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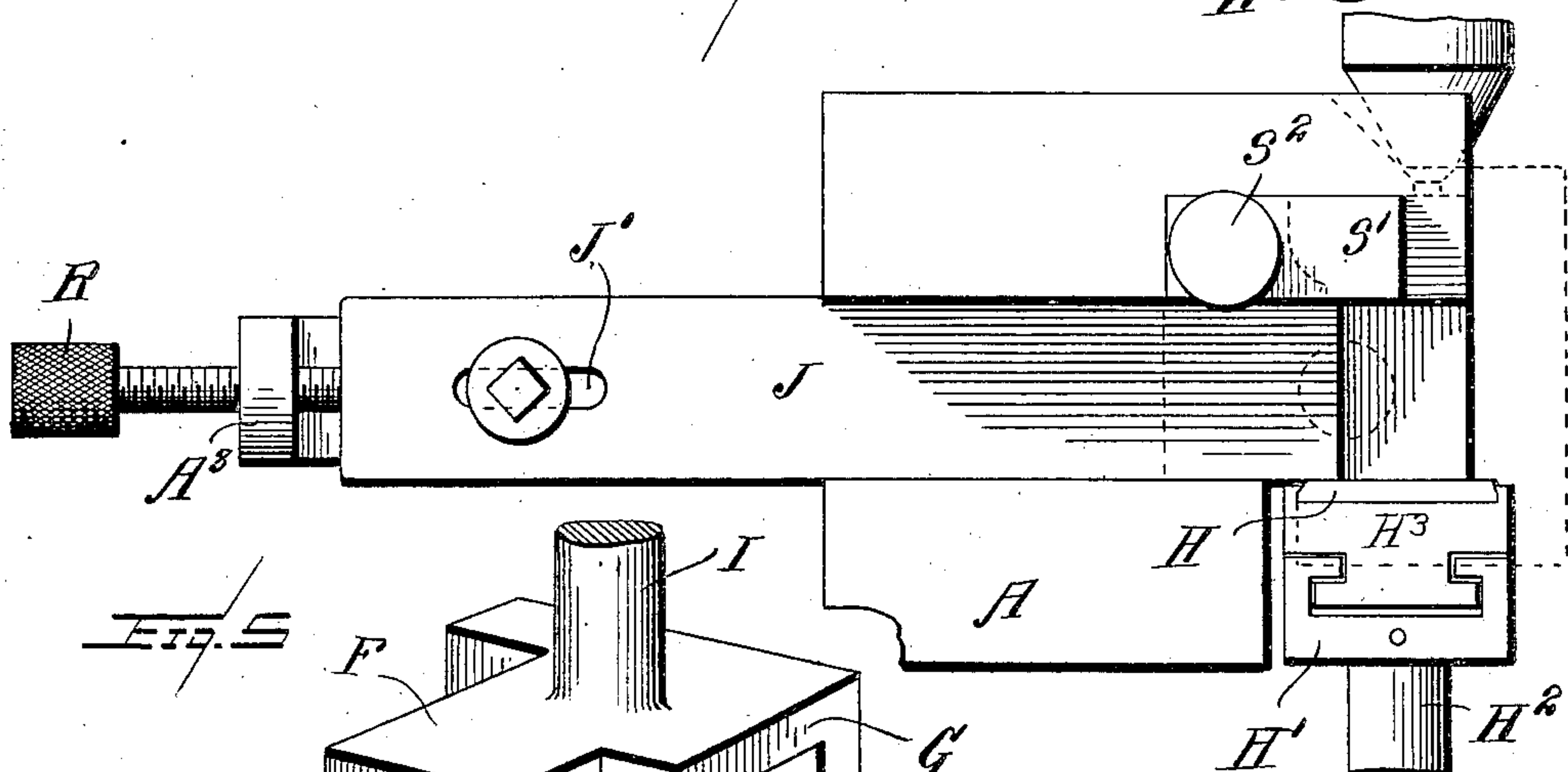
