

No. 713,389.

Patented Nov. 11, 1902.

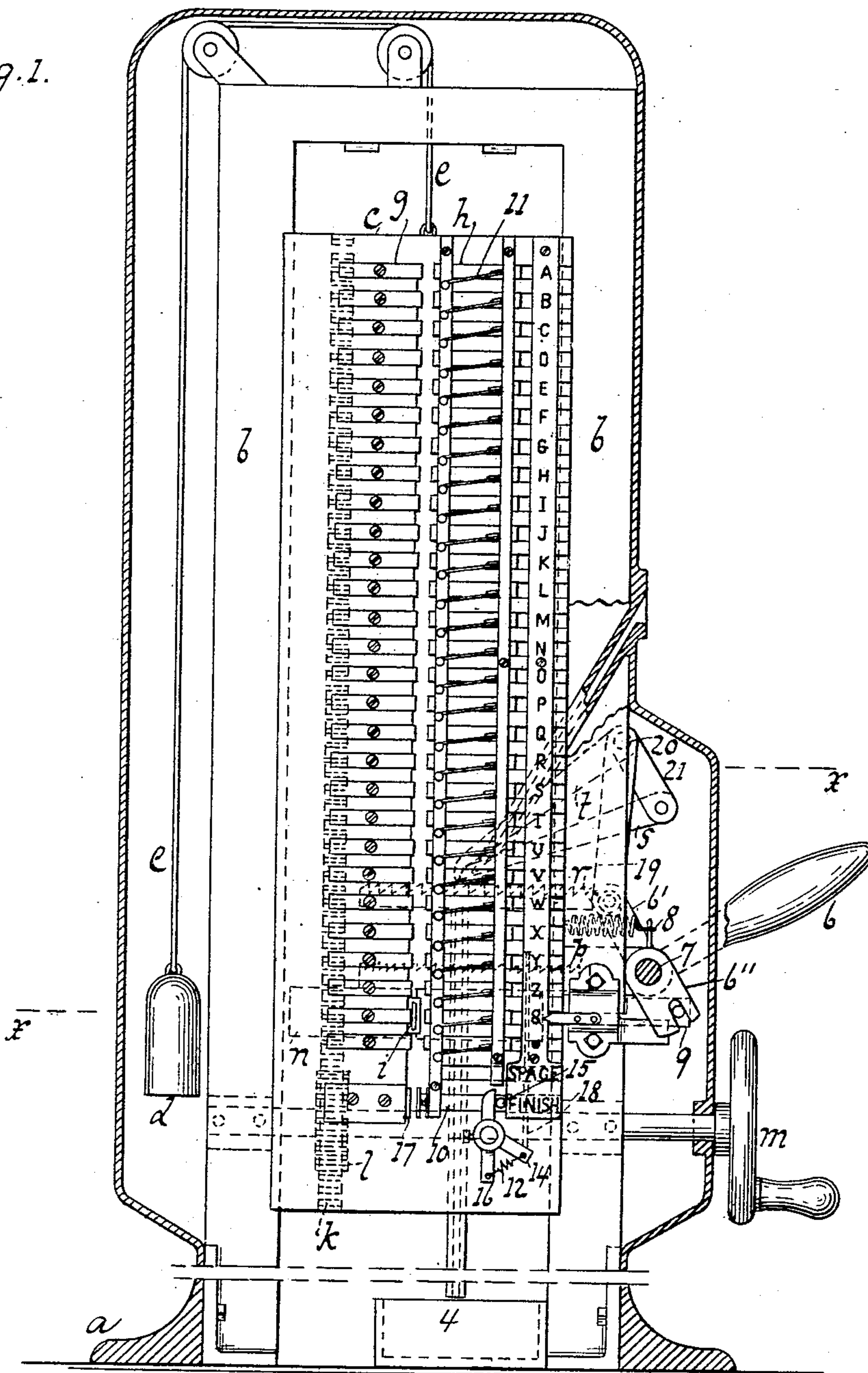
J. F. BLAKE.
NAME PLATE OR PRINTING MACHINE.

(Application filed Feb. 26, 1902.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.



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3 Sheets—Sheet 2.

Fig. 2.

