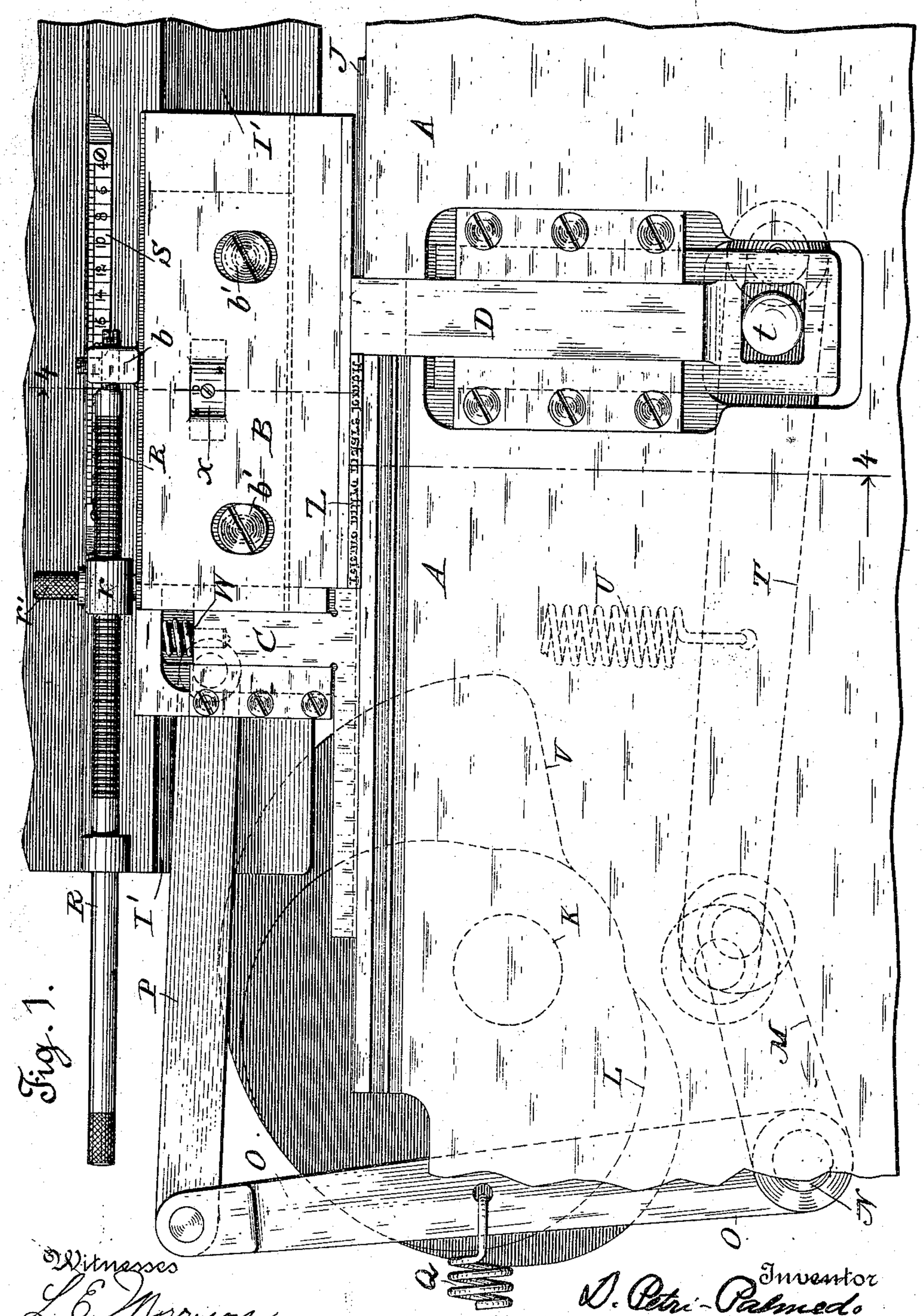
No. 881,716. PATENTED MAR. 10, 1908.