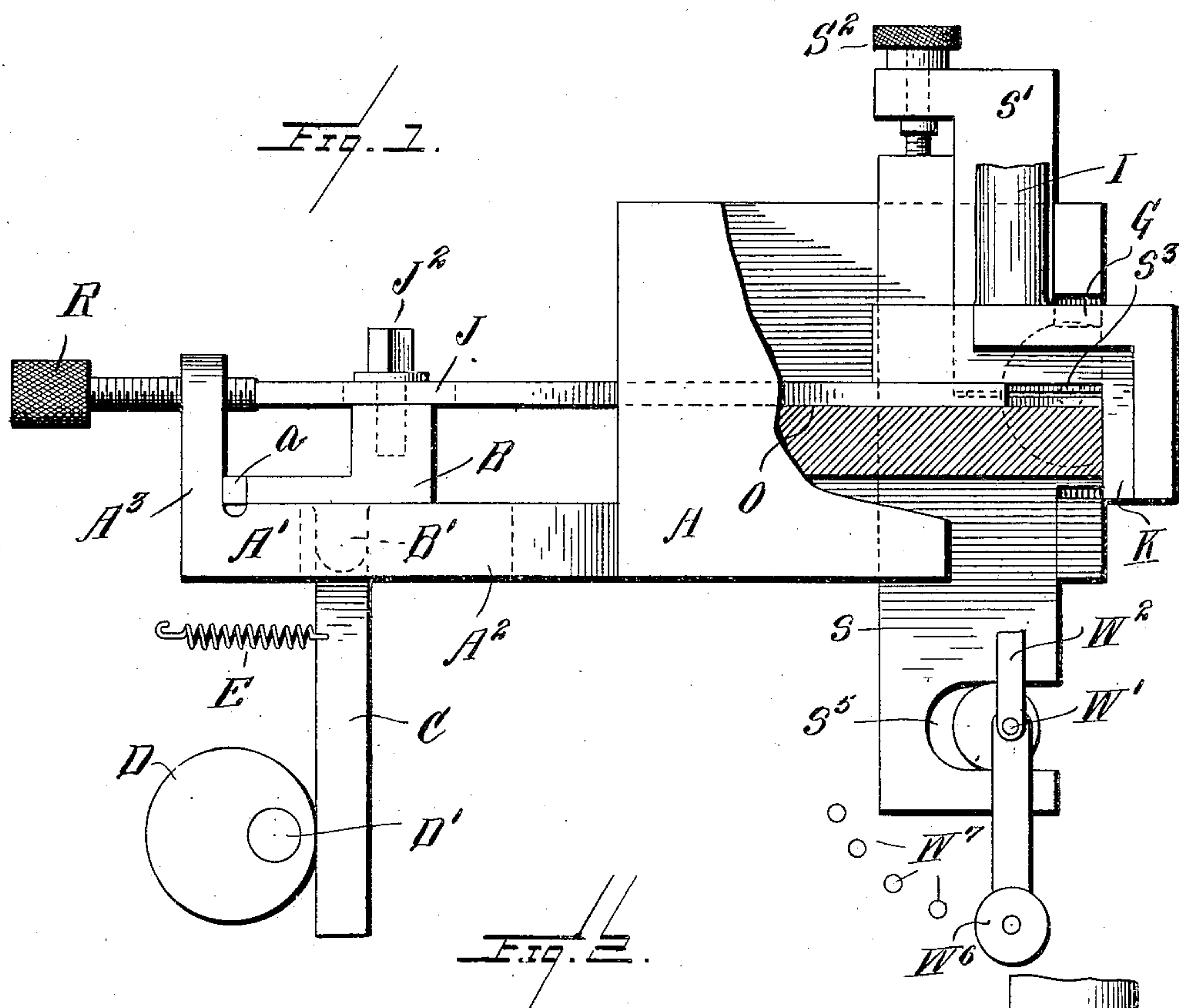
PATENTED JUNE 23, 1908.

