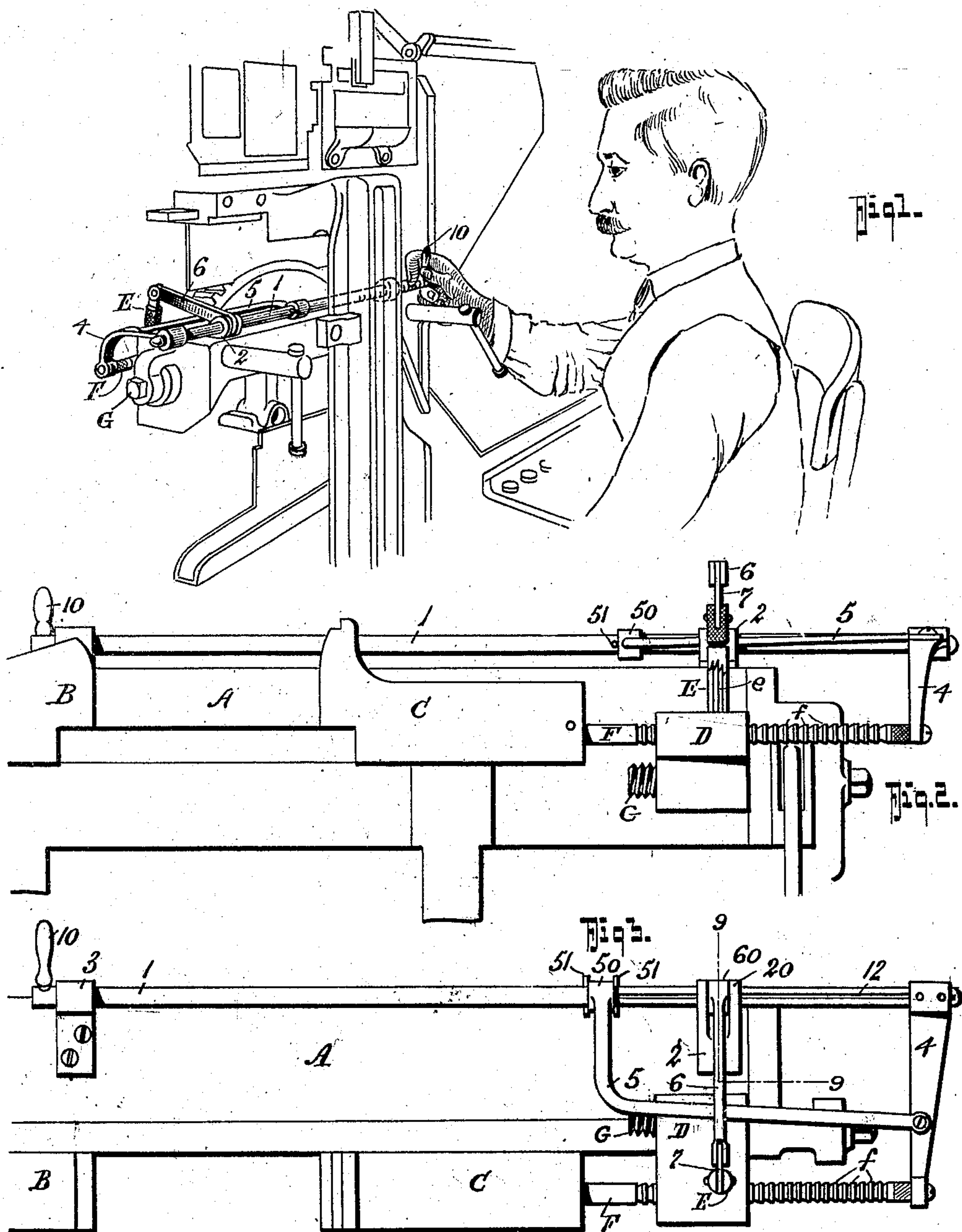


H. LARSEN.
 LINOTYPE MACHINE.
 APPLICATION FILED JUNE 27, 1908.

911,887.

Patented Feb. 9, 1909.
 2 SHEETS—SHEET 1.



