

No. 719,436.

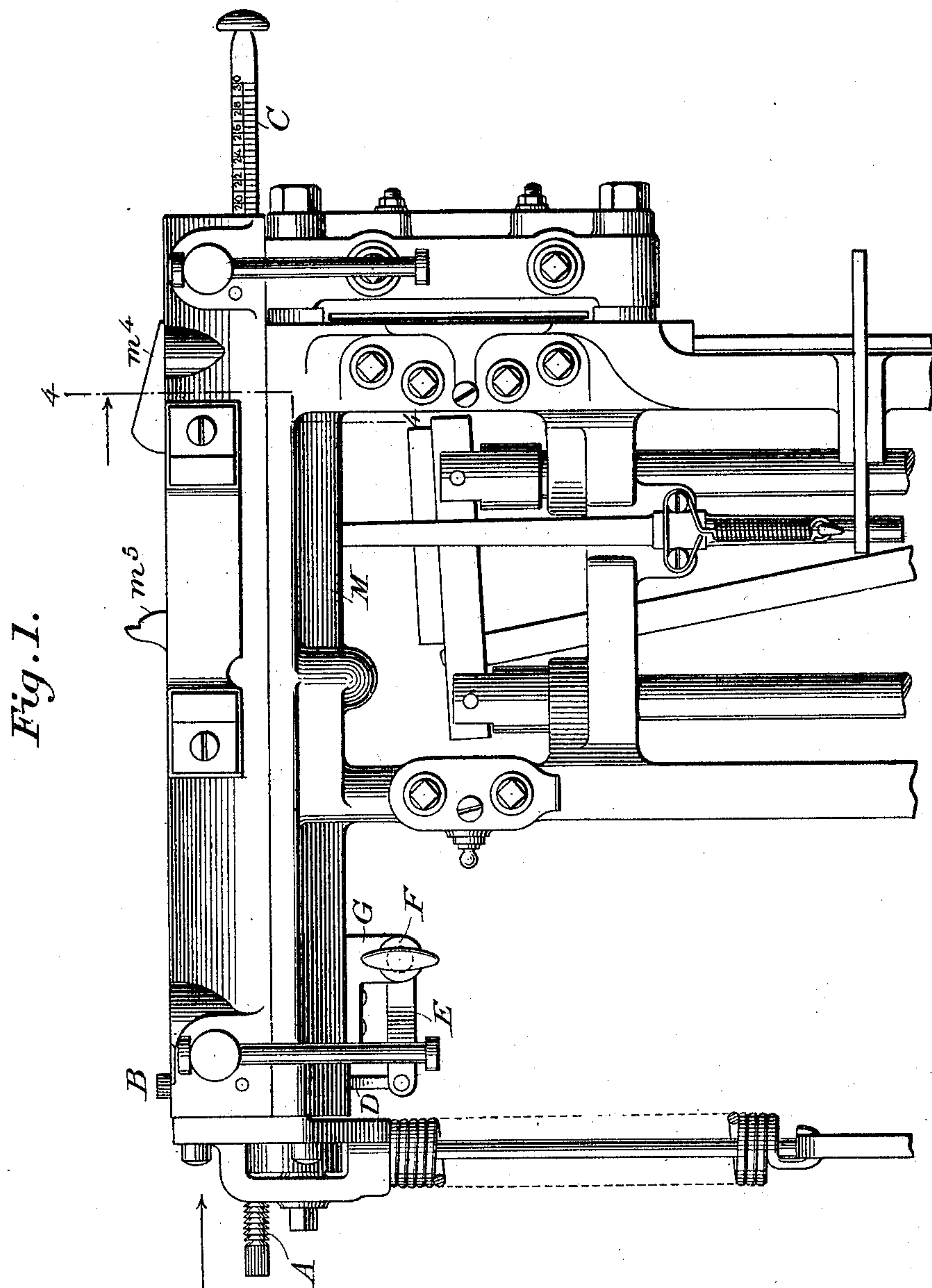
PATENTED FEB. 3, 1903.

J. W. CHAMPION.  
LINOTYPE MACHINE.

APPLICATION FILED MAR. 24, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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INVENTOR

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2 SHEETS—SHEET 2.

Fig. 3.

