

No. 619,392.

Patented Feb. 14, 1899.

W. S. COE.
LINOTYPE MACHINE.
(Application filed Dec. 5, 1898.)

(No Model.)

Fig. 1.

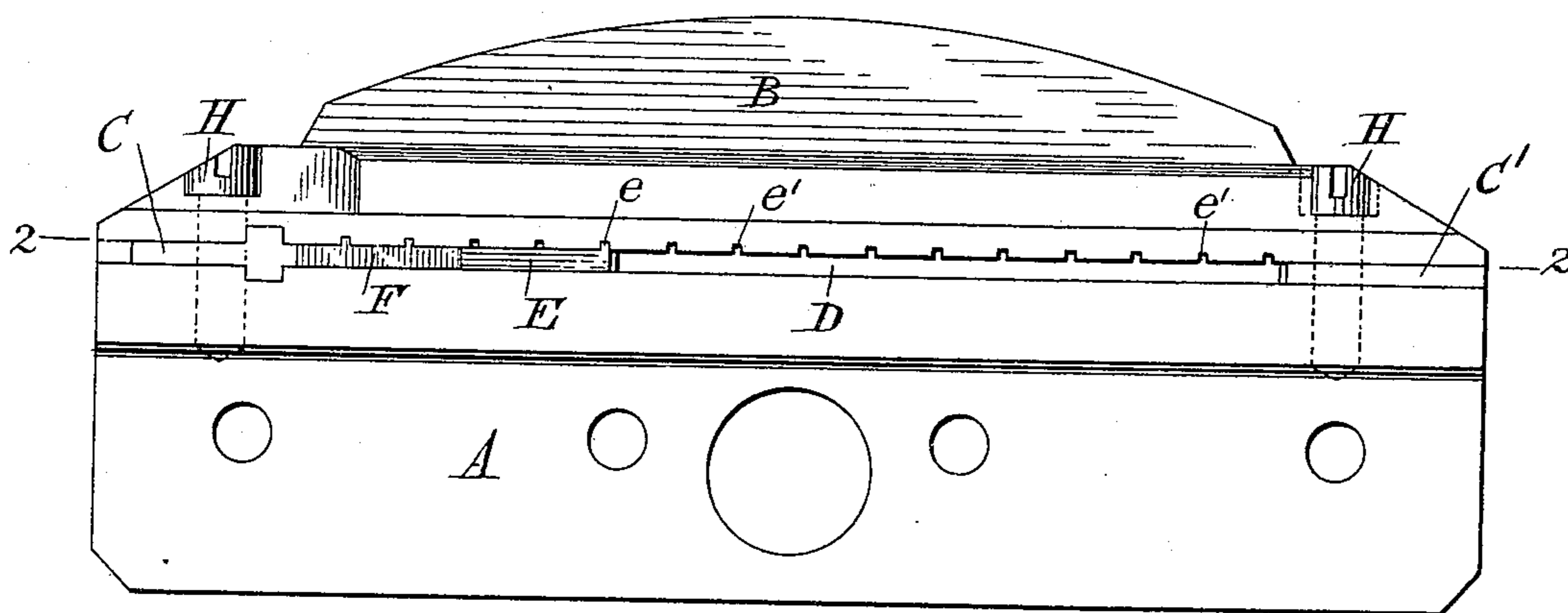


Fig. 2.
ON LINE 2-2.

