No. 733,571. PATENTED JULY 14, 1903

J. B. ALLEN.

NIPPLE FOR LINOTYPE MACHINES.

APPLICATION FILED MAR. 17, 1903.

NO MODEL.

Fig. 1.

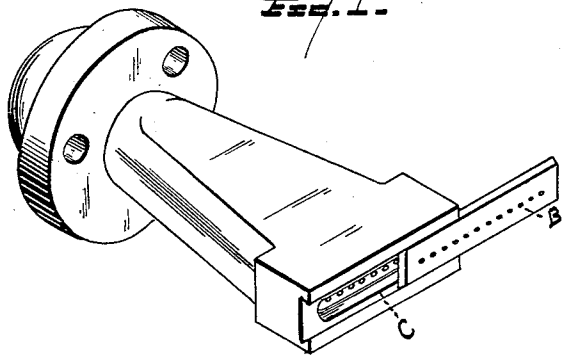
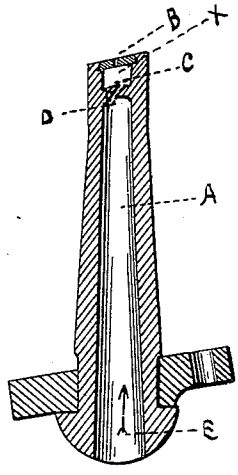


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES B. ALLEN, OF DETROIT, MICHIGAN.

NIPPLE FOR LINOTYPE-MACHINES.

SPECIFICATION forming part of Letters Patent No. 733,571, dated July 14, 1903.

Application filed March 17, 1903. Serial No. 148,223. (No model.)

To all whom it may concern:

Be it known that I, JAMES BENJAMIN ALLEN, of the city of Detroit, in the State of Michigan, have invented certain new and useful Improvements in Nipples for Linotype-Machines; and I do hereby declare the following to be a full, clear, and exact description of my said invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to nipples used in machines in which type are cast in slugs or lines; and the objects of the present invention are to obtain a more exact, full, and solid slug and to provide that the slugs shall be cast under a more equal pressure and temperature.

In the ordinary nipples, through which the casting metal is delivered into the casting-box, the metal is passed through small outlets into the casting-box and the several parts of the nipple through which the molten metal passes, and also of the casting-box, which the metal first and progressively impinges upon, are necessarily not of the same temperature, and chilling of the metal takes place in different degrees during this passage, which chilling affects the manner in which the metal fills the casting-box and forms a slug. Further, in certain forms of nipples the series of vents through which the molten metal passes are not in the same horizontal plane and the pressure upon the metal induced by the plunger varies according to the position of the particular piece of metal in the nipple. Such variations of pressure also cause variations in the slug.

The insertion of a hurdle at a short distance before the actual vent of the nipple, through which the molten metal passes, and the use of a collecting-chamber before final exit from the nipple effect an equalizing of the pressure and temperature of the molten metal throughout its parts, both in its passage through and out of the nipple, and in the collecting-chamber situate between the hurdle and the actual nipple-vents.

In the accompanying drawings, Figure I is a perspective view of the nipple, and Fig. II is a vertical longitudinal sectional view of one of the many forms of nipples used in such machines.

In Fig. I, A is an ejecting-passage, by which the molten metal passes from the melting-pot into the casting-box.

B is a row of small counterbored holes, through which the metal is ejected into the casting-box.

C is a round metal hurdle having bored through it, preferably in a slanting direction either upward or downward, a series of parallel small holes having collectively the same or slightly greater emitting area than that of the actual vent holes of the nipple.

D is a series of parallel holes in the hurdle.

In operation the molten metal proceeding from the melting-pot in the direction of the arrow E passes through the passage A, fills up the passage, passes through the holes D in the hurdle and collects in the chamber X between the hurdle and the nipple vents, fills that chamber, and passes through the series of holes B into the casting-box.

I claim as my invention—

1. In a linotype-machine the combination with a nipple-body containing a passage for the molten metal and an exit therefor into the casting-box, of a hurdle interfering with the passage of the molten metal in the nipple so that the flow of molten metal is checked in said passage before its ejection between the hurdle and the walls of the nipple-passage.

2. In a linotype-machine the combination with a nipple-body containing a passage for the molten metal and an exit therefor into the casting-box, of a hurdle interfering with the passage of the molten metal in the nipple so that the flow of molten metal is checked in said passage before its ejection between the hurdle and the walls of the nipple-passage, and a collecting-chamber between said hurdle and the nipple-exit.

3. In a linotype-machine the combination with a nipple-body containing a passage for the molten metal and an exit therefor into the casting-box, of a hurdle bored with holes interfering with the passage of the molten metal in the nipple so that the flow of molten metal is checked in said passage before its ejection

through said hurdle, a collecting-chamber between said hurdle and the nipple-exit.

4. In a linotype-machine the combination with a nipple-body containing a passage for the molten metal and an exit therefor into the casting-box, of a hurdle with holes bored in a slanting direction interfering with the passage of the molten metal in the nipple so that the flow of molten metal is checked in said passage before its ejection over or under the hurdle, and a collecting-chamber between said hurdle and the nipple-exit.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JAMES B. ALLEN.

Witnesses:
JOHN L. MURPHY,
J. EDWARD O'CONNOR.