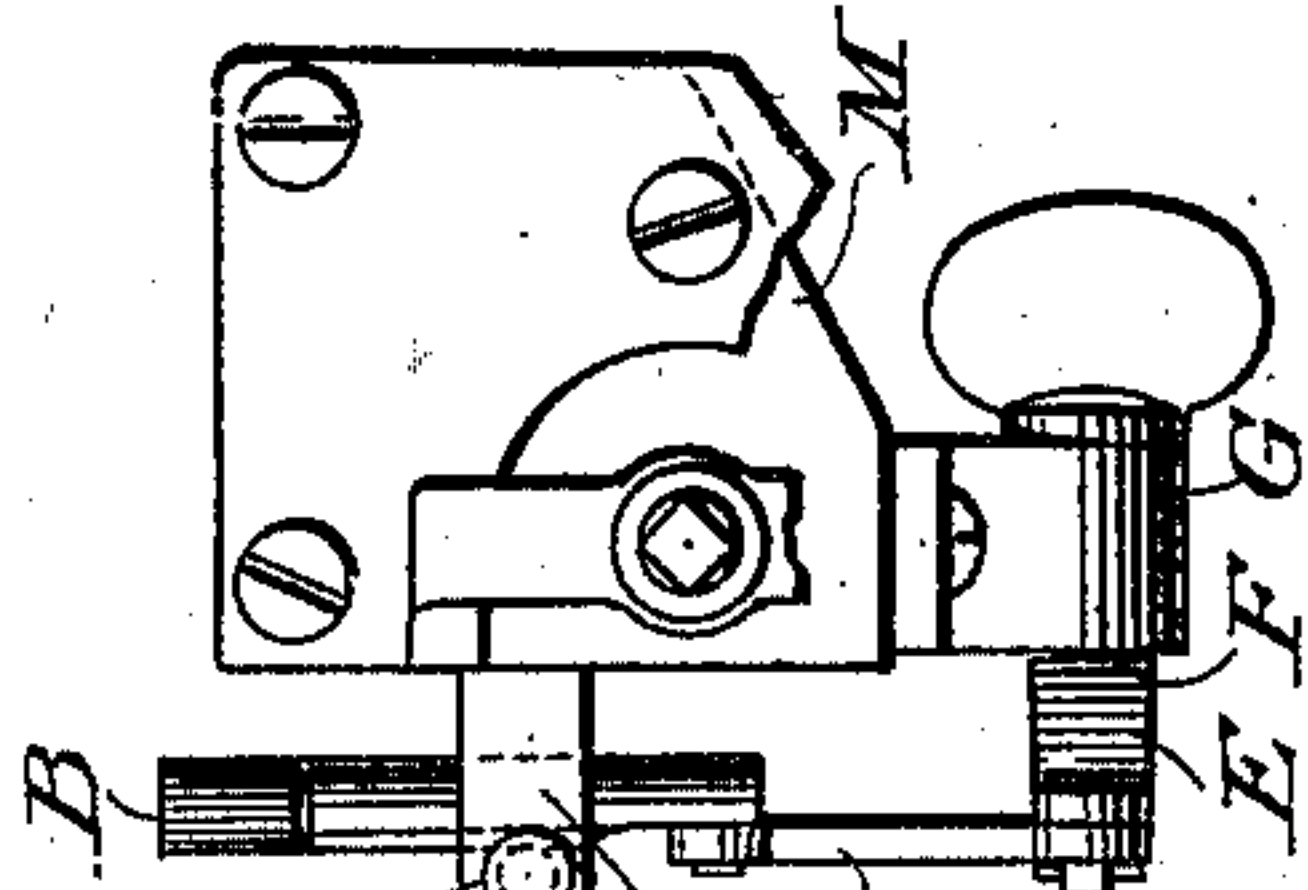


Fig. 4.

on line 4-4.