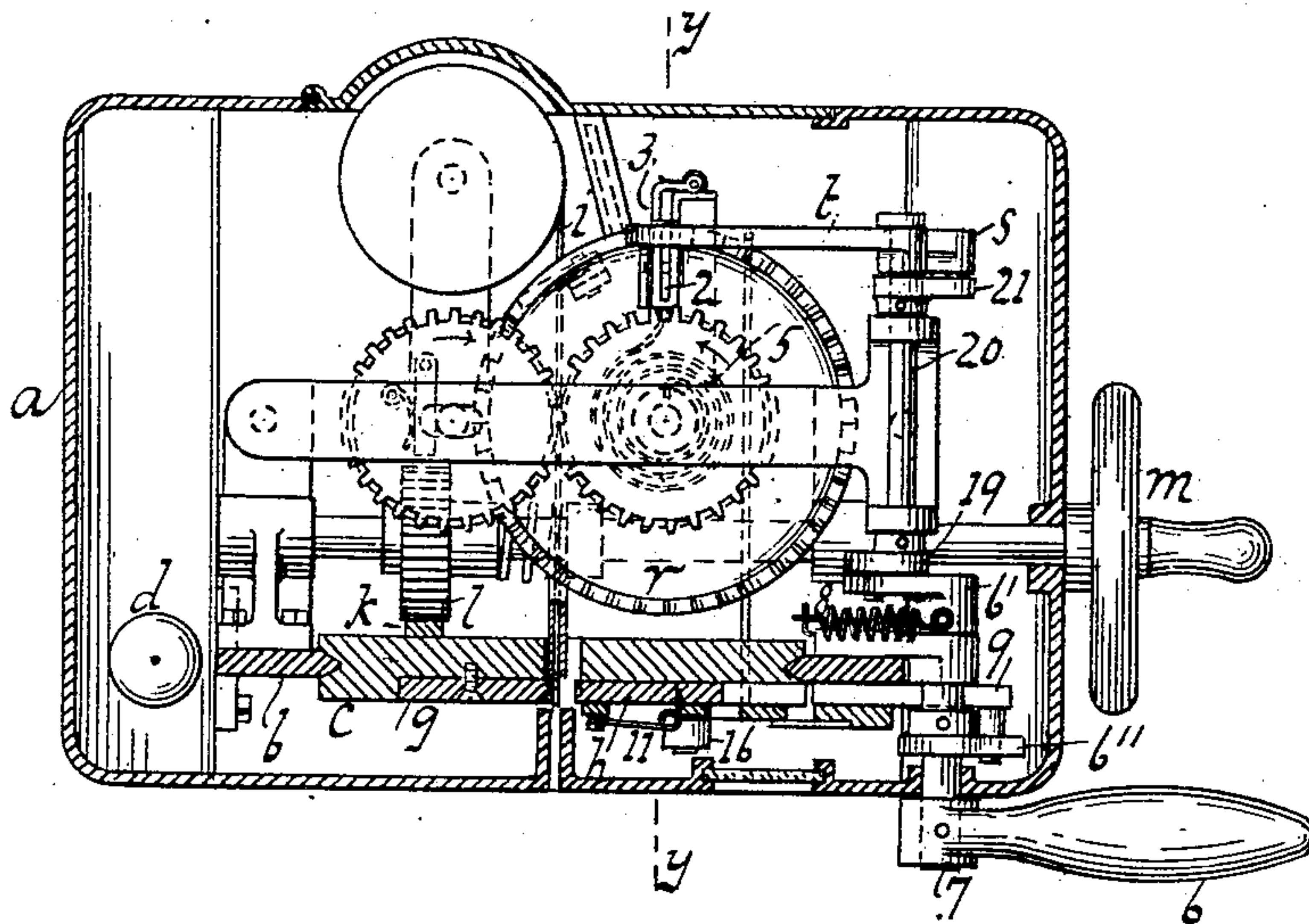


Fig. 3.

