

July 8, 1924.

1,500,740

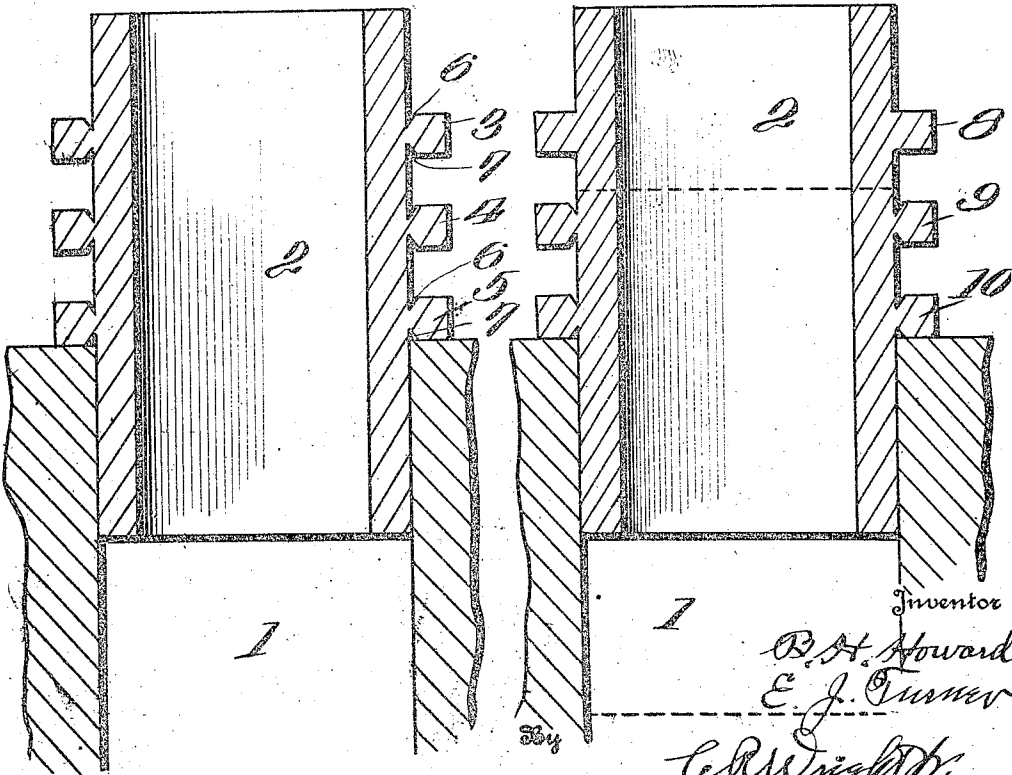
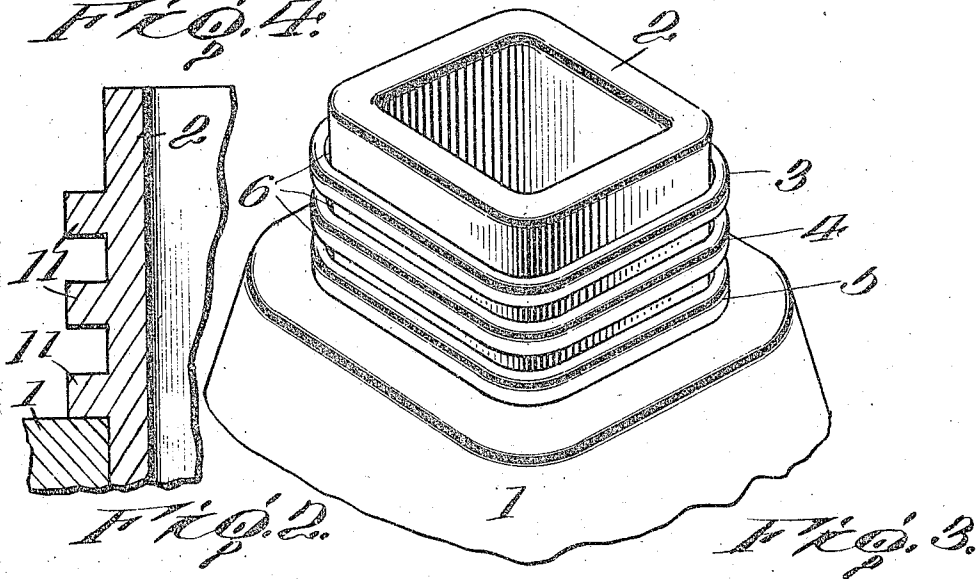
B. H. HOWARD ET AL

FEEDER FOR INGOT MOLDS

Filed Dec. 29, 1923

FIG. 1.

FIG. 4.



Inventor

B. H. Howard
E. J. Turner

C. R. Wright
Attorney

UNITED STATES PATENT OFFICE.

BLOOMFIELD H. HOWARD, OF WASHINGTON, DISTRICT OF COLUMBIA, AND ERNEST J. TURNER, OF PITTSBURGH, PENNSYLVANIA.