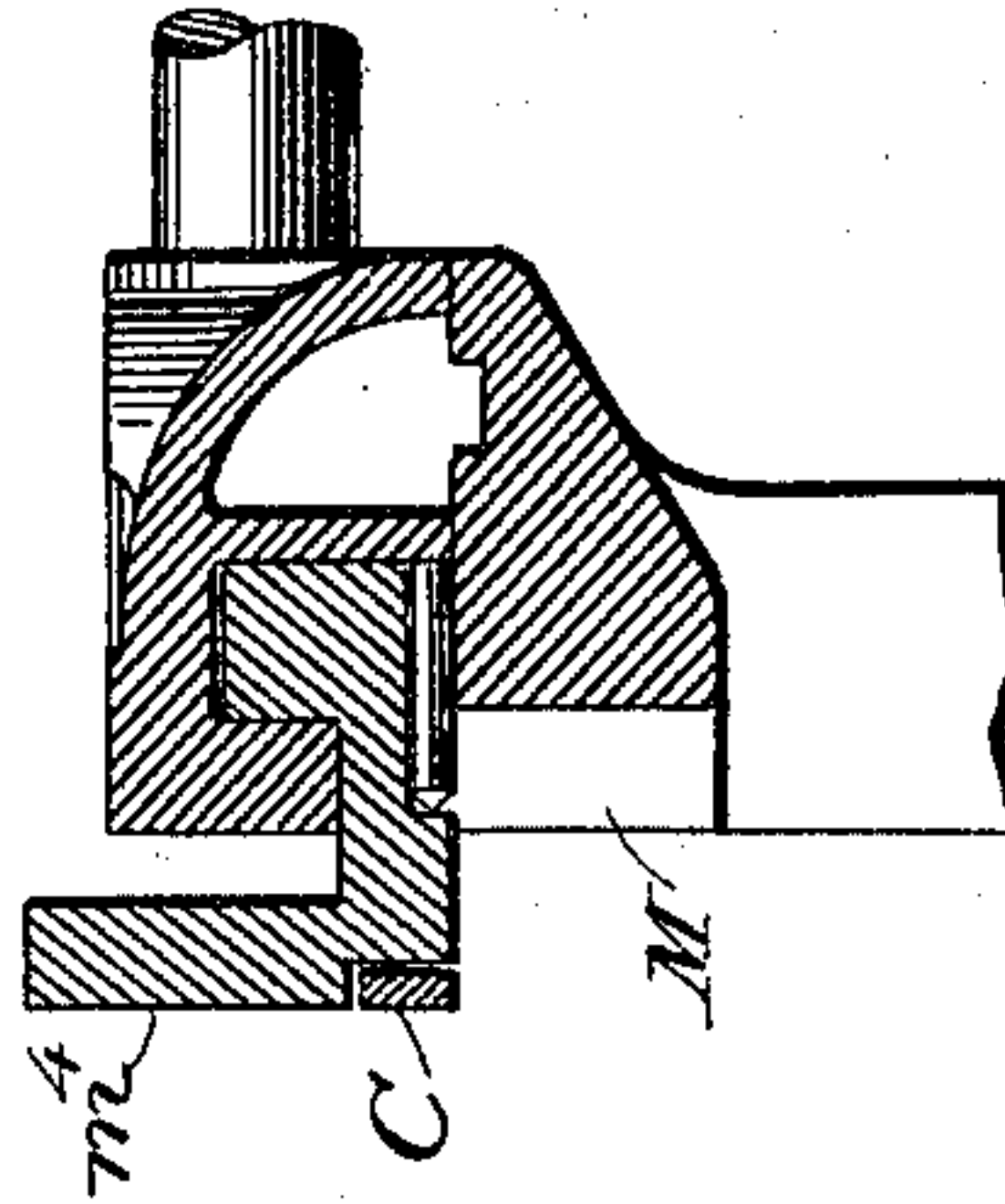
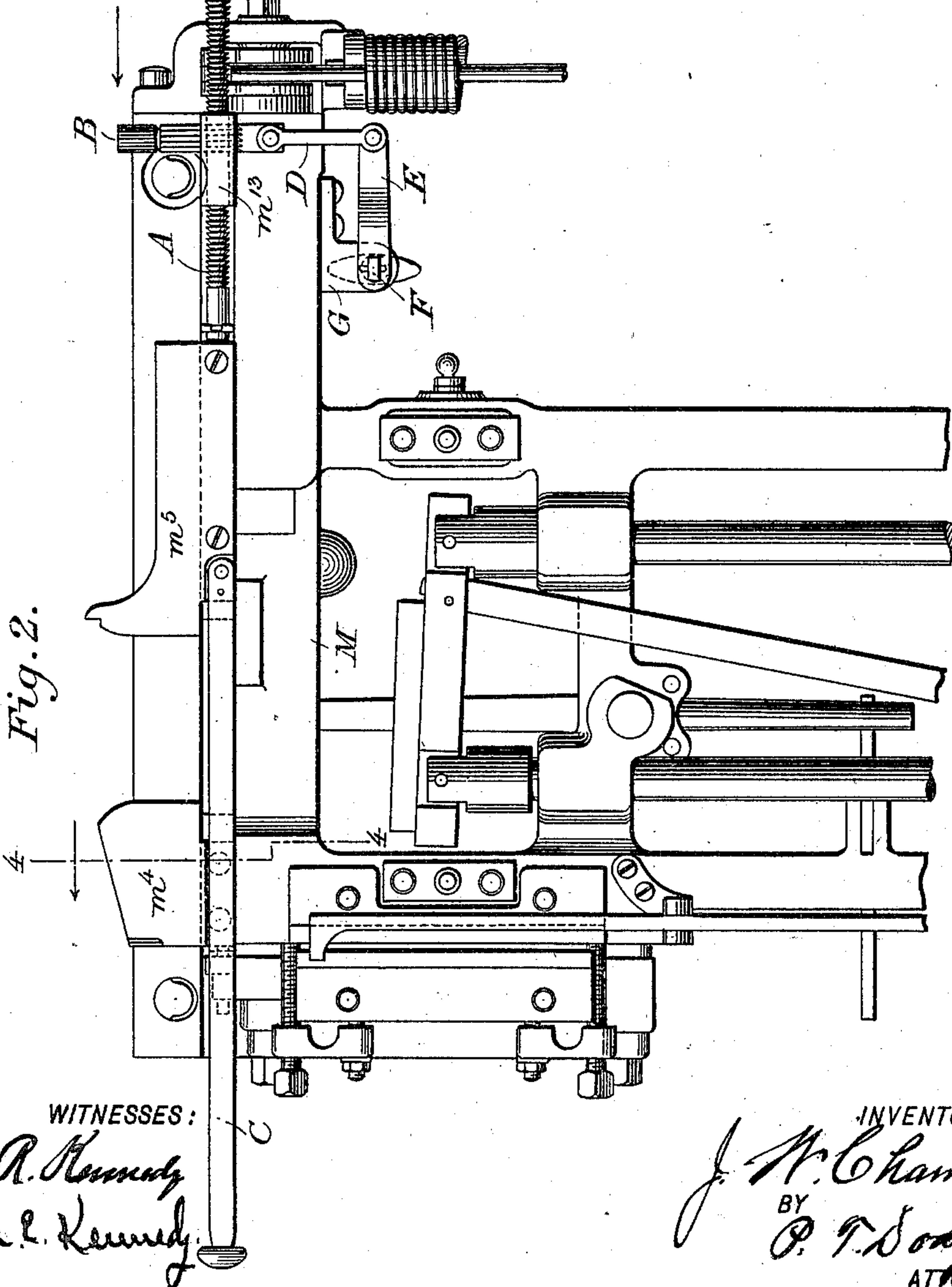