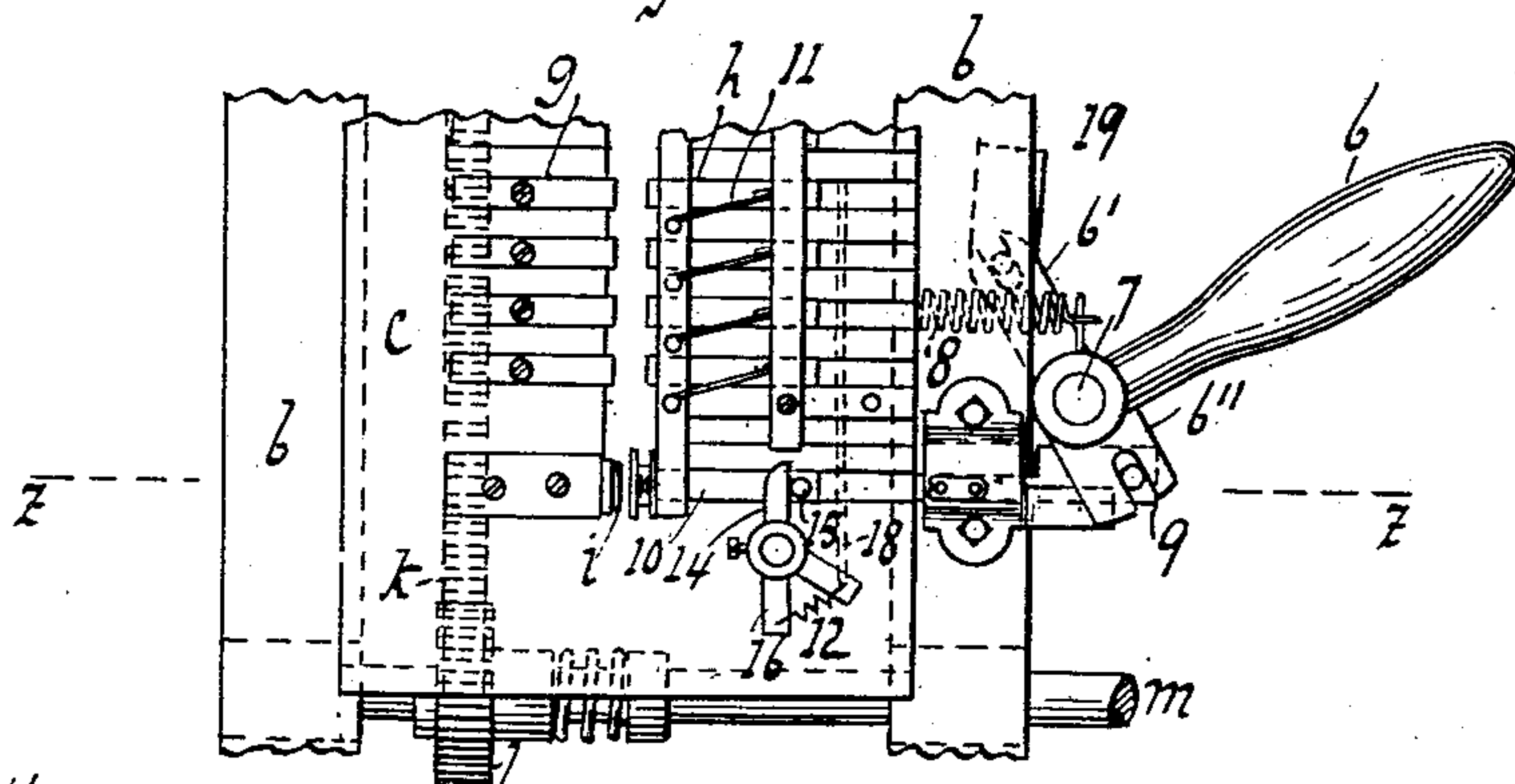
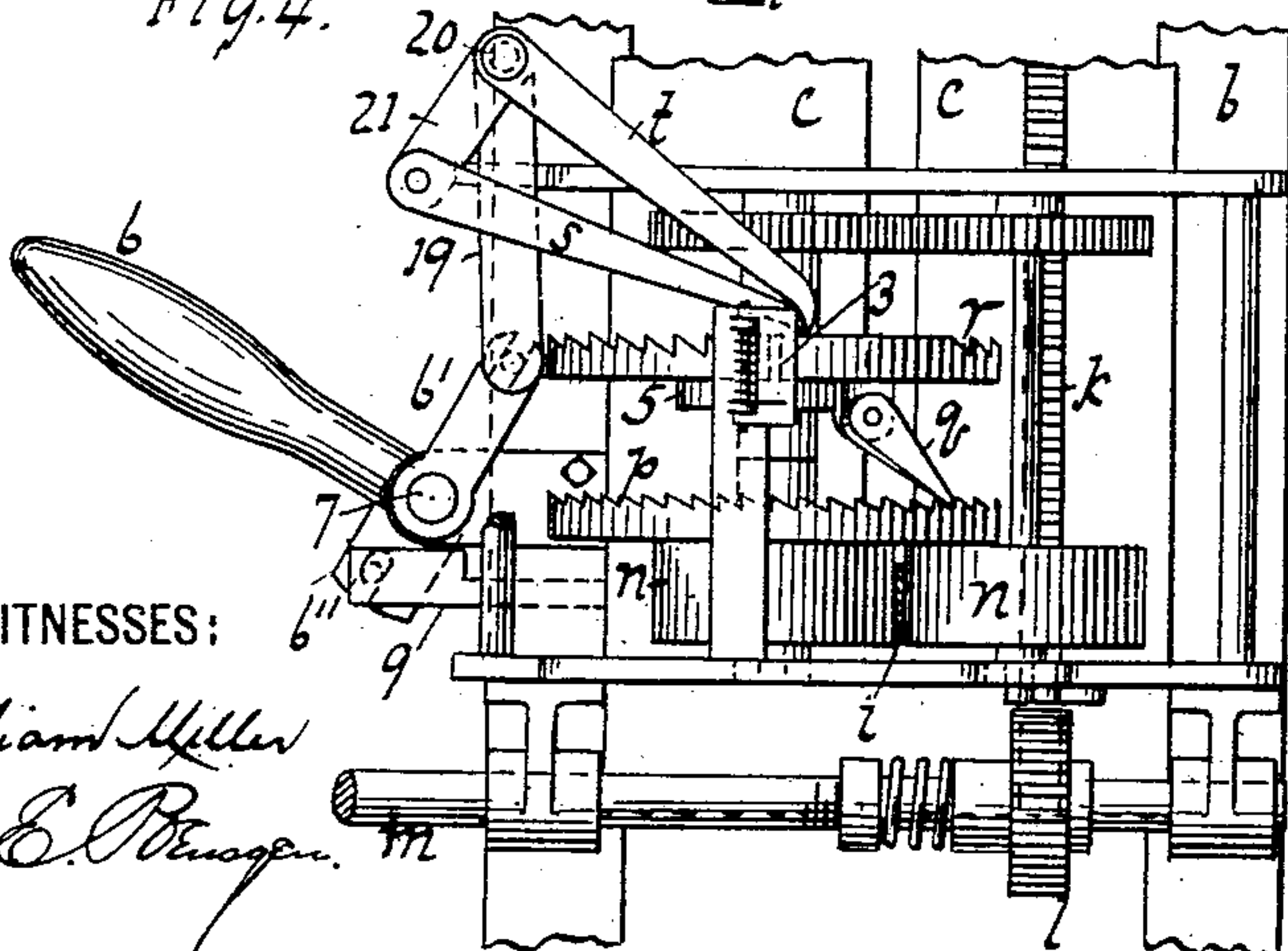


Fig. 4.