WITNESSES:

John T. Schott
 Charles H. Wagner.

INVENTOR

Harold Larsen.

BY

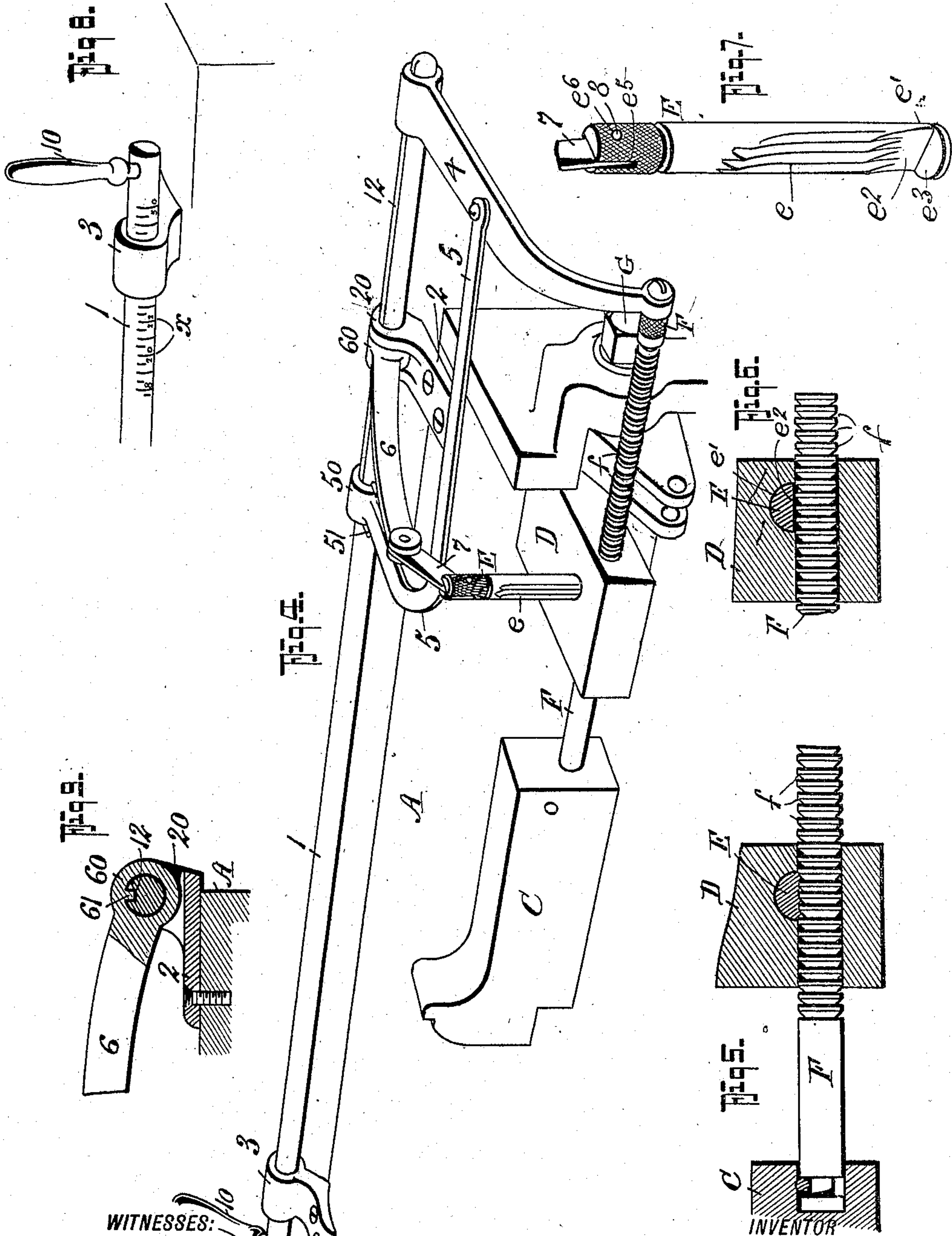
Fred Goettersch
 ATTORNEYS.

