

(No Model.)

O. MERGENTHALER.
LINOTYPE MACHINE.

No. 438,354.

Patented Oct. 14, 1890.

Fig. 1.

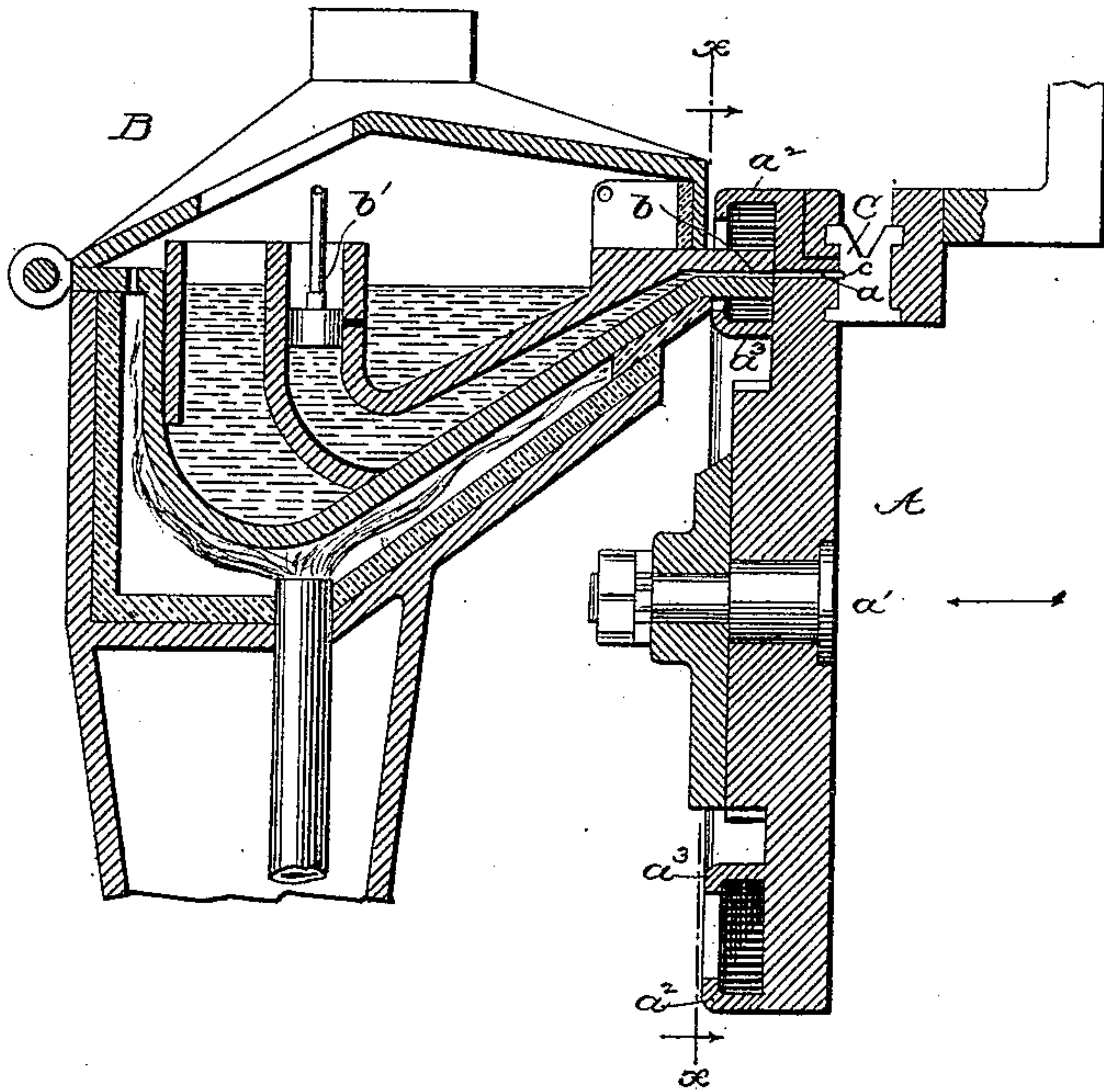


Fig. 3.
on line y-y

