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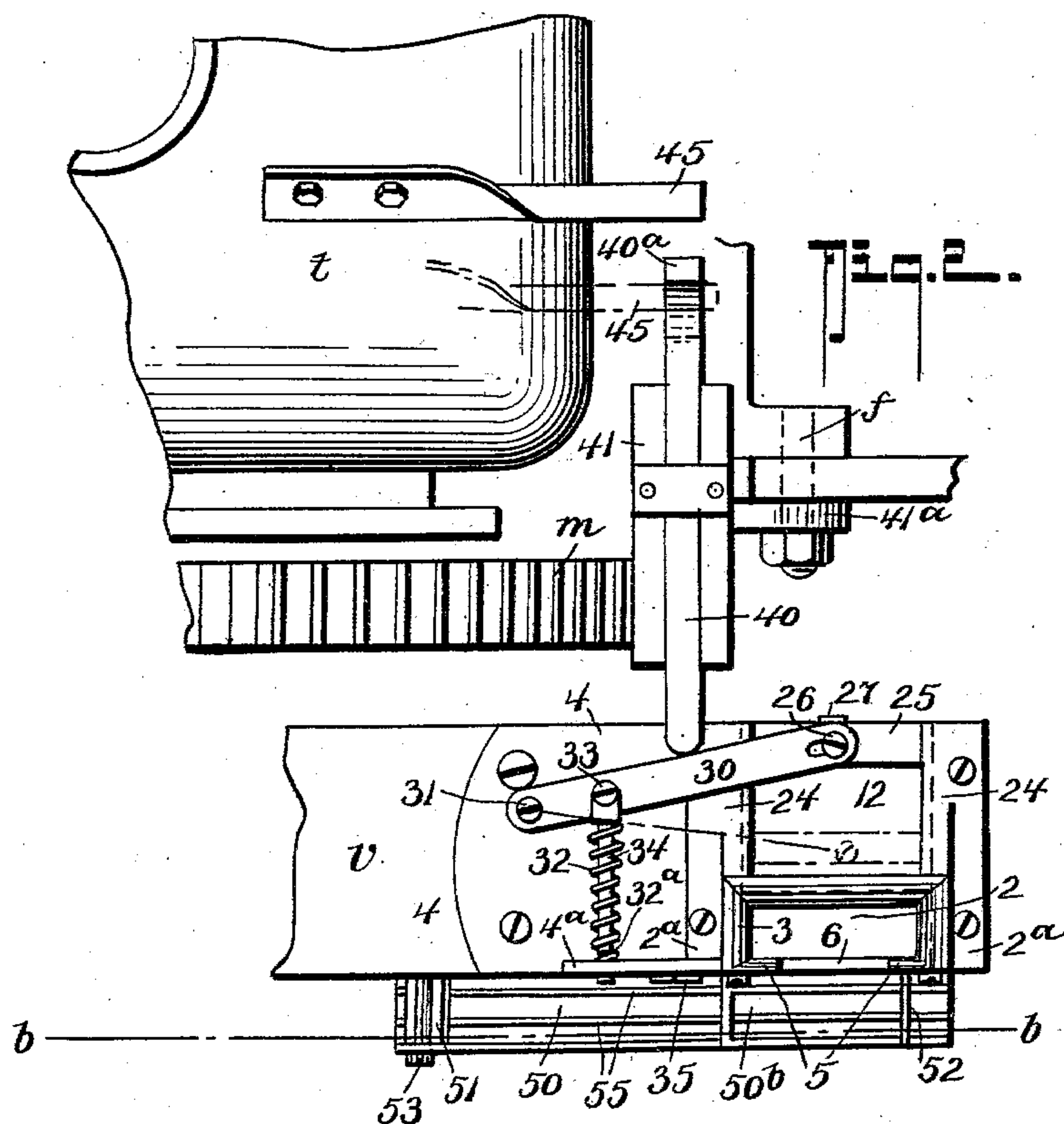
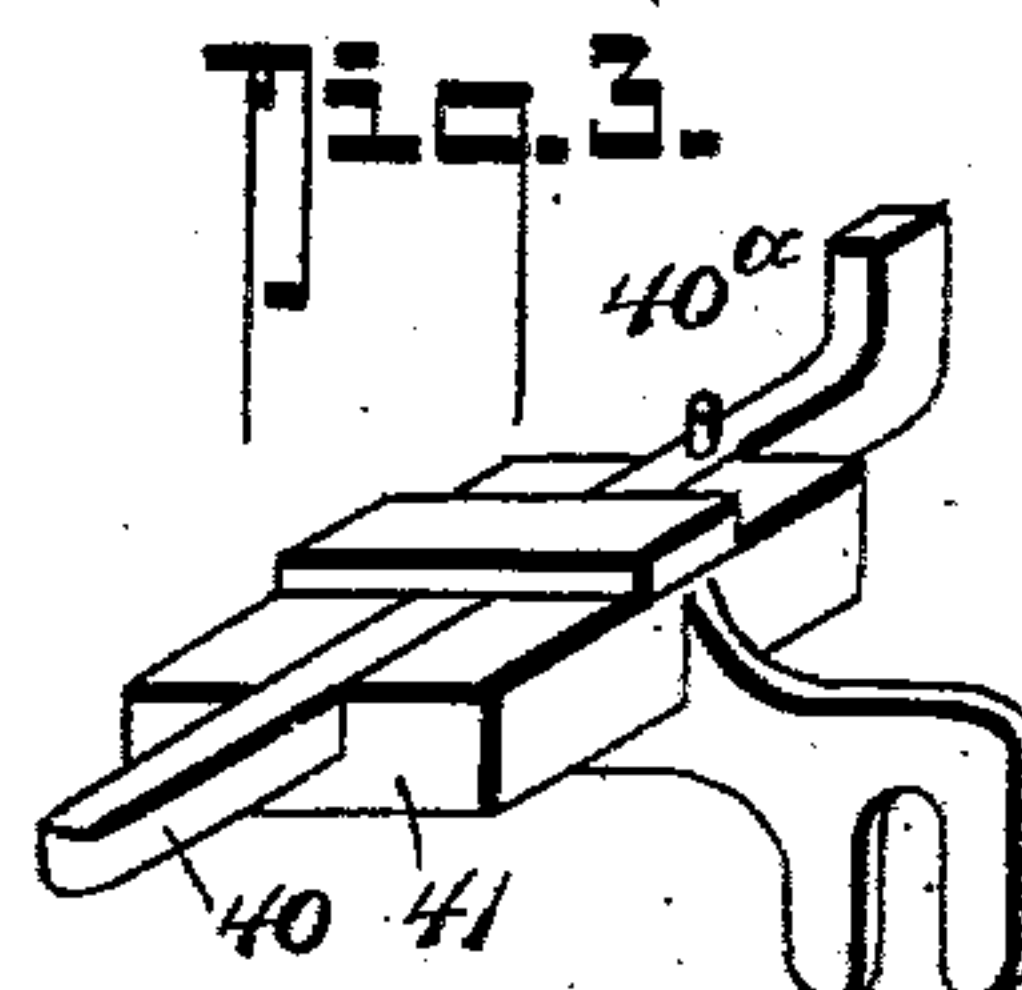