H. LARSEN.
 LINOTYPE MACHINE.
 APPLICATION FILED JUNE 27, 1908.

911,887.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 2.



WITNESSES:
 John T. Schrott
 Charles H. Wagner.

Harold Larsen.
 BY
 Fred G. Dierckx
 ATTORNEYS.

UNITED STATES PATENT OFFICE.

HAROLD LARSEN, OF SPRINGFIELD, OHIO.

LINOTYPE-MACHINE.

No. 911,887.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed June 27, 1908. Serial No. 440,668.

To all whom it may concern:

Be it known that I, HAROLD LARSEN, residing at Springfield, in the county of Clark and State of Ohio, have invented certain
5 new and useful Improvements in Linotype-Machines, of which the following is a specification.

This invention more particularly relates to the modern type of linotype machines in
10 which the line presented in front of the slotted mold is expanded or justified between confining jaws, one of which is movably mounted on the "vise frame".

In the use of the general run of linotype
15 machines, it is necessary to frequently change the length of the slugs or linotypes produced according to the width or measure of the page or column to be printed, this being particularly the case for job work and
20 the printing of catalogue pages having numerous cuts or plates for illustrating. Under the present general method of working linotype machines, when it is necessary to change the measurement of the line, the operator must get up from his seat at the key
25 board and raise a locking pin to free the adjusting rod so he can slide the same in its bearings on the vise frame to bring the matrix confining sliding jaw to the desired
30 position, which position is gaged by reading a suitable scale whose graduations represent ems or fractions of ems.

The primary object of my invention is to provide an improved attachment for the
35 present forms of linotype machines having a movable matrix confining jaw, that can be readily applied for use and practically serve its intended purposes, without making any material change in the cooperative arrangement of the movable or sliding jaw, the movable
40 adjusting rod and the locking pin, and which attachment can be quickly applied for use on the said machines, for controlling the setting of the locking pin and the adjusting
45 rod in such manner that the operator, without rising up from his seat can instantly release the locking pin to free the adjusting rod so he can positively set it to bring the matrix confining sliding jaw to the points
50 desired by reading the ems scale, which, in my arrangement of parts, is located directly in front of him.

With other objects in view, which will hereinafter appear, my invention comprehends, broadly, in combining with a movable

vise or matrix jaw, a sliding vise jaw adjusting rod and a locking pin for the rod, a means within reach of the operator while sitting at the key board, operable under one movement to lift the pin and release the rod
60 and under another movement to slide the rod to set the movable vise or matrix jaw to its desired adjustments.

In its more subordinate features, my invention relates to certain details of construction and novel arrangement of parts, all of which will be hereinafter fully described, specifically pointed out in the appended claims and illustrated in the accompanying
70 drawings, in which:—

Figure 1, is a view of so much of a linotype machine as is necessary to illustrate a practical application and the use of my invention, the seated operator being shown to clearly illustrate the manner in which my
75 invention is manipulated, the locking pin being shown as raised to permit the movable adjusting rod to be shifted to position for the desired measure. Fig. 2, is a detail front elevation of that portion of a linotype
80 machine to which my device is applicable. Fig. 3, is a top plan view of the same. Fig. 4, is a detail perspective view illustrating the device and its purpose more clearly. Fig. 5, is a cross section showing the jaw adjusting
85 rod locked in position by the locking pin. Fig. 6, is a similar view showing the locking pin raised, thus making the adjusting rod movable. Fig. 7, is an enlarged perspective view of the locking pin. Fig. 8, is a detail
90 perspective view of the locking pin operating rod, viewed from the operator's station showing its graduations in "ems" and their fractions. Fig. 9, is a section on the line of
95 9—9 of Fig. 3.

