June 6, 1933. L. WEBER 1,913,180

INSULATING COVERING

Filed March 29, 1929

Fig. 1.

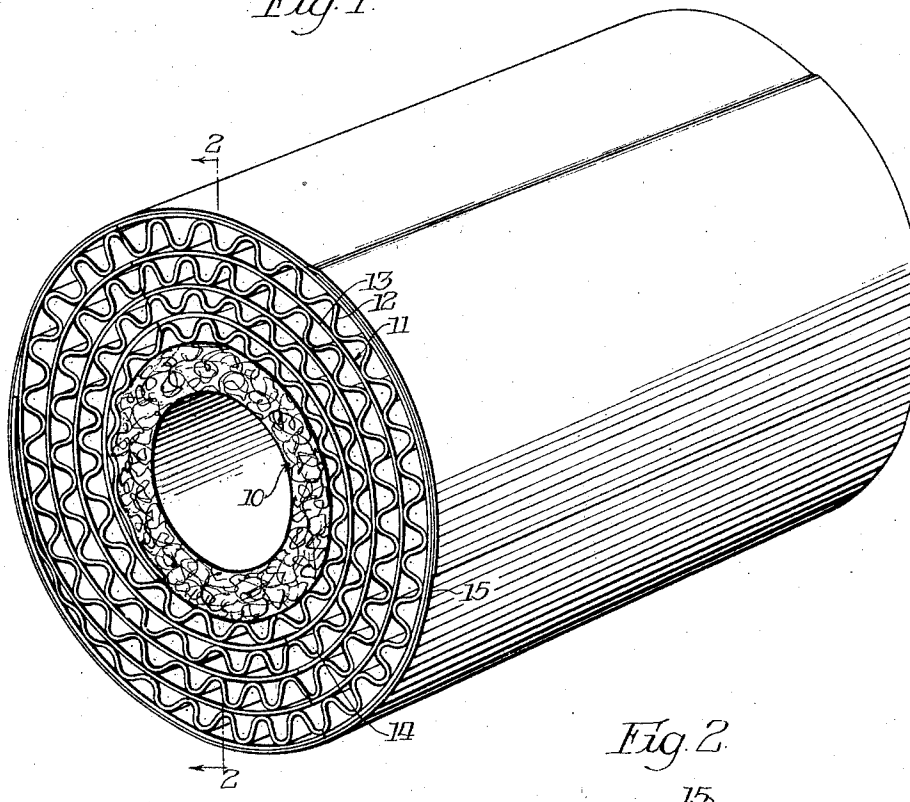
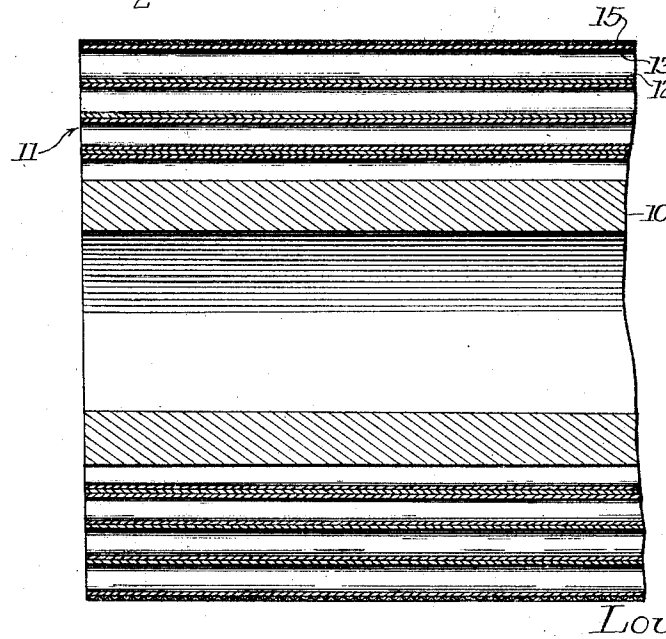


Fig. 2.