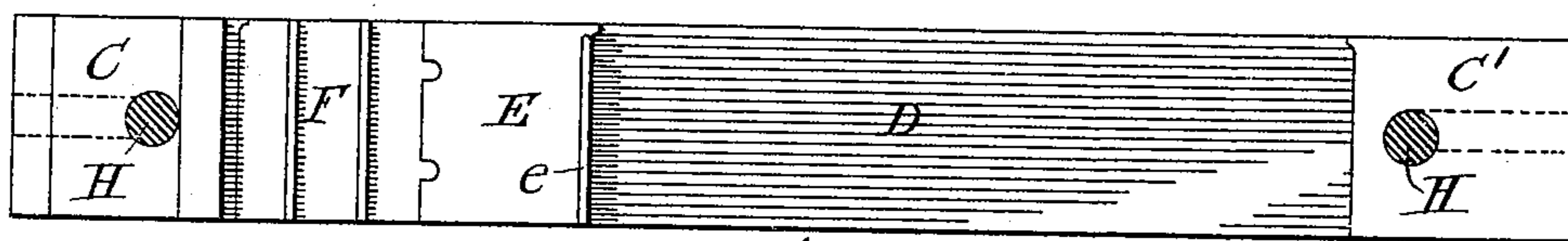
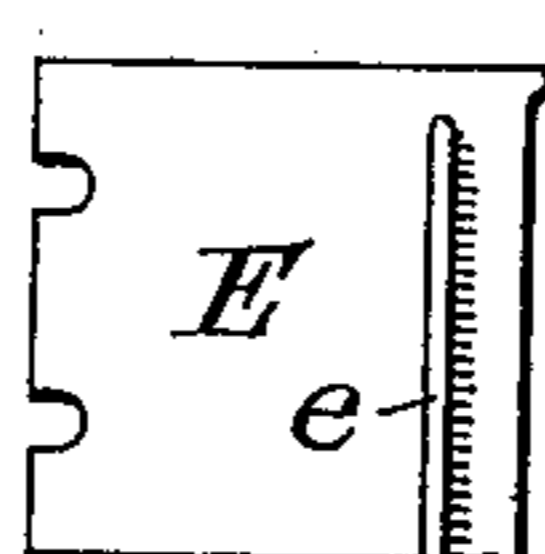
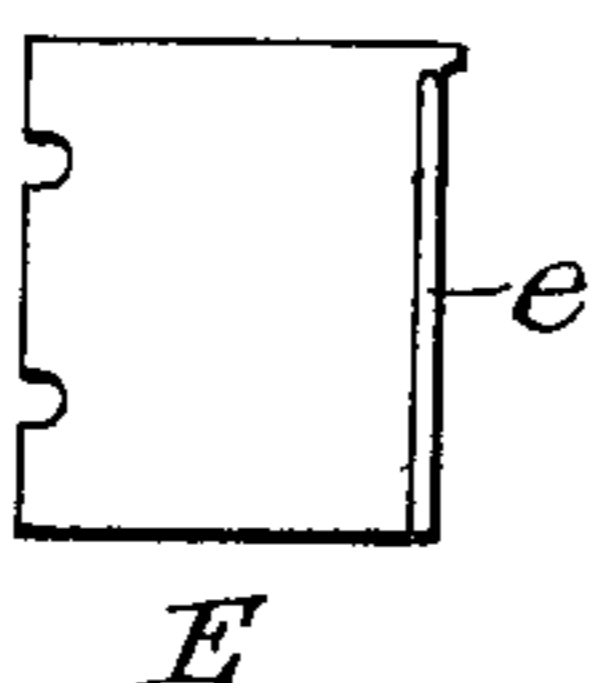
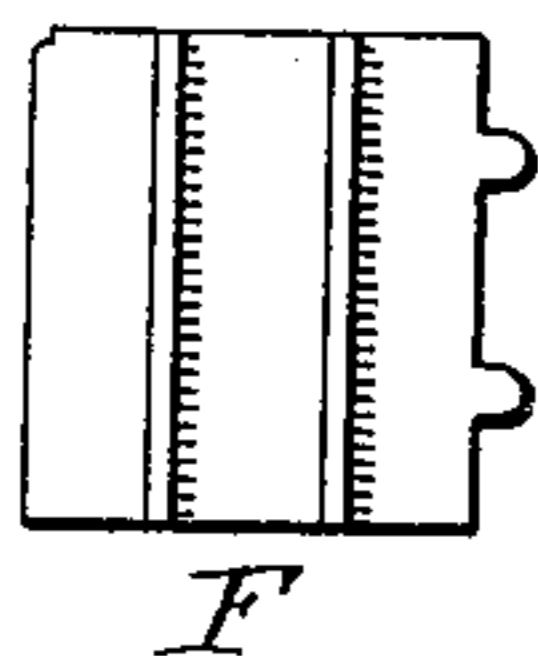


Fig. 3.

Fig. 4.

Fig. 5.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

WALTER S. COE, OF NEW YORK, N. Y., ASSIGNOR TO THE MERGENTHALER
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LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 619,392, dated February 14, 1899.

Application filed December 5, 1898. Serial No. 698,325. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. COE, of New York, (Brooklyn,) county of Kings, and State of New York, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

My invention relates to an improved means for and method of adjusting the molds of Mergenthaler linotype-machines and analogous machines in order to change the length of the slug or linotype produced therein.

In machines of the class named type-metal slugs or linotypes, each bearing on the edge the relief characters or type to print a line, are cast in slotted molds, which are supplied with molten metal from the rear, while they are temporarily closed at the front by matrices containing the characters to be reproduced on the slugs. In order to vary the length of the slug, it is customary to change the length of the slot in the mold. This has been accomplished by sliding one of the liners or pieces over the end of the slot lengthwise of the mold or by removing the liner and substituting another of different length. The first plan is objectionable because of the difficulty of making the adjustment with the extreme accuracy required and the second because of the expense and trouble of maintaining the large number of liners required to meet the various "measures" in common use.

I have discovered that it is possible to obtain the results desired by making use of a short liner movable lengthwise of the mold in order to form one end of the operative slot or mold proper, but insufficient in length to fill the inoperative portion of the slot, the vacant space behind this liner being filled with type-metal or equivalent soft metal.

In practice I introduce the liner at the required point in the mold and then cause the pump of the machine to operate as usual, the result being that the inactive portion of the mold-slot behind or outside of the short liner is filled with metal, which, being permitted to remain, is found to serve all the purposes of a hard-metal liner. Thus it is that by simply shifting the short liner from place to place and filling the space behind it with soft metal I am able to secure all the advan-

tages which were heretofore attained by the use of a large number of expensive hard-metal liners.