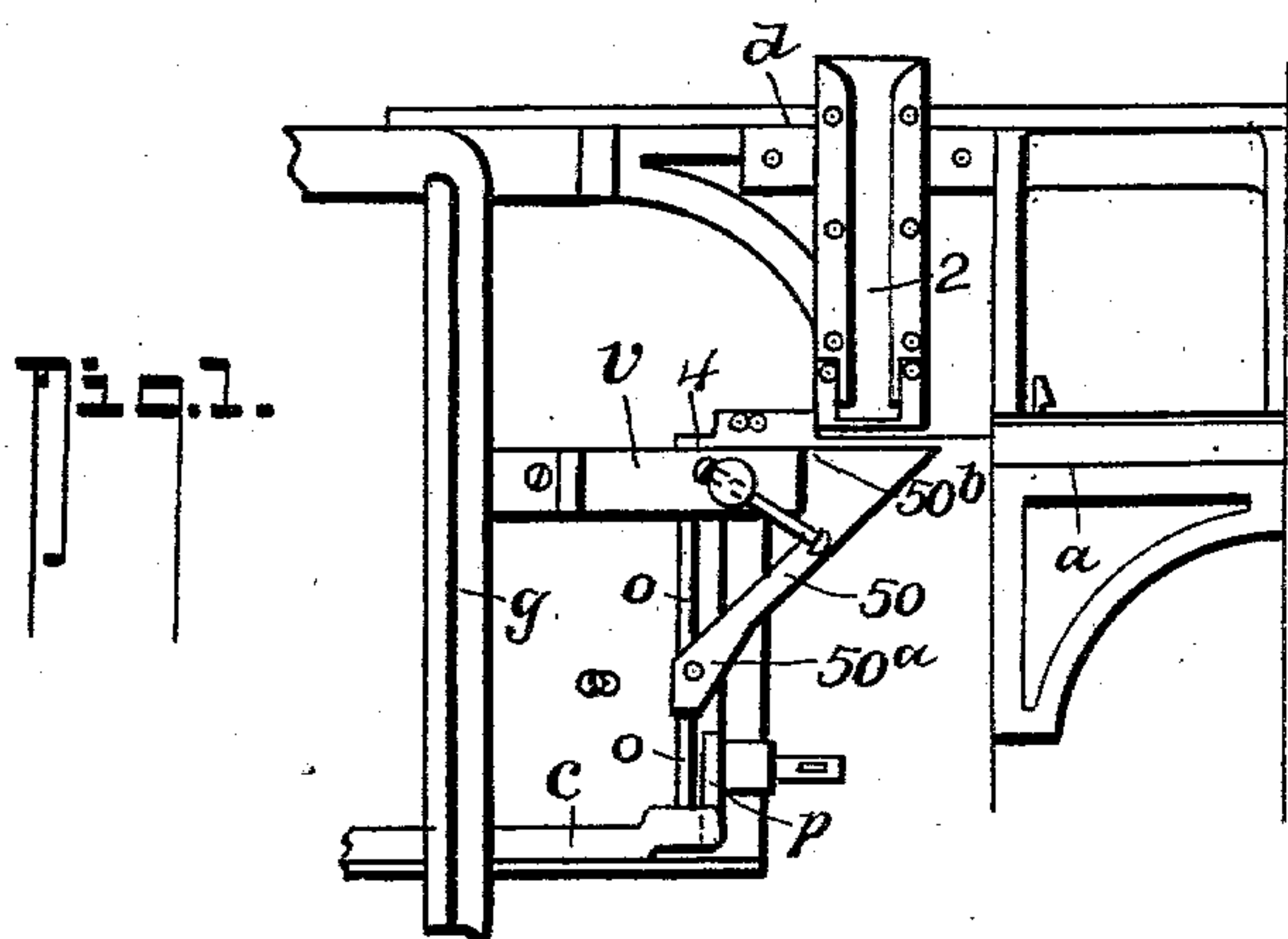
PATENTED NOV. 17, 1903.

