

No. 659,863.

Patented Oct. 16, 1900.

G. A. VASSBERG.
LINOTYPE MACHINE.

(Application filed May 3, 1900.)

(No Model.)

2 Sheets—Sheet 1.

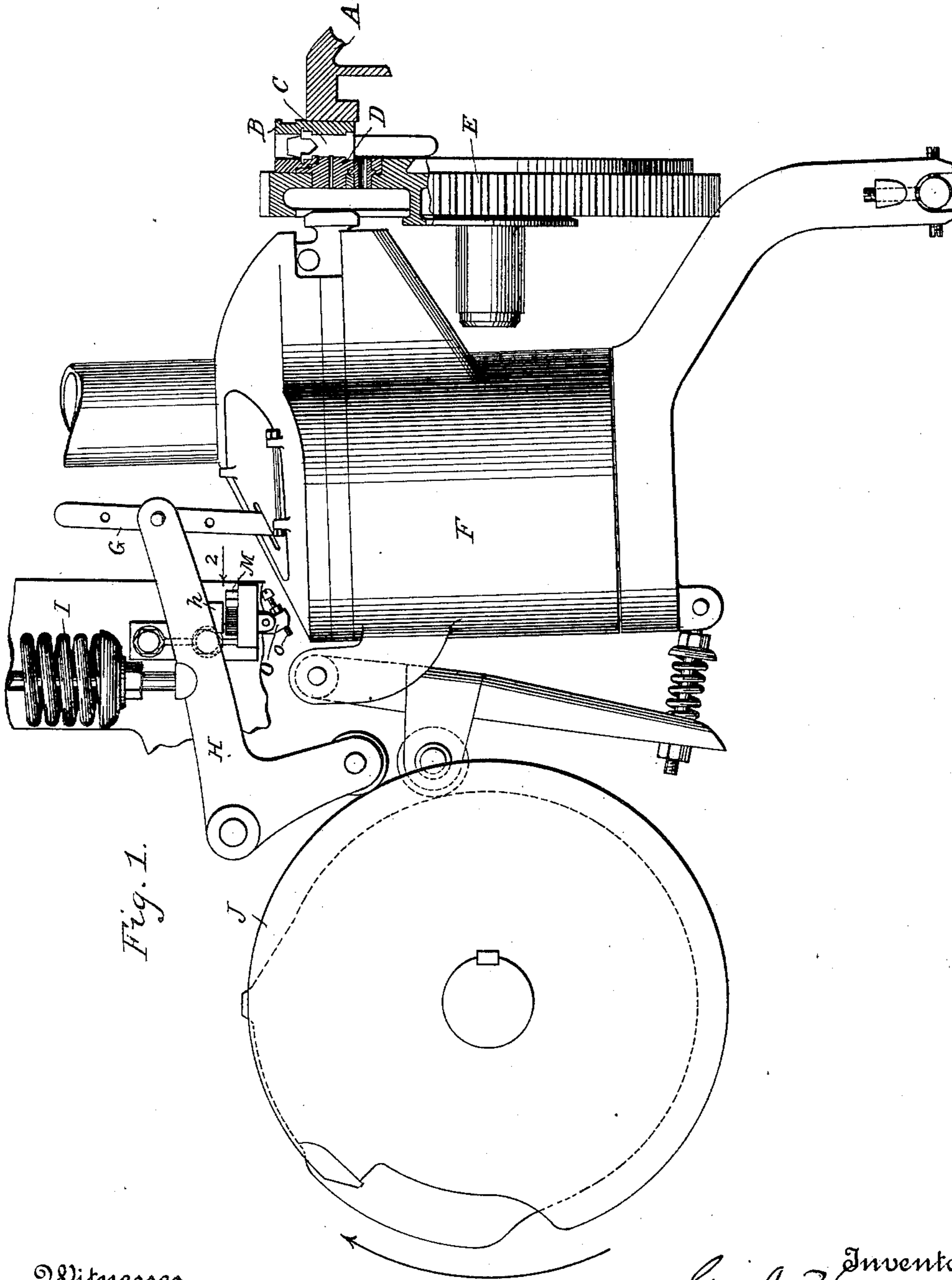


Fig. 1.

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2 Sheets—Sheet 2.

Fig. 2.