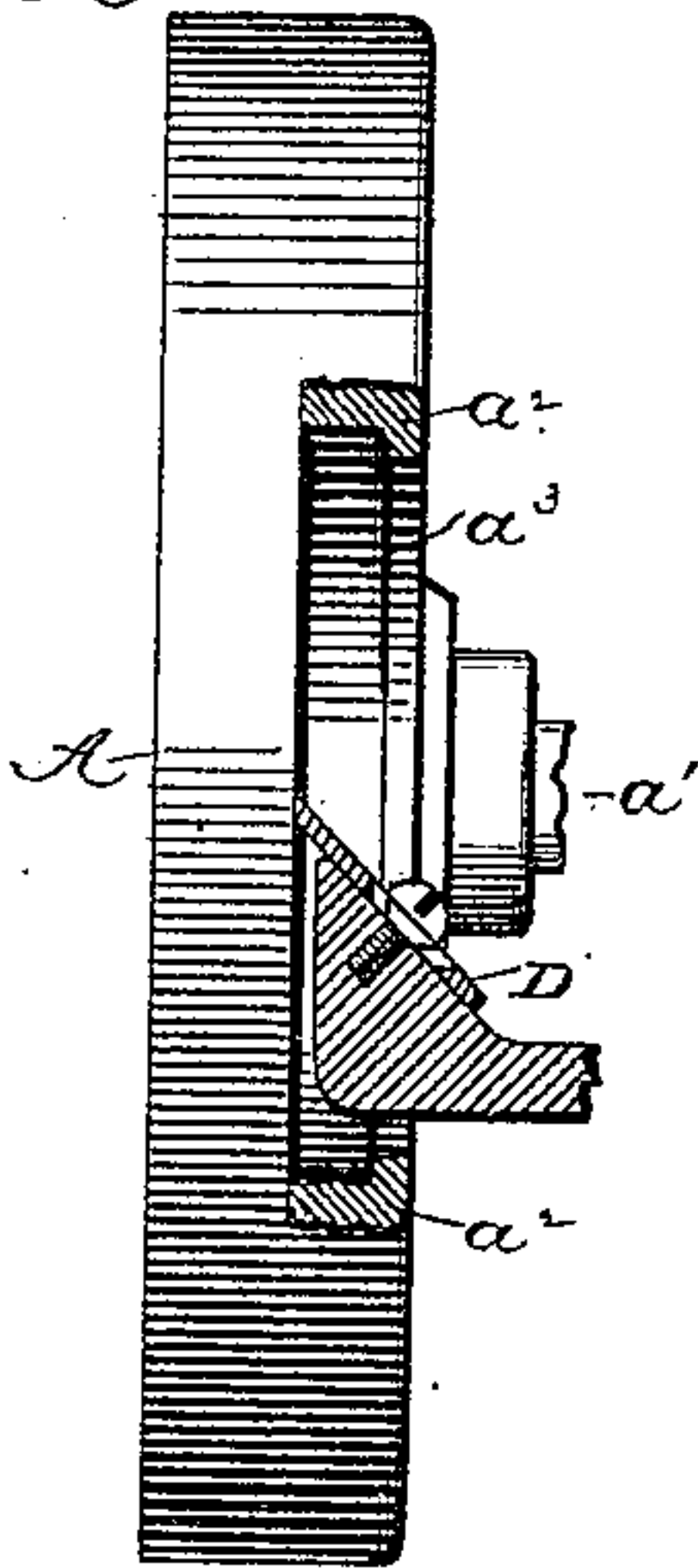
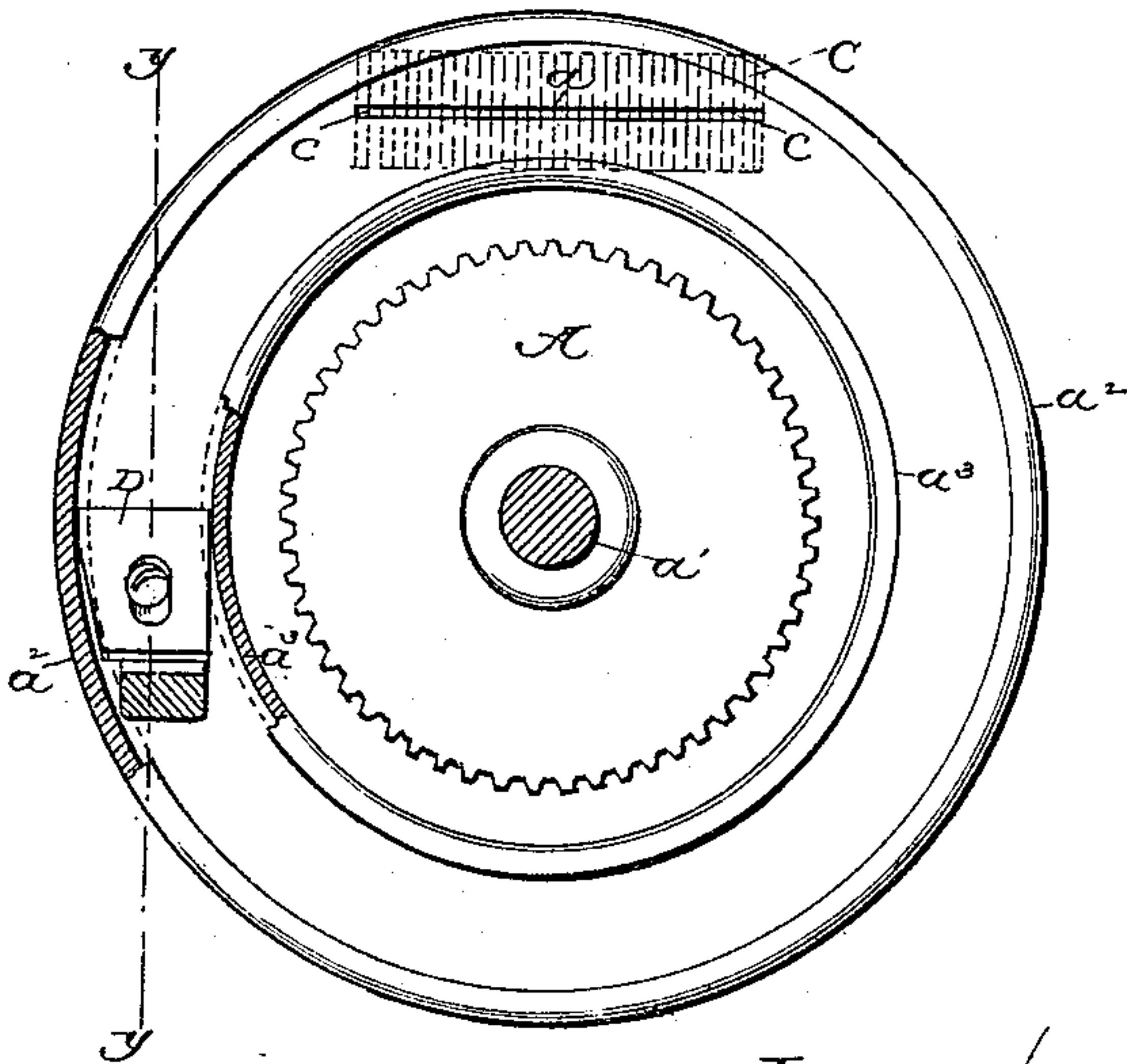