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Fig. 5.

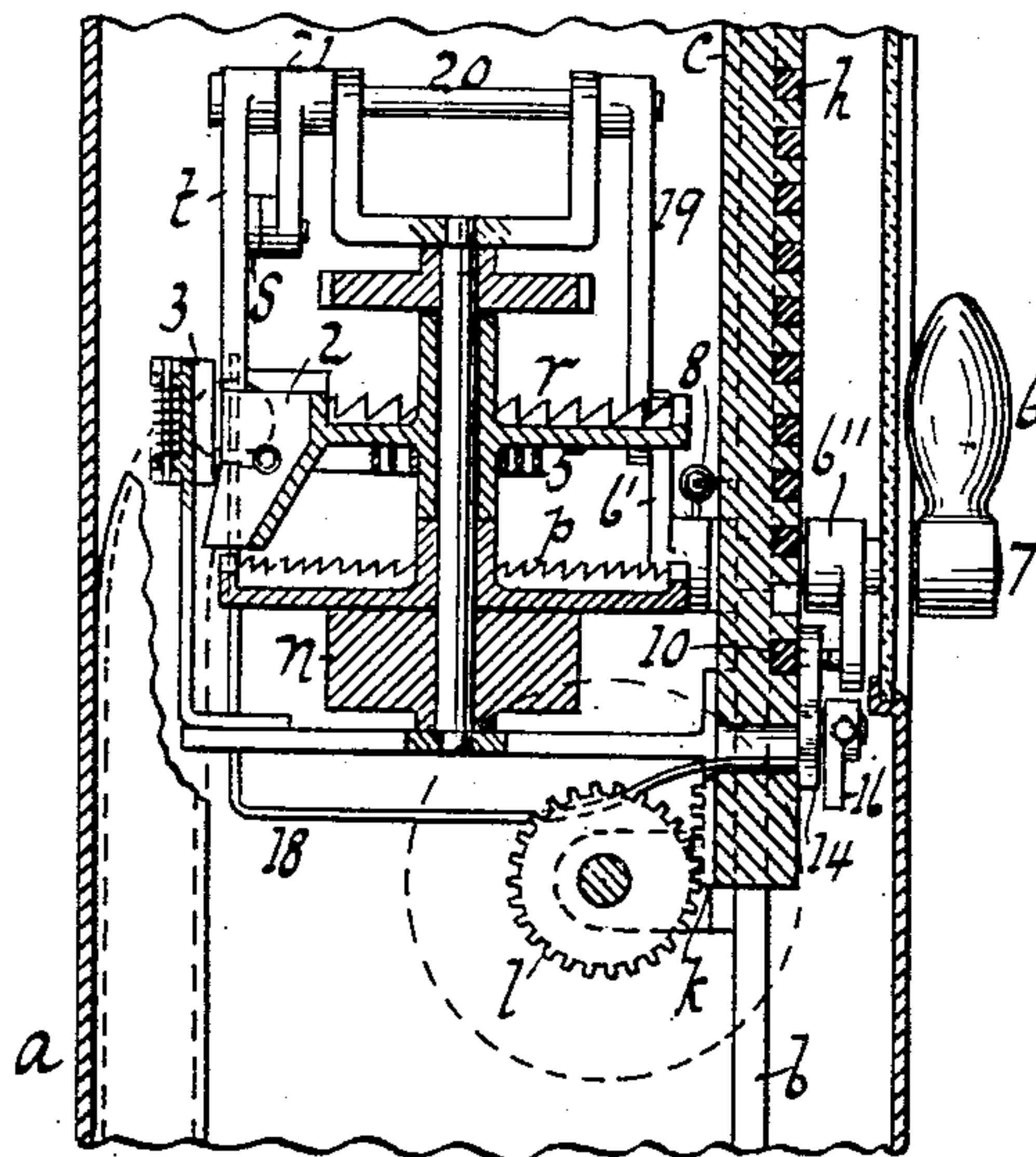


Fig. 6.

