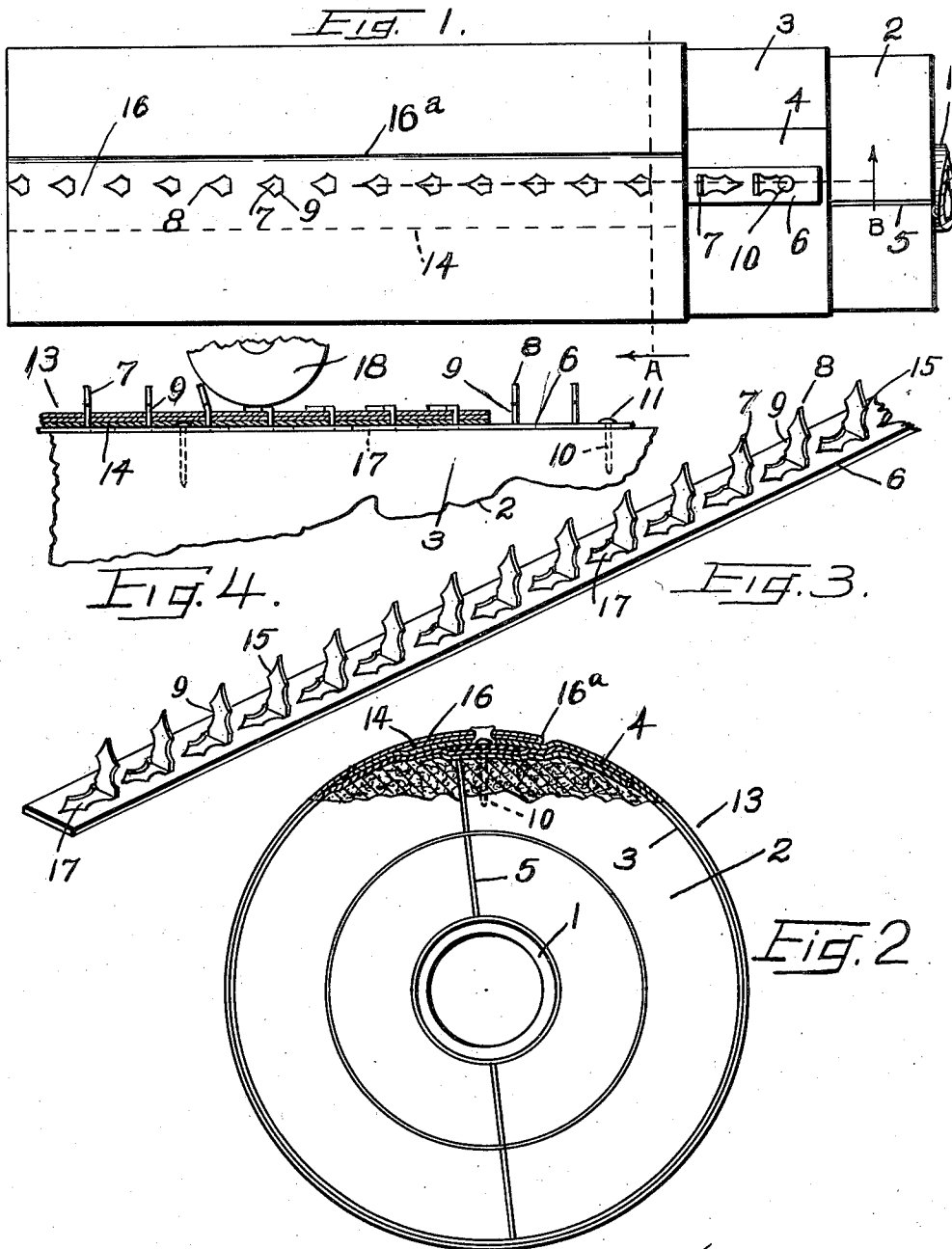


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 PROTECTIVE SHEATHING OR COVERING FOR
 PIPES AND METHOD OF APPLYING SAME
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PROTECTIVE SHEATHING OR COVERING
FOR PIPES AND METHOD OF APPLYING
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Our invention relates to protective sheathing or covering for pipe and like insulation, and fastening means to fix same in position around the insulation.

Insulation, particularly insulation for pipes, is usually manufactured in two half sections placed on the pipe and then held there by a protective covering of canvas or other suitable fabric or sheet material. In some forms of insulation, the two half sections are held together by a hinge, which may be formed by the outer ply of the insulation, or may be formed by cementing to the outer surface of the sections, a sheet material such as light weight canvas or any other suitable sheet material.

