May 23, 1939. A. D. SABORSKY 2,159,053

INSULATING BAT

Filed Nov. 29, 1935

FIG-1-

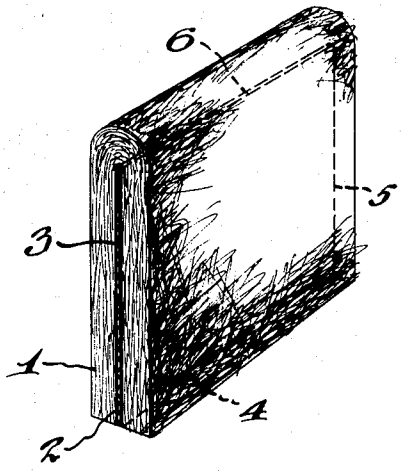


FIG-4-

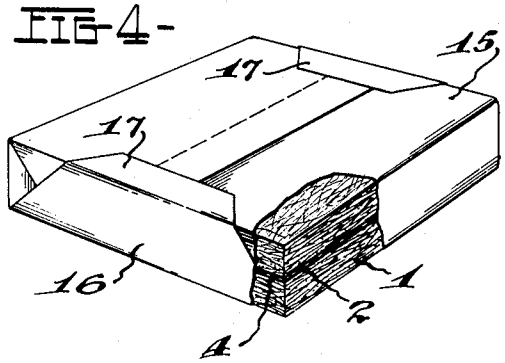


FIG-2-

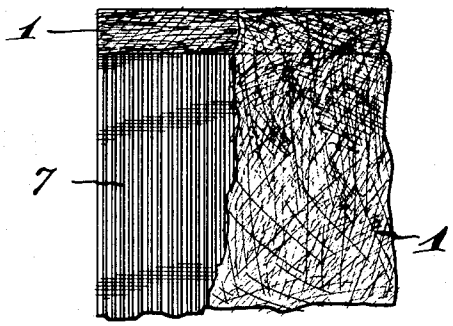
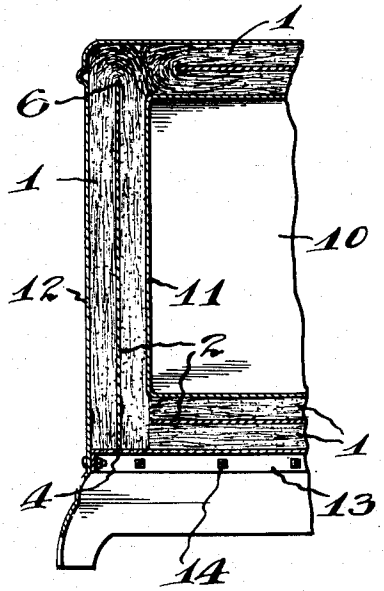


FIG-5-



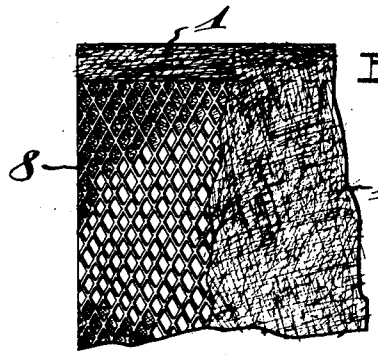


FIG-3-

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UNITED STATES PATENT OFFICE

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INSULATING BAT

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Application November 29, 1935, Serial No. 52,013

4 Claims. (Cl. 20—4)

The present invention relates to insulating bats and, more particularly, to a novel arrangement therefor.

In the use of fibrous insulating bats such as are composed of glass wool, mineral or slag wool, cotton, balsam pulp, and similar insulating substances, including those which are generally of a loose, fluffy consistency and those which are loosely matted or felted, it has been found difficult to install them in a package or paneling such as the walls of a stove, refrigerator, and the like. When the material is pushed into the panel or package, it tends to pack, lump and/or pull apart so that the optimum heat insulating consistency is lost. In addition, it takes considerable time to insert a loose bat of such fibrous material. Further, when heat insulating bats have been installed in the panels of stoves, refrigerators, and the like for a considerable time, vibrations, rough handling, jolting, and the passage of time tend to settle the material to the bottom of the panel, so that the full heat insulating properties are lost.

It is an object of the present invention to provide a heat insulating bat which may be easily and quickly inserted into a package, panel or other cavity without undue packing, bunching, pulling or distortion of the fibers. Another object of the present invention is to provide a fibrous bat supported by a rigid reenforcing core which prevents a gradual settling of the fibers.

It is also within the contemplation of the invention to provide a reenforced packaged bat to insure simple handling and assembling, resistance to moisture, and a freedom from the shedding of dust or other particles of insulation.

Other objects and advantages of the present invention will become apparent from the following description, taken in conjunction with the drawing, in which:

Fig. 1 is a perspective view of my fibrous bat showing a reenforcing core;

Figs. 2 and 3 are fragmentary elevational section views depicting reenforcing cores within the bats;

Fig. 4 is a fragmentary perspective view of one of my packaged bats; and

Fig. 5 shows a fragmentary elevational section view of my bats assembled in the panels of a stove.

