

H. J. MOLINDER.
 ROTARY MOLD FOR FOUNDING TUBES AND THE LIKE.
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1,004,293.

Patented Sept. 26, 1911.

Fig. 1.

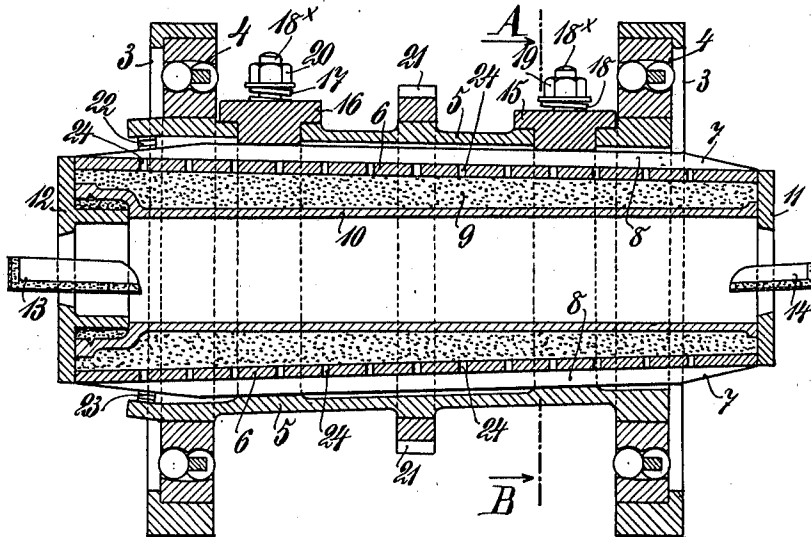
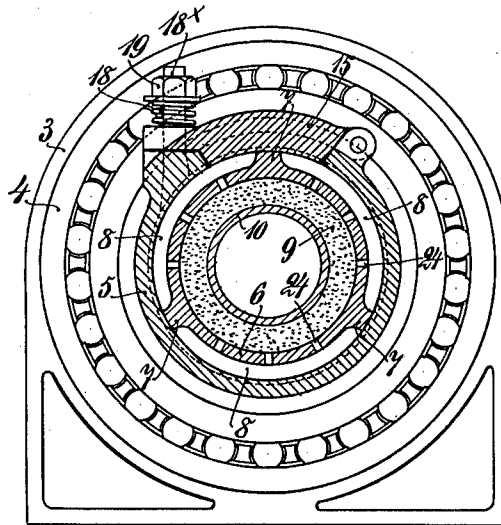


Fig. 2.



Witnesses:-
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ROTARY MOLD FOR FOUNDING TUBES AND THE LIKE.

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Specification of Letters Patent. Patented Sept. 26, 1911.

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To all whom it may concern:

Be it known that I, HERMAN JULIUS MOLINDER, a subject of the King of Sweden, and resident of Köpmangatan 29, Söderhamn, in the Kingdom of Sweden, have invented new and useful Improvements in Rotary Molds for Founding Tubes and the Like, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in rotary molds for the founding of tubes and the like.

A mold arranged in accordance with this invention is shown in the accompanying drawing, in Figure 1 in a longitudinal section and in Fig. 2 in a cross section on the line A to B of Fig. 1.

The rotary mold is journaled in ball bearings provided in a frame 3. Roller bearings may be used, if wanted.

5 is the outer part or casing of the rotary mold, which casing is made of cast iron and conical but not split longitudinally.

6 is the casting-box proper, which also is made of cast iron and conical without being split longitudinally. The said casting-box, which is lined with ordinary, molding sand 9, dried or crude, is pushed into the outer casing 5 through one of its ends and has such a conicity, that it is always centralized properly with relation to the ball bearings and the outer casing. The wall of the inner casing or the casting-box 6 is provided with openings 24, preferably one opening with a diameter of 10 millimeters on each square decimeter, so that gases generated in the lining 9, as the melted metal is poured into the mold, can escape through the openings 24 and channels 8 formed between the casting-box 6 and the casing 5 by the box being provided with three flanges 7 for instance, which also guide the box, while it is pushed into the casing 5 and centralized in the same.

10 is the tube founded.

11 and 12 are covers, which are removed, when the box is being lined with sand or when the tube, founded in the mold, is removed from the same. Owing to the fact that the box is conical and has a comparatively even surface, the said tube can be removed without the mold (the box) being divided into two parts longitudinally.

13 and 14 are channels, through which the metal is poured into the box.

15 and 16 are pieces, each hinged to the casing 5 at 16* and acted upon by a spiral spring 18 wound around a screw threaded pin 18*, which is fixed in the said casing. The other end of the spring 18 bears against a nut 19 on the pin 18*. The said pieces 15 and 16 extend through openings, provided in the casing, and one of the flanges 7, mentioned above, bears against the same. If one should not be able to remove the casting-box, before the heat of the melted metal causes the same to expand, the spiral springs 17 and 18 will yield to such an extent, that the box does not become jammed in the casing or break the same. The box 6 is then loosened by unscrewing the nuts 19 and 20 and can easily be removed.

21 is a toothed wheel or sprocket wheel on the casing 5, by means of which the mold is caused to rotate by a gearing and a motor not shown. A pulley may be substituted for the said wheel.

The casting-box 6 is charged and lined with fresh molding sand for each founding operation. Consequently, different types of tubes can easily be manufactured, for instance socket tubes, tubes with fixed end flanges, tubes provided with longitudinal or transverse ribs and so on by changing the model.

A further great advantage resulting from using interchangeable casting-boxes consists in the box getting no time to become so hot before the changing operation, that it heats the outer casing, owing to which fact it is possible to use ball bearings and similar bearings for the mold.

As the casting-box is being dried, the material of the same, evidently, is heated to a great or less degree and consequently, increases in width. The temperature of the casting-boxes can, practically, never be so adapted, that the boxes have the same size, as they are pushed into the outer casing, but one box may have a temperature of + 150° C. while another box is cold. Owing to the fact that the boxes as well as the outer casing have the same conicity, the boxes are centralized in the casing under all circumstances, only with the difference that a box of a lower temperature can be pushed into the outer casing a greater distance than a

box of a higher temperature. Owing to the fact that the box is conical, the tube, etc. and the molding-sand can easily be forced out of the box simultaneously or removed without the box being divided.

The resilient pieces 15 and 16 form an arrangement of great importance, for, if a box should stick fast in the casing, it would be impossible without the said pieces to remove the box before the whole has cooled, which would require about 15 to 20 hours.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a rotary mold, an outer conical casing and a conical casting box having a taper corresponding to that of the casing, an end of the casing being constructed to leave the casting box free to expand longitudinally.

2. In a rotary mold, an outer conical casing and a conical casting box having a taper corresponding to that of the casing, the said casing being open at both ends leaving the

casting box free to be extended in both directions from the casing.

3. In a rotary mold, an outer conical casing, a casting box having a taper corresponding to that of the casing, suitable bearings for the outer casing near its ends and means intermediate of said bearings for transmitting a rotary motion to the casing.

4. In a rotary mold, an outer conical casing, a casting box having a taper corresponding to that of the casing, suitable bearings for the casing and resilient pieces in the outer casing, the said casting box being provided with ribs one or more of which bear against said resilient pieces.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 10th day of September, 1910.

HERMAN JULIUS MOLINDER,

Witnesses:

ROBERT APELGREN,
J. HENRIKSSON.