April 19, 1927. 1,625,755

L. H. WILLIAMS ET AL

SMELTER SPOUT

Filed Nov. 11, 1925

Fig. 1.

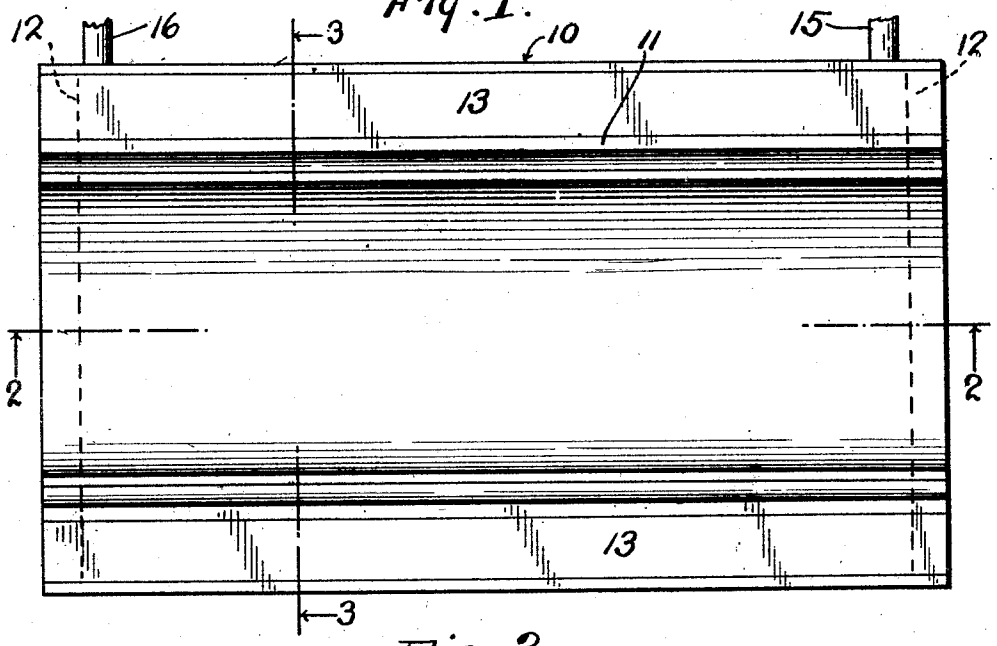


Fig. 2.

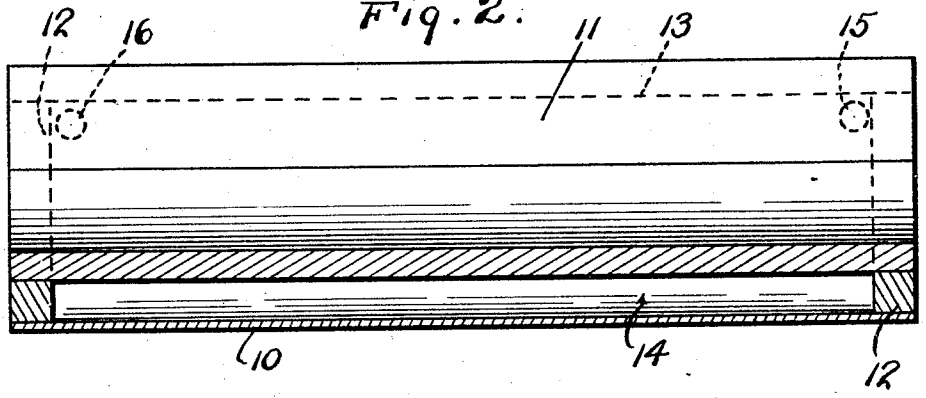
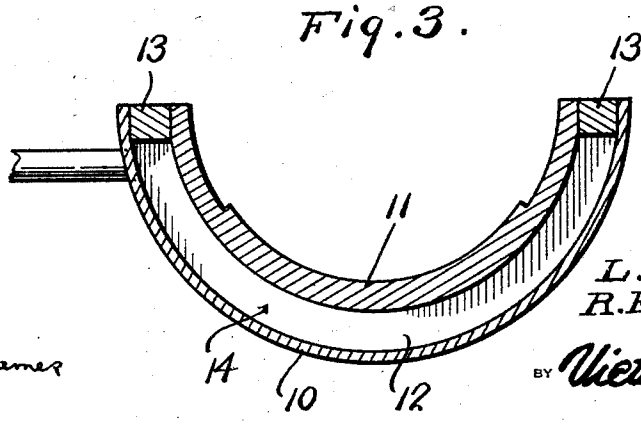


Fig. 3.



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UNITED STATES PATENT OFFICE.

LOUIS HENRY WILLIAMS, OF CAMAS, WASHINGTON, AND RALPH E. WATT, OF ONTONAGON, MICHIGAN.

SMELTER SPOUT.

Application filed November 11, 1925. Serial No. 68,379.

This invention relates to apparatus used in smelting, and has for its object the provision of a novel water cooled spout so constructed and lined with such material as to resist the action of alkalies and heat so that the spout will be particularly well adapted for use on smelters burning black ash to cover chemicals used in the manufacture of sulphate and certain pulps.

An important object is to provide a spout of this character which will be simple and inexpensive in manufacture, easy to use, efficient in service and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction, and the arrangement and combination of parts to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view of the device.

Figure 2 is a longitudinal section taken on the line 2—2 of Figure 1, and

Figure 3 is a cross section taken on the line 3—3 of Figure 1.

Referring more particularly to the drawings, we have shown the device as of semi-cylindrical shape and including an outer section 10 of metal and an inner section or lining 11 of refractory material capable of withstanding great heat and capable of withstanding the action of alkalies or the like.

As a matter of construction, the outer section or casing 10 may be formed as a piece of stand pipe cut in two lengthwise while the inner section or lining 11 may be formed from a piece of refractory pipe of less diameter likewise cut longitudinally. Regardless of this detail, the outer and inner sections are spaced apart at their ends by semi-circular spacing members 12 of metal, and are spaced apart at their longitudinal edges by bars or strips 13 which are likewise of metal and welded or otherwise suitably secured in place.

The provision of the spacing members 12 and 13 defines a chamber 14 between the outer and inner sections, which chamber is adapted to contain water for cooling purposes, the water being admitted to and discharged from the chamber through the pipes 15 and 16.

In the operation, it will be seen that the device is used in exactly the same manner as any other spout but it has the great advantage of being water cooled and consequently more durable than the ordinary type especially in view of the provision of the lining or inner section of the refractory material. It is believed that the construction, operation and advantages will be readily apparent to one skilled in the art without further explanation.

While we have shown and described the preferred embodiment of the invention, it should be understood that we reserve the right to make such changes in the form, construction and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claim.

Having thus described the invention, we claim:

A smelter's spout of semi-cylindrical formation comprising a metallic outer section, an inner section of refractory material coextensive in length with the outer section, spacing means located between said sections at the ends thereof, other spacing means located between said sections at the longitudinal edges thereof, the provision of the spacing means defining a chamber between the outer and inner sections, and water inlet and outlet pipes leading into said chamber.

In testimony whereof we affix our signatures.

LOUIS HENRY WILLIAMS.
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