In the accompanying drawings, I have shown so much of a modern type of Mergenthaler linotype machine as is necessary to clearly disclose the manner in which my invention is practically applied and utilized,
100 and in which—

A designates the vise frame, B the stationary jaw for supporting one end of the matrix line, C the opposing and horizontally sliding vise movable jaw for supporting the
105 opposite end of the matrix line, D the sliding support or bracket that sustains the locking pin E, which in turn engages the adjusting rod F that moves freely through the bracket D when released by the pin E,
110

and G designates the screw that gives end support to the bracket D, which is mounted on the vise frame and which when adjusted in the well-known manner, imparts to the bracket D the slight movement necessary to effect the desired pinching action on the line of matrices after the same is introduced between the jaws A, B and C.

The several parts, so far described, with the exception hereinafter noted, are found in the well-known forms of linotype machines and therefore form, *per se*, no part of my invention.

As is well-known, when it is desired to space or adjust the vise movable jaw, the operator usually rises from his seat, lifts the pin E from a locked engagement with the rod F with the right hand as he shifts the rod F longitudinally with the other hand, the clamping of the bar with its co-operating jaw against the matrices being afterward effected in the usual manner by adjusting the screw G.

In my construction of parts the locking pin E has the usual vertically extended teeth *e* for engaging with transverse teeth and grooves *f* of the rod F and it also has a reduced end *e'* substantially semi-circular in cross section to form a smooth flat face *e''* which, when the pin is raised up, provided for free play of the rod F as clearly shown in the drawing, and it also has a stop *e'''* in the lower end to prevent pulling the pin E entirely out of its bearing in the bracket D when it is lifted in the manner presently explained.

My attachments, shown in detail in Fig. 4, comprise a rod 1 of suitable length that serves three functions: first, as a means for unlocking the locking pin from the sliding adjusting rod, which is accomplished by a rotary action of the said rod 1; second, as a means for reciprocally shifting the adjusting rod; third, as a gage for setting the adjusting rod with the movable jaw to the desired positions.

In attaching the rod 1 to the modern type of Mergenthaler machine, it is only necessary to file a groove under the first elevator of said machine so the said elevator will not rest on the rod 1 when the machine is casting, and to cut enough out of the left hand end of the vise cap so the rod can be fitted upon the cap as close as can be and yet allow it to work freely.

The rod 1 is slidably and rockably mounted in two bearings, one of which, designated 2, is located on the vise cap near the outer left hand end, and the other, 3, at the right hand end of the cap. This bearing 3, in applying the rod 1, is not put on solid until the proper adjustment for the rod 1 has been determined, since the said bearing 3 acts as a guide for the setting scale *a*, cut or otherwise formed on the right hand end of the

rod 1, which end has a crank handle 10 for manipulating the said rod 1, and which, as will be seen in the drawings is located in front of the operator to be conveniently grasped with his right hand while sitting at the key board.

In setting the bearing 3, the rod is first shifted to the widest measure (30 cms) and said bearing is then placed to the left of the last scale line marked 30, it being understood that for machines having a longer adjustment than stated the rod 1 will be proportionately longer.

At the outer end the rod 1 carries a curved arm 4 that extends backwardly at right angles and is fixedly connected with the adjusting jaw slide rod F so that when the rod 1 is reciprocated in its bearings the rod F moves with it and for sliding the arm 4, a brace 5 is secured thereto that extends inwardly and has its end formed with a base loosely mounted on the rod 1 between two pins 51—51 secured to the said rod 1.

By referring now more particularly to Figs. 3 and 4, it will be seen that the bearing end of bracket 2 is bifurcated as at 20 and in the said bifurcated end is mounted a lever arm 6 that has a collar 60 for loosely fitting on the rod 1 it also having a key 61 for co-operating with a long groove 12 in the rod 1. Arm 6 acts as an unlocking lever, since it connects with the upper end of the pin E by a link 7 pivotally connected to the upper end of lever 6 and pivotally connected with the upper end of the pin E which is readily done by sawing a slot *e''* in the upper end of the pin E and drilling a hole *e'''* therein to receive the coupling pin 8.

From the foregoing taken in connection with the accompanying drawings the complete arrangement and the manner in which my invention is used will be apparent.

By reason of the manner in which the parts are constructed and the ease in which they can be applied the equipment to the present type of linotype machines of the character stated can be quickly and economically effected.

