July 13, 1943. T. S. TULIEN 2,324,181

PIPE COVERING

Filed Sept. 11, 1940

Fig. I.

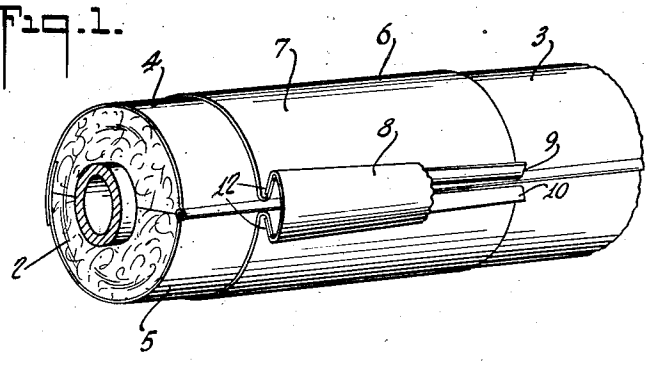


Fig. II.

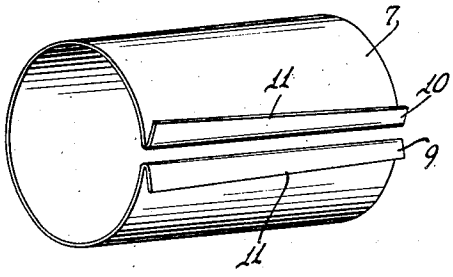


Fig. III.

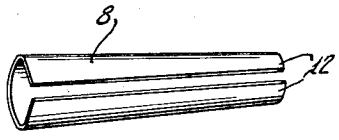


Fig. IV.

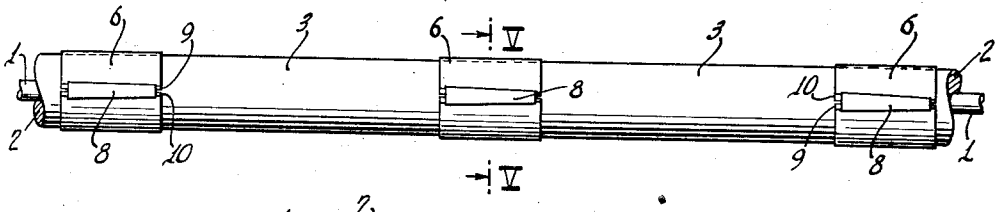
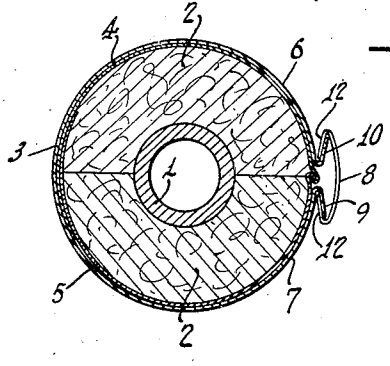


Fig. V.



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PIPE COVERING

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Application September 11, 1940, Serial No. 356,264

1 Claim. (Cl. 154—44)

The invention relates to an insulated pipe covering, and more particularly to an insulated pipe covering which is readily removable and adjustable.

As it is often necessary to inspect, repair or otherwise treat pipe and like objects which have been insulated and covered, it is desirable that the pipe insulation and covering be easily removed and adjusted. Furthermore, the insulated cover must have such qualities as high resistance to transmission of heat, lightness of weight, permanence and economy.

It is an object of the invention to provide a removable covering for pipes and the like.

It is a more specfic object of the invention to provide a flanged pipe covering adapted to surround an insulated pipe with a fastening means tensionally engaging the flanges.

Other objects and advantages will appear from the following description and drawing.

In the drawing, which illustrates an embodiment of the invention and wherein like reference characters indicate like parts:

Fig. I is a fragmentary perspective view of an insulated pipe assembly embodying the invention;

Fig. II is a perspective view of a jacket element in one embodiment of the invention;

Fig. III is a perspective view of a fastening means in one embodiment of the invention;

Fig. IV is a fragmentary front view of an insulated pipe assembly embodying the invention;

Fig. V is a sectional view taken on line V—V of Fig. IV.

In protecting a pipe or like object from heat loss, the pipe 1 is covered with a layer of any suitable insulating material 2, as shown in Figs. I and II. It is preferred that the insulation has sufficient rigidity to support the weight of the outer covering.

