Nov. 25, 1941. W. O. RIENACKER 2,263,974

CORE BOX VENT PLUG

Original Filed July 30, 1937

Fig. 1.

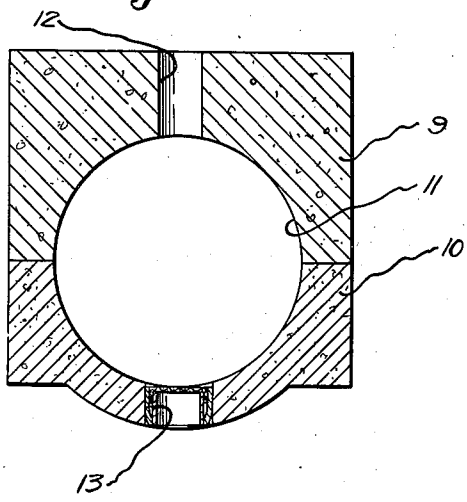


Fig. 2.

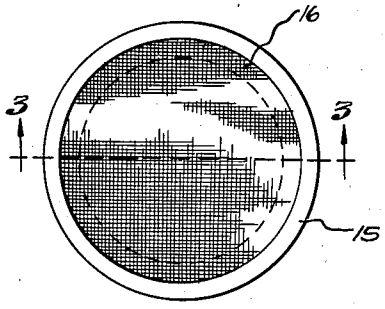
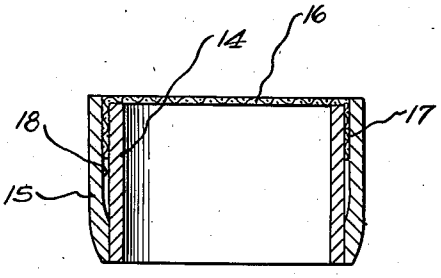


Fig. 3.



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UNITED STATES PATENT OFFICE

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CORE BOX VENT PLUG

William Otto Rienacker, Detroit, Mich.

Original application July 30, 1937, Serial No. 156,450. Divided and this application May 24, 1939, Serial No. 275,435

1 Claim. (Cl. 22—13)

This application constitutes a division of my pending application, Serial No. 156,450, filed July 30, 1937, for a patent on a Core box vent.

My invention relates to a new and useful improvement in a core box vent plug adapted for use primarily with sand blown molds into the cavity or core of which the sand is blown under pressure. In the use of such molds, it is necessary that the air in the mold core or cavity have means of escape while at the same time it is highly desirable that the sand blown therein shall not escape therefrom.

It is an object of the present invention to provide a core box vent plug which may be inserted in an opening in the mold so that the air may be permitted to escape from the mold while the sand blown thereinto is prevented from escaping.

Another object of the present invention is to provide a vent plug of this class which will be simple in structure, economical of manufacture, durable, light, easily and quickly assembled, and easily positioned in place for use.

Another object of the invention is the provision of a core box vent plug comprising: a pair of telescoping cylindrical members with the marginal portions of a screen element clamped between the same at one end for retaining the screen elements stretched across these cylindrical members to serve as a perforated closure.

Other objects will appear hereinafter.

Forming a part of the specification is the accompanying drawing in which

Fig. 1 is a transverse sectional view through a mold showing the invention applied,

Fig. 2 is an enlarged end elevational view of the invention,

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

In the drawing, I have illustrated a mold comprising the upper section 9 and the lower section 10 forming, with each other, the cavity 11 leading into which is a passage 12. Formed in the section 10 is an opening 13 communicating with the cavity 11. Inserted into this opening 13, which may be termed a vent opening, is a structure embodying the invention. The invention comprises an inner cylindrical body or sleeve 14 embracing an outer cylindrical body or sleeve 15. Serving as a closure for one end of the sleeve 14 is a screen 16, the marginal portion 17 of which is clamped between one end of the sleeves 14 and 15. These sleeves are of such relative proportion that a snug engagement is retained on the marginal portion 17 so that the screen mesh is held firmly fixed relatively to the sleeves and the inner sleeve and outer sleeve are, of course, in fixed relation to each other after assembling. It will be noted that the inner surface 18 of the outer sleeve 15 tapers inwardly below the edge of the marginal portion 17 until it finally comes into contact with the periphery of the inner sleeve 14. This is effected because of the arrangement of the sleeves in telescopic relation in clamping engagement with the marginal portion 17 and because these sleeves are of such relative size that there is very little play between the outside diameter of the sleeve 14 and the inside diameter of the sleeve 15.

With a core box vent plug constructed in this manner inserted in the vent openings 13 a simple and effective means is provided for venting the cavity of the mold and permitting escape of air therefrom as sand is blown into the cavity throughout the passage 12. It is believed obvious that the vent plug is light and that it may be easily and quickly assembled as well as fabricated at a minimum cost.

What I claim as new is:

A core box vent plug of the class described, comprising: an inner sleeve; an outer sleeve embracing said inner sleeve in snug engagement therewith, adjacent one end thereof, there being a space between the inner surface of said outer sleeve and the outer surface of said inner sleeve proceeding axially from the position of engagement of said sleeves with each other; and a screen mesh forming a closure for one end of said inner sleeve and having the marginal edges thereof clamped between said inner sleeve and said outer sleeve for occupying the space between said sleeves, the outer surface of said outer sleeve on said engaging end being tapered toward said end.

WILLIAM OTTO RIENACKER.