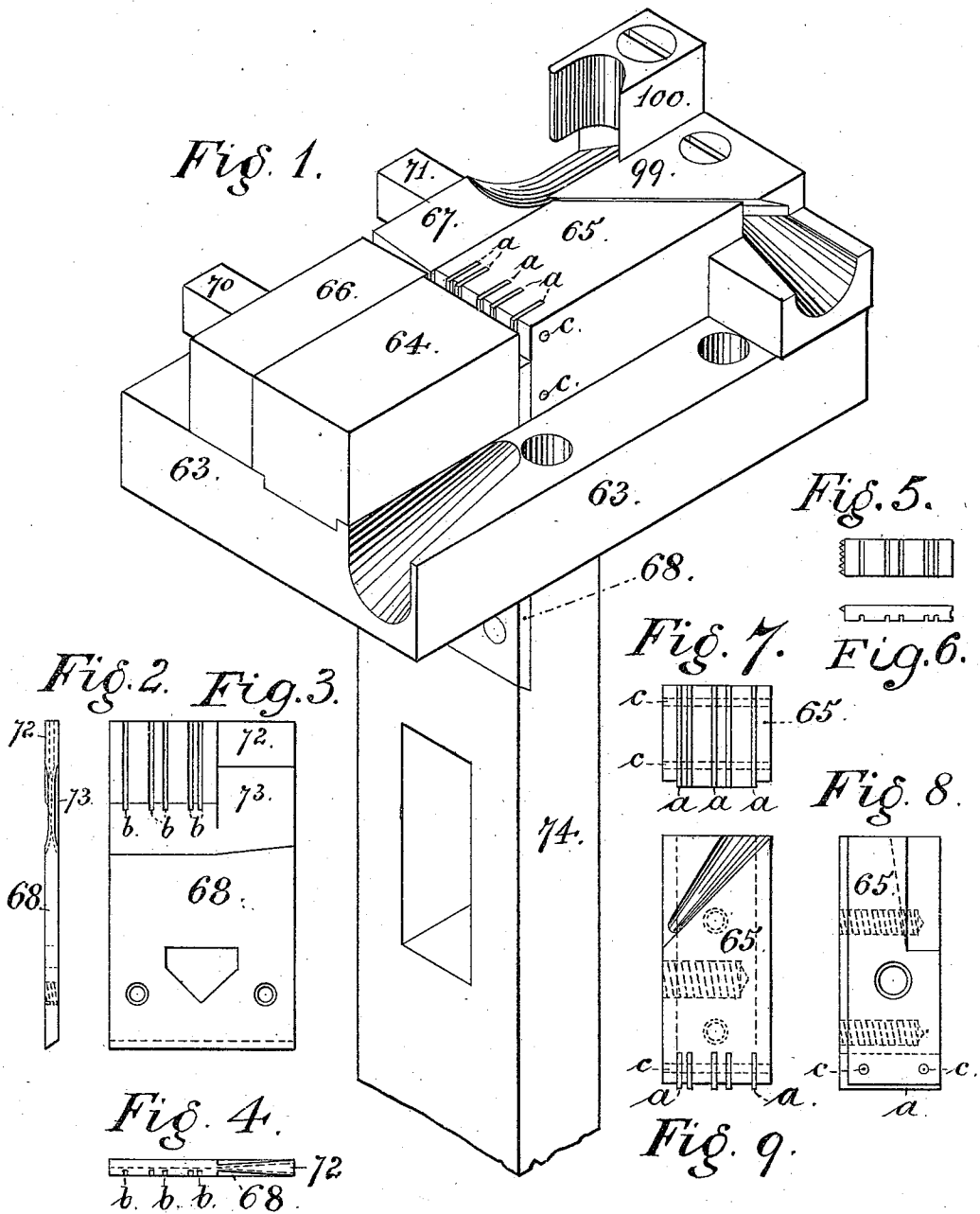


(No Model.)

H. BARTH.
TYPE CASTING MACHINE.

No. 546,503.

Patented Sept. 17, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY BARTH, OF CINCINNATI, OHIO.

TYPE-CASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 546,503, dated September 17, 1895.

Application filed September 25, 1893. Serial No. 486,423. (No model.)

To all whom it may concern:

Be it known that I, HENRY BARTH, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Type-Casting Machines, of which the following is a specification.

