Aug. 8, 1933. G. R. BAUMEISTER 1,921,648

PIPE INSULATION

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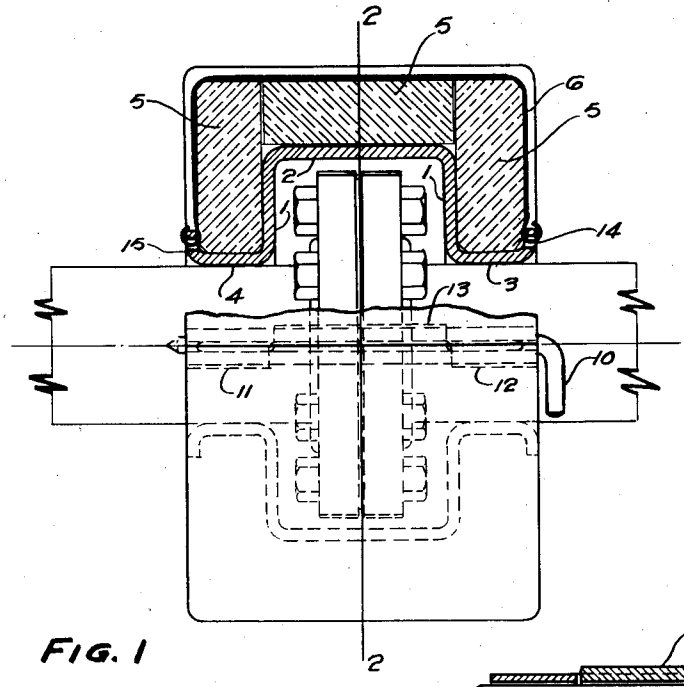


FIG. 1

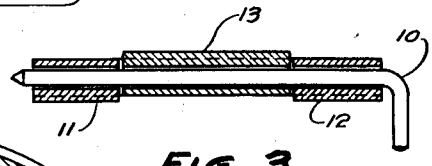


FIG. 3

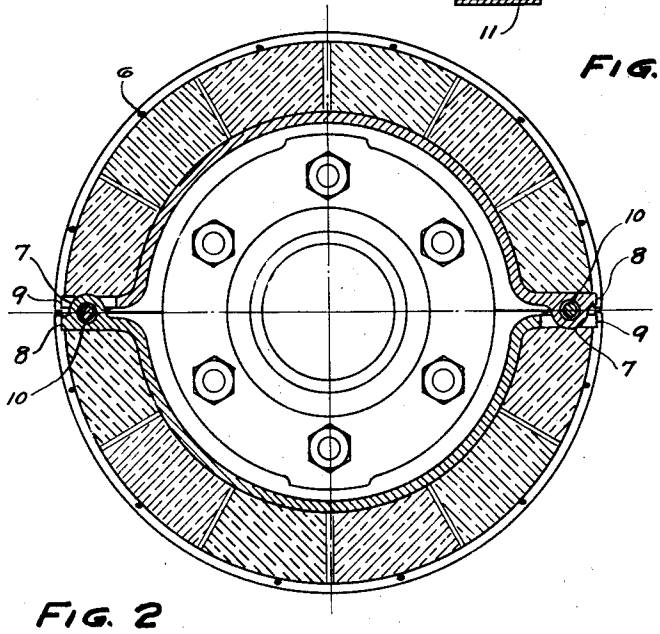


FIG. 2

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PIPE INSULATION

George R. Baumeister, Boston, Mass.

Application January 4, 1933. Serial No. 650,202

6 Claims. (Cl. 154—44)

This invention relates to pipe insulators and particularly to pipe insulators which may be manufactured as a complete device at a central point and which may be readily and quickly applied to pipe flanges by the ordinary workman.

One of the objects of the invention resides in the provision of two curved members which may be quickly secured about the flanges or pipes by simple and easily operatable securing means.

Another object of the invention is to provide a pipe insulator in which the insulating material is wholly protected from any contact with any condensate which may leak from the pipe or the flange.

Another object of the invention is to provide a pipe or flange insulator which is so constructed that all metal parts are insulated and protected from all contact with the surrounding air.

Other objects and advantages of the invention will appear in the following specification.

Generally the invention consists of providing two semi-cylindrical channel members which are hinged at either end and which may be held together by some means at the hinged ends. The insulating material is adapted to be attached to the external portion of the channel members and to be removable therewith as a unit.

Figure 1 shows a view of the pipe insulator in position on a flange with a section taken through a portion thereof.

Figure 2 is a section along a line 2—2 of Figure 1, the flange not being sectioned.

Figure 3 shows the hinge arrangement at one end of the device.

Referring now to the drawing in which like reference characters indicate like parts in the several views, A shows the pipe to be insulated and a flange B attached thereto. The insulator consists of the two semi-cylindrical sections 1—1. In cross section as shown in Figure 1, the insulator consists of a central channel-shaped portion 2 and two inverted channels 3 and 4 on either side of the central channel-shaped portion. Attached to the above-mentioned channel-shaped portions is the insulating material 5. The insulating material is held in position on the metal members by means of wires 6 in the preferred embodiment.