Fig. 2.



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# UNITED STATES PATENT OFFICE.

JOHN W. CHAMPION, OF DENVER, COLORADO, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

## LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 719,436, dated February 3, 1903.

Application filed March 24, 1902. Serial No. 99,705. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. CHAMPION, of Denver, county of Arapahoe, and State of Colorado, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

In the Mergenthaler linotype-machine and kindred machines it is a common practice to change the length of the line of type characters produced without changing the length of the slug or linotype. In other words, slugs of uniform length are provided on the face with lines of type varying in length, so that the blank portions of the slugs or portions which have no type characters on them may be severed and rejected. In this manner it is possible to produce readily linotypes of less than standard length adapted to be used for advertising purposes to be set into forms alongside of cuts, &c. This result is accomplished by setting in front of the mold a composed line of matrices equal to the length of the special slugs required and covering that portion of the mold which extends beyond the line of matrices by advancing one of the matrix-confining jaws inward beyond its normal position over the face of the mold and against the matrices. This is commonly done in the commercial linotype-machine by means of an adjusting device such as shown in United States Patent to Rogers, No. 619,441. In employing this mechanism it is necessary for the operator to rise from his seat in order to release the jaw-confining devices each time that the jaw is to receive a special adjustment.

The object of the present invention is to overcome the labor and loss of time incident to this operation and to enable the operator to readily adjust the jaw while seated in front of the machine in his ordinary position for manipulating the keyboard.

My invention may be embodied in various equivalent or alternative forms; but in the accompanying drawings I have shown a form of embodiment particularly adapted for use in connection with the Mergenthaler linotype and found in practice to be satisfactory.

Referring to the drawings, Figure 1 is a front elevation of the so-called "vise-frame" of the Mergenthaler machine, in which the

matrix-confining jaws are mounted with my improvement applied thereto. Fig. 2 is an inside face view of the same; Fig. 3, an end elevation looking in the direction of the arrows in Figs. 1 and 2. Fig. 4 is a vertical cross-section on the correspondingly-numbered line of Figs. 1 and 2.

With the exception of the details specifically pointed out herein the machine may be constructed in the manner described in the Mergenthaler patent, No. 436,531, and the Rogers patent, No. 619,441. To the end that the present invention may be the more readily understood I have indicated the ordinary parts of my mechanism by the same letters used to indicate like parts in said patents.