D. PETRI-PALMEDO.

MOLD FOR LINOTYPE MACHINES.

APPLICATION FILED JULY 27, 1906.

3 SHEETS—SHEET 1.



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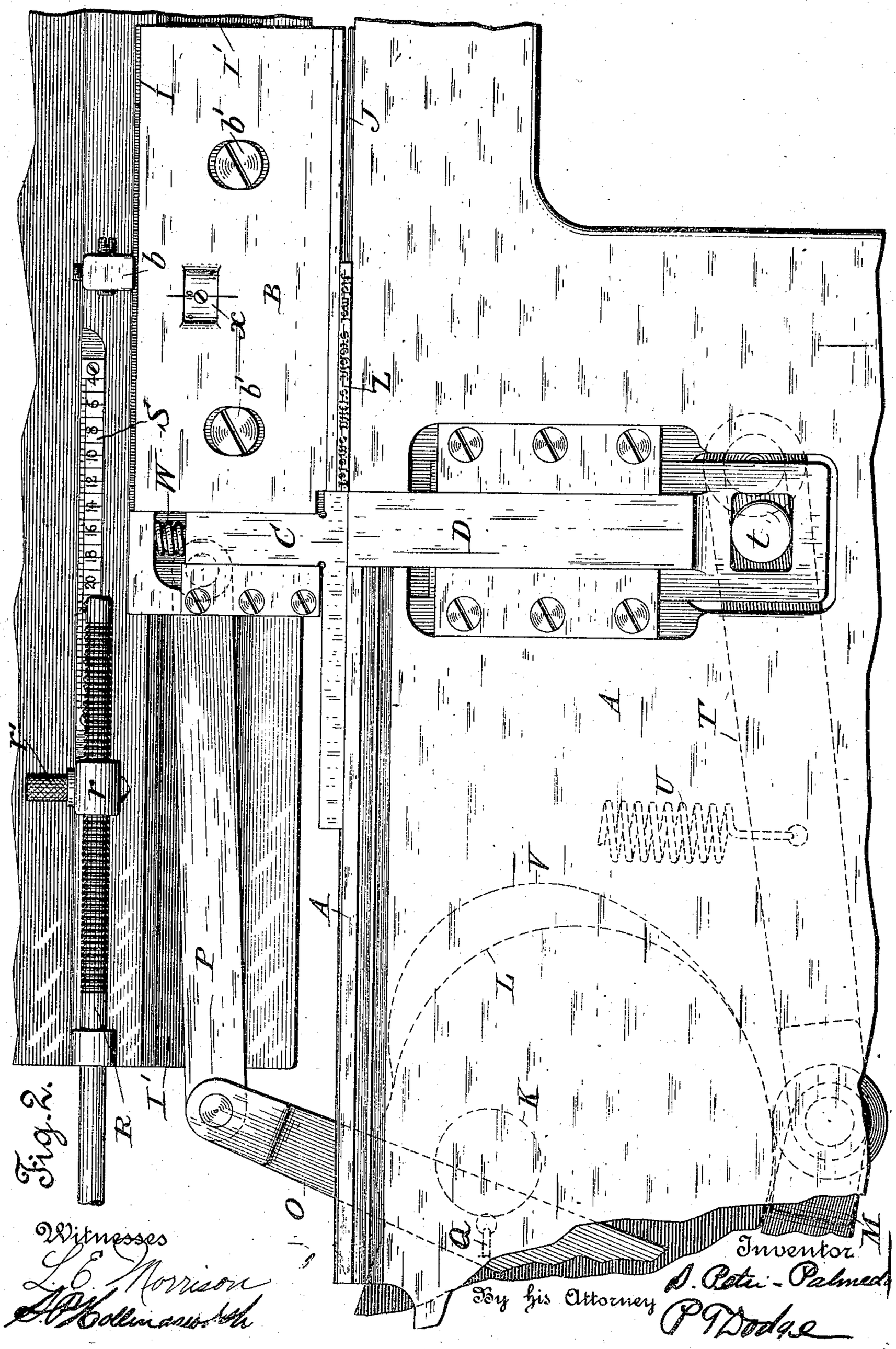

Fig. 2.

