Dec. 16, 1924. 1,519,694

V. C. MUESSMAN

PIPE COVERING

Filed July 23, 1921

Fig. 1.

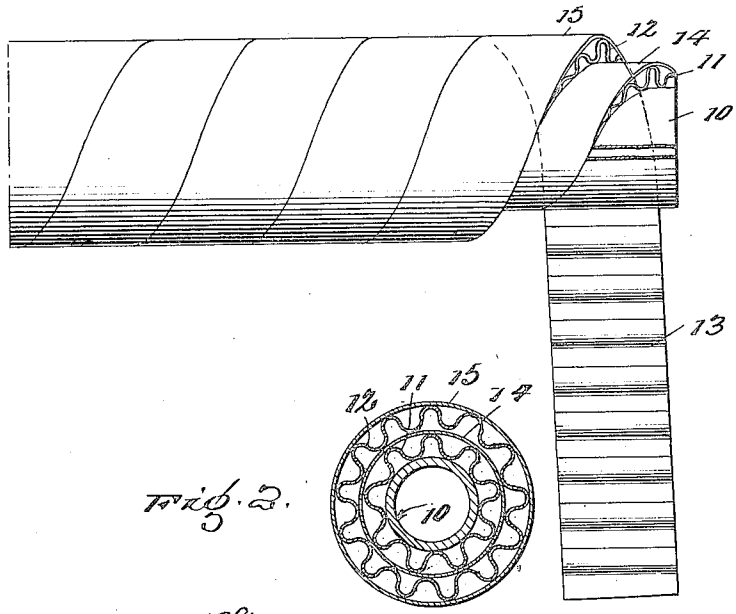
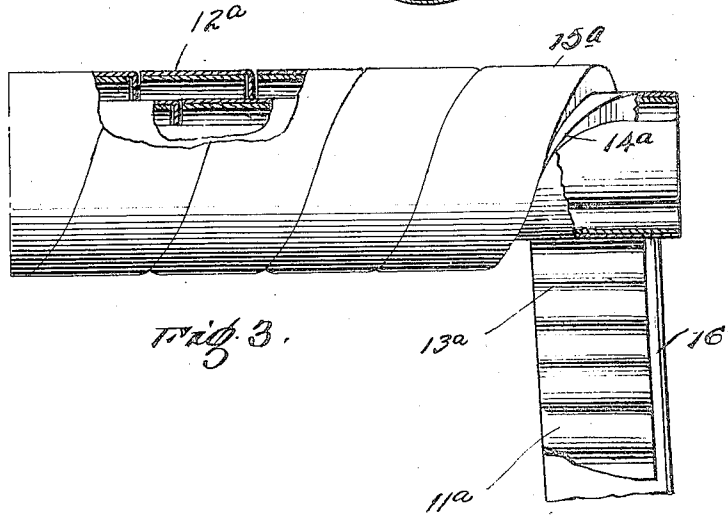


Fig. 2.

Fig. 3.



Vincent C. Muessman

INVENTOR

BY ATTORNEY

Published by AsbestosClaims.Law
asbestosclaims.law/library/23322/1

Patented Dec. 16, 1924. 1,519,694

UNITED STATES PATENT OFFICE.

VINCENT C. MUESSMAN, OF LONG ISLAND CITY, NEW YORK.

PIPE COVERING.

Application filed July 23, 1921. Serial No, 487,071.

To all whom it may concern:

Be it known that I, VINCENT C. MUESSMAN, a citizen of the United States, residing at Long Island City, in the State of New York, have invented certain new and useful Improvements in Pipe Coverings, of which the following is a specification.

This invention has relation to lagging or coverings for steam pipes or the like, and has for an object to provide a covering which is built up of strips of corrugated incombustible sheet material such as asbestos paper, said strips being wound spirally, one upon another to form a tube with the corrugations running longitudinally thereof.

Another object of the invention is to provide a pipe covering which consists of strips of corrugated paper wound spirally one upon another to form a tube and in which the corrugations of the strips run transversely thereof but at a slight angle relative to a line drawn at right angles to the longitudinal edges of the strip, said angle corresponding to the angular pitch of the spiral formed when the strip is wound, or ordinarily about three and three-quarters of a degree, so that the corrugations may extend parallel to the longitudinal axis of the tube.

Another object of the invention is to provide a pipe covering which consists of strips of corrugated paper wound spirally one upon another to form a tube and in which the corrugations extend transversely of the strip from one longitudinal edge to a point spaced slightly from the other longitudinal edge to form a smooth portion, whereby when the strips are wound the smooth portion of the strip will be folded in by engagement therewith of the corrugated edge of the next adjacent convolution to form a baffle to interrupt the continuity of the longitudinal corrugations formed during the winding of the strips.

In addition to the foregoing, this invention comprehends improvements in the details of construction and arrangement of the correlated parts, to be hereinafter set forth and particularly pointed out in the appended claims.

In the accompanying drawings in which similar and corresponding parts are designated by the same characters of reference throughout the several views in which they appear:

Figure 1 is a view in side elevation of a pipe covering showing a strip partly unwound to illustrate the manner in which it is constructed.

Figure 2 is a view thereof in cross section, and

Figure 3 is a view in side elevation with parts broken away of a slightly modified construction of pipe covering.