J. A. PROULX.
LINOTYPE LEADER.

APPLICATION FILED JAN. 14, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:
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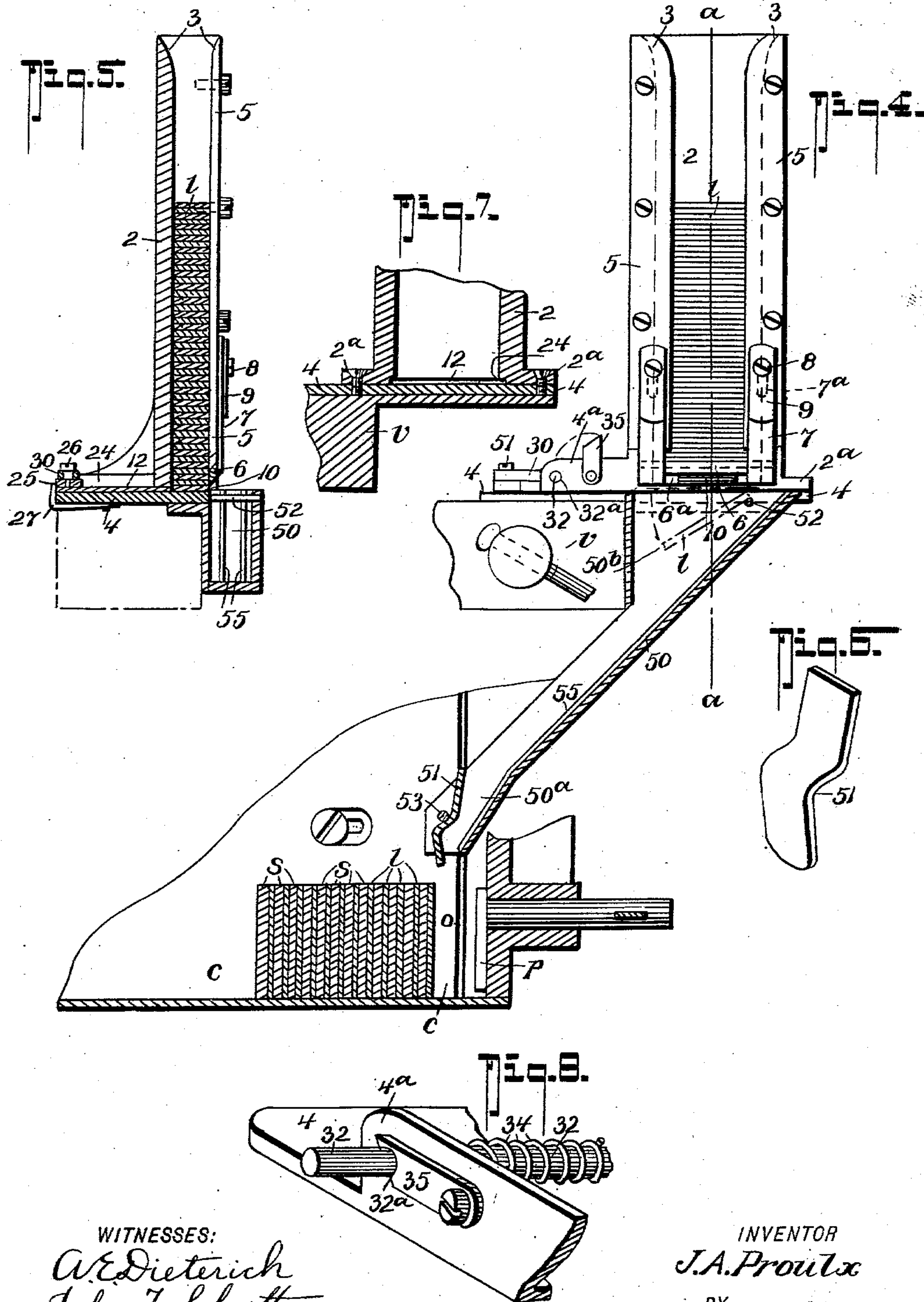
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UNITED STATES PATENT OFFICE.

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LINOTYPE-LEADER.

SPECIFICATION forming part of Letters Patent No. 744,102, dated November 17, 1903:

Application filed January 14, 1903. Serial No. 139,053. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ALFRED PROULX, a citizen of the Dominion of Canada, residing at Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Linotype-Leaders, of which the following is a specification.

My invention relates to an attachment for a linotype-machine designed to automatically introduce the "leads" to space between the "slugs" in forming a column of printed matter.

The device consists of a magazine of leads secured to the top bar or cap of the vise of the machine or to any other convenient position, from which magazine the leads are delivered by a mechanism operated by the movement of the machine and dropped into a chute which conveys them to the right-hand or entering end of the chase, the leads being delivered alternately with the slugs as they enter the chase from the gaging-knives.

The construction and operation of the device are fully described in the following specification, reference being made to the drawings which accompany it, in which—

Figure 1 is a small-scale front elevation of the portion of a linotype-machine, showing the location of my attachment in relation to adjacent parts. Fig. 2 is a plan of my leader, showing its attachment to the vise and the means of operation; Fig. 3, a perspective view of the intermediate operating-bolt. Fig. 4 is a front elevation and part section on the line *b b* in Fig. 2. Fig. 5 is a vertical section through the magazine on the line *a a* in Fig. 4; Fig. 6, a detail perspective of the diverting-piece at the lower end of the chute. Fig. 7 is a vertical section through the foot of the magazine, showing the blade-guide and attachment to the base-plate. Fig. 8 is an enlarged detail of the lock rod and bolt for maintaining the mechanism of my device out of action.

Throughout the drawings the parts of the linotype-machine itself, to which my leader is shown attached, are distinguished by small letters, while the various parts of my invention are indicated by figures.

