

March 30, 1926.

W. H. CHENOWITH ET AL

1,579,077

MELTING FURNACE

Original Filed Nov. 8, 1924

Fig. 1.

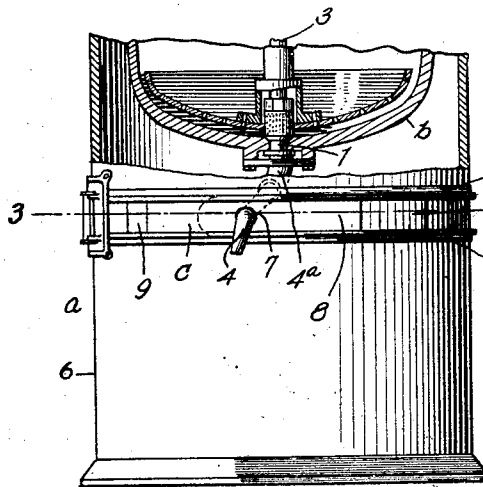


Fig. 3.

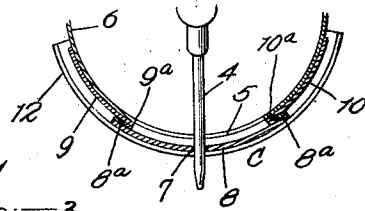


Fig. 4.

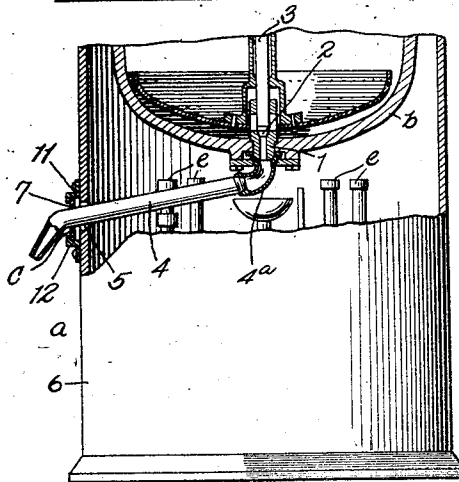
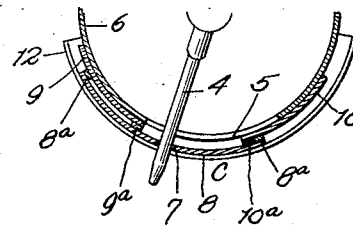


Fig. 2.

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1,579,077

UNITED STATES PATENT OFFICE.

WILLIAM H. CHENOWITH AND GEORGE C. SCHIMPF, OF BALTIMORE, MARYLAND, ASSIGNORS TO HARRY D. HARVEY, OF BALTIMORE, MARYLAND.

MELTING FURNACE.

Original application filed November 8, 1924, Serial No. 748,675. Divided and this application filed June 22, 1925. Serial No. 38,742.

To all whom it may concern:

Be it known that we, WILLIAM H. CHENOWITH and GEORGE C. SCHIMPF, citizens of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Melting Furnaces, of which the following is a specification.

This invention relates to furnaces for melting type metals and the like. The present application is a division of our original application, Serial Number 748,675; filed November 8, 1924. The purpose of the present improvements is to provide means whereby the spout through which the molten metal is drawn from the melting pot in the furnace may be swung into various positions to deliver the metal into a plurality of molds, without permitting the escape of heat through the opening in the furnace wall through which the discharge spout extends. In order to accomplish this, we swivel the discharge spout to the melting pot, at the outlet opening in the latter, and extend the spout through an elongated horizontal slot formed in the side wall of the furnace, so that the free end of the spout may be swung to various horizontal positions for pouring, and we provide a horizontally slidable cover for the slot, the parts being so arranged that in any position of the spout the slot in the furnace wall will be closed by the cover. The cover is preferably composed of several sections, through the central one of which the spout extends. By this arrangement, the total length of the cover and its guideways may be made much shorter than if the cover were in one piece.

