April 26, 1949. R. E. CRYOR ET AL 2,468,589

INSULATING TAPE

Filed Sept. 28, 1945

Fig. 1

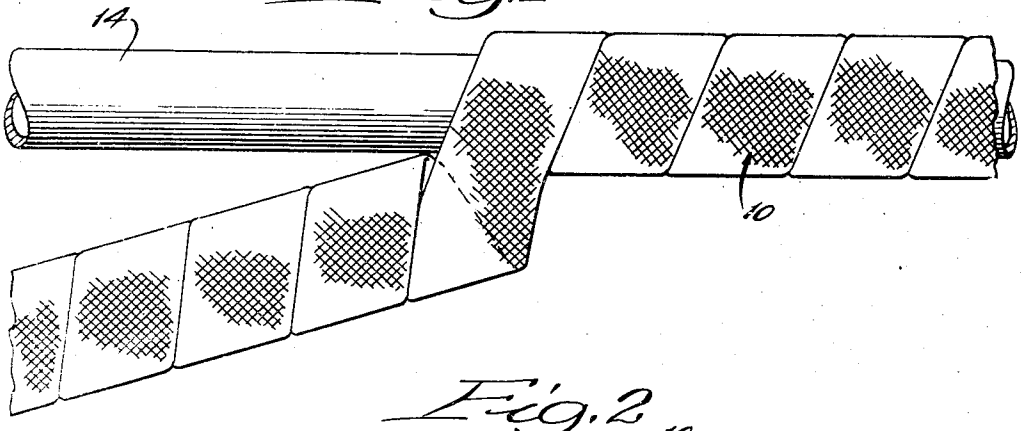


Fig. 2



Fig. 3

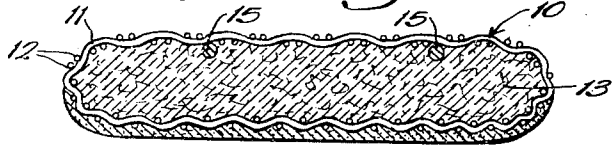
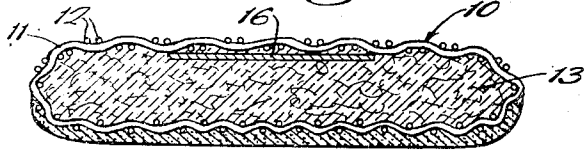


Fig. 4



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2,468,589

INSULATING TAPE

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3 Claims. (Cl. 154—44)

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This invention relates to insulating tape and more particularly to a heat insulating tape of the type adapted to be wrapped around pipes.

In heat insulating tapes of this general type, the tape has usually been extremely flexible for ready wrapping around the pipe and has been secured on the pipe by clamps fastened thereabout at suitable intervals. The soft flexible tapes as heretofore used are extremely difficult to handle and are hard to wrap on the pipes properly in places where clearance around the pipe is relatively close.

It is one of the objects of the present invention to provide an insulating tape which can be easily and quickly installed on a pipe in locations where a minimum clearance is provided.

Another object is to provide an insulating tape which can be threaded on to the pipe and forced along the pipe to the desired position.

Still another object is to provide an insulating tape which is resiliently preformed in a spiral shape so that it can be handled more easily during installation.

The above and other objects and advantages of the invention will be more readily apparent from the following description, when read in connection with the accompanying drawing in which:

Figure 1 is a side elevation of a pipe illustrating the application of a tape embodying the invention;

Figure 2 is a transverse section through the tape; and

Figures 3 and 4 are views similar to Figure 2 showing alternative constructions.

The tape as shown in Figures 1 and 2 comprises an outer sheath or cover 10 which may be formed of asbestos fibers or the like woven together to form an elongated continuous sheath. As seen in Figure 2, the weft strands as indicated at 11 may cross alternately over and under two of the warp strands as indicated at 12 to provide a twill weave so that the interior of the cover will lie smoothly against the pipe.

The weave is filled with a mass of insulating material indicated at 13 which may be asbestos or glass rovings or the like and which is arranged in the form of a relatively flat wide strip. When assembled, the tape forms a relatively flat wide ribbon-like strip.

According to the present invention, the tape, when assembled, is adapted to be resiliently preformed into a tube by helically winding the tape so that the edges of adjacent convolutions contact each other.

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When so wound, the tape is adapted to be stiffened so that it will tend to retain its tubular shape, but may be resiliently deformed therefrom for assembly. A completed tape is indicated at Figure 1 which further illustrates the manner of applying the tape to a pipe as shown at 14. For assembly on the pipe one end of the tape may be deflected outward around the pipe and the tape may then be wrapped on to the pipe or threaded on by twisting and pulling the preformed tape tube. In this manner the tape may easily be assembled on the pipe even in locations where a minimum clearance is available. When so installed suitable clamps or fastenings may be fastened around the tape to hold it securely in place. It will be understood that spiral tubes of tape may be made in any desired length to facilitate handling and installation.

In the tape as shown in Figure 2 the stiffening is provided by substantially impregnating the cover sheath 10 with glue sizing material which is dried or set with the tape helically wound into a tube. Any of the desired commercial glues may be employed for this purpose, but silicate of soda is preferred since it provides an efficient sizing which is substantially unaffected by heat. After the cover sheath has been impregnated with glue sizing and dried in tubular form, the completed tube is relatively stiff but is capable of being bent as required during installation. After being threaded on to the pipe, the tape will resiliently return to its initial form to engage the pipe smoothly and uniformly throughout its length.

As an alternative or as a supplement to the glue sizing of the cover sheath one or more spring strips may be inserted in the cover sheath resiliently to hold it in tubular form. As indicated at Figure 3, a pair of spring wires 15 are inserted in the cover sheath adjacent the inner surface thereof and spaced laterally of the length of the tape. The wires 15 are initially helically formed so that they will hold the tape in its tubular condition but will yield resiliently to permit installation of the tape on a pipe.

As shown in Figure 4, a flat spring strip 16 is installed in cover sheath adjacent the inner side thereof. This strip is initially formed in a helix so that it will tend to hold the tape in its tubular shape but will yield to permit installation of the tape on a pipe.

While several embodiments of the invention have been shown and described in detail, it will be understood that these are illustrative only and are not to be taken as a definition of the scope

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of the invention, reference being had for this purpose to the appended claims.

What is claimed is:

1. An insulating tape comprising a cover sheath of woven material, a relatively flat wide strip of insulating material in the cover sheath forming therewith an elongated relatively flat tape wound helically into a tube, and elongated resilient spring means fitting within the cover sheath resiliently to hold the tape in helical form.

2. An insulating tape comprising a cover sheath of woven material, a relatively flat wide strip of insulating material in the cover sheath forming therewith an elongated relatively flat tape wound helically into a tube, and an elongated flat spring strip within the cover sheath adjacent one side thereof resiliently to hold the tape in helical form.

3. An insulating tape comprising a cover sheath of woven material, a relatively flat wide strip of insulating material in the cover sheath

forming therewith an elongated relatively flat tape wound helically into a tube, and a plurality of elongated spring members laterally spaced within the cover sheath resiliently to hold it in helical form.

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