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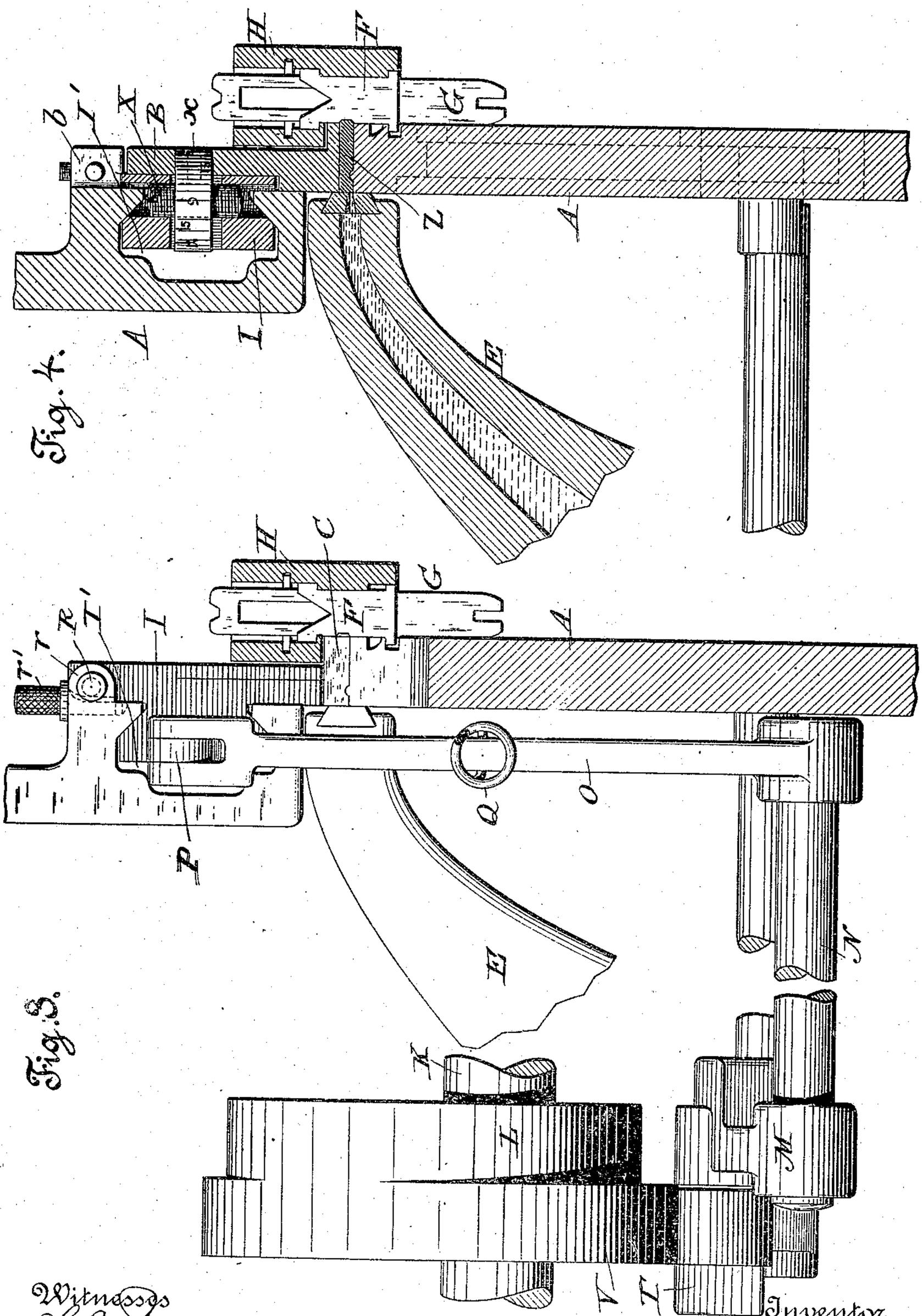
3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

DAVID PETRI-PALMEDO, OF HOBOKEN, NEW JERSEY, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

MOLD FOR LINOTYPE-MACHINES.