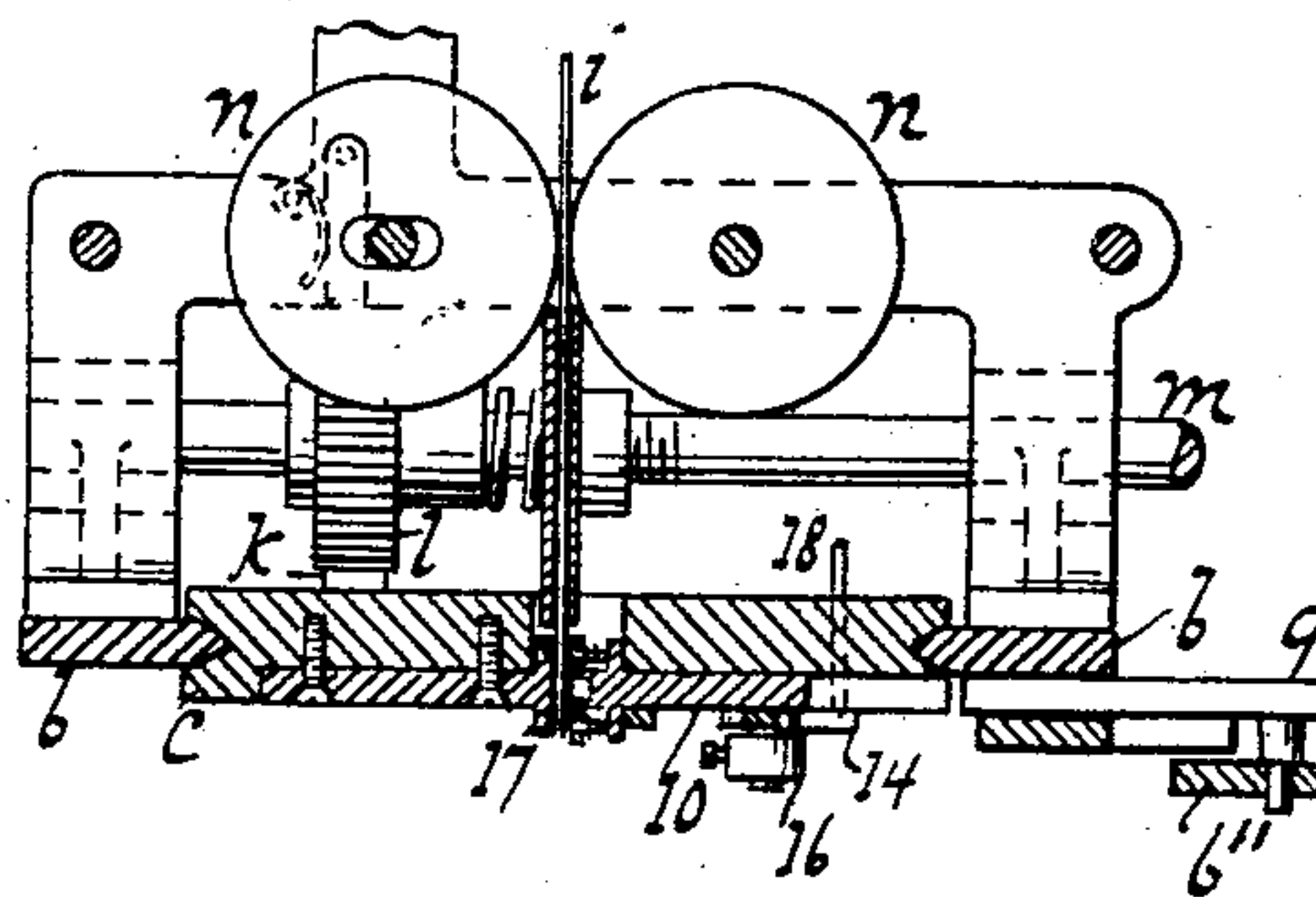
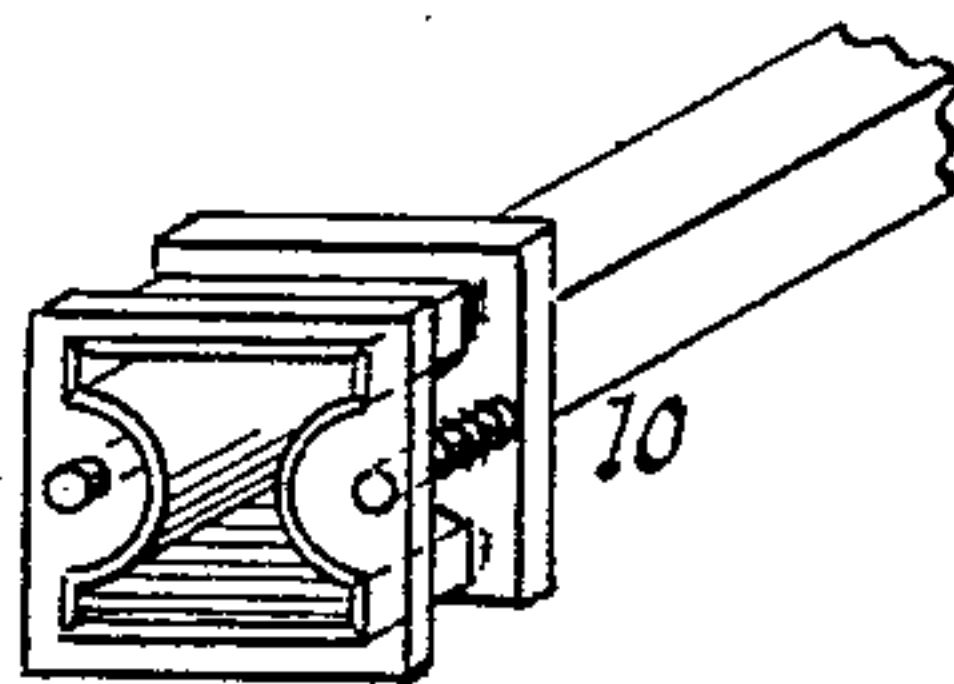


Fig. 8.



Fig. 7.



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JOHN FEGGETTER BLAKE, OF NEW YORK, N. Y.

NAME-PLATE OR PRINTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 713,389, dated November 11, 1902.