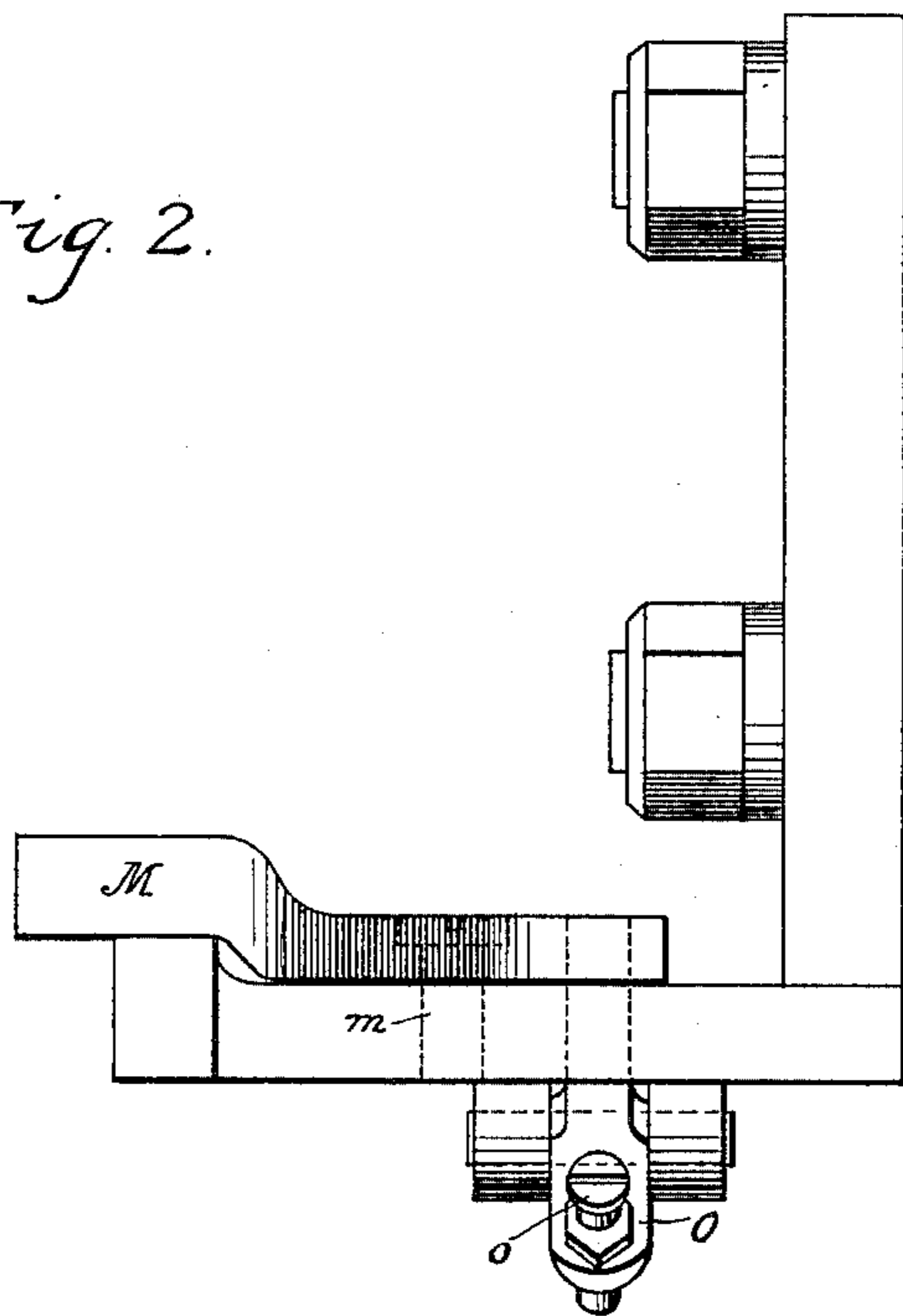
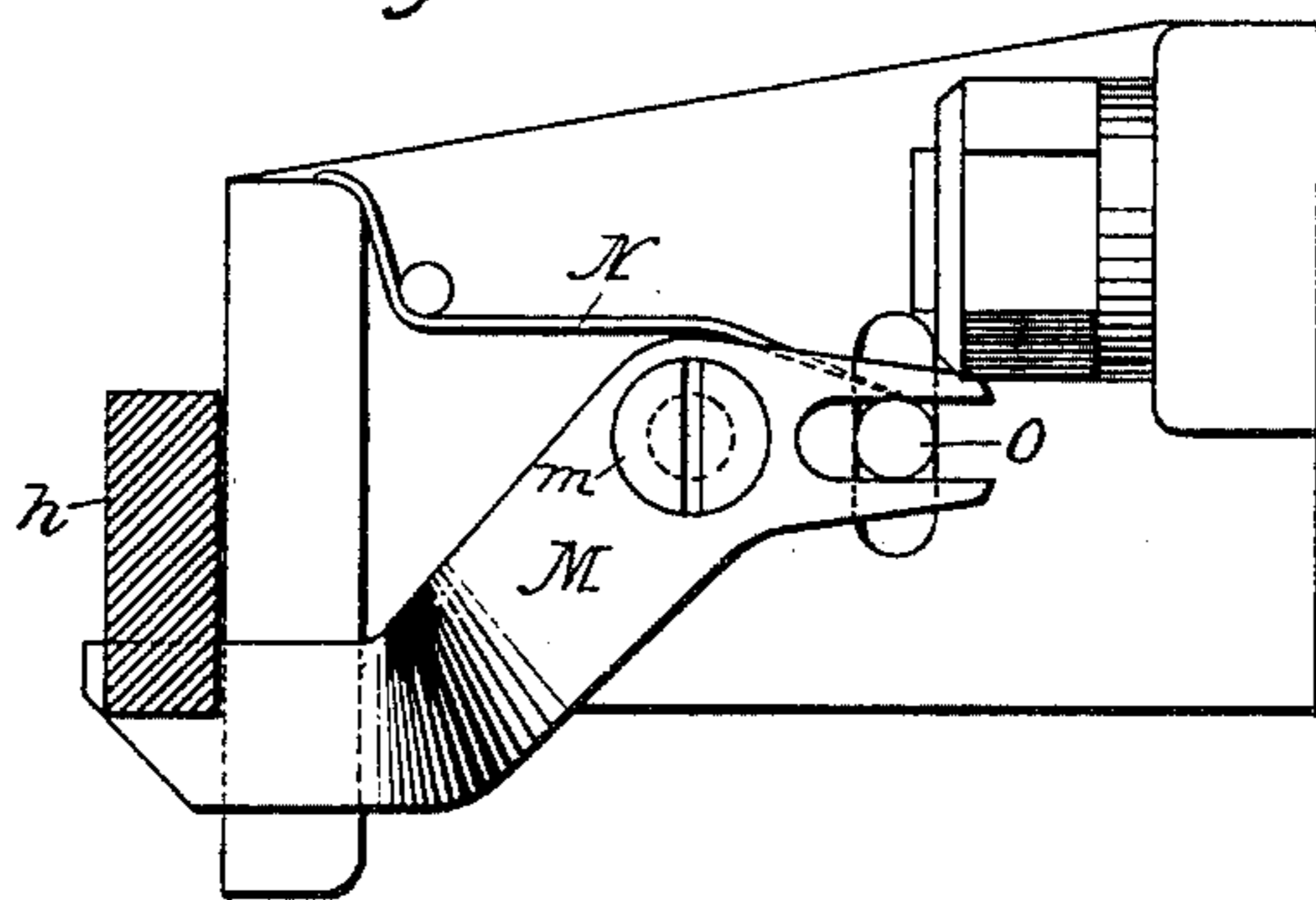