My invention relates to type-founding machines, its object being to facilitate the production of type of the character employed in type-setting machines, which type are to be provided with cross-grooves at one side of their bodies, of definite number and relative position, to register with corresponding projections in the slits of the supply-cylinder of the setting-machine. The number and relative position of the cross-grooves vary with the character to be imprinted by the type, as guides to prevent placing a type in a wrong slit. In producing type of this character great difficulty has been experienced heretofore in forming the grooves with sufficient accuracy of alignment and position, and processes of casting, milling, and planing have been resorted to without success. I have succeeded, however, by the use of special molds, in producing type of the desired character and accuracy of grooving by casting, in connection with the type casting and finishing machine patented to myself and Ernst Lietze on January 24, 1888, No. 376,765, on which patent my present invention, as applied to said machine, may be regarded as an improvement, although not necessarily confined to said type of founding-machines.

My invention consists of a mold adapted to use with the said or any suitable founding-machines by which type of the said character, suitably grooved, may be produced in and by the ordinary operations of casting and finishing, a series of such molds or parts of molds being required to produce a font or fonts of type, each mold or part being adapted to produce a type containing a given character.

In the accompanying illustrations of my invention I have selected and exhibit only the mold and parts immediately adjacent and concerned in the formation of the type as

used in the type-founding machine described in the Letters Patent before referred to, and of which the mold forms a part.

In these drawings, Figure 1 is an isometric perspective of a mold. Figs. 2 and 3 are a front and a side elevation of the plunger of the mold. Fig. 4 is a plan or top view of the plunger. Figs. 5 and 6 are a top and side view of a finished type. Fig. 7 is an end view. Fig. 8 is a side view, and Fig. 9 is a top view of the right cheek-piece of the mold.

The figures of reference used herein and upon the drawings correspond with those designating the same parts in said former patent, while the new or additional parts are designated by letters.

Referring now more particularly to the drawings, the mold embodying my improvements is composed of the heavy base-plate 63, Fig. 1, side members or cheeks 64, jet-pieces 66 and 67, and body-piece 74, (I omit the sliding cover constituting the top of the mold as not concerned with my present invention,) all these parts being the same in construction and function as in said former patent described, excepting as to the omission of the projections on the cheek-piece 64 and the corresponding grooves at the upper end of plunger 68 of the body-piece 74, which are formed with plane surfaces, except as herein specified. For types of each separate character a separate cheek-piece 65 is provided, in the end face of which, constituting the side of the type-mold, a number of parallel slits are milled, in which are inserted accurately-formed flat rectangular steel plates *a a*, &c., to stand flush with the top of the mold and project uniformly into the cavity of the same, held firmly to position by pins *c c*, inserted from side to side of the cheek-piece 65, passing through the series of plates. These plates project in parallel relations and are spaced apart in the order required by the particular type-character to be produced. The plates *a a* are thus made separate and removably inserted, as described, in order that they may be removed to allow the end face of the cheek-piece 65 to be "lapped," and also to enable

the pieces themselves to be separately fitted and adjusted to the grooves *b* of the plunger 68. This construction is especially necessary in order that any warping or other molecular changes due to repeated heating and cooling in the preliminary use of the apparatus may be corrected from time to time until the parts attain their final unchangeable molecular condition.

10 The principle of the invention is applicable to all forms of type-founding machines having cheek-pieces or their equivalents constituting the sides of the mold.

The plunger 68 is provided with grooves 15 *b b*, accurately formed and spaced apart to pass over and upon the projecting ends of the plates *a* in its upward movement, each separate cheek-piece 65 requiring a separate plunger 68 to correspond. Across and below the 20 inner ends of the grooves *b* the plunger is made somewhat thinner, in order to facilitate the forming of the grooves *b* and permit the planing or milling tool to run free, and to facilitate also the smoothing and "trueing-up" of the grooves.

25 While I show the projections *a* as attached to the cheek-piece 65, it will be apparent that they may be upon the opposite cheek-piece

64, with a corresponding change in the plunger 68.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. In a type-mold, the combination of a cheek-piece provided with flat plates inserted therein and projecting in parallel relations 35 beyond the face thereof into the cavity of the mold, in combination with a plunger provided with corresponding side-grooves adapted to pass over and upon the edges of the plates, substantially as set forth.

2. In a type-mold, the combination of a cheek-piece having parallel recesses cut into the face-end of the same, plates adapted to fit in said recesses and project beyond said face, and pins inserted from side to side 45 through the recesses and plates in series, to retain the same removably in position, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 50 witnesses.

HENRY BARTH.

Witnesses:

L. M. HOSEA,
LONDON FREYBLER.