

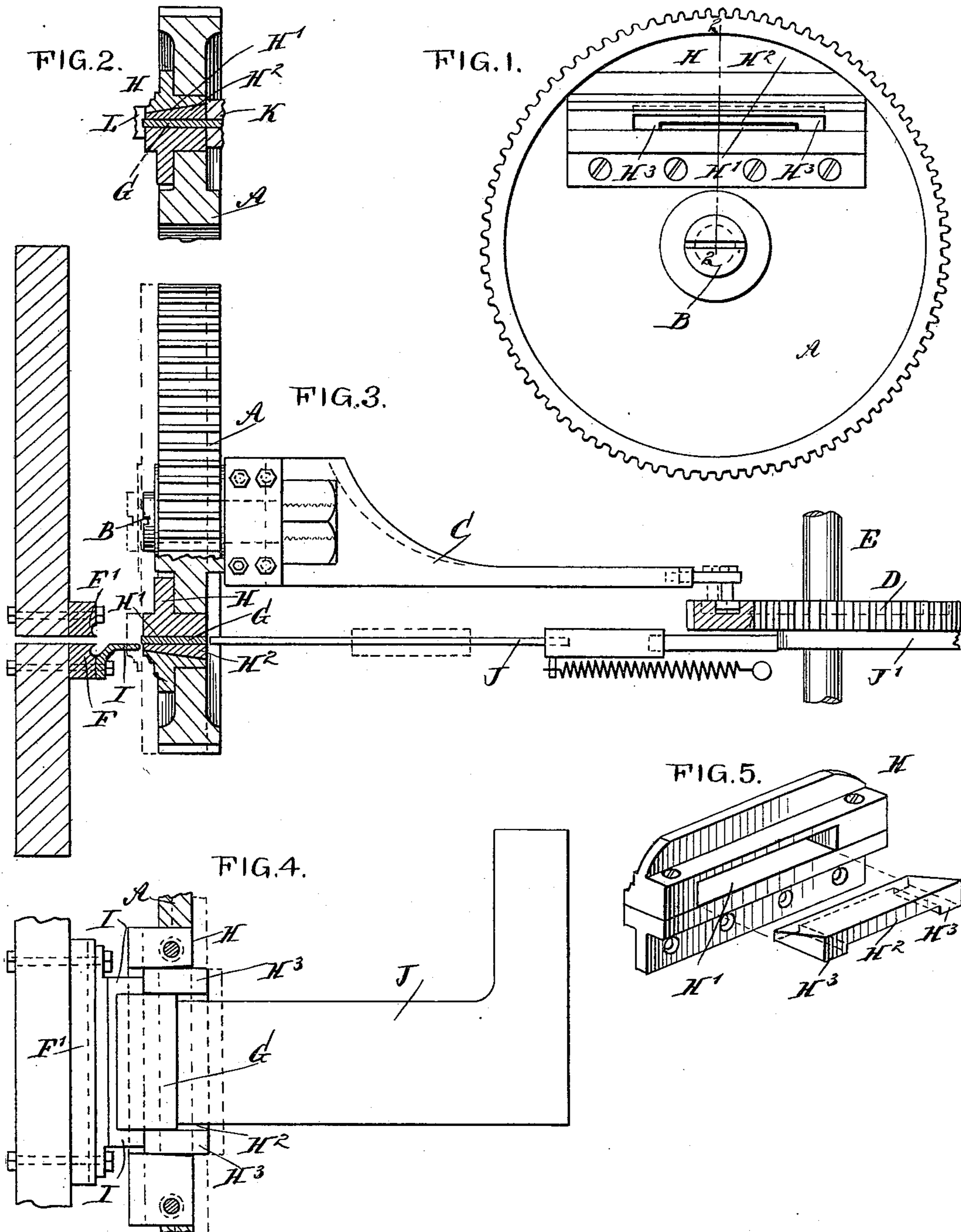
No. 621,329.

Patented Mar. 21, 1899.

H. J. DERBYSHIRE.
LINE CASTING MACHINE.

(Application filed Dec. 3, 1897.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY JAMES DERBYSHIRE, OF COLUMBUS, OHIO.

LINE-CASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 621,329, dated March 21, 1899.

Application filed December 8, 1897. Serial No. 660,655. (No model.)

To all whom it may concern:

Be it known that I, HENRY JAMES DERBYSHIRE, of Columbus, in the county of Franklin and State of Ohio, have invented a new and Improved Linotype-Casting Machine, of which the following is a full, clear, and exact description.

The invention relates to Mergenthaler linotype-casting machines arranged to permit of casting a line or slug in proper proportions to permit of easily ejecting it from a mold, at the same time requiring no accurate cutting or trimming by the knives now employed.

The invention consists of novel features and parts and combinations of the same, as will be hereinafter more fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a face view of the mold-wheel and its mold. Fig. 2 is a cross-section of the same on the line 2 2 of Fig. 1. Fig. 3 is a sectional side elevation of the improvement with the line or slug cast and ready for ejection. Fig. 4 is a plan view of the same with parts in section and the line partly ejected, and Fig. 5 is a perspective view of the detached mold with the movable member removed.