Application filed February 26, 1902. Serial No. 95,742. (No model.)

To all whom it may concern:

Be it known that I, JOHN FEGGETTER BLAKE, a citizen of the United States, residing at Manhattan borough, New York city, in the county and State of New York, have invented new and useful Improvements in Name-Plate or Printing Machines, of which the following is a specification.

This invention is shown applied to a device popularly known as a "slot" or "coin-actuated" machine, and has been found practical in such connection, although the features of this invention are not necessarily all confined to such class of devices. A device made under this invention was constructed to emboss letters in a strip of material—for example, aluminium; but of course ornamental or other embossments or prints might be provided for.

The invention resides in certain features of construction set forth in the following specification and claims and illustrated in the annexed drawings, in which—

Figure 1 is a side elevation of a device embodying this invention, the carrier being in position to have a type actuated. Fig. 2 is a section along $x x$, Fig. 1. Fig. 3 is a view like Fig. 1 with the carrier shifted so that the cutter instead of the type is brought to position to be actuated. Fig. 4 is a view from the side opposite to that viewed in Fig. 3. Fig. 5 is a section along $y y$, Fig. 2. Fig. 6 is a section along $z z$, Fig. 3. Fig. 7 shows a cutter or punch for trimming or cutting off a plate or portion from the main strip. Fig. 8 shows a name-plate and an outline or shape for cutting or trimming the ends thereof, as also perforating to enable such plate to be attached, say, to a satchel or elsewhere.

In the drawings is shown a foot or support a and guides or ways b for a carrier or frame c . The guides, as also the carrier, are shown straight or rectilinear, and the guides being arranged upright the carrier can move therealong—that is, vertically up and down. By having the carrier balanced or counterweighted its movement is eased. A counterweight d can be connected to the carrier by chain or connection e , suitably guided or run about pulleys.

An embossment or letter can be produced by suitable male and female type or die and plunger g and h , suitably spaced to allow a

strip to enter therebetween and adapted to be brought or forced together to print or emboss. If the machine is placed with the plungers h in front, the raised or embossed type are preferably placed on the dies g and the depressions on plungers h , so that as the strip runs through and is acted on by the machine it will present the embossed or raised side to the user or operator standing in front of plungers h as such strip leaves the machine. The carrier being movable, it can be set to bring various letters or type $g h$ to the strip of aluminium or material indicated at i . An arrangement for feeding the strip transversely or through the space between the type $g h$ and for suitably cutting off the printed length from the main strip or supply will be presently described. The carrier can be set by a rack and pinion $k l$ to bring a desired letter or plunger opposite the printing-point or strip i . The pinion or its shaft is connected by a collar or friction-clutch or connection to the shaft or handle m . In case the carrier should reach the end of its travel or get caught or stuck at any point and the handle be kept moving or rotating, the frictional connection will allow this handle or crank or its shaft m to keep on rotating without actuating pinion l , so that breakage or injury by any such inadvertence is guarded against. Any suitable well-known friction connection can be employed. The one shown comprises two collars fixed on shaft m , between which collars the pinion l is loosely or rotatably seated on the shaft. A spring on the shaft is braced against one of the fixed collars and presses against the sleeve-hub of pinion l , so that the pinion tends to rotate with the shaft.

The strip i is fed transversely or through the space between the dies and plungers of the carrier. A coin-actuated feeding arrangement is shown. Feeding wheels or disks are shown at n , Fig. 6, adapted to feed the strip therebetween. Either by a spring or by having their shafts or one of them springy or by other suitable means the disks can be made to press or take hold on the strip sufficient to feed the latter as the disks are rotated and allow suitable yielding in case of variations in thickness of strips.

The disks n can be geared together to assure their rotating in unison, and gears can

be located at an edge or such point as not to touch or interfere with the circumferences of the wheels gripping the strip and feeding the same, but without denting, defacing, or injury to the strip. If, however, the friction or grip of the disks on the strip is sufficiently strong to cause the disks *n* to rotate together, such gears can be omitted.

One of the feed-disks has a ratchet *p*, Fig. 4, adapted for engagement by a pawl *q*. This ratchet *p* is practically milled—that is, provided with practically an infinite number of teeth or roughenings—so that pawl *q* can take hold at any or almost any point of ratchet *p* without backlash. In some machines—as, for example, crude or cheap grade or toy devices—this point may, however, not be considered important. The pawl *q* is pivoted to or actuated by a gear disk or wheel *r*, with driving-pawl *s* and holding or locking pawl *t* preventing return motion. As the pushing or driving pawl gives a step-by-step motion to parts *r q p* and to feeders *n*, the strip can be moved a step at suitable intervals or between the printing or strokes of the plungers on the carrier. The gear *r* can have a gap or toothless space, at which is a seat or rather slot 2, Fig. 2, for a coin which, forming a temporary tooth, fills the gap to allow pawl *s* to take hold for starting the gear *r* or moving it the first step, after which the permanent or fixed teeth on the gear enable the pawl to push or feed. After the coin has left or dropped out of its seat or if no coin is put in place the pawl when resting in this gap or playing back and forth therein is idle or not able to rotate or take hold of gear *s*, and the latter remains at rest. At the starting-point a rest 3 can be arranged to form a support for the coin and cause the latter to project above the gear or into the path of the push-pawl; but when past the support 3 the coin dropping through slit 2 into a suitable receptacle or box 4, Fig. 1, leaves the gap again toothless or smooth for idling the push-pawl until a further coin is supplied, when the device is to be again started or operated.

