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FASTENING MEANS FOR INSULATING MATERIAL

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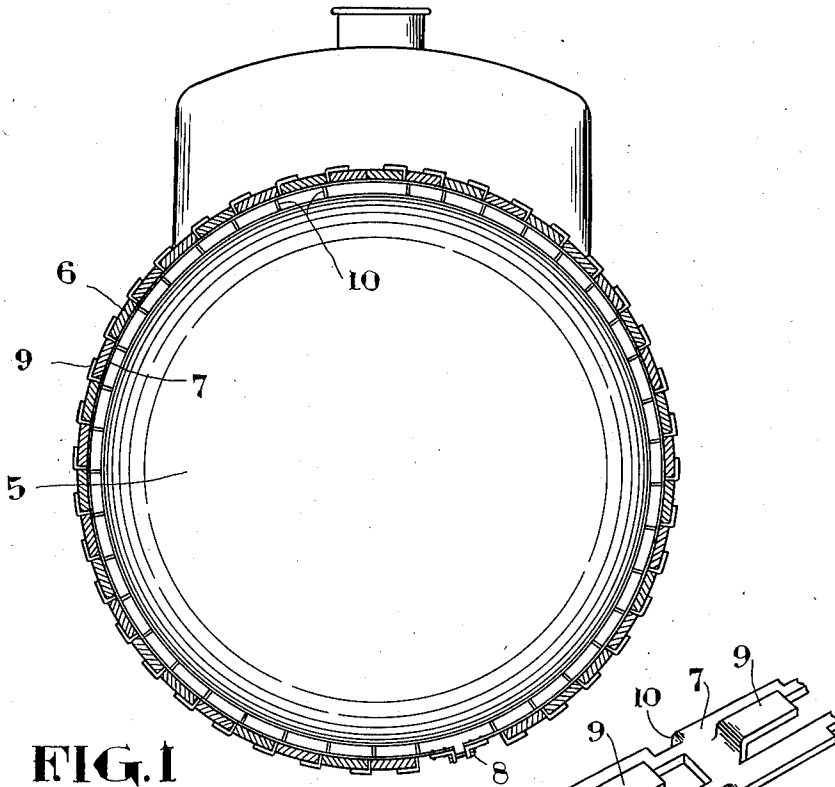


FIG. 1

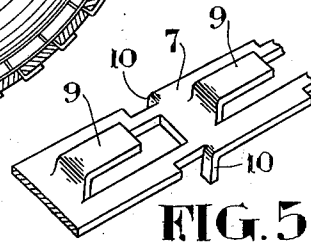


FIG. 5

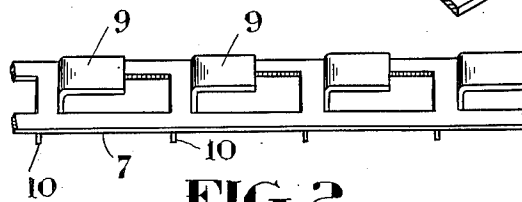


FIG. 2

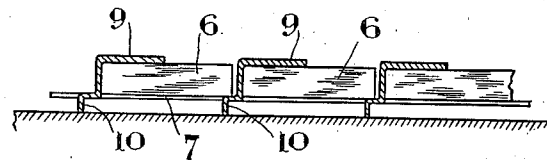


FIG. 3

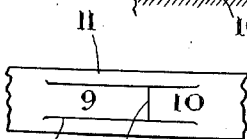


FIG. 4

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## FASTENING MEANS FOR INSULATING MATERIAL

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5 Claims. (Cl. 154-45)

This invention relates to the application of insulating material to boilers, tanks, railroad cars, refrigerators, vessels and the like, and comprises improved fastening means whereby sheets or slabs of insulating material may be quickly and conveniently applied to form a substantially smooth covering over surfaces presenting irregularities such as rivet heads, joint straps or other projecting parts.

According to this invention the insulating material, in the form of sheets or slabs, is held to the outer surfaces of a series of flat metal bands by means of suitable retaining brackets which may be pressed out as integral parts of the bands or made separately and secured to the bands by welding or riveting. The bands are also provided with spacer projections which serve to hold the body portions of the bands and the insulating material away from the covered surface. This enables the bands and insulating material to clear rivets or other projections on the covered surface and also provides an air space which enhances the insulating effectiveness of the covering. It also provides for ventilation to prevent rot or corrosion of the insulated surface and the bands carrying the insulation.