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Patented June 6, 1933 1,913,180

UNITED STATES PATENT OFFICE

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INSULATING COVERING

Application filed March 29, 1929. Serial No. 350,906.

The present invention relates to improvements in heat insulating coverings, and has particular reference to high temperature insulating material adapted to be used as a covering for pipes.

The primary objects of the present invention are to provide a new and improved insulating material which will withstand high temperatures, and which is efficient, light, inexpensive, and easy to make and to apply.

A more specific object resides in the provision of a novel insulating covering, particularly adapted for pipes, which comprises a relatively thin inner core of high temperature insulating material, and an outer relatively thick ring or layer of low temperature insulating material.

Still another object is to provide a novel covering of the above character which will not shrink appreciably when subjected to high temperatures.

Further objects and advantages will become apparent as the description proceeds.

In the accompanying drawing, Figure 1 is a perspective view of a portion of a covering embodying the features of my invention.

Fig. 2 is a fragmentary longitudinal sectional view of the covering taken along line 2—2 of Fig. 1.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawing and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claim.

Referring more specifically to the drawing, the exemplary embodiment of the invention comprises a generally cylindrical body having an inner core 10 of high temperature insulating material, and an outer layer 11 of relatively low temperature insulating material.

The core 10, which is adapted to be placed directly against the heated surface to be insulated, preferably is made of a dried paste adapted to withstand temperatures as high as 2000° F. without breaking down, and in the present instance is made of a paste of mineral slag wool which has been dried at a high temperature to form a solid matrix that will not shrink when again subjected to high temperatures in use. The wall of the core 10 may be made of any suitable thickness, but preferably is made approximately ⅜ inch in thickness.

The outer layer 11 is made of a suitable heat insulating material, such as asbestos impregnated with a stiffening substance. In the present instance, the layer 11 consists of a plurality of alternating corrugated and plain substantially cylindrical plies 12 and 13 of asbestos paper superimposed upon each other and about the core 10 to form an outer annular air cell structure. Preferably, the plies 12 and 13 are formed and brought into superimposed relation by rolling two strips of material together, one of which is corrugated and the other of which is plain. It will be understood, however, that any suitable air cell construction may be employed. The plies 12 and 13 are held together by the stiffening substance, and in making the layer 11, the latter is dried at a high temperature to take out shrinkage. The layer 11 may be made of any desired thickness, for example one and one-half inches. The thickness of the core 10 preferably is retained approximately the same for different outer layers 11 of varying thicknesses.

Preferably, the inner ply of the layer 11 is incorporated in the matrix of the core 10. The layer 11 may be built about the core 10 before the latter is dried to form the solid core 10. The core 10 and the layer 11 may be dried together.

Preferably the covering is split diametrically, as along line 14, so as to facilitate applying the covering to a pipe (not shown). To hold the sections of the covering together about the pipes, a sheet of suitable material 15, such as canvas duck, is lapped about the body sections.

It will be evident that I have provided a light, inexpensive, efficient and shrinkless

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insulating covering adapted to withstand high temperatures. Air cell asbestos coverings and other low temperature insulating coverings are not adapted to safely withstand high temperatures, for example above 400° F., but are very desirable in that they are light and inexpensive. High temperature insulating material on the other hand is expensive and heavy, and when thick is liable to crack. By providing an insulating covering having a high temperature insulating core inside of a relatively low temperature insulating layer the advantages of the low temperature insulation are retained in a high temperature insulating covering. The core serves to keep the temperature at the inside of the low temperature layer down to a point where injury to the latter is prevented.

I claim as my invention:

A cylindrical insulating covering comprising, an inner cylindrical core of a dried paste of mineral slag wool and adapted to withstand high temperatures up to approximately 2000° F., and an outer dead air cell layer of low temperature insulating material.

In testimony whereof, I have hereunto affixed my signature.

LOUIS WEBER.

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