portion of the strip, which may represent a transfer-ticket, is thus drawn out of casing 1 it is separated from the strip by using the bottom edge 31^a of exit 31 as a straight-edge and tearing the strip transversely at that point. It will therefore be clear that finger 66, cooperating with the perforation a^2 , serves as an automatic spacer to determine the points at which the strip is separated.

In order to insure the engagement of the perforations a^2 with finger 66, the spring 39 is made with an extension 39^a, which bears upon the strip, and in order that the foot 68 of feeder 32 will not land on said extension when the feeder is lowered said foot is cut away or bifurcated, as shown in Fig. 10, so as to straddle the extension.

The strip stamping or impressing means comprises, besides platen 30, a type-carrier 40, pivotally supported at one end by a removable pin 41, mounted at its ends in extension 30^a of platen 30, and at its opposite end the type-carrier is yieldingly supported by a spring 58, fixed to one of the extensions of platen 30. The distance between the two extensions 30^a is about the same as the width of strip *a*, so that the latter can be passed

around guide-rod 4 and then over platen 30 to exit 31.

Type-carrier 40 is made with pockets 42 upon its under face adapted to receive types 43, bearing desired characters. These types 43 are held within pockets 42 by staple-like detents 44, forced or sprung into said pockets behind the types and which can be removed when different types are to be substituted for those already in place. Alongside the pockets 42 is a series of characters 45, arranged in a circle and herein shown as provided upon the outer face of a ring 46, driven into a recess provided in type-carrier 40 to receive it. These characters 45 are twelve in number and arranged in two semicircular groups each including the characters "2," "4," "6," "8," "10," and "12," one of said groups representing "A. M." and the other "P. M."

Within the ring 46 is a movable type-block 47, having for its character an arrow. This type-block 47 is integral with a spindle 48, journaled in a bearing on type-carrier 40 and carrying at its upper end a gear 49, driven, through an idler 50, by a pinion 51, having one-half the number of teeth of gear 49.

Fixed to pinion 51 is a crank-arm 52, forked at its outer end to adapt it to be connected with a clockwork 53, herein shown as an ordinary watch with its minute-hand and crystal removed and held in place upon four posts 54 concentrically with relation to pinion 51 and the axis of arm 52 by a spring-arm 55, fastened to the type-carrier 40. The forked end of arm 52 straddles the hour-hand of watch 53, as indicated in Fig. 7, and said arm and its pinion 51 thereby are caused to rotate with said hand. This rotation of pinion 51 acts, through idler 50 and gear 49, to rotate the type-block 47, which, as will be obvious, moves at half the speed of the hour-hand of the watch 53. The purpose of this speed-reducing train of gears is to reduce the strain on the delicate hour-hand of the watch 53 and, secondarily, to provide for the arrangement of twenty-four-hour spaces in the single ring of characters 46.

By reference to Figs. 6 and 7 it will be seen that spindle 48 at its upper end has fixed rigidly to it by means of a screw 48^a a head 48^b, on which the gear 49 is loosely journaled, and said gear is connected with the head 48^b by means of a spring 48^c, fastened at one end to gear 49 and at its other end to the head 48^b. This construction is used to prevent strain on the delicate mechanism of the watch 53 while type-block 47 is in engagement with strip *a*, during which time said block is prevented from turning, as well as to prevent watch 53 from being stopped by a prolonged engagement of block 47 with strip 28. In other words, the spring 48^c provides a yielding connection between gear 49 and spindle 48, through which watch 53 drives said spindle.

In order to hold watch 53 against rotary movement on its supporting-posts, a yoke 56 is provided, extending upwardly from the type-carrier 40 and through which the stem of said watch extends.

At one end the type-carrier 40 is made with an open socket 59 in engagement with one end of a toggle member 60. At its other end the toggle member 60 is pivotally mounted upon a stud 61, fast to operating member 3 and extending through a slot 62, provided in casing 1. That part of operating member 3 between stud 61 and shaft 19 constitutes the other member of the toggle.

By removing pin 41 type-carrier 40 can be quickly disconnected from toggle 60 and removed when changes are to be made in the type and as easily returned to place.

To operate the type-carrier, member 3 is swung from its normal position in a direction opposite to that in which it is swung to operate the feeder—i. e., to the left in Fig. 2—and, as will now appear, either the feeder 32 or type-carrier 40 can be operated independently of the other by the same handle or member 3.

The top face of the platen 30 is covered by a pad 57, of tough but more or less yielding material, such as leather, so that when type-carrier 40 is lowered and the type carried thereby are forced down upon the paper strip 28 the characters of the type are embossed upon the strip.

The subject-matter of the timepiece-operated types, their carrier, and associated mechanism is contained and reserved for claim in an application, Serial No. 255,697, filed as a division of this application on or about April 15, 1905.

By the above-described construction I have provided a compact, light, and portable ticket stamping and delivering machine especially adapted to be used by car conductors to stamp and deliver transfer-tickets to passengers wherein few parts are employed, and these are so organized and arranged that they cannot be affected by rough handling of the instrument and occupy but a small amount of space.

What I claim is—

1. In a ticket stamping and delivering machine, in combination a strip-holder; a platen over which the strip passes from said holder; a stamping device; a pawl engaging the strip for feeding the strip over the platen and means connecting the stamping device and

pawl with the operating member through which movement of said member in one direction operates the stamping device and movement of said member in another direction operates the pawl.

2. In a ticket stamping and delivering machine, in combination, a strip-holder; a platen over which the strip passes from said holder; a stamping device; a strip-feeding pawl; an operating member; a toggle connecting the stamping device and operating member; and a lever connecting the operating member and pawl.

3. In a ticket stamping and delivering machine; in combination a strip-holder; a platen over which the strip passes from said holder; a stamping device; a strip-feeding pawl; an operating member; a toggle connecting the stamping device and operating member; and a lever connecting the operating member and pawl, said toggle and lever being arranged so that movement of said member in one direction from its normal position acts through the toggle to operate the stamping device and movement of said member in another direction from its normal position acts through the lever to operate the strip-feeding pawl.

4. A strip-holder, a platen over which the strip passes from said holder; means to stamp the strip; a feed-pawl for engaging one side of the strip; a finger at the opposite side of the strip for engaging perforations in the latter; and means to operate the pawl and finger.

5. A strip-holder; a platen over which the strip passes from said holder; means to stamp the strip; a strip-feeding pawl carrying a re-entrant finger opposite its foot for engaging perforations in the strip, means to operate the pawl, and a resilient finger to engage the strip and prevent return movement of the strip with the pawl.

6. A strip-holder; a platen over which the strip passes from said holder; an operating member, a type-carrier; a toggle connecting the operating member and type-carrier with provision for removal of the latter at will, and strip-feeding means controlled by said operating member.

Signed by me at Boston, Massachusetts, this 4th day of November, 1904.

HENRY H. CUMMINGS.

Witnesses:

ODIN B. ROBERTS,
CHARLES D. WOODBERRY.