The salient feature of my invention lies in combining with the sliding jaw, a rod and the connections that join it therewith, so arranged that the operator by simply turning the rod 1 raises pin E and unlocks the sliding jaw rod without releasing the rod, and by shifting the said rod in the direction desired, reading the scale on the rod 1, he sets the sliding jaw and by then releasing the rod 1 the pin E drops down, said movement being augmented by the weight of the lever 6 to relock the adjusting jaw rod.

In the drawings, I have shown what I now consider a simple form of my invention but it is obvious that the details shown may be varied or modified without going outside the scope of the appended claims.

Having thus described my invention, what I claim is:

1. In a linotype machine, the combination with the sliding adjustable jaw, an adjusting rod therefor and a locking means for engaging the rod to hold it and the jaw to the set position, said locking device having movement independent of the rod; of means connected with the adjusting rod that operates under one movement to unlock the rod and the jaw and under another movement to shift the said rod with the jaw.

2. The combination with a sliding jaw, an adjusting rod therefor, and a locking device that engages the adjusting rod; of a reciprocable and rotatable member that operates when rotated to release the locking device from the adjusting rod and when reciprocated to shift the said rod with the jaw attached thereto.

3. The combination with the sliding jaw, a non-rotatable adjusting rod therefor, and a locking device for the adjusting rod; of a reciprocable and rotatable member operating when rotated to actuate the locking device to release the jaw and when reciprocated to shift and gage the jaw.

4. In a linotype machine, the combination of an adjustable jaw, a longitudinally adjustable rod connected thereto, a locking device engaging said rod to hold the same to predetermined positions for setting the jaw to its desired adjustments, and a member connected with the adjustable rod to reciprocate the rod and its attached jaw, said member having connection with the locking device and operating under a movement independent of the reciprocable, to release the locking device from the adjustable rod.

5. In a linotype machine, the following elements in combination; a sliding jaw, an adjusting rod therefor, a locking device independent of the rod for holding it to its set positions, a member connected with the rod for reciprocally moving said jaw, said member having a rotary motion and means operable under the rotary motion of the said member for releasing the locking device to allow of free play of the rod.

6. The adjustable matrix confining jaw, the toothed rod cooperating therewith and the locking pin having a toothed portion for engaging the toothed rod to hold the rod and jaw locked, combined with a shift-

ing rod parallel with the jaw rod and connected to the said jaw rod whereby to move it, said shifting rod being rotatable in its bearings, a lifter arm mounted on the rod to rock therewith, said lifter arm being connected with the lock pin for raising it when the arm is rocked upwardly.

7. As a new article, an attachment for linotype machines, for interlocking and setting the movable matrix confining jaw; consisting of a rod adapted to be reciprocally mounted on the vise frame, and having a member for connecting with the outer end of the adjustable jaw shifting rod, and an arm projected at right angles thereof to rock therewith, adapted for being linked to the lock pin for the movable jaw.

8. In a linotype machine, the combination with the sliding jaw, a locking pin, an adjustable bracket through which a toothed rod moves and in which a locking pin is vertically moved, said locking pin having teeth for engaging the toothed rod and a smooth and reduced portion below the teeth; of a rod slidably and rotatably mounted upon a vise frame, said rod having an arm connected with the toothed rod of the adjustable jaw, a lever arm mounted on the said rod to rock therewith but held from longitudinal movement and a link connection that joins the said lever with the upper end of the toothed locking pin.

9. As a new article of manufacture, means for releasing the adjustable matrix combining jaw for linotype machines, and shifting the said jaw when released, the said means consisting of a rod adapted to be mounted upon a vise cap or frame of the machine, said rod carrying a scale at one end, a bearing for the rod fixedly held on the vise cap that forms a gage, the outer end of said rod having an arm adapted to be connected with the outer end of the adjustable jaw toothed rod, a lever arm rockable with the rod but held from longitudinal movement, and a link member on the outer end of the said bracket for coupling with the upper end of the locking pin that engages the toothed rod of the adjustable jaw.

HAROLD LARSEN.

Witnesses:

H. E. SCHENCK,

A. A. BRANDON