No. 881,716. Specification of Letters Patent. Patented March 10, 1908.

Application filed July 27, 1906. Serial No. 328,129.

To all whom it may concern:

Be it known that I, DAVID PETRI-PALMEDO, of the city of Hoboken, county of Hudson, and State of New Jersey, have invented a new and useful Improvement in Molds for Linotype-Machines, of which the following is a specification.

My invention has reference to a universal adjustable mold for use in linotype machines, wherein molten metal is delivered into the rear side of a slotted mold and against a line of matrices assembled temporarily against the front side of the same to form type characters on the slug, as shown for example in Letters Patent of the United States #436,532.

In the operation of these machines, it is necessary to change the length of a slug according to the measure or width of the page or column to be printed, and it is also necessary to change the thickness of a slug according to the size of the type faces produced thereon.

The aim of the present invention is to provide a mold in which either or both of the foregoing adjustments may be readily effected, and from which the slug will be delivered in an endwise direction. To this end I construct my mold of parts which are relatively adjustable to vary the dimensions of the intermediate slot or mold cell, and I mount the parts forming one side and one end of the slot to slide longitudinally for the purpose of delivering the slug from the casting position, and with these parts I combine an actuating mechanism adapted to effect their movements at the proper time.

Referring to the drawings,—Figure 1 is a front elevation of a mold in accordance with my invention, the parts being in the operative or casting position with a slug or linotype in place therein. Fig. 2 is a similar view, with the parts in the position they occupy after moving the slug endwise to the ejecting position. Fig. 3 is an end view of the parts shown in Fig. 1, together with the matrices and their supporting elevator. Fig. 4 is a vertical cross-section on the line 4—4, Fig. 1, showing the parts therein and also the matrices and their supporting elevator.

I have represented the mold in a horizontal position with the upper portion or cap adjustable to vary the thickness of the slug, but it is to be understood that the mold as a whole, may be arranged vertically, or in any other position, and that if desired, it may be inverted so that the movable portion may be on the under instead of the upper side, the only requirement being that the operative parts of the mold proper shall occupy the relations herein shown.

Referring to the drawings, A represents a stationary block or plate constituting the body of the mold, its upper horizontal surface forming the lower side of the mold slot or cell.

B is the upper or cap portion of the mold, overlying the body portion and having a horizontal under surface which forms the upper side of the mold slot or cell.

C is a plate attached to one end of the cap B and extending downward below the same into intimate contact with the upper surface of the body A, so as to close the left end of the slot.

D is a vertically sliding block mounted in the body A and adapted to extend upward beyond the same against the under surface of the cap B to close the right end of the slot.

It will be observed that the slot or cell is inclosed on the respective sides by the parts A, B, C and D, and that it is open at the front and rear, as usual in linotype machines.

In operation, the mold will receive the molten metal at its rear side from the perforated mouth of a metal pot E, as shown in Fig. 4, this mouth closing as usual in linotype machines, tightly against the side of the mold in order to close the same. At the front side, the mold will coöperate with the composed line of matrices F and wedge spacers G of the ordinary construction. They will be suspended, as shown in Figs. 3 and 4, in the usual supporting elevator H, or otherwise tightly sustained against the face of the mold.