FEEDER FOR INGOT MOLDS.

Application filed December 29, 1923. Serial No. 683,505.

To all whom it may concern:

Be it known that BLOOMFIELD H. HOWARD and ERNEST J. TURNER, citizens of the United States, residing, respectively, at Washington, District of Columbia, and Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Feeders for Ingot Molds, of which the following is a specification.

Our invention relates to improvements in feeders for ingot molds.

The object of our invention is to provide an adjustable feeder for ingot molds whereby the distance it extends into the mold may be varied as desired and at the same time provide a feeder having all the advantages of the ordinary feeder to prevent "piping" and also to reduce "segregation" to a minimum.

Another object of our invention is to provide a feeder with the supporting means for giving the required strength to withstand the pressure of the molten metal from within the expansion incident to the casting of ingots and at the same time contain the minimum amount of refractory material.

Another object of our invention is to provide a feeder of this character in which the same is firmly held in the mold in any of its adjusted positions and at the same time provide ready means for said adjustment and also provide a simple, cheap and effective feeder having certain details of structure and combination of parts hereinafter more fully set forth.

In the accompanying drawings:

Figure 1 is a perspective view of an ingot mold showing our improved feeder applied thereto.

Figure 2 is a vertical transverse sectional view of Figure 1.

Figure 3 is a vertical transverse sectional view similar to Figure 2 showing a slightly modified form.

Figure 4 is a vertical sectional view of a modified form of feeder.

Referring now to the drawings, 1 represents the ingot mold in which is arranged our improved feeder 2 which feeder is shown rectangular in form to fit the bore of the ingot mold. It will be understood that the same could be made round, square, fluted or of any desired form to conform with the

bore of the ingot mold as the shape forms no part of this invention.

The feeder 2 is provided with a series of horizontal ribs 3, 4 and 5 arranged one above the other and completely encircling the outer periphery of the feeder. The ribs 3, 4, and 5 as shown in Figure 2 of the drawings are scored on their upper and lower faces as indicated at 6 and 7. The said scores 6 and 7 as shown in Figure 2 of the drawings are close to the body portion so that the ribs or flanges can be broken off to allow the feeder to extend a greater distance into the mold. The object of extending the feeder a greater or less distance into the mold is to cast a longer or shorter ingot. In this structure it will be seen by breaking off the rib 5 the feeder will extend into the mold until the upper edge engages the flange 4. If it is desired to have the feeder extend still further into the mold the rib 4 is broken off and the feeder will then be supported by the upper end of the mold by the rib 3. It might be under certain conditions necessary to have the feeder extend a greater distance into the mold in which event the flange 3 is broken off and the feeder supported in the mold by any of the well known hangers used in the art.

In the modification shown in Figure 3 of the drawings the feeder 2 is provided with horizontal ribs 8, 9 and 10 arranged exactly as shown in Figure 2 of the drawings. In this form however the upper rib 8 is not cut away or scored and therefore forms a permanent part of the feeder which is never broken off.

In the modification shown in Figure 4 none of the ribs are scored. This form could be manufactured more cheaply than the other forms shown and accomplish the desired result.

While we have shown and described this specific manner of weakening the ribs it will be understood that the same could be accomplished in other ways and we do not care to limit ourselves to this specific means whereby the ribs can be broken off.

Having thus fully described our invention what we claim is:—

1. A feeder for ingot molds, comprising a body portion of refractory material with a series of fragile ribs extending around the same.

2. A feeder for ingot molds comprising a body portion of refractory material, a series of fragile ribs extending around the outer periphery thereof and adapted to be broken off. 25
3. A feeder for ingot molds comprising a body portion of refractory material, a series of horizontally arranged fragile ribs one above the other and completely encircling the feeder and constructed to be broken off. 30
4. A feeder for ingot molds comprising a body portion of refractory material having a series of fragile ribs completely encircling the outer periphery of the feeder and spaced from the ends thereof. 35
5. A feeder for ingot molds comprising a body portion of refractory material, a series of horizontally arranged fragile ribs completely encircling the outer periphery of the feeder and adapted to be broken off and spaced from the ends of the feeder. 40
6. A feeder for ingot molds comprising a body portion, a series of horizontally arranged ribs completely encircling the outer periphery of the feeder and arranged one above the other, the upper rib arranged closer to the upper end than the lower rib is to the lower end of the feeder said ribs constructed to be broken off. 45
7. A feeder for ingot molds comprising a body portion, a series of horizontally arranged ribs completely encircling the outer periphery of the feeder and arranged one above the other and the upper and lower faces of said ribs scored adjacent the body portion whereby they may be broken off.
8. A feeder for ingot molds comprising a body portion, an outwardly extending rib adjacent the upper end and completely encircling the outer periphery of the body portion and a series of ribs below the first mentioned rib and completely encircling the body portion and having upper and lower faces scored whereby they may be broken off.

In testimony whereof we affix our signatures. 45

BLOOMFIELD H. HOWARD.
ERNEST J. TURNER.