When a portion from the strip has been printed and cut off, the pawls *s t* are raised or freed to allow the returning-spring 5, Fig. 5, to move or rotate the gear *r* and pawl *q* back to the starting-point, the ratchet *p* and wheels *n* meantime standing still and keeping hold of the remainder of the strip or band *i* to start another feed on the device again operating.

The push or feed stroke of pawl *s* is received from a handle 6, shown in form of a three-armed lever fulcrumed at 7. A returning-spring 8 for this handle has been found practical. As the handle is moved one way or returned by the spring its arm 6' actuates pawl *s* to cause a feed at *n*. When the handle is moved the other way or depressed against the action of spring 8, it actuates a slide 9, having a suitable connection, as pin

and fork, with the third or downwardly-extended lever-arm 6'' of handle 6, Fig. 1.

When the carrier is set to bring a plunger *h* to the slide, the latter will print—that is, press the plunger against the strip *i* and die or anvil *g*. If the carrier is set to bring the cutter 10 opposite the slide 9, the strip will be cut or the printed portion severed from the body of the strip or reel. It is thus seen that the handle does double duty—namely, actuating the feed *s* and also actuating the slide 9 to print or cut.

The type slides or plungers *h* are shown each with an individual returning-spring 11, suitably braced or connected to a point on the carrier. The cutter or punch 10 also has a returning-spring 12, Fig. 1, not connected, however, directly to this cutter, but to an arm of lever 14, Figs. 1 and 3, engaging a suitable stud or point 15 on the cutter to return the latter when through cutting. This lever 14 has its returning-spring 12 connected to an arm 16, which can be adjusted one way or another to vary the tension of the spring as may be called for. This cutter or punch 10, with its corresponding die 17, is of suitable shape. The ends of the successive strip-sections in the device shown are cut with certain rounding or finished-looking end portions, Fig. 8, and punched or perforated to allow fastening or riveting of the name-plate to a satchel or other point of attachment. The scrap or waste resulting from this punching and cutting can be allowed to fall or pass off out of the device, as seen fit. This slide or cutter 10 also releases the pawls *s t* by means of a lifter or rod 18, Fig. 5, which when slide 10 cuts or moves inward will lift the pawls clear of gear *r* for spring 5 to return the same. This rod or release 18 can be connected to an arm of lever 14, Fig. 3, so that as slide 9 moves cutter 10 the consequent swing of this lever will lift push-pawl *s* and the overlying stop-pawl *t* to clear the ratchet *r* for the latter to return.

A simple way to form the lifter 18 is to bend a rod of suitable rigidity so as to extend from lever 14 across the machine and up to the pawls or rather the underlying pawl. Such rod being fixed or rigidly secured to lever 14 will be lifted by the upward swing of the latter to lift the pawls out of engagement.

A simple way for handle-arm 6' to actuate push-pawl *s* is to have arm 6' connect with a lever-arm 19 on shaft 20, extended across the machine a certain distance, as seen in Fig. 5. This rock-shaft 20 carries arm 21, to which is pivoted pawl *s*, so as to reciprocate with this arm. Shaft or fulcrum 20 can serve as a pivot for stop-pawl *t*, which latter need not reciprocate, but is freed at suitable intervals by lifter 18 raising the pawls clear of the ratchet, as already explained.

The coin-seat 2 in ratchet *r* is shown opening laterally or through the rim of such ratchet; but so long as this slit or seat 2 is

opposite rest 3 the coin cannot leave the ratchet, but remains projecting above the same, as indicated in Fig. 5, to form a temporary tooth. This rest 3 is mounted on a
 5 spring-hinge, so as to be held with yielding pressure against the circumference of ratchet *r* and to be capable of yielding or swinging away from the ratchet in case there should be any catching or tendency to jam.

10 The correct setting of the carrier, as for individual letters, can be ascertained in any suitable way, as by an index or alphabet on the carrier visible through a sight-opening in case *a*. A suitable index or pointer can be
 15 applied at the sight-opening to facilitate accurate setting.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a name-plate or printing machine, an
 20 upright frame, a vertically-adjustable carrier mounted within and guided in its movement by said frame, a bodily-movable vertically-extending series of dies mounted upon said carrier, a bodily-movable and vertically-ex-
 25 tending series of slidable plungers mounted upon said carrier, said dies and plungers connected with the carrier in a transverse manner, the operating ends of said plungers and dies normally remaining a suitable distance
 30 from each other to form a space through which is adapted to extend the material to be stamped or printed, a spring connecting each of the plungers with the carrier for returning the plungers to their normal position, a cut-
 35 ter or punch mounted upon the carrier, a spring-actuated lever mechanism mounted upon the carrier and engaging the cutter for returning it to its normal position, and a feeder adapted to pass the material through said
 40 space, substantially as shown and described.