Z represents the slug or linotype formed in the mold in the positions shown in Figs. 1 and 4. In order to permit the delivery of the slug endwise from the casting position, the cap B is secured to a slide or block I mounted to slide endwise in a groove or guide I′ in the main frame or other suitable part of the machine, carrying with it the plate C. When the slug is to be delivered, the slide D is moved downward from the casting position shown in Fig. 1, until its upper end is below the level of the slug, after which the mold cap is moved to the right, as shown in Fig. 2, carrying with it the plate C, which in turn

carries before it the slug Z, moving it endwise from the original position shown in Fig. 1 to the position shown in Fig. 2, in front of an ejector blade J, which may be advanced from the rear to deliver the slug edgewise into the galley or other receiver.

The horizontal movement of the cap B and the vertical movement of the sliding block D may be effected by any suitable automatic mechanism. I recommend the arrangement of parts shown in the drawings, wherein K represents a horizontal shaft provided with a cam L acting on one end of an arm M on a horizontal rock shaft N which carries a second arm O connected by a link P with the mold cap B. A spring Q tends to draw the arm O backward to the left so as to hold the mold cap in the casting position. At the proper time, however, the cam L, through the intermediate parts, pushes the mold cap to the right against the resistance of spring Q, and this to effect the endwise delivery of the slug, as before mentioned.

For the purpose of controlling and varying the casting position of the cap B and vertical slide D, and thus determining the length of the mold slot and slug, I propose to combine with the mold cap an adjustable stop of any suitable character to limit its movement to the left in relation to the body A and slide D. In the form shown, this stop consists of a rod R, toothed circumferentially and passed through a fixed support r, in which it is adjustably secured by a pin or key r'. The end of the stop rod R is in position to encounter a stop b on the mold cap. This stop may be simply a rigid projection, or it may contain a screw, as shown, to abut against the rod R, the purpose of this screw being to compensate for any slight wear of the parts, or to vary the length of the slug by fractions of ems.

To change the measure or length of slug, it is only necessary to withdraw the key r' and move the rod R to the proper position, and again screw it in place. To facilitate the adjustment of the mold to produce slugs of any given number of ems (an em being the printers' unit of measure), a scale S may be fixed to the main frame in position to be read in connection with the mold cap or the end of the rod R.

The part C has its lower end extended to the left a distance equal to the length of the longest line, and this in order that it may cover and close the unused portion of the pot mouth whenever the mold is adjusted to form a slug of less than the maximum length.

The withrawal of the slide D to permit the delivery of the slug and its return to the casting position will be effected by any appropriate mechanism, for example, by a lever T pivoted to the main frame and carrying a stud t to actuate the slide. As shown, this lever is urged upward by a strong spring U which forces the end of the slide D into intimate contact with the under side of the mold cap and is moved in the opposite direction to lower the slide D by a cam V fixed on the main shaft K.

The details so far described provide only for the variations in the length of the slug. In order to permit variations in the thickness, I mount the mold cap B so that it may be vertically adjusted to change the distance between its lower side and the upper side of the body A, and I mount the block C to slide vertically in the cap B, subject to the downward pressure of a spring W, seated in the cap and acting to hold the face of the block C in close contact with the upper face of the body A. As the cap is raised and lowered, the member C remains at rest on the body portion, while the slide D rises and falls to maintain its contact with the under side of the cap. This action insures the proper closure of the two ends of the slot regardless if its length or height.

The vertical adjustment of the cap B may be effected by any suitable devices. In the drawing, I have represented a vertical screw X threaded into the block or slide I and having at the middle a disk x closely seated in a slot in the mold cap. This disk x, which serves as a means of turning the screw and also as a means of holding the cap vertically in position, is provided with peripheral graduations and figures representing "points" to be read in connection with a line on the face of the mold cap. The parts are so proportioned and arranged that when a given number is brought into alinement, the mold will produce a slug having a thickness of the same number of points.

As a means of securing the cap rigidly after adjustment, I provide binding screws b', passing through vertical slots therein into the body portion, but these may be replaced by any other suitable locking or binding devices.