For protection, a casing 3 is placed around both the pipe and the insulation. Casing 3 may be a thin, metallic cylinder which is sufficiently flexible to be opened along its length and placed over the insulation 2. It is preferred that casing 3 be formed of two thin semi-cylindrical sheets 4 and 5 of metal which will fit closely around the insulating material 2 when placed thereon. The sheets should be formed with one of their longitudinal edges joined in a pivot or hinge arrangement so that the casing may be opened by pivoting each sheet on one edge. While the sheets 4 and 5 may be pivotally joined in any conventional manner, it is preferred that one longitudinal edge of each sheet be bent to form a small open cylinder extending lengthwise along the edge of each sheet, as shown in Fig. V. The cylinders should be formed opposite to each other so that when the sheets are placed around insulation, the extreme edge of each sheet will rest within the cylinder of the adjacent sheet.

Casing 3 is secured over insulation 2 by coupling 6. Coupling 6 may comprise a jacket 7 and a fastening means, such as anchor 8. The jacket may be a relatively thin metal sheet rolled into a cylinder with each edge of the sheet formed into a retroverted side flange, as shown in Fig. II. The flanges 9 and 10 may be formed by bending each longitudinal edge 11 out and back toward the adjacent surface of the cylinder with each flange forming an acute angle with respect to such surface. The angle formed by the flanges should be parallel to the longitudinal axis of the cylinder so that the diameter of the cylinder is the same at each end. It is important that flanges 9 and 10 be formed so that the width of each flange is similarly greater at one end of the cylinder than at the other. Thus, each flange will be similarly expanded in width along its length.

The jacket 7 is tightened over casing 3 by a fastening means such as anchor 8. Anchor 8 is formed by rolling a thin metal sheet into a cylinder and partially flattening the cylinder as shown in Fig. III. The anchor will then comprise a metallic back portion having flanges 12 extending toward each other and making an acute angle with the back portion. It is important that the anchor be tapered lengthwise so that the outer width is smaller at one end than at the other. The degree of taper should be the same as that of the outer edge 11 of flanges 9 and 10 so that the surface contour of the anchor is similar to that of the flanges.

In engaging anchor 8 with jacket 7, the larger end of the anchor is placed over the smaller end of flanges 9 and 10 and with the inner surfaces of flanges 12 contiguous to the surfaces of flanges 9 and 10 adjacent the outer surface of the cylinder portion of the jacket. When the anchor is forced along flanges 9 and 10, the flanges are pulled together thus decreasing the diameter of the jacket.

When assembling the pipe covering, the insulation 2 is placed around pipe 1 and casing 3 positioned over the insulation. Jacket 7 is now placed over the casing, preferably as shown in Figs. II and V, with its flanges 9 and 10 lying on opposite sides of the hinge of the casing and anchor 8 is engaged over flanges 9 and 10. When

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the anchor is completely over flanges 9 and 10, the diameter of the jacket is decreased sufficiently to pull the jacket around the casing, thus holding the casing and insulation securely in place.

Although coupling 6 may be placed in any position on casing 3, it is preferred, when a plurality of casings are used, that the coupling be placed over the joint formed by the casings, as shown in Fig. IV. In this way, the assembly is made more watertight and the casing is better secured on the insulation.

While the preferred embodiment employs a metallic casing 3 held in place by coupling 6, it is to be understood that the flanges 9 and 10 may be formed on the edges of the casing so that the covering and securing elements are all in one piece. When this variation is employed, one end of a casing section must be completely covered by the end of the next adjacent casing section to make the assembly watertight. Also coupling 6, as shown, may be employed over the insulation alone or over such insulation having any type of covering. In the latter case, the coupling will securely hold the insulation and cover in place and provide a waterproof protection for the joints.

Where the preferred embodiment is used, it is important that the pivot joint of sheets 4 and 5 of casing 3 be waterproof. Where the cylinder type of pivot joint, as shown in Figs. I and V, is used, the cylinder portion of the upper sheet and the opposite edge of the upper sheet should be outside. In this way, water is prevented from entering the casing.

It is to be understood that the details herein given are for purposes of illustration only and that the invention is to be limited only by the scope of the appended claim.

I claim:

An insulated covering assembly for a pipe, said assembly comprising insulation surrounding the pipe, a casing surrounding said insulation and including hingedly connected semi-cylindrical sections having free overlapping edges, the hinge connecting said sections extending longitudinally of the pipe, and a coupling member for said casing, the coupling member comprising a split sleeve having its longitudinal edges at the split retroverted to form outwardly turned flanges, the free edges of which gradually diverge, said flanges lying adjacent to and on opposite sides of said hinge, and an attaching clamp comprising an elongated channeled member engaged over said flanges and having an interior width which gradually diverges in correspondence with the divergence of said flanges whereby said flanges are drawn toward one another as said channeled member is moved longitudinally on said casing into attaching position.

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