C. HUFF, E. B. WHITE & J. T. CARTER.

TYPE MOLD.

APPLICATION FILED FEB. 5, 1907.

2 SHEETS—SHEET 1.



*WITNESSES:*

N<sup>o</sup> 7406.

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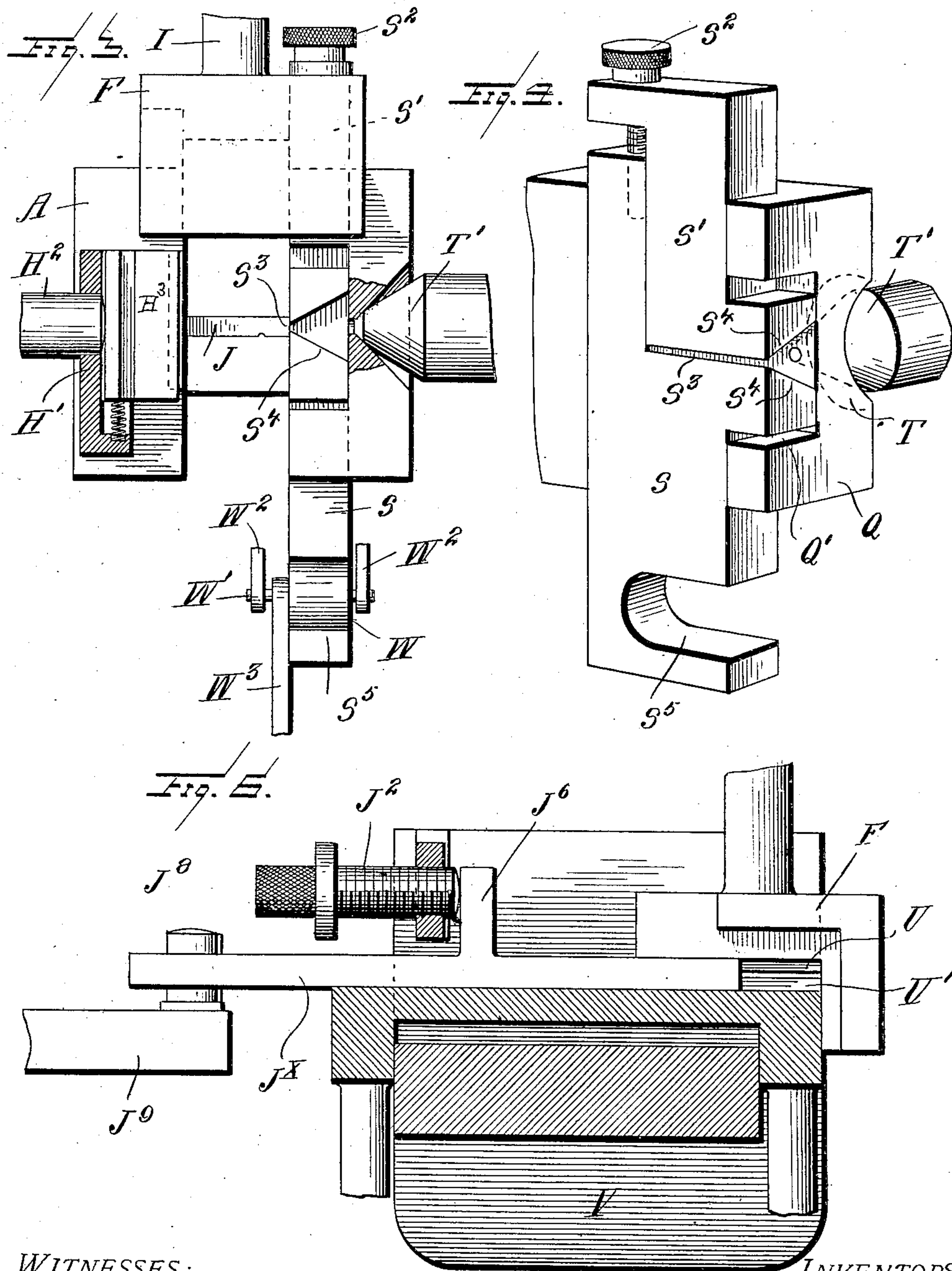
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WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHRISTIAN HUFF, EDWIN BOND WHITE, AND JAMES THOMAS CARTER, OF BALTIMORE, MARYLAND.

## TYPE-MOLD.

No. 891,620.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed February 5, 1907. Serial No. 355,929.

*To all whom it may concern:*

Be it known that we, CHRISTIAN HUFF, EDWIN BOND WHITE, and JAMES THOMAS CARTER, citizens of the United States, residing at Baltimore and State of Maryland, have invented certain new and useful Improvements in Type-Molds; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use same, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in type molds, and the object of the invention is to produce a simple and efficient means whereby a mold may be adjusted to cast any size of type, and in the provision of adjustable gate plates for the purpose of bringing the gate to the center of the mold, whereby there may be an equal distribution of metal to all parts of the mold, thus insuring a perfect type of proper weight and having perfect faces.

Our invention consists further in various details of construction and combinations and arrangements of parts which will be herein- after fully described and then specifically defined in the appended claims.

We illustrate our invention in the accompanying drawings, in which:—

Figure 1 is a side elevation of our improved adjustable mold for making type, a portion of the view being shown in vertical section. Fig. 2 is a top plan view of the apparatus. Fig. 3 is a side elevation of the mold, a portion being shown in section. Fig. 4 is a detail perspective view of the adjustable gate plates, the recessed block or plate holding the same, and the nozzle through which the molten metal is introduced through the gate. Fig. 5 is a detail perspective view of the adjustable top and side of the mold, and Fig. 6 is a sectional view of a slight modification of the invention in which, instead of having the gate plates adjustable, they are adapted to be held stationary and the bottom and top of the mold are made adjustable.

