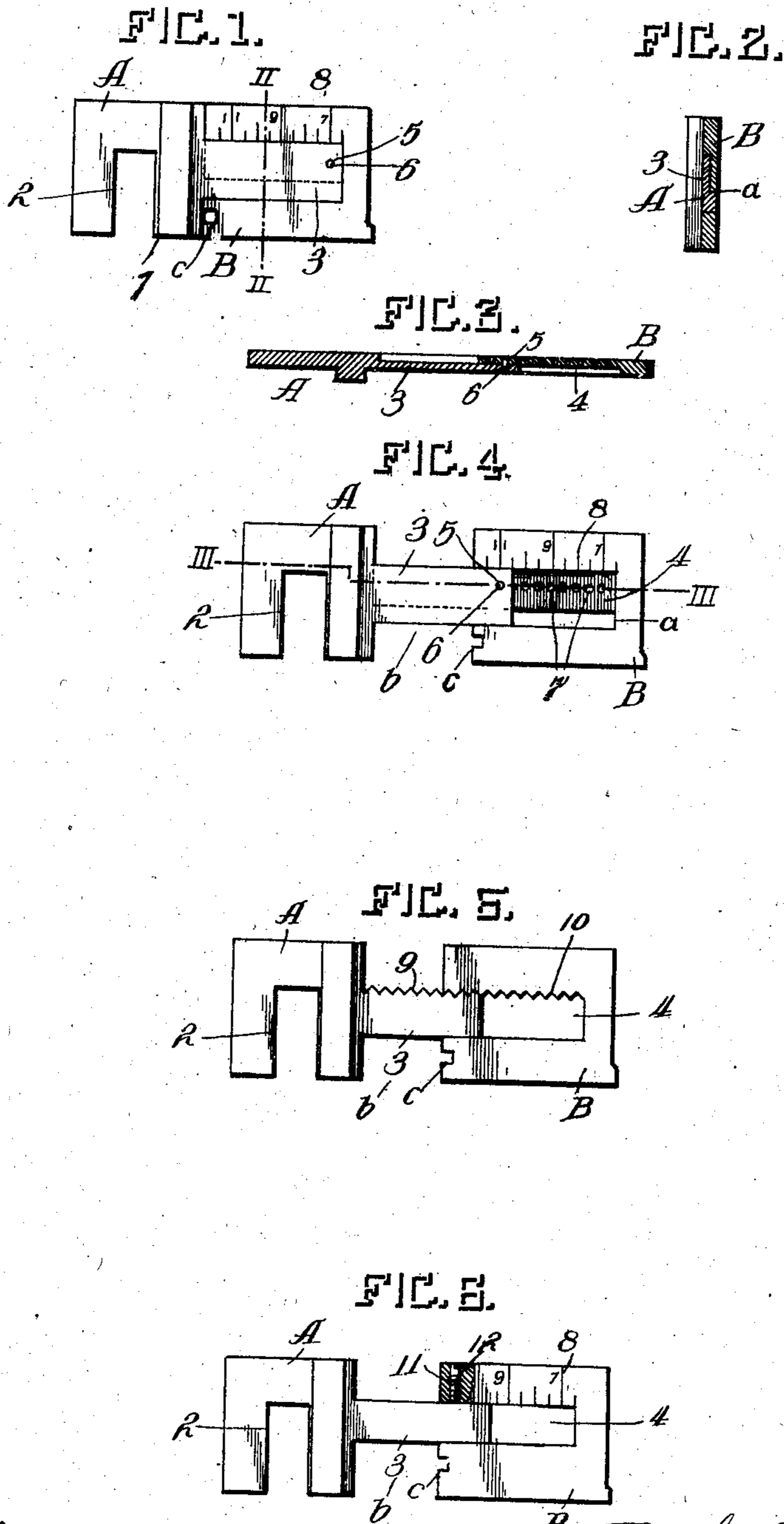


No. 796,213.

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F. P. HOWARD.
LINER FOR LINOTYPE MACHINES.
APPLICATION FILED JULY 13, 1904.



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UNITED STATES PATENT OFFICE.