In casting-machines as at present constructed it is necessary to make the line or slug tapering to allow of easily ejecting it from the mold, and smaller projections are cast on the side of the line, which may be trimmed off by the action of a knife to overcome the taper in the line, so as to make the line of an equal thickness throughout. By this operation the type is always a little smaller at the bottom than at the top, causing it to buckle in the form when being made up, and constantly topples over to the annoyance of the compositor. By my improvement, presently to be described in detail, this is all avoided and the slug or line is cast at once in proper proportions and is ejected from the mold in a perfect condition, requiring the knives only for scraping off the little fins produced during the casting operation and caused by the matrices alining against the mold.

The mold-wheel A is mounted in the usual manner on a stud B, carried by a slide C, adapted to be actuated from a cam-wheel D, secured on one of the shafts E of the linotype-machine, so that when the machine is in operation the mold-wheel A receives the usual intermittent motion and a reciprocating motion for moving it toward or from the knives F F', through which the line or slug G is forced after leaving a mold H, carried on the web of the casting-wheel A.

The mold H is provided with a slot H', and the outer side of said slot is preferably formed by a movable member H², wedge-shaped in cross-section to fit the correspondingly-shaped outer portion of the slot. The member H² is provided at its ends with lugs H³ for guiding it properly in the slot H' and for maintaining the length and thickness of the line to be cast, as hereinafter more fully described.

To the knife F is secured a pusher I, projecting toward the face of the wheel A and in alinement with the small end of the wedge-shaped member H² of the mold H, so that when the mold-wheel A is in the position shown in Fig. 3 and is advanced toward the knives F F' then the member H² comes in contact with the stationary pusher I, and is thus moved partly out of the slot to release the line or slug G, which is now pushed out of the slot H' by a pusher J, actuated in the usual manner from a cam J', carried by the shaft E. Now when the wheel A rotates for the next operation and moves into position for receiving the lead from a pot K then the pot in advancing toward the mold moves against the outwardly-extending end of the member H², so as to push the latter back into the slot to its proper place, the small end of the member abutting against the matrices L, closing this end of the slot. (See Fig. 2.) When the parts assume this position, the cast metal can readily run from the pot K into the slot H' to cast a slug or line against the matrices L, and when this has been done and the wheel A makes a half-revolution to bring the mold to the position shown in Fig. 3 then the above-described operation is repeated—that is, the mold A in advancing toward the knives F F' has its movable member H² dislodged by the pusher I to release the cast slug

or line and to permit the pusher J to readily push the slug or line out of the mold over the fixed pusher I to and between the knives F F' to scrape off the fins formed on the slug, as previously described.

It is evident from the foregoing that the knives F F' require no micrometer adjustment, as is necessary in machines heretofore employed, the slug or line being at once cast in proper proportions and requiring no trimming.

When it is desired to change from one form of type to another, a different-sized movable member H² can be readily employed in the mold H without requiring any other changes on the mold.

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

1. The combination of the mold comprising a relatively-fixed section having a slot for the reception of the material, said slot being entirely in the fixed section, and a member movable in said slot in the direction of the open ends thereof and along one of the walls of the slot, the thickness of said member being less than the width of the slot, so that a space will be left for the reception of the material between the opposite wall of the slot to that engaged by the movable member and the exposed face of the said member.

2. The combination of the mold having a through opening or slot extending from one face of the mold to the opposite face thereof, a member movable in said slot in the direction of the open ends of the slot, the thickness of said member being less than the width of the slot, and an ejector arranged to move in that part of the slot which is between the exposed face of the movable member and the opposing face of the slot.

3. A mold having a through opening or slot

with an inclined wall, and a wedge-shaped member movable in the slot along said inclined wall.

4. A linotype-casting machine provided with a slotted mold having a movable member made wedge-shaped, for releasing a cast slug or line.

5. A linotype-casting machine provided with a slotted mold having its bottom formed by a movable wedge-shaped member, formed at its ends with guide-lugs for maintaining the length and thickness of the line, substantially as shown and described.

6. A linotype-casting machine provided with a revolving casting-wheel, a mold carried by the said wheel, and provided with a movable member for releasing a cast slug or line, means for reciprocating the said wheel, and a fixed pusher adapted to engage the said movable member, to dislodge it and release the cast slug or line, substantially as shown and described.

7. A linotype-casting machine provided with a revolving casting-wheel, a mold carried by said wheel, and having a movable member, and a casting-pot for engaging the said member and pushing it into position in the mold, substantially as shown and described.

8. The combination of the casting-wheel mounted to rotate and also capable of axial movement, the mold carried by said wheel, the member movable within the mold in a direction approximately parallel to the axis of the wheel, the casting-pot arranged to engage one end of said movable member and to push it into the mold, and the pusher arranged to engage the other end of the movable member and to dislodge it from the mold.

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Witnesses:

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