Referring more particularly to the drawing, reference character 1 represents a bat of fibrous material such as glass wool, mineral wool, cotton, balsam pulp, or the like which has been folded over a reenforcing core 2. As shown, three edges, 3, 4 and 5, respectively, of the core lie exposed and flush with the extremities of the bat, whereas the fourth side or edge 6 lies buried at the fold of the bat. All of said edges, however, may be concealed by the marginal portions of the bat overlying or projecting beyond said edges. The reenforcing core may be made of any one of numerous materials, selected according to its adaptability to the particular purpose desired. For example, in Fig. 2 a stiff core 7, such as a sheet of cardboard, chipboard, fiberboard, or any other stiff or semi-stiff material, according to the particular use desired, may be incorporated as the reenforcing member of the bat. Likewise in Fig. 3, an expanded metal or wire mesh core 8 has been shown which is particularly adapted to high temperature heat insulation. Such a bat of glass wool and expanded metal is ideally suitable for resisting the high temperatures found in stoves, furnaces and the like.

In Fig. 5, I have illustrated a preferred form of bat installed in the panels of a cabinet or stove 10. A very easy and simple installation of a bat between the panels 11 and 12 may be effected in the following manner: Before the bottom plate 13 is secured in place by the bolts 14, the stove may be turned upside down so as to expose the cavity formed by the panels 11 and 12. The blunt end of a folded bat is then inserted into the cavity and is pushed down into place by pressure applied to the edge 4 of the core. In this manner, a uniform pressure is exerted on the fold which, together with the friction between the core and the bat, enables the core to be inserted without any packing, lumping or material distortion of the fibers. The other bats at the top and bottom may be similarly inserted. The bottom plate 13 is then fastened into place in the usual manner to complete the assembly. If desired, the bat may be held between sheet metal shields while being inserted into the cavity, the shields being then withdrawn. This is desirable where protruding screws, bolt heads or the like would otherwise interfere with the free movement of the bat into position.

It will be noted that by the use of the foregoing arrangement the vertically disposed bat is supported and maintained in position by the vertical core 2. The bottom edge 4 is permitted to rest on the bottom plate 13 either with or without an intervening layer of fibers. In this manner, the core provides an excellent support for the bat at the edge 6 and prevents a settlement of the fibers in spite of jolting, rough handling or vibration to which it may be subjected. In addition, my arrangement when used to load the

cavities of a stove, refrigerator or the like has the advantage of making it possible to be rapidly inserted at low cost without an outer wrapping so that the soft and flexible fibrous material may assume intimate contact with and fill out the irregularities in the walls of the cavity.

Fig. 4 discloses a package or envelope 15 of a suitable paper or the like. The bat 1 may be pushed by means of the reenforcing core 2 through the end 16 before it is closed. The free ends 17 are then folded and preferably held in place by a cementitious material. The reenforced packaged bat may then be inserted in the same manner into the desired cavity. This arrangement has the additional features of being easily handled, free from shedding dust, and resistant to moisture.

While the present invention has been illustrated and described in preferred embodiments, it is to be understood that variations and modifications may be resorted to without departing from the spirit of the present invention. For example, it is possible to provide a reenforcing core having a framework lying along the edge 6, and an arm or sheet extending to the edge 4, which may be used to push the folded bat into the cavity. It is also to be observed that the fibrous material may be built up with the aid of a cementitious or other bonding material, and that the folded bat may be bonded to the core and/or to the side walls of the package or other cavity.

I claim:

1. The combination of a vertical panel having top and bottom and side members defining an enclosed insulating recess therein, a compressible fibrous bat fitted in and substantially filling said recess, said fibrous bat being folded upon itself to form a double thickness and having the free ends thereof lying in juxtaposition at the bottom of said recess, and a rigidifying core embedded in the fold of said bat supporting the same and extending from the underside of the folded edge to the free ends of said bat and resting directly on the said bottom member.

2. The combination of a vertical panel including a bottom plate and having an enclosed recess therein, a compressible fibrous bat of mineral wool fitted in and substantially filling said recess, said fibrous bat being folded upon itself to form a double thickness having the top of said folded edge lying along the top of said panel and having the free ends thereof lying in juxtaposition and abutting the bottom of said panel, a rigidifying core extending from the folded edge to the free ends of said bat, said bottom plate closing said recess and contacting said core to impart direct support thereto.

3. In a vertical insulating panel having side walls bottom and top members defining an enclosed recess, a loose fluffy compressible fibrous bat fitted in and filling said recess from top to bottom, said fibrous bat being rectangular and folded upon itself to form a double thickness having the folded edge lying along the top of the panel and the free ends lying flush with one another and resting on the bottom of the panel, and a rigidifying core embedded in the fold of said fibrous material and resting directly on the said bottom member between the said free ends, said core having an edge lying along and supporting the underside of the fold of said bat.

4. In a vertical insulating panel having side walls bottom and top members defining an enclosed recess, a loose fluffy compressible fibrous bat of mineral wool fibers fitted in and filling said recess, said fibrous bat being rectangular and folded upon itself to form a double thickness having the folded edge lying along the top of the panel and the free ends lying flush with one another and resting on the bottom of the panel, and a rigidifying core of sheet material embedded in the fold of said fibrous material coextensive with the edges of said bat and resting directly on the said bottom member between the said free ends, said core having its upper edge lying along and supporting the underside of the fold of said bat.

ARTHUR D. SABORSKY.