Proceeding now to a more detailed description reference will be had to the accompanying drawing, in which

Fig. 1 is an end view of a boiler to which slabs of insulating material are applied in accordance with this invention.

Fig. 2 is a perspective view of a portion of one of the metal bands by which the insulating slabs are secured in place.

Fig. 3 is a sectional view showing a plurality of insulating slabs held to a flat surface by one of the metal bands provided in accordance with this invention.

Fig. 4 is a detail view illustrating one method by which the bracket and spacer projections of each band may be formed as integral extensions of the band.

Fig. 5 is a view similar to Fig. 4 but showing a slight modification with respect to the integral formation of the spacer projections.

Referring more particularly to the drawing, 5 designates a boiler provided with an insulating covering comprising a circular series of slabs 6 held in place at different points along their length by metal bands 7. In the present instance, each metal band is shown as a split band having its ends fastened together by bolts 8. It will be understood, however, that the length of the bands and the method of securing same to

the boiler or other covered surface will be varied to suit various conditions encountered in the application of insulating coverings. The slabs 6 are made of any suitable insulating material and are held to the outer surface of each band 7 by means of a series of L-shaped brackets 9. In the present instance the brackets 9 are shown uniformly spaced along the length of the band but this is not essential since the spacing may be altered to permit the use of slabs of varying width. The brackets 9 are preferably formed of integral metal tongues pressed from the body of the band and bent into L-shape as shown to advantage in Fig. 2. It is contemplated however that the bracket forming members 9 may be made as separate pieces and welded or riveted to the outer surface of the band.

Each band 7 is also provided with a plurality of spacers 10 projecting from its inner surface into engagement with the covered surface of the boiler 5. These spacers 10 are preferably struck from the body of the band in the particular manner shown in Figs. 3 and 4. They may, however, be struck from the body of the band in the slightly different manner illustrated in Fig. 5, or, as a further modification, they may be made as separate pieces and riveted or welded to the inner surface of the band.

In actual practice it is generally preferred that both the brackets 9 and the spacers 10 be struck from the body of the band as illustrated in Figs. 2, 3 and 4. This is accomplished by providing the band at different points in its length with spaced parallel slits 11 and 12 to define the sides of the brackets 9 and spacers 10. A further slit is then made as indicated at 13 to separate the bracket forming portion 9 from the spacer forming portion 10 so that these two portions may then be oppositely bent to the form illustrated in Figs. 2 and 3.

Having thus described what I now conceive to be the preferred embodiment of this invention it will be understood that I reserve the right to all further modifications falling within the scope and spirit of the appended claims.

Having thus described my invention what I claim is:—

1. A fastening band for holding insulating slabs to a boiler or other surface comprising a flat strip of metal cut at intervals along its length to provide adjacent oppositely directed tongue forming portions, one of said tongue forming portions being bent to provide an L-shaped bracket at the outer face of the strip

and the other tongue forming portion being bent to project beyond the inner face of the strip.

5 2. A fastening band for holding insulating slabs to a boiler or other surface comprising a flat strip of metal presenting a row of slots, an outwardly projecting slab engaging tongue formed as an integral continuation of one end of each slot and an inwardly projecting spacing tongue formed as an integral projection of the remaining end of each slot.

10 3. A fastening band as set forth in claim 2 in which the combined lengths of the tongues projecting from opposite ends of each slot is approximately equal to the length of the slot.

15 4. In a device of the character described a flat strip provided, at spaced intervals along its length, with a pair of opposed longitudinally extending slits of equal length and a transverse slit extending between the longitudinal slits of each

pair at a point spaced from the ends of said longitudinal slits, the portion of the band lying between each pair of longitudinal slits being thus divided into two oppositely directed tongues adapted to be bent outwardly in opposite directions from the plane of the strip to form, respectively, a slab engaging tongue at one side of the strip and a spacing tongue at the opposite side of the strip.

5 5. A strip as set forth in claim 4 in which the transverse slit connecting each pair of longitudinal slits is located so that the slits define a relatively long tongue at one side of the transverse slit and a relatively short tongue at the opposite side of the transverse slit, said tongues being adapted to be bent in opposite directions from the plane of the strip to provide, respectively, a slab holding tongue and a spacing tongue.

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