Fig. 1, which is introduced to show the po-

sition of my leader in relation to familiar parts of the machine, represents in front elevation that part of a linotype-machine to the left of the operator, embracing the matrix-assembling elevator *a*, the matrix-delivery channel *d* to the first elevator, the top bar or cap *v* of vise, the guide *g* of first elevator, and the chase *c*, in which the finished slugs are assembled, *p* indicating the presser, which moves each slug up to the column in the chase as the slug comes through the opening *o* from the mold-wheel and gaging-knife.

The device consists of an open-front magazine 2, adapted to hold a supply of leads 1, arranged vertically one above the other on their flats with their length extending parallel to the front of the machine. At the upper end the inside surfaces of the walls of the magazine are flared, as 3, to facilitate the entering of a group of leads. The magazine is secured by flanges 2^a to a base-plate 4, by which the device is fastened to the upper side of the vise-cap *v*, so as to project beyond the right-hand end of it. The front strips 5 of the magazine are cut away (see Fig. 5) a short distance from the bottom, and a bar 6 extends across the front, the inner side of which bar is flush with the inside faces of the front strips, and its upper edge beveled downward toward the inside to prevent the leads from catching on it, the lower edge being also beveled, as shown, for a reason which will be explained later. The bar 6 is attached to the strips 5 by screws 8 through elongated holes 7^a in upwardly-projecting resilient members 7, secured to or integral with the bar 6, auxiliary spring members 9 being held against the members 7 by the same screws 8. The lower edge of the bar 6 can thus be adjusted to leave a space 10, through which the bottom lead of the magazine can be pushed out to the front, the elongated holes 7^a enabling the space 10 to be set to the thickness of the lead being used and the outward spring resistance preventing the mechanism being strained or broken if a lead should happen to be bent so as to catch on the upper edge of the bar. Apertures 6^a are provided to facilitate the adjustment of the space 10 to the thickness of the lead being used. The bottom lead is pushed

out by a blade 12, slidable on the base-plate 4 in guides 24, and through a suitable opening in the bottom of the back wall of the magazine. A reciprocating movement through the width of the magazine is imparted to the blade by a lever 30, which is fulcrumed on a pin 31, secured to the base-plate 4, and connected to the strengthening-bar 25 of the blade by the screw-pin 26.

Between the fulcrum-pin 31 and the blade connection 26 is a lock-rod 32, connected to the lever 30 by the pin 33 and slidable in an upward projection 4^a on the front edge of the base-plate 4. A compression-spring 34 on the rod between 4^a and the lever 30 maintains the blade in the backward position against a spring-stop 27, which may be pressed down to enable the blade to be withdrawn when required. The lock-rod 32 is provided with a depression 32^a in such a position that when the pivoted lock member 35 is turned over to engage it the lever 30 is held out of reach of the operating-bolt, to be hereinafter described, and therefore out of action.

The reciprocation of the blade may be effected from any convenient part of the mechanism of the machine; but I prefer to utilize the forward movement of the metal-pot *t* to the mold-disk *m* as being in every way suitable, and I introduce an intermediate bolt 40 to communicate such movement to the lever 30. This bolt is slidable in the groove of a light bracket 41, secured by the open washer 41^a to a screw or bolt of the machine-frame *f*. It bears at the outer end against the edge of the lever 30 and is provided at the other with a bent-over end 40^a to engage a member 45, secured to the upper side of the metal-pot *t*. Thus the forward movement of the metal-pot *t* against the mold-disk *m* brings the striking member 45 against the turned-over end 40^a of the bolt 40 and moves it forward against the resistance of the spring 34, whereby the blade 12 is pressed into engagement with the bottom lead in the magazine and slides it through the aperture 10. In front of this aperture and sloping from the right-hand corner of it is the chute 50, having a mouth portion 50^b, across one end of which is a pin 52, which serves to bear up one end of a lead as it is pushed from the magazine and enables the other end of it to fall end on into the chute. The lower end of the chute delivers into the right-hand end of the chase just in advance of the presser *p* and about where the slugs *s* are delivered through the opening *o*, and in order to insure that the leads will be delivered on end the angle of the chute changes a short distance from the end, as 50^a, to a more upright one and an adjustable diverting-piece 51 is interposed from the upper side in the path of a lead coming down the chute. This effects the complete up-ending of the lead as it lands in the chase. The shape of the diverting-piece 51 is somewhat as drawn in Fig. 6, and as it is only held by the lateral friction grip of the sides of the chute on slack-

ing the screws 53 it may be moved to any suitable angle or position to deliver the lead as desired and the screw tightened to secure it there. The bottom of the chute is provided throughout its length with two narrow parallel ridges or rails 55, which prevent the coherence of the smooth, flat, and sometimes wet surface of the leads from interfering with their free movement down the slope. Each lead as it is delivered into the chase is pushed along to the column of assembled slugs by the movement of the presser *p*.