Fig. 3.



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UNITED STATES PATENT OFFICE.

GUSTAF ADOLF VASSBERG, OF STOCKHOLM, SWEDEN, ASSIGNOR TO THE
MERGENTHALER LINOTYPE COMPANY, OF NEW YORK.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 659,863, dated October 16, 1900.

Application filed May 3, 1900. Serial No. 15,340. (No model.)

To all whom it may concern:

Be it known that I, GUSTAF ADOLF VASSBERG, of Stockholm, Sweden, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

In linotype-machines such, for example, as that represented in Letters Patent of the United States No. 557,000 to Ottmar Mergenthaler a linotype or printing-slug is formed in a slotted mold, which is temporarily closed at the front against a composed line of matrices, while molten metal is delivered into the rear from the mouth of a melting-pot, which is closed against the mold and provided with a pump-plunger. In order to secure the proper operation of the parts and the production of slugs of the exact height required, it is necessary that the two faces of the mold should be closed tightly against the melting-pot and the matrices, respectively, and that the matrices shall be crowded tightly against the parts by which they are sustained in line. In practice it sometimes occurs, because of the negligence of the attendant, that the various elements are prevented from closing together properly. If the matrices are not properly alined or if a foreign substance is permitted to accumulate on either face of the mold or on the face of the pot, the joints between the parts will not be properly closed, and if the pump is permitted to operate molten metal will be ejected into the operative parts in such manner as to prevent their proper action. The object of the present invention is to prevent the action of the pump whenever there is a failure of the pot to close tightly against the mold or a failure of the mold to close tightly against the faces of the matrices; and to this end it consists, essentially, in a pump-controlling device actuated by the melting-pot or an equivalent movable member of the casting mechanism.

In the drawings I have shown my device applied to the Mergenthaler linotype-machine of the present commercial form and as consisting of a stop for the pump-lever actuated by a projection on the movable melting-pot. With the exception of the parts specifically described herein the ordinary construction may be followed in all respects.