FRANK P. HOWARD, OF WASHINGTON, DISTRICT OF COLUMBIA.

LINER FOR LINOTYPE-MACHINES.

No. 796,213

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed July 13, 1904. Serial No. 216,360.

To all whom it may concern:

Be it known that I, FRANK PORTER HOWARD, a citizen of the United States, residing at the city of Washington, in the District of Columbia, have invented a new and useful Improvement in Liners for Linotype-Machines, of which the following is a specification.

My invention relates to an improvement in liners for linotype-machines; and it consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of my improved liner in its normally closed position. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a longitudinal section on line 3 3 of Fig. 4. Fig. 4 is a view of the liner partly opened or extended, and Figs. 5 and 6 are modifications.

A and B represent the two sections of my improved liner. Section A is provided with the usual key 1 on its lower surface, adapted to slide into a keyway (not shown) in the mold, and this section A also has the usual open slot 2, which receives a stop-screw (not shown) in the mold.

The two sections A and B are made to interlock in any approved manner, and two or three different methods of accomplishing this have been illustrated in the drawings. In Figs. 1, 2, 3, and 4 section A is provided with a tenon 3 and section B with a mortise 4, adapted to receive the tenon. The mortise and tenon are L-shaped in cross-section, or, in other words, a portion of the tenon—namely, the rear edge—is the full thickness of the liner preferably, whereas the remaining portion is only half the thickness or cut away on the top surface. Section B is correspondingly constructed, or, in other words, the half-thick portion or mortise 4 corresponds in dimensions to the half-thick portion of the tenon, and at the inner edge section B is slotted through, as at *a*, to receive the full thickness of the rear edge of the tenon, all of which is clearly shown in Fig. 2. The purpose of this thickened portion or edge of the tenon is to prevent the type-metal from passing beneath the same, and said metal fills in the space indicated by the letter B in Figs. 4 and 5 formed by lengthening the liner out, and in order to hold this filling in a notch *c* is formed in the inner edge of section B, which retains the filling in place so long as the liner remains

in the mold and from which it is easily removed when the liner is taken out.

One of the parts—the tenon, for instance—is provided with a pin-hole 5, adapted to receive a pin 6, and the other part is provided with a plurality of pin-holes 7 7, either of pica or nonpareil apart, adapted also to receive the pin, whereby to retain the liner in its adjusted position. Opposite these holes a scale is formed which indicates the exact adjustment or length of slug which a certain adjustment of the liner will make. In the drawings I have illustrated a range of adjustment to cast a slug of, say, from twenty-three and a half to nineteen picas. Another liner might be employed with a range of adjustment, say, from eighteen and a half to nine picas and others from twenty-seven and a half to twenty-six and a half and twenty-six to twenty-four picas. Of course all of this is subject to variation, what I have described being merely illustrating.

In the modification shown in Fig. 5 in lieu of the pin-holes and pin previously described the teeth and notches 9 and 10 may be employed. In this construction the mortise and tenon extend the full thickness of the metal instead of half the thickness, as in the other construction.

In still another form (that shown in Fig. 6) a screw 11 is threaded into a hole 12 to hold the sections of the liner in their adjusted positions.

From the foregoing it will be clear that the number of liners required is greatly reduced, as a single liner will accomplish the work of several, thus greatly reducing the cost of equipment and increasing the possibilities in the work which can be accomplished by an ordinarily well-equipped job-printing office.

Additional slight changes might be resorted to besides those already mentioned in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact constructions herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An extensible liner for linotype-machines, comprising two sections adjustably connected, one section having a notch in the inner edge which retains the filling in place while the liner remains in the mold.

2. A liner for linotype-machines, comprising two independent sections, one section having a mortise and the other a tenon, a portion of the mortise and tenon being about half the thickness of the liner, and removable means for locking the sections in their adjusted positions.

3. A liner for linotype-machines, composed of two sections, one of which has a mortise and the other a tenon, portions of said mor-

tise and tenon being the thickness of the section and the remaining portion of less thickness.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FRANK P. HOWARD.

Witnesses:

FRANK E. NEWTON,
WATTS T. ESTABROOK.