The small liner is preferably constructed with ribs to enter the grooves usually formed in the mold in order to keep it from shifting endwise and to facilitate its exact adjustment; but this is not a vital feature. The rear end of the short liner is preferably constructed in such form as to interlock with and assist in holding the soft-metal filling.

The essence of my invention resides in using a soft-metal filling for the inactive portion of the mold-slot in connection with a short-liner filling-piece or facing to form one end of the slot or chamber in which the linotype is cast, so that the linotype or slug may be readily driven out of the mold by the ejector in the ordinary manner.

The precise form of the parts and the construction of the mold are not of the essence of the invention.

In the drawings I have shown my invention incorporated in an ordinary mold, such as is now used in the commercial Mergenthaler linotype.

Figure 1 is a front elevation of the mold with my short liner and soft-metal filling therein. Fig. 2 is a horizontal section on the correspondingly-numbered line of Fig. 1, looking in a downward direction. Figs. 3 and 4 are plan views representing, respectively, the soft-metal filling and the short and harder-metal liner. Fig. 5 illustrates the liner in a slightly-modified form.

Referring to the drawings, A represents the base or body portion of the mold, B the cap, and C C' two hard-metal liners or filling-pieces confined between the cap and body and determining the distance between them, or, in other words, the thickness of the slot or mold proper, D, in which the slug is cast. Heretofore the length of the mold-slot and slug has been determined by the liners C and C', and the length has been changed by removing the liner C and substituting another of different length in order to reduce the length of the slot or mold-cell between its end and the end of liner C'.

In carrying out my present invention I pre-

fer the short additional liner or spacing-piece E, adapted to fit snugly between the cap and body from front to rear, so that its right-hand face will form the end of the mold-slot and
 5 determine the length of the slug to be produced. This liner E will be pinched between the cap and base with sufficient friction to keep it in place during the ordinary operation of the machine.

10 F represents the filling of type-metal or similar material run into the slot between the liners C and E and permitted to remain therein until the length of the mold requires to be changed. This filling being run in by
 15 the ordinary operation of the machine at its first action after the mold is adjusted stands flush with the front and rear faces of the mold and, in connection with liner E, completely fills the inoperative portion of the mold-slot,
 20 so that on the rear face the soft metal fits like the liners against the mouth of the usual metal-pot, so that the leakage of metal or delivery of metal therefrom into the inoperative portion of the mold is prevented.

25 It will of course be understood that the ejector-plate for delivering the slugs from the mold will be limited, as usual, to a width equal to the length of the slug, so that there will be no tendency to drive out either the liner E or
 30 the soft-metal filling.

In order the better to prevent accidental displacement of the filling F, the liner E may be notched in the rear edge, as shown, or roughened or serrated or given any irregular
 35 form which will adapt it to interlock with the filling.

As the slugs or linotypes are almost invariably cast of an even number of ems or half-ems, I preferably provide the liner E with a
 40 rib *e* to enter one or another of the transverse grooves *e'*, which are formed in the under surface of the mold, as usual in linotype-machines. Ordinarily these grooves are one em apart. If the measure called for involves a
 45 half-em, I provide a liner such as shown in Fig. 5, with the rib *e* in a slightly-different position, so that when it is seated in one of

the mold-grooves the operative face of the liner will be half an em away from the position occupied by the face of the liner shown
 50 in Fig. 4. Thus it is that the use of two liners will enable the adjustment of the mold to be made by half-lengths.

In the drawings I have represented the top and bottom portions of the mold as connected
 55 by vertical screws H, passing through the end liners, as usual. It will be understood, however, that these are not a feature of the present invention and that the cap may be confined in position in any of the various ways
 60 already known in the art, there already being in use various external pressure devices for the purpose.

Having thus described my invention, what I claim is—

1. A slotted linotype-mold, having one end of its slot closed by a hard-metal liner and a soft-metal filling behind such liner.

2. In a linotype-mold, the combination of an inner liner E, an outer liner and an intermediate liner or filling of soft metal.

3. In a linotype-mold, the combination of an inner movable liner E and an outer filling of soft metal F interlocked therewith.

4. A slotted linotype-mold, having the
 75 grooves *e'* in combination with a movable hard-metal liner E, having a rib to fit the grooves, and a soft-metal liner F filling the space behind the first-named liner and also filling the opposing grooves, substantially as
 80 described.

5. The method of adjusting the length of a slotted linotype-mold, consisting of introducing a hard-metal liner into the mold-slot to determine the length of the operative portion
 85 and thereafter filling in the vacant space behind the said liner with molten metal.

In testimony whereof I hereunto set my hand, this 28th day of November, 1898, in the presence of two attesting witnesses.

WALTER S. COE.

Witnesses:

JOHN R. ROGERS,
 JOSEPH B. PIGOT.