Dec. 2, 1924. 1,517,608

A. W. ATKINS

CASTING MACHINE

Filed Jan. 4, 1922

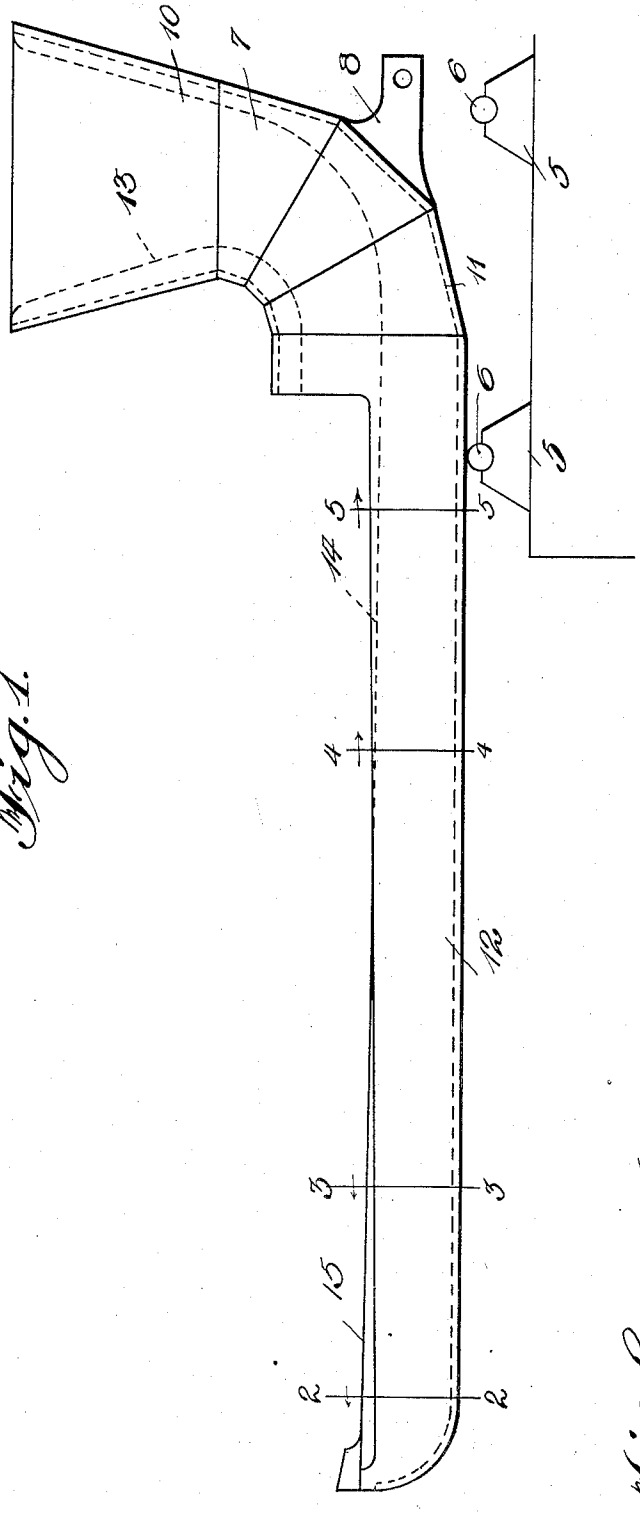


Fig. 1.

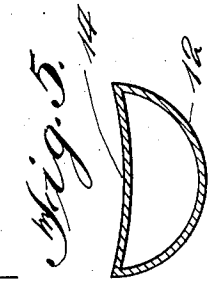


Fig. 5.



Fig. 4.

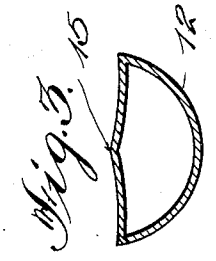


Fig. 3.



Fig. 2.

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UNITED STATES PATENT OFFICE.