In all machines where the movement of the presser is derived from that of the frame which carries the mold-wheel there is an extra movement of the presser *p*, which is available for moving up the entered lead to the column in the chase, and the cycle of movement of the parts of the machine affecting my leader is as follows: The mold-disk *m* moves forward against the matrix. The metal-pot *t* moves forward against the mold-disk, releasing the lead from the magazine 2 and introducing it into the chase *c*. The metal-pot *t* retires, operating the presser *p* to move the lead 1 up to the column in the chase *c* and allowing the blade 12 to be withdrawn from the magazine of leads, permitting them to fall, and another lead is brought opposite the outlet 10. The mold-disk *m* rotates, bringing the previously-cast slug in the mold against the knife, and the slug is pressed out of the mold and through the opening *o* into the chase *c*. The mold-disk retires, operating the presser *p* to move the last-entered slug *s* against the column in the chase *c*. This is the cycle of movements on the machine to which I have applied my "leader;" but I realize that where the presser movement is otherwise obtained I may require to introduce an extra movement of the presser *p* to move up the leads against the column; but this does not affect my invention, which I claim to be as follows:

1. In combination with the slug molding and assembling mechanism of a linotype-machine, a "lead-holding" magazine secured to the machine, means coöperating with the "slug" molding and delivering mechanism whereby a "lead" is released from the magazine and delivered to the chase of the machine alternately with each "slug," a device for locking said "lead-releasing" mechanism from operation.

2. In a linotype-machine, the combination of a "lead-holding" magazine having an aperture through which a "lead" may be pushed, a blade slidable in the plane of the aperture, an operative system from the molding mechanism of the machine whereby the blade may be actuated to push a "lead" from the magazine, means for locking said blade from operation and a receiving-hopper and chute to deliver the "lead" to the chase where the "slugs" are assembled.

3. In a linotype-machine, an automatic "lead-delivering" device comprising a base-plate secured to the vise-cap of the machine,

a vertical "lead-holding" magazine secured to such base and having a frontal aperture through which a "lead" may be passed out, a blade slidable from the back in the plane of the aperture, a lever connected to the blade and fulcrumed to the base of the device, means for transmitting the forward movement of the metal-pot of the machine to the lever; a spring to withdraw the blade during the backward movement of the metal-pot; means to lock the mechanism out of action, and a receiving-hopper and chute to turn the "lead" and deliver it on end into the chase where the "slugs" are assembled.

4. In a device of the class described having a vertical "lead-holding" magazine and means coöperating with the slug-molding mechanism for effecting the release of a "lead" for each "slug" cast; an outwardly-resilient adjustable outlet-bar at the exit of the "lead" from the magazine; a receiving-hopper having a cross-pin to sustain one end of a discharged "lead" and facilitate its turning front end down; an inclined chute forming the bottom and continuation of such hopper and terminating in the chase, and an adjustable diverting device at the lower end of the chute, to effect the up-ending of the "lead" as it is delivered in the chase.

5. In a device of the class described, having

a "lead-holding" magazine, a slidable blade, and a delivery-chute to the chase of the machine; an attachment on the metal-pot of the machine, a bolt slidable in the line of movement of the attachment in a bracket secured to the frame of the machine, and an intermediate lever whereby the movement of the bolt may be imparted to the blade.

6. In a device of the class described, in combination with the "slug" molding and delivering mechanism of a linotype-machine, the base-plate 4 securing the device to the vise-cap *v*, the magazine 2 having flared upper inlet 3, the outlet 10 having upwardly-projecting adjustable and resilient attaching members 7, 8 and 9, the blade 12, check 27, lever 30, lock-bar 32 having detent 32^a and lock device 35, the spring 34, the intermediate bolt 40 and bracket 41 secured to the frame of the machine, the metal-pot attachment 45, and the chute for up-ending and delivering the released "leads" to the chase of the machine.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH ALFRED PROULX.

In presence of—
ROWLAND BRITTAIN,
ELlice WEBBER.