Referring to the drawings, M represents the so-called "vise-frame"—a part of the main frame of the machine. In operation the line of matrices is confined between the two jaws  $m^4$  and  $m^5$ , which are mounted on the inner vertical face of the vise-frame in opposition to each other, so that the composed line of matrices may be lowered into position between them in front of the mold, as usual. The jaw  $m^4$  remains ordinarily in the position indicated in the drawings. The jaw  $m^5$ , on the contrary, is mounted for slight horizontal movement to release the line of matrices after the casting of the line and is also adjustable at will to change the distance between it and its companion, according to the length of line employed and the length of the line of print to be produced. This adjustment is effected by means of a circumferentially-toothed rod A, bearing against or connected to the outer end of the jaw and projected horizontally through a supporting block or nut  $m^{13}$ , containing a vertically-movable pin B, having teeth to engage those of the rod. The block or nut  $m^{13}$  is under ordinary conditions maintained firmly in one position, and the adjustment of the jaw  $m^5$  is effected by lifting the pin B out of engagement with the rod A, then moving the latter endwise to the right or left, as required, and thereafter reinserting the pin to lock the rod and jaw in their new position.

The foregoing features are all identical, or practically so, with those in the Rogers patent above referred to. Inasmuch as the op-



erator sits in front of the vise M on the opposite side from the movable jaw and its locking devices, they are out of sight and not readily accessible, and therefore he cannot move the jaw to the exact position required or readily operate the adjusting devices without rising from his seat. In order that he may readily determine the position of the jaw  $m^5$  and its distance from its companion in ems pica—the printer's standard measurement—I attach to the jaw  $m^5$  a small slide or bar C, which is extended horizontally to the right beyond the side of the vise, so that its end is in plain view of the operator and within convenient reach. The face of this bar I provide with graduations, which being read in connection with the right side of the vise enable the operator to instantly determine the distance between the jaws and to set them when unlocked a greater or less distance apart, according to the length of the type-line demanded. It will be seen that the operator is thus enabled to adjust the movable jaw without rising from his seat to the exact position required in relation to its companion. In order to permit the locking and unlocking of the jaw from the front of the machine, I cut away the teeth on the lower part of the locking-pin, so that it will disengage from the rod A without being lifted entirely out of the support  $m^{13}$ . To the lower end of the locking-pin I pivot the upper end of a link D, having its lower end pivoted to a crank-arm E on the rear end of a rock-shaft F, which is extended through a bearing G to the front and there fashioned into a handle of such form that it may be conveniently turned by the operator. When the jaw is to be adjusted, the operator turns the handle of the rock-shaft F to the left, causing the crank E and link D to lift the pin B out of engagement with rod A. This action unlocks the jaw and leaves it free. The operator holding the parts out of engagement grasps the protruding end of the bar C and slides it to the right or left until the graduations indicate that the jaw is in the required position, whereupon he turns the shaft F until the locking-pin is drawn down so as to hold the jaw-sustaining rod firmly.

Having thus described my invention, what I claim is—

1. In a linotype-machine and in combination with the left-hand matrix-confining jaw,

the operating bar or arm C extended therefrom past the opposing jaw and exposed at the end. 55

2. In a linotype-machine, and in combination with the sliding matrix-confining jaw, the graduated jaw-adjusting bar C. 60

3. In a linotype-machine, the combination of the left-hand matrix-confining jaw, remote from the keyboard, locking devices to hold said jaw in different positions, means for operating said locking devices extended forward within reach of the operator at the keyboard, and means for moving the jaw, also extended within reach of the operator, whereby the operator is enabled to lock and unlock the jaw and to effect the adjustment of the same without leaving his operative position at the keyboard. 65 70

4. In a linotype-machine and in combination with a sliding matrix-confining jaw  $m^5$ , a toothed bar to hold the jaw in different positions, a locking device engaging said bar, and operating devices extending forward from the locking device and exposed at the front of the machine. 75

5. In a linotype-machine and in combination with the adjustable matrix-confining jaw, a toothed rod A, a locking-pin to hold said rod, and a crank-shaft extending rearward from the front of the machine and having its crank connected at the inner end with said pin. 80 85

6. In a linotype-machine, the combination of a movable matrix-confining jaw, means for moving said jaw extended within reach of the operator at the keyboard, and means for locking said jaw also extended within reach of the operator, whereby the operator is enabled without rising from the keyboard to adjust and secure the jaw in different positions required. 90 95

7. In a linotype-machine, a movable matrix-confining jaw, in combination with an exposed graduated bar connected therewith, as a means of setting the same to produce type-lines of different lengths. 100

In testimony whereof I hereunto set my hand, this 8th day of March, 1902, in the presence of two attesting witnesses.

JOHN W. CHAMPION.

Witnesses:

J. E. COLLETT,

W. H. MONTGOMERY.