ALFRED W. ATKINS, OF BROOKLYN, NEW YORK.

CASTING MACHINE.

Application filed January 4, 1922. Serial No. 527,013.

To all whom it may concern:

Be it known that I, ALFRED W. ATKINS, a citizen of the United States, residing at Brooklyn, New York, have invented new and useful Improvements in Casting Machines, of which the following is a specification.

This invention relates to improvements in casting machines and more particularly to the feed spout for conducting the molten metal to the interior of a horizontally disposed centrifugal casting machine although it is to be understood that I do not wish to limit myself to this specific use or application.

In order that a clearer perception of the present invention may be had it may be stated that centrifugal casting machines are sometimes constructed with a horizontally disposed rotating drum, that is, a drum having its axis in a horizontal line and about which axis the drum is rotated to centrifugally throw the molten metal to the interior surface of the drum where it is cooled and hardened.

This type of apparatus is frequently used in casting cylindrical bearings and the like. It is, however, quite a problem to introduce the molten metal to this rotating drum or spraying in an even manner whereby the casting takes a more or less uniform thickness.

The present invention, is, therefore, designed to accomplish this purpose, among others, in a simple and practical manner.

A further object of the invention is to provide a feed spout particularly adapted for use in the manner above described which may be inexpensively manufactured and assembled as well as one which will be reliable, efficient and durable in operation.

Other objects will be in part obvious and in part pointed out in connection with the accompanying sheet of drawings illustrating one of various possible embodiments of the invention. In these drawings,

Figure 1 is a side elevational view of the spout, while,

Figures 2, 3, 4 and 5 are transverse sectional views taken on the lines 2/2, 3/3, 4/4, 5/5 of Figure 1.

Referring to Figure 1, there is provided adjacent the casting machines suitable supports 5 provided with rollers 6 permitting the spout 7 to be easily moved in and out of the opening in the end of the drum of the casting machine as desired. The spout is provided with a perforated lug 8 which may be grasped by any suitable tool for moving it with respect to the roller supports 5. The spout itself comprises a vertically disposed funnel-like member 10 having an elbow portion 11 and a relatively long horizontal disposed portion 12. The spout is preferably made of metal and provided with a clay lining as indicated at 13. The larger portion of the horizontal part 12 is open at the top and has a gradually changing upper surface from the concave part 14 indicated in Figure 5 to the convex part 15 indicated in Figure 2. This is for the purpose of causing an equal or uniform overflow of the metal substantially throughout the entire length of the part 12. This will appear clear from the statement that the molten metal poured into the funnel 10 flows downwardly and over the concave portion 14 and owing to its greater depth partially spills over the side while a gradually decreasing depth or wave height, as it might be termed, travels towards the left to the convex part 15 where it continues to spill over laterally making a substantially uniform flow over the sides throughout the entire length. In this manner the metal is collected uniformly in the casting drum and materially aids in the production of a uniformly thick cylinder.

The construction and operation of this device will, of course, be familiar to those skilled in the art and a further statement thereof is believed to be unnecessary. The invention comprises a simple and practical device which may be easily manufactured, assembled and operated.

Without further analysis, the foregoing will so fully reveal the gist of this invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features that, from the standpoint of the prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention, and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims.

What I claim is:—

1. A spout for use with casting machines comprising a vertically disposed funnel-like member and a horizontally disposed conveying portion, the surface of which gradually

tapers from concave at the inlet end to convex at the outer end whereby the molten metal spills uniformly from the sides of the spout.

2. A spout for use with casting machines comprising a funnel-like vertically disposed member having a non-combustible lining, a horizontal portion connected with said funnel portion by an elbow, said horizontal portion having an open top with a surface over which the molten metal is adapted to pass, gradually changing from a concave surface at the inlet end to a convex surface at the opposite end.

Signed at Brooklyn, N. Y., this 10th day of October, 1921.

ALFRED W. ATKINS.