From the foregoing, it will be understood that the mold operates as follows: With the parts in the position shown in Fig. 1 to inclose the mold slot or space, the slug is cast therein as shown. Through the action of the cam and intermediate parts, the slide D is depressed to open the right end of the slide and uncover the end of the slug. Immediately thereafter the cap portion B slides to the right, carrying with it the member C which carries the slug before it to a position beyond the slide D and in front of the ejecting or delivery device. The parts then return to their original positions and the operation is repeated.

To change the length of the slug, it is only necessary to adjust the stop rod R endwise and fix it in required position so that it will change the point at which the cap B and shoulder C are arrested in their movement to

the left; or in other words, so that it will change the operative distance between the parts C and D.

In order to change the thickness of the slugs produced, it is only necessary to loosen the binding screws which hold the cap, and adjust the latter upward or downward by turning the screw X by means of the graduated collar *x*.

Of course it will be obvious to the skilled mechanic that the rod R may be replaced by any other adjustable device which will limit the end motion of the cap B. It will also be obvious that when the mold is to be made variable in length only, the member C may be fixed rigidly to the cap B. Whether fixed or rigid, the member C is in effect a shoulder or projection on the cap to close the left end of the mold slot and to deliver the slug endwise.

Having described my invention, what I claim is:—

1. In a linotype mold, the combination of a body portion A, an overlying cap B mounted to slide longitudinally, a plate or shoulder C carried by the cap and bearing on the body, and a sliding block D seated in the body and retractable beyond the mold slot to permit the passage of the slugs thereover.

2. In a linotype mold, the combination of a body A, longitudinally guided cap B overlying the same, a plate or shoulder C carried by the cap and bearing on the body, a slide D and mechanism for reciprocating the cap and the slide.

3. In a linotype mold, the combination of a body, a cap having a shoulder to form one end of the mold slot, the slide to form the opposite end of the slot, means for reciprocating the cap to deliver the slug past the slide D, and adjustable means for arresting its movement at predetermined points; whereby the length of the slot may be varied at will.

4. In a linotype mold, the combination of a body, a longitudinally reciprocating cap carrying a shoulder to form one end of the mold slot, a slide to form the opposite end of the slot, mechanism for reciprocating the slide to carry its shouldered end over said slide, and mechanism for actuating said slide.

5. In a linotype mold, the combination of a body portion, a cap, mechanism for longitudinally and automatically reciprocating the cap, a spring-actuated plate carried by the cap to close one end of the mold and deliver the slug, a slide to form the opposite end of the slot, means for changing the distance between the cap and body at will, and a yielding mechanism for actuating the slide D; whereby it is adapted to adjust itself to the varying position of the cap.

6. In a linotype mold, the combination of the body, the slide D therein, the longitudinally guided cap B, the spring-actuated slide C therein, mechanism for reciprocating the cap, a spring acting to advance the slide D toward the cap, and means for positively retracting the slide.

7. In a linotype mold, the body, the mechanically actuated slide D, the cap B, the part C carried thereby, a spring acting to move the cap endwise to increase the length of the mold slot, mechanism for positively moving the cap in the opposite direction, and an adjustable stop to limit the movement of the cap under the influence of the spring.

8. The mold body A and a guide I′ fixed parallel therewith, the slide I sustained by said guide, the mold cap B vertically adjustable on said slide, and slides C, D, for closing the ends of the space between the cap and body.

9. In combination, a mold body A, a guide I′ parallel therewith, the slide sustained by said guide, a mold cap B sustained by the slide, intermediate devices for vertically adjusting the cap in relation to the slide, and slides C, D, for closing the ends of the space or slot between the cap and body.

In testimony whereof I hereunto set my hand this 26th day of July, 1906, in the presence of two attesting witnesses.

DAVID PETRI-PALMEDO.

Witnesses:
HERMAN THEKELDSON,
EDW. T. SEYMOUR.