Reference now being had to the details of the drawings by letter, A designates the frame of the apparatus which is preferably of metal and provided with a lateral exten-

sion A' upon which a movable carriage or block B is mounted, said carriage having an integral lug B' projecting from the bottom thereof which is adapted to have a play in an elongated slot A<sup>2</sup> formed in said extension. Pivotaly connected to the lug B' is a lever C which is adapted to be oscillated in any suitable manner, as by means of an eccentric D mounted upon a pin D'.

A spring E is shown in Fig. 1 of the drawings as being connected to the lever C, whereby the lever, after having been driven forward by the eccentric, may be returned to its normal position. The mold proper comprises an adjustable top F, an enlarged detail view of which is shown in Fig. 5 of the drawings, and said top has a downwardly projecting portion forming the side wall F' of the mold, and has a laterally projecting flange G under which a matrix H is adapted to be held against the edges designated by letters K and K' in Fig. 5 of the drawings, thus forming the face wall of the mold. Rising from the block F is a stem I which is adapted to be raised and lowered by any suitable mechanism, not shown.

J designates a longitudinally movable bar, it being our purpose to provide as many of said bars as there are thicknesses of type to be cast, and the inner end of said bar is adapted to form one wall of the mold, said wall being the one opposite the side wall F'. Said bar J is adapted to have a longitudinal movement and rests upon the casting O forming the bottom of the mold and also upon the block or carriage B. A longitudinal slot J', shown clearly in Fig. 2 of the drawings, is formed in each bar J, and an adjusting nut J<sup>2</sup> passes through said slot and is held in a threaded opening in the carriage or block B. An upright portion A<sup>3</sup> at the end of the extension A' of the frame carries a micrometer screw R mounted in a threaded opening in said upright portion, and is adapted to bear against the end of the bar J for the purpose of moving the same longitudinally to its proper adjustment for the width of type to be cast. After the bar J has been adjusted to its proper position, the carriage B is moved to the position shown in Fig. 1 of the drawings, in which the outer end thereof will contact with a buffer a projecting from the upright portion A<sup>3</sup>, after which the screw R may be tightened to hold the bar and carriage fixed together, after which the mi-



crometer screw R may be turned back so that it will not interfere in any way with the end of said bar and also save the screw from unnecessary wear.

5 The block H' is fastened to the plunger H<sup>2</sup> and the matrix holder H<sup>3</sup> is loosely mounted upon said block H' and is adapted to be moved at a predetermined moment by mechanism, not illustrated, whereby the matrix may be withdrawn from the cast type and allow the latter to be ejected by the reciprocating movement which is imparted to the bar J by the lever C. It will be understood that the member F comprising the top and side of the mold will also be raised from the type at a predetermined moment by any suitable mechanism after the type has been cast.

Referring to Fig. 4 of the drawings will be observed a block Q having a recess Q' formed in one face thereof for the reception of the two gate plates S and S', each of which gate plates has a recess formed therein whereby the two plates may be held in adjusted positions with relation to each other, as shown in said Fig. 4. An adjusting screw S<sup>2</sup> is carried by the laterally projecting portion of the plate S' and is adapted to engage a threaded opening in the upper end of the plate S, whereby the width of the opening of the gate S<sup>3</sup> may be adjusted. The ends of the gate plates adjacent to the margin of the gate are downwardly inclined, as indicated by letters S<sup>4</sup>, and a conical-shaped opening T is formed in the block Q, which opening leads into the recess Q' and through which the molten metal from the nozzle T' may be introduced to the gate. Said gate plates S' and S form the rear wall of the mold and the size of the gate may be adjusted to any desired width by means of the screw S<sup>2</sup>, and said gate plates are designed to be adjusted vertically together for the purpose of bringing the gate to the center of the mold of whatever sized type is to be cast, and said adjustment of the plates may be accomplished by any suitable means, such as by the provision of an eccentric W, shown clearly in Figs. 1 and 3 of the drawings, which eccentric is mounted upon a fixed pin W' carried by the arms W<sup>2</sup>, said eccentric being mounted in a recess S<sup>5</sup> formed in one edge of the gate plate S. Fixed to said eccentric is a lever W<sup>3</sup>, the upper end of which is fixed to the pin W', and may be fastened by means of a button W<sup>6</sup> in any one of the holes W<sup>7</sup>, whereby the throw of the lever may be adjusted and impart the proper longitudinal movement to the gate plates.