2. In a name-plate or printing machine, an upright frame, a vertically-adjustable carrier mounted within and guided in its movement by said frame, means for counterweighting
 45 the said carrier, a bodily-movable vertically-extending series of dies mounted upon said carrier, a bodily-movable and vertically-extending series of slidable plungers mounted upon said carrier, said dies and plungers con-
 50 nected with the carrier in a transverse manner, the operating ends of said plungers and dies normally remaining a suitable distance from each other to form a space through which is adapted to extend the material to be
 55 stamped or printed, a spring connecting each of the plungers with the carrier for returning the plungers to their normal position, a cutter or punch mounted upon the carrier, a spring-actuated lever mechanism mounted upon the
 60 carrier and engaging the cutter for returning it to its normal position, and a feeder adapted to pass the material through said space, substantially as shown and described.

3. In a name-plate or printing machine, an
 65 upright frame, a vertically-adjustable carrier mounted within and guided in its movement by said frame, a series of bodily-movable dies

secured to said carrier, a series of bodily-mov-
 able plungers connected with the carrier, said
 plungers and dies suitably spaced apart to
 70 permit of the passage of the material to be stamped or printed, a cutter connected with the said carrier, a spring-actuated lever mech-
 anism connected to the carrier and adapted
 to return said cutter to its normal position,
 75 means connected with each of the plungers and with the carrier for returning the plungers to their normal position, an actuating-handle, and mechanism for frictionally con-
 80 necting the said handle with the said carrier.

4. In a name-plate or printing machine, an
 upright frame, a vertically-adjustable carrier
 mounted within and guided in its movement
 by said frame, means for counterweighting
 the said carrier, a series of bodily-movable
 85 dies secured to said carrier, a series of bodily-movable plungers connected with the carrier, said plungers and dies suitably spaced apart to permit of the passage of the material to be
 stamped or printed, a cutter connected with
 90 the said carrier, a spring-actuated lever mechanism connected to the carrier and adapted to return said cutter to its normal position, means connected with each of the plungers
 and with the carrier for returning the plun-
 95 gers to their normal position, an actuating-handle, and mechanism for frictionally connecting said handle with the said carrier.

5. A name-plate or printing machine com-
 100 prising a carrier, a feeder and a cutter, the latter having a spring-actuated returning-lever and an adjustable brace or attaching-arm for the spring to vary the tension or ac-
 tion of the latter.

6. A carrier and a strip-feeder, a gear and
 105 returning-spring for the feeder, actuating and locking pawls for the gear and handles for actuating the carrier and actuating-pawl and for freeing both pawls.

7. A carrier and a strip-feeder, a gear and
 110 returning-spring for the feeder, actuating and locking pawls for the gear and handles for actuating the carrier and actuating-pawl and for freeing both pawls, said gear being placed
 to one side of the carrier and the latter being
 115 made to reciprocate vertically past the gear.

8. A carrier and a strip-feeder, a transmis-
 sion-gear and pawl for the feeder, a driving-
 gear for the pawl, and a driving and locking
 pawl for the driving-gear.
 120

9. A name-plate or printing machine com-
 prising a strip-feeder, a transmission-gear and
 pawl for the feeder, a driving-gear for the
 pawl, and a driving and locking pawl for the
 driving-gear, said strip-feeder being composed
 125 of two disks or wheels to one of which said transmission-gear is connected.

10. A strip-feeder for a name-plate or print-
 ing machine comprising feeder-disks geared
 to one another, a transmission-gear and pawl
 130 for one of the disks, a driving-gear for the pawl, and a driving and locking pawl for the driving-gear.

11. A strip-feeder comprising disks with

strip-gripping faces and geared to one another clear of the gripping-faces to leave the latter clear for gripping a strip, a transmission-gear and pawl for one of the disks, and a driving-gear with actuating and lock pawl for the driving-gear.

12. A carrier and a strip-feeder, a transmission-gear and pawl for the feeder, a driving-gear for the transmission-gear, and a returning-spring for the driving-gear.

13. A carrier, a cutter and a strip-feeder, actuating-handles for said parts, a driving and lock pawl for the feeder, and a release for said driving and lock pawls, said release being actuated by the cutter-actuating handle.

14. A carrier having type-plungers and a cutting plunger or slide, a spring-actuated returning-arm for the cutting-slide, a strip-feeder having actuating and locking pawls, and a release for the pawls connected to the slide-returning arm.

15. A carrier having type-plungers and a cutting plunger or slide, and a strip-feeder having actuating and locking pawls, said cutting-slide being made to free the feeder-pawls when making its cutting or forward stroke.

16. A carrier having type-plungers and a cutting plunger or slide, a strip-feeder having actuating and locking pawls, a release for the pawls, and a handle made to actuate the pawls and cutter-slide, the latter being made to actuate the release.

17. A movable carrier having type or plungers and a cutter, a strip-feeder having an actuating-pawl, a pawl-release actuated by the cutter, and a handle connected to the feeder-actuating pawl and made to actuate the cutter.

18. A carrier for types and cutter-slides, a strip-feeder having an actuating-pawl, a slide for actuating the type-slides, a link connected to said slide, a pair of links connected with said pawl and a handle connected with said pair of links and with said link actuating the slide for the type-slides.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN FEGGETTER BLAKE.

Witnesses:

CHAS. E. POENSGEN,
E. F. KASTENHUBER.