Our invention is particularly addressed to the providing of a protective sheathing or covering placed around the insulation after the insulation has been applied to the pipe. It has been the usual practice in applying this covering, sheathing or wrapping, to have it entirely surround the insulation and overlap. At the point where it overlaps, prior to our invention, it was the practice to sew the overlapped portion to the portion of the covering or sheathing material that was overlapped. This sewing of the sheathing or covering required considerable time, trouble and expense, all of which is overcome by our present invention.

In the accompanying drawing we show one form of our invention applied to insulation on a pipe line. However, the other bodies could likewise be sheathed or covered by our invention.

Fig. 1 is a plan view of a section of pipe with insulation in place and covered with a protective sheathing fastened by my improved means. Fig. 2 is an end elevation of a pipe provided with insulation, having a portion in cross section on line A of Fig. 1 so as to illustrate the overlapping, and means of attaching, of the sheathing fabric. Fig. 3 is a perspective view of the fastening means for the sheathing fabric. Fig. 4 is a longitudinal section, on line "B" of Fig. 1, of the joint of the sheathing fabric and the fastening means therefor.

In Fig. 1 is shown a section of pipe covered with insulating material in which the insulating material is formed in some semi-cylindrical form, coated with a cement, to which is applied a thin fabric 3, forming, as shown at the bottom of Fig. 2, a hinge so that when the insulating material is placed around the pipe there is provided an extension of thin fabric 3 that overlaps the adjacent half section. This fabric 3, shown in Fig. 2, is not held in overlapping position by using the

means hereinafter set forth, but, if desired, it could be held in position. As stated, the thin sheathing shown in Fig. 2 may be dispensed with, or may, if desired, be attached by means of the invention and the method hereinafter described. The outer protective covering or sheathing 13 may, therefore, be the only sheathing or covering used, and for this reason it is the only sheathing or covering which we have shown held in place by our invention.

In the drawing, insulation 2, constructed of any one of the usual insulating materials is divided into two halves, the exterior surfaces being covered by a sheet of fabric or other suitable material 3, one edge of which begins at the edge of one of the halves, extends past the first and second joints 5 of the halves and overlaps the first edge of the material as indicated at 4 (Figs. 1 and 2), so as to overlap the first mentioned edge of the fabric 3. This overlapping flap 4 is then pasted down on the fabric 3 by an adhesive and the insulation is thus held in place on the pipe 1. This fabric 3, as stated, may if desired, and is on some types of insulation dispensed with. Heretofore the protective covering of heavier fabric was secured in place by having the overlapping edges sewed together. This method of securing the heavier fabric 13 around the insulation 2 was in many ways unsatisfactory; for instance, it was difficult to draw the sheathing fabric taut around the insulation 2, and even when reasonably taut when first applied, the fabric loosened later, by reason of the stretching and giving of the threads used in stitching it on the insulation 2.

After the insulation 2 has been applied to the pipe 1, we apply a thin metal strip 6, having punched from its body a series of upstanding members or prongs 7. These prongs 7 are preferably formed so as to provide a pointed terminus 8 and inwardly curved side portions 9, extending from the base of the pointed terminus 8, to a point near the base of prong 7. The purpose of this construction of the prongs 7 will appear later.

In applying the metallic strip 6 with its prongs 7 to the surface of the insulation, we insert, at several points along the length of strip 6, small nails or pins 10, having a head 11, large enough to hold the metallic strip 6 in place on the insulation. These nails may be placed in the apex of the slot 17, formed in punching out the prongs 7, or separate holes may be made to receive the nails. The nails 10, driven into the insulation 2 hold the metallic prong strip 6 on the outer surface thereof. With prong strip 6 held in position