In the accompanying drawing,

Fig. 1 is a side elevation, partly in section, of the lower part of a furnace having our improvements thereon;

Fig. 2 is a similar view, the section being taken on the line of the spout;

Fig. 3 is a section on the line 3—3 of Fig. 1, showing the spout in its central position; and,

Fig. 4 is a similar view showing the spout in another position.

Referring to the drawing, *a* indicates the furnace casing which is cylindrical in form. Within the furnace is suspended a melting pot *b*, beneath which the burners *c, c*, are arranged. The bottom of the melting pot is

provided with an opening in which is fitted a sleeve 1, having a valve seat in its upper end, and a valve 2 on a vertically movable rod 3 is adapted to control the flow of metal through the opening in the sleeve. A spout 4 has an elbow 4^a, one end of which is swiveled about the lower end of the valve sleeve 1, and the spout extends from the opposite end of said elbow through a slot 5, extending horizontally in the wall 6 of the furnace, and also through an opening 7, in a sliding covering *c*, which closes said opening. This sliding cover is composed of a central section 8 and end sections 9 and 10, these sections being slidable in flanged guides 11 and 12, arranged above and below the slot and extending for a considerable distance beyond the ends of the slot. The spout 4, with this arrangement, may be swung to any position between the ends of the slot in order to deliver the metal into a plurality of molds, and in any position of the spout the slot in the furnace casing will remain covered or closed. The cover *c* might be made in one piece of sufficient length to cover the slot in any position of the spout; but this would require a very long one-piece cover which would be difficult to move, and which also might interfere with other parts around the furnace wall. Therefore, the cover for the slot is made in three sections. The central section 8 has flanges 8^a at its ends, and the sections 9 and 10 have flanges 9^a and 10^a, respectively, arranged between the flanges 8^a, so that when the central section is moved in one direction, it will pull the end section 9 after it and will slide upon the section 10 without moving the latter, as illustrated in Fig. 4. When the spout is moved in the opposite direction, the central section will pull the section 10 over the adjacent end of the slot, and the spout 4 will engage the flanged end of the section 9 and move the latter back to the position shown in Fig. 3, where the flanged end of said section is in registry with the end of the slot. The central section is slightly longer than the slot so that in the intermediate position of the spout, shown in Fig. 3, said section will close the slot, and when the spout is moved in one direction or the other from the center, one of the end sections will move with the central section and thus the slot in the casing will be closed at all times.

It is believed that the operation of the devices will be clear from the foregoing without any further detailed statement of operation.

5 What we claim is:

1. A melting furnace comprising a vertically extending casing having a cylindrical wall and having a horizontal slot in said wall, a horizontally sliding cover for said slot, a melting pot in said casing, said pot having an outlet, substantially at the axis of the casing, and a spout swiveled to the pot at the outlet and extending through an opening in said sliding cover.
- 15 2. A melting furnace comprising a vertically extending casing having a cylindrical wall and having a horizontal slot in said wall, a horizontally sliding cover for said slot comprising a central section, having an opening therethrough, and two end sections, said central section having means at its ends for pulling one or the other of the end sections over a part of the slot, according to the direction of movement of said central section, a melting pot in said casing and having an outlet substantially at the axis of the casing, and a spout swiveled at said
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outlet and extending through the opening in said central section.

3. A melting furnace comprising a vertically extending casing having a cylindrical wall and having a horizontal slot in said wall, a horizontally sliding cover for said slot comprising a central section, having an opening therethrough, and two end sections, said central section having means at its ends for pulling one or the other of the end sections over a part of the slot, according to the direction of movement of said central section, a melting pot in said casing and having an outlet, and a spout swiveled at said outlet and extending through the opening in said central section.

4. A melting furnace comprising a vertically extending casing having a cylindrical wall and having a horizontal slot in said wall, a melting pot in said casing, said pot having an outlet, and a spout swiveled to the pot at the outlet and extending through said slot.

In testimony whereof we hereunto affix our signatures.

WILLIAM H. CHENOWETH.
GEORGE C. SCHIMPF.