In Fig. 6 of the drawings, we have shown a slight modification of our invention in which, instead of providing a stationary bottom for the mold, we provide an adjustable one designated by letter V which is raised and lowered by any suitable mechanism, not shown, and also the member F forming the

top and side of the mold, which is also adjustable, but the gate plates designated, respectively, by letters U and U' are held stationary and the removable bars J<sup>x</sup> each is provided with an upwardly projecting lug J<sup>6</sup> against which an adjusting screw J<sup>7</sup> carried by the frame is adapted to bear, whereby said bar may be adjusted longitudinally. Each of the bars J is adapted to fit over a movable lug J<sup>8</sup> mounted upon an arm J<sup>9</sup> which is adapted to have a reciprocating movement.

The operation of our invention is as follows. A matrix for the particular type to be cast is adjusted in the dove-tailed slot in the holder H<sup>3</sup>, said matrix adapted to form the face end of the mold. The particular holder J for the width of the type to be cast is placed upon the table or bottom O and the adjusting screw J<sup>2</sup> passed through the elongated slot in said bar. The micrometer screw R is then turned against the end of the bar and made to move the bar to the proper position regulating the width of the type to be cast, after which the member F is moved down to form the top and side of the mold, and the gate plates raised or lowered so as to bring the gate opposite the center of the mold, as shown in Fig. 3 of the drawings, after which by the adjustment of the screw S<sup>2</sup>, the width of the gate may be regulated to allow more or less of the molten metal to pass into the mold. It will be noted that by the provision of the inclined walls S<sup>4</sup> of said gate plates, the latter may be raised or lowered to any desired adjustment and still allow the molten metal to pass readily through the gate into the mold. By having the gate at the center of the mold will insure an even distribution of the molten metal, thus forming a perfect type of proper weight and perfect faces. The type having been cast, the parts of the mold and the matrix will be withdrawn from the type, and at a predetermined moment, a longitudinal movement will be imparted to the bar J<sup>x</sup> and the type ejected, after which the parts of the mold will be thrown back to their proper positions to receive metal for an additional type.

What we claim is:—

1. A type mold having a wall and a gate, one of said parts being relatively adjustable to the other, as set forth.

2. A type mold having a gate relatively adjustable thereto, as set forth.

3. A type mold having relatively adjustable gate plates, as set forth.

4. An adjustable type mold having independent adjustable gate plates so arranged that the gate may be centralized relative to the mold, as set forth.

5. An adjustable type mold having gate plates forming one wall thereof, adjustable with reference to each other and relatively to the center of the mold, as set forth.



6. An adjustable type mold, gate plates forming one wall of the mold, adjusting means for regulating the width of the gate, and means for moving the gate plates to centralize the gate with reference to the mold, as set forth.

7. An adjustable type mold, gate plates forming one wall of the mold, adjusting means for regulating the width of the gate, means for moving the gate plates to centralize the gate with reference to the mold, the adjacent ends of the gate plates at the margins of the gate being inclined, and a pump nozzle opening into the space intermediate said inclined ends of the plates, in the various adjustments of the latter, as set forth.

8. An adjustable type mold, gate plates forming one wall of the mold, a recessed block in which said plates are mounted, means for adjusting the plates to regulate the size of the gate, and means for moving the gate plates to center the gate relative to the mold, as set forth.

9. A type mold having gate plates forming one wall thereof, a recessed block in which said plates are mounted, an adjusting screw carried by one of said plates and engaging the other, whereby the two plates may be adjusted to regulate the size of the gate, and means for moving the gate plates to centralize the gate relative to the mold, as set forth.

10. A type mold having gate plates forming one wall thereof, a recessed block in which said plates are mounted, an adjusting

screw carried by one of said plates and engaging the other, whereby the two plates may be adjusted to regulate the size of the gate, one of said plates being recessed, an eccentric mounted in said recess, and a lever connected to said eccentric and adapted to be moved to actuate the gate plates to centralize the gate relative to the mold, as set forth.

11. A type mold comprising a frame, a fixed bottom to said mold and adjustable walls, adjustable gate plates and means for centering the gate relative to the mold, a carriage mounted upon the frame, an ejector bar mounted upon the bottom of the mold, an adjusting screw passing through a slot in said bar and fixed to the carriage, a screw mounted in a threaded opening in a portion of the frame and adapted to bear against the end of said bar, a lug upon said carriage adapted to have a play in a slot in the frame, a lever pivoted to said lug, and an eccentric adapted to bear against said lever, as set forth.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

CHRISTIAN HUFF.  
EDWIN BOND WHITE.  
JAMES THOMAS CARTER.

Witnesses:

E. WALTER ROBINSON,  
AUBREY ELLIS MINER.