Fig. 2.
on line x-x



Witnesses:
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Att'y

UNITED STATES PATENT OFFICE.

OTTMAR MERGENTHALER, OF BALTIMORE, MARYLAND, ASSIGNOR TO THE
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LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 438,354, dated October 14, 1890.

Application filed December 12, 1889. Serial No. 333,480. (No model.)

To all whom it may concern:

Be it known that I, OTTMAR MERGENTHALER, of Baltimore, in the State of Maryland, have invented certain Improvements in Linotype-Machines, of which the following is a specification.

This invention has reference to machines in which molten metal is delivered by a pump or its equivalent from a melting-pot into a mold, which is closed on one side by one or more matrices, so that the metal solidifying within the mold produces a type having on one edge a character formed in the matrix. It is intended, however, more particularly for use in the well-known linotype-machines, in which a series of matrices and spaces are aligned against the mold to produce a linotype—that is to say, a type-high bar bearing on one edge the characters to print an entire line. In the use of these machines it sometimes happens that the mouth of the melting-pot fails to close tightly against the mold, and in such case the molten metal escapes through the joint between them into the adjacent mechanism.

The object of my invention is to arrest this escaping metal and protect the operative parts of the machine therefrom; and to this end it consists, essentially, in providing a guard or flange which wholly or partially encircles the mouth of the melting-pot and in combining therewith means for effecting the delivery of the waste metal from the machine.

With the exception of the parts last named the entire machine may be of ordinary construction, and I have therefore shown in the drawings only the mold, the melting-pot, and the matrices. In the form represented these parts are, with the exception of the improvement, identical with those represented in Letters Patent No. 378,798, granted to me on the 28th day of February, 1888, to which reference may be made for a detailed description of the manner in which they are constructed and operated.

In the accompanying drawings, Figure 1 represents a vertical cross-section through the mold, the melting-pot, and matrices from front to rear. Fig. 2 is a section on the line $x x$, Fig. 1, looking in the direction indicated by

the arrows. Fig. 3 is a section on the line $y y$, Fig. 2.

Referring to the drawings, A represents the mold in the form of a vertical disk, having the slot or mold proper a cut therethrough from front to rear. The mold is mounted on one end of a horizontal intermittingly-rotating shaft a' , which is also mounted to reciprocate axially, as indicated by the arrow, in order to carry the front face of the mold to and from the matrices.

B represents the melting-pot, containing a constant supply of molten metal and provided with a delivery-mouth b and with the pump b' , suitably operated to deliver the molten metal through the mouth b into the mold a . The melting-pot is mounted to reciprocate horizontally, so that its mouth may be forced tightly against and caused to close the rear side of the mold during the casting operation and then retracted therefrom to permit the rotation of the mold in order to carry the casting to the point of delivery.

C C represent the matrices arranged in line against the face of the mold and tightly compressed against the same to effectually close its front. These matrices are in the form of flat plates, each having in one edge an underlying character or matrix proper c , presented opposite the mold a .

The foregoing parts, as far as I have described them, are constructed and operate in the same manner as those described in my patent above referred to.

In applying the improvement which forms the subject of the present patent I provide the mold-wheel on its rear face with an annular flange a^2 at or near its outer edge. This flange, lying around or outside of the mouth of the melting-pot, serves to arrest any molten metal which may be driven outward between the mouth of the pot and the face of the mold-wheel. I prefer to turn the edge of the flange or guard inward, as shown, in order that it may the more effectively arrest the metal. I also propose to provide the mold-wheel with a second annular flange a^3 , lying between the mouth of the melting-pot and the center of the wheel, to assist in arresting the escaping

metal. The space between the two flanges is, in effect, an annular groove or channel, into which the mouth of the melting-pot projects.

5 The essence of the invention resides in providing the mold with a flange or guard encircling, overlapping, or overhanging the mouth of the melting-pot in position to receive the escaping metal and prevent the latter from passing into the adjacent parts of the machine, and it is to be understood that this
10 flange or guard may be varied in form at will, provided it is adapted to perform this office.

In order to remove the waste metal which solidifies within the flange or guard, I provide
15 a blade or scraper D, fixed to a suitable support and projecting in an inclined position into the annular channel between the flanges a^2 and a^3 and against the rear face of the mold-wheel, as shown in Figs. 2 and 3, so that as
20 the wheel revolves the waste metal will be carried against the blade and thrown outward thereby.

Having thus described my invention, what I claim is—

1. A melting-pot provided with a delivery-
mouth and a pumping mechanism to forcibly
deliver the molten metal therethrough, in combination with a mold against which the delivery-mouth abuts, provided with a flange
overhanging the mouth to arrest such metal
as may escape by leakage through the joint.

2. In combination with the melting-pot, the rotary mold-wheel provided with an annular flange to arrest the escaping metal.

3. In combination with the melting-pot, the mold having the guard or flange to arrest the
escaping metal, and a scraper to discharge the
metal from the interior of the flange.

4. The mold-wheel provided with the two flanges having their edges turned toward each
other, substantially as described and shown.

In testimony whereof I hereunto set my hand, this 2d day of December, 1889, in the presence of two attesting witnesses.

OTT. MERGENTHAUER.

Witnesses:

MURRAY HANSON,
WILLIAM H. BERRY.