In the construction shown in Figure 2 the hinge portions 7 of the two semi-cylindrical channel members are set in from the outer ends 8 and 9 of the channel members. The hinges are so indented in order to prohibit anyone from opening the protector from one end only, and so running the insulation at the diametrically opposite end of the insulator. This virtually makes the device "hinge-bound" at both joints.

The hinge pins 10, as shown in Figure 3, which in my preferred embodiment are made of some material such as brass, are inserted into the bosses 11 and 12 on one of the members and the complementary boss 13 on the opposite member. As will be readily understood from the drawing, the top channel-shaped member will have the two bosses on one end and a single boss on the opposite end and the lower channel-shaped member will be similarly constructed so that both members will be identical in shape and form.

In proceeding according to my invention, the insulating material 5 is first moulded to the two semi-cylindrical channel-shaped members which are disassembled for this purpose. The material is attached to the members by means of the wires 6 which stretch from one upturned portion 14 of one of the inverted channels over the insulating material to a point longitudinally opposite on the upturned portion 15 of the other inverted channel. The two opposing members are then brought into juxtaposition and the brass pins inserted in the bosses thereof. A "skimming" or thin outer covering of insulating material or cement is applied to the device. It will be seen that when the two halves are thus assembled the opposing ends of the channel members are directly in contact so that a metal to metal contact is obtained. The pins are then withdrawn and the two halves separated and taken to the place in which they are to be used.

As an alternative mode of construction after the insulation has been attached to the channels without bringing the two sections into assembled relation the "skimming" may be applied and the outer ends of the channel section will serve as gauging mediums for the application of the "skimming."

It will be readily seen from an inspection of Figure 1 of the drawing that the sections bear directly on the pipe beneath the upturned flange and since the insulating material is attached to the exterior of the channel members all moisture from the flange or other fitting, as the case may be, is prevented from contacting the insulating material. Thus should the fitting develop a leak, it will not be absorbed by the insulating material but will drop into the center channel member and from there will seep out through the hinged connection. In assembling the insulator on the pipe it is so located that the joint between the two sections will be on a vertical center line so that any seepage will almost immediately be dis-

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closed. Since the channel members are formed from an integral piece of material it is apparent that the joint between the two sections will be the only means by which the liquid or condensate may escape from the central cylinder formed by the channel-shaped portion.

It is also pointed out that no metal is exposed to the air and in this manner the efficiency of the insulator is greatly increased.

Various changes in the construction and arrangement of the several parts herein shown and described may be employed without departing from the spirit of my invention as disclosed in the appended claims.

I claim:

1. Pipe insulation comprising a plurality of sections, each of which is composed of an integral solid water-tight piece of metal, adapted to encircle a pipe fitting, said sections being so formed that insulating material may be attached to the exterior thereof in such a manner that substantially no metal is exposed.

2. Pipe insulation comprising two semi-cylindrical sections, each of which is composed of a solid, integral, water-tight piece of metal, said sections being adapted to completely encircle a flange, and insulating material attached to the exterior of said section in such a manner that no metal is exposed.

3. Pipe insulation comprising two semi-cylindrical sections each of which comprises a central channel-shaped portion and two inverted channel-shaped portions on each side of the central portion, insulating material on the outer side of said sections, and wires extending from the outer edge of one of the inverted channels to the other to attach the insulating material to the said sections, bosses on each end of the said sections, and means insertable through said bosses to retain the sections in assembled relation.

4. Pipe insulation comprising two semi-cylindrical sections, each of which comprises a central channel-shaped portion and two inverted channel-shaped portions on either side of the central portion, each section being composed of an integral, solid, water-tight metal, said sections being adapted to be assembled about a pipe, means to hold said sections in assembled relation, insulating material attached to the exterior of said sections so that substantially no metal is exposed, and means to retain said insulating material in position.

5. Pipe insulation comprising two semi-cylindrical sections, each of which is composed of a central channel-shaped portion and two inverted channel-shaped portions on either side of the central portion, said sections being made of a solid, integral part, insulating material attached to the exterior of said sections and being held in position thereon by means of wires stretched from the upturned end of one of the inverted channel-shaped portions to the upturned end of the other inverted channel-shaped portion, each above-mentioned section having diametrically opposed outstretched lips, said lips having bosses therein adapted to cooperate with bosses in the other section, a pin inserted through the cooperating bosses to hold the sections in position about a flange or pipe, and a thin outer covering of cement applied over the entire assembled device.

6. A device for completely enclosing a flange or other pipe fitting comprising two semi-cylindrical sections, each of which is composed of a central channel-shaped portion and two inverted channel-shaped portions, said central channel-shaped portion being of a larger diameter and width than the fitting to be enclosed so as to furnish an air space between the fitting and the central portion, each section being made from a solid, integral metal, insulating material attached to the exterior of the sections, so as to completely cover all the metal parts of the device, means to retain said insulating material in position, and means to hold the two sections about the fitting.

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