With reference to Figures 1 and 2, 10 indicates a pipe to be covered and 11 and 12 indicate strips of corrugated paper of uncombustible material such as asbestos, although any suitable material may be employed that is flexible capable of being corrugated. Each strip is formed with transverse corrugations 13 which are not exactly at right angles to the longitudinal edges of the strip but may perhaps be better described as extending at a slight angle to a line drawn at exactly right angles to the longitudinal axis of the strip. For all practical purposes this angular deviation may be about three and three-quarters of a degree, but may vary at will and it is not my purpose to limit myself to any exact angular arrangement of the corrugations but to adopt any arrangement that may be necessary to meet the exigencies of each case. The strip 11 is wound spirally around a form when the covering is made in the factory or around the pipe itself when wound in situ so that the edges of the strip abut. Thus, owing to the angular arrangement of the corrugations the latter will form air cells extending exactly parallel to the longitudinal axis of the form or pipe. Accompanying the strip 11 is a strip of flat paper 14 applied to the outer side of said strip 11 and preferably glued to said strip 11 previous to the application thereof to the form. In other words the strips 11 and 14 are wound simultaneously whether glued together or not. However this proceedure may be varied by winding them separately if the occasion requires. If a single strip of corrugated paper is insufficient to preclude radiation of heat another strip 12 may be wound spirally around the first pair of strips in the same manner, and a smooth strip 15 wound upon the outer side of the strip 12. These strips 12 and 15 are preferably glued together before application, although they may be applied separately if desired. As many combinations of corrugated and flat strips may be superposed as

Published by AsbestosClaims.Law
asbestosclaims.law/library/23322/2

desired to build up a tube of the required dimensions or thickness. The corrugations will extend longitudinally of the tube to form air cells which will effectively preclude the radiation of heat from a pipe protected by this covering. The covering may be manufactured in the manner stated at the factory and dispensed for use upon pipes, the latter being inserted into the tubes while the job of assembling the pipes is under way. Or if desired the strips may be applied to the pipes in situ in cases where the piping is already erected.

I have illustrated a slightly modified manner of forming a pipe covering in Figure 3 which is to all intents and purposes quite similar to the construction just described with the exception that the strips 11^a and 12^a are corrugated only to a point spaced inwardly from one edge to form a smooth portion 16 extending along one edge of the strip throughout its length. In forming the tube smooth strips 14^a and 15^a are interposed between each layer of corrugated paper as before. In the present construction it will be noted that during the winding of the strips the corrugated edge will engage the smooth edge 16 of the next adjacent convolution and fold or crowd said smooth edge inward as shown in the broken away portions of Figure 3. The effect of this is to interrupt the continuity of the air cells which are formed by the corrugations thus limiting the length of each cell to the width of the strip. By thus closing the ends of the cells the circulation of air is prevented, which if permitted to exist would carry away heat from the pipe and reduce the efficiency of the covering. In this instance the corrugations 13^a extend at an angle to the transverse dimension of the strip as in the form first described, although it will be obvious that the smooth portion 16 would operate as an end closure for the cells equally well if the corrugations were formed at exactly right angles to the longitudinal axis of the strip.

From the foregoing it will be seen that I have devised a novel form of pipe covering that may be employed in other arts, as for instance as bottle coverings or means to reduce breakage of articles during shipment by serving as a covering for the same. Other uses and advantages will be readily apparent.

While I have illustrated and described my invention with some degree of particularity I realize that in practice various alterations may be made therein. I therefore reserve the right and privilege of changing the form of the details of construction or otherwise altering the arrangement of the correlated parts, without departing from the spirit of the invention or the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by United States Letters Patent is:

1. A tube including an inner layer of corrugated sheet material in strip form, having corrugations disposed at slightly less than right angles to its edges and extending longitudinally of the tube, and an outer layer of smooth sheet material, covering the corrugated layer.

2. A tube including a plurality of concentric plies of corrugated sheet material in strip form having corrugations disposed at slightly less than right angles to its edges and extending longitudinally of the tube, and plies of smooth sheet material interposed between each ply of corrugated material and a single ply of smooth material covering the outermost ply of corrugated material.

3. A tube including an inner ply of corrugated sheet material in the form of a strip extending spirally along the axis of the tube with the edges of the strip abutting, and said corrugations being disposed at slightly less than right angles and running longitudinally of the tube, and a strip of smooth sheet material engaging the outer side of the corrugated strip and following the direction thereof.

4. A tube including a plurality of concentric layers of corrugated sheet material in strip form having the corrugations disposed at slightly less than right angles to the edges of said material and extending longitudinally of the tube, each layer consisting of a strip extending spirally around the axis of the tube with the edges of the strip abutting, a layer of smooth sheet material interposed between each layer of corrugated material, each layer of smooth material consisting of a strip following the direction of the corrugated strips, and a layer of smooth sheet material extending spirally around the outermost corrugated layer and following the direction thereof to form a covering.

5. An article of manufacture for making tubing comprising a strip of sheet material corrugated transversely, said corrugations running at slightly less than right angles to the longitudinal edge of the strip, and a strip of smooth sheet material corresponding in width to the width of the corrugated strip and applied to one side.

In testimony whereof I affix my signature.

VINCENT C. MUESSMAN.

Published by AsbestosClaims.Law
asbestosclaims.law/library/23322/3