Figure 1 is a central section through the casting mechanism of a linotype-machine from front to rear with my improvements applied thereto. Fig. 2 is a front elevation of the stop device looking in the direction of the arrow numbered 2 in Fig. 1. Fig. 3 is a top plan view of the stop device.

Referring to the drawings, A represents the forward portion of the main frame, commonly known as the "vise-frame," and B a vertically-movable matrix-support, commonly known as the "first elevator," and serving to sustain the line of matrices C and lower it into operative position in front of the mold.

D is the slotted mold, secured in the vertically-revolving mold-wheel E, which is mounted, as usual, on a horizontal sliding support, so that the mold may be carried forward against the rear faces of the matrices in order to crowd them against the forward wall of the elevator B, thus insuring their exact alinement and also insuring intimate contact and a close joint between the front face of the mold and the matrices.

F represents the melting-pot, mounted on supporting-legs and arranged to swing forward and backward to and from the mold. It is provided with a delivery-throat for directing the metal into the mold and with the usual pump-plunger G, by which the delivery of the metal is effected. The plunger is operated by a lever H, pivoted to the main frame and subject to the influence of a depressing-spring I and a lifting-cam J.

All of the foregoing parts are constructed and arranged to operate in the usual manner.

The line of matrices after being introduced into the elevator B is lowered thereby into position in front of the mold, after which the pot and the mold advance, the parts being crowded tightly together, so that a close joint is maintained between the mold and the matrices at the front and the mold and the mouth of the pot at the rear.

In applying my improvement I provide a stop or dog M and mount the same to swing horizontally on a vertical pivot *m* on a rigid arm or projection of the main frame, by which the stop is given a firm support. When the end of the stop is swung to the left, it stands beneath a shoulder or projection *h* on the

pump-lever, so that the falling of the lever
 and the delivery of the molten metal is pre-
 vented. A spring N is arranged to hold the
 stop normally in its position. A lever O,
 5 mounted on a horizontal pivot, engages at its
 upper end with the stop M, while its lower
 end is provided with an adjusting-screw o in
 the path of the projection or ear on the rear
 end of the melting-pot. If the matrices, the
 10 mold, and the pot all close to their operative
 positions, the projection on the pot, encounter-
 ing the screw in the lower end of the lever O,
 will cause the latter to move the stop M out
 of the path of the pump-lever, which will be
 15 permitted to operate in the usual manner.
 If, however, the pot is prevented from going
 forward to its proper position, it will fail to
 act on the lever O and the pump-stop will
 remain in position to prevent the action of
 20 the pump. This stoppage of the pump will
 occur in the event of the matrices failing to
 assume the proper position in front of the
 mold, so that the latter is held back, or in
 the event of there being foreign matter on
 25 the face of the mold or the matrices or in the
 event of foreign matter being present be-
 tween the mold and the mouth of the pot.
 In short, anything which prevents either the
 matrices, the mold, or the pot from assum-
 30 ing the proper position for action will also
 forbid the action of the pump, and thus pre-
 vent the formation of a defective slug or the
 delivery of molten metal improperly among
 the parts of the machine.
 35 The essence of my invention resides in the
 employment of a pump-controlling device
 which is dependent upon the changing rela-
 tions between the mold, the matrices, and

the pot, and it is manifest that it may be
 widely modified in detail and that it may be 40
 applied not only to the particular form of ma-
 chine herein shown, but to other linotype or
 line-casting machines in which the pot is sta-
 tionary and the mold and matrix carriers
 movable in relation to the pot. 45

Having described my invention, what I
 claim is—

1. In a linotype-machine, the combination
 of the pump mechanism, a stop device there-
 for, and a melting-pot directly and positively 50
 controlling the stop device to prevent the ac-
 tion of the pump in the event of the mold
 failing to properly contact with the matrices
 or with the pot.

2. In a linotype-machine, the combination 55
 of the pump-lever, the movable stop there-
 for, and the movable pot arranged to directly
 operate said stop whereby the pump is pre-
 vented from acting unless the mold is in in-
 timate contact with the matrices and the pot. 60

3. In a linotype-machine, the combination
 of a line of matrices, a mold, movable to and
 from said line, a metal-pot movable to and
 from the mold and provided with a metal-de-
 livering pump, and a pump-controlling de- 65
 vice, actuated by the pot to arrest the pump
 in the event of the failure of the mold or the
 pot to move forward to the proper position.

In testimony whereof I hereunto set my
 hand, this 4th day of April, 1900, in the pres- 70
 ence of two attesting witnesses.

GUSTAF ADOLF VASSBERG.

Witnesses:

A. HUMMAN,
 E. W. ATMEN.