sition on the insulation 2, a sheet 13, of protective covering fabric or other suitable material, of a width in excess of the circumference of the pipe covering 2, and of any desired length to be determined by the length of the insulation to be covered is along one edge 14 pressed down over the prongs 7, the arrow-like head of prongs 7 passing through the covering or sheathing of fabric or other suitable material 13. With a woven material, the passage of the prongs 7 through the material generally serves only to push aside the warp and woof of the fabric, which, when the wider portion 15, of the prongs 7, passes through, again return towards their original positions thus closing in tightly in the recessed portions 9 of the prongs 7 thereby serving to prevent displacement of the sheathing 13, while other operations are being performed, as will now be set forth. The prongs 7 are initially passed through the sheathing fabric 13 preferably at a distance in from the edge thereof, thus leaving a width of material 14, beyond the prongs 7. This prevents the prongs 7 from tearing out sideways under strain as would be the case if the prongs were inserted too near the edge of the fabric. The sheathing material 13 is then drawn tightly around the insulation 2 and the opposite edge 16 of the sheathing after first being folded to form fold 16a, (Fig. 2), is passed over the prongs 7 so that the prongs pass through two plies of sheathing, thereby holding the fold in place, as is shown in Figure 4. The portions of the prongs 7 projecting above the sheathing are then bent down upon the sheathing fabric 13 in any suitable manner, but preferably, by running a roller 18 against the projecting portions of the prongs in the same direction as that in which they moved when punched up from the strip 6. As seen in Fig. 1, the slots 17 are to the right of prongs 7 while the clinched or bent portions of prongs 7 extend to the left. Thus bending the prongs 7 away from slots 17, prevents any tendency of the prongs to break off at their bending point juncture with strip 6, as would be the case if they bent towards the slot 17.

When the sheathing material is being drawn taut around the insulation 2 and passed over prongs 7, for the second time the material is held on the prongs 7 by the inwardly curved recess portions 9. This enables us to prevent wrinkles and insure a smooth and tight fitting sheathing cover for the insulation 2. The folding of the sheathing fabric 13 before passing it over prongs 7 for final fixing of same on the insulation makes possible the insertion of prongs 7 closer to the edge 16a without danger of the sheathing tearing and gives a finished appearance presenting a neat, taut, and permanent sheathing which has been easily and quickly applied.

What we claim and desire to secure by Letters Patent is:

1. In a sheathing for insulation material, a sheet of sheathing material arranged around the insulation with its opposite edge portions overlapping, and a member arranged on said insulation under the sheathing, said member provided with prongs projecting through said sheathing engaging with said overlapped edge portions, and means securing said member to the insulation.

2. The method of sheathing a body which comprises placing longitudinally on and securing to said body a member having a series of outstanding prongs projecting transversely outward from

said member, placing a sheathing material over said prongs adjacent one edge of the sheathing material, passing the sheathing material around said body so that the longitudinal lay of the sheathing material is arranged longitudinally of the body, placing the opposite edge portion of said sheathing on to said prongs, so that each prong engages two portions of the sheathing adjacent opposite edges thereof, and bending said prongs over said sheathing.

3. The method of sheathing a body which comprises placing longitudinally on said body a member having a series of outstanding prongs projecting transversely outward from said member, placing a sheathing material over said prongs adjacent one edge of the sheathing material, passing the sheathing material around said body so that the longitudinal lay of the sheathing material is arranged longitudinally of the body, placing the opposite edge portion of said sheathing on to said prongs so that each prong engages two portions of the sheathing adjacent opposite edges thereof, passing a roller along said series of prongs and bending said prongs longitudinally.

4. The method of sheathing a body which comprises placing longitudinally on said body a member having a series of outstanding prongs projecting transversely outward from said member, placing a sheathing material over said prongs adjacent one edge of the sheathing material, passing the sheathing material around said body so that the longitudinal lay of the sheathing material is arranged longitudinally of the body, placing the opposite edge portion of said sheathing on to said prongs so that each prong engages two portions of the sheathing adjacent opposite edges thereof, passing a roller along said series of prongs and bending said prongs longitudinally in the direction opposite to the opening formed in the member in the formation of the prongs.

5. The method of sheathing heat insulating material on pipe lines comprising placing the heat insulation on the pipe, attaching to said heat insulation longitudinally thereof a metal plate having prongs stamped so as to project outward from said plate and transversely thereof, attaching the sheathing material adjacent the longitudinal edge of the sheathing material to said prongs, passing said material around the heat insulation material, attaching the opposite longitudinal edge of the sheathing to said prongs and moving said prongs downward so as to overlay and hold said sheathing in fixed position.

6. In a sheathing for a cylindrical body, a metal strip having a series of prongs cut in and turned out so that said prongs extend out from said plate on lines transverse to the longitudinal line of the plate, a sheet of sheathing material arranged longitudinally of the cylindrical body, the said sheathing material adjacent its longitudinal edges being held in position around said body by the prongs on said plate, said prongs being bent downward to securely lock the sheathing in place.

7. In a sheathing for insulation material, a sheet of sheathing material arranged around the insulation with its opposite edge portions overlapping, and a member arranged on said insulation under said sheathing, said member provided with prongs projecting through said sheathing engaging with said overlapped edge portions.

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