May 23, 1939. C. F. JOHNSON 2,159,028

INSULATING BAT

Filed Nov. 29, 1935

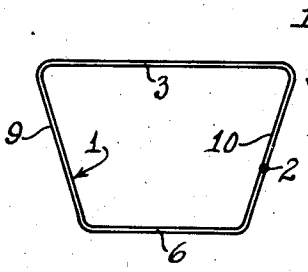


Fig. I.

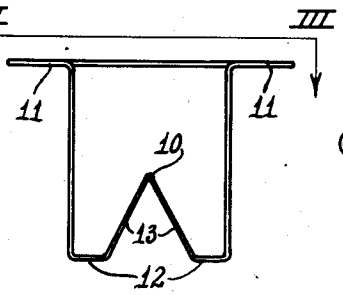


Fig. II.

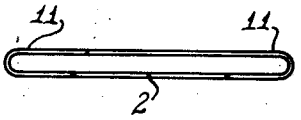


Fig. III.

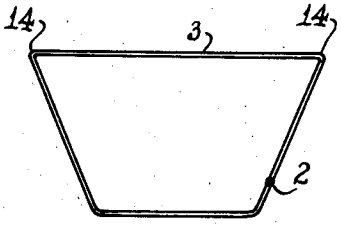


Fig. IV.

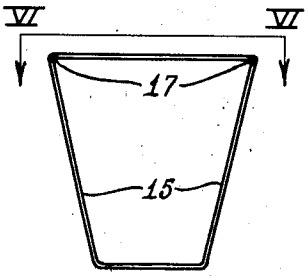


Fig. V.

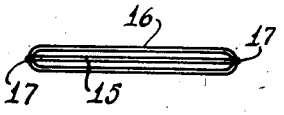


Fig. VI.

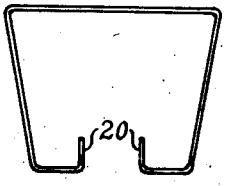


Fig. VII.

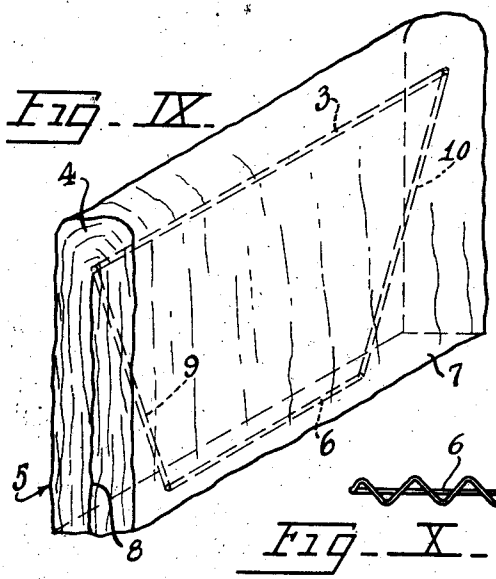


Fig. IX.

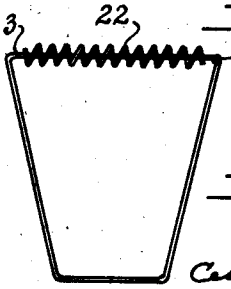


Fig. VIII.



Fig. X.

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INSULATING BAT

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Application November 29, 1935, Serial No. 52,011

9 Claims. (Cl. 154—44)

The present invention relates to improvements in insulating bats and more particularly to a folded bat, hereinafter referred to as a "fold-bat", and to an internal support therefor.

In the use of fold-bats of fibrous material such as glass wool, cotton, mineral or slag wool, balsam pulp and similar insulating substances, particularly those which generally comprise a fluffy body of loosely matted fibers, sheets of material such as corrugated board have been used as cores. The use of such a material in the core has several limitations in that it is not heat-resistant, and it tends to rot, lose its strength and emit an odor upon becoming damp.

It is an object of the present invention to provide a supporting medium for fold-bats which is moisture and heat-resistant to a high degree and does not weaken with age.

Another object is to provide a support which facilitates handling and installing of fold-bats and which is exceedingly inexpensive in manufacture.

A further object of the present invention is to provide a fold-bat having a support therein which permits the two adjacent surfaces of fibrous material to be contiguous so as to hold together and not slip out of position.

It is also within the contemplation of the present invention to provide a supporting member for a fold-bat having a comparatively broad lateral support at the fold of the bat which prevents the fibrous material from being pulled away from the walls and the cavity into which it is installed, so as to insure substantially complete filling of the top of the cavity.

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

Fig. I discloses an elevational view of one of my supports.

Fig. II is an elevational view of a modification thereof including a supporting ledge for the fold of the bat.

Fig. III is a top plan view of the embodiment of Fig. II.

Fig. IV illustrates an elevation view of a further modification.

Figs. V and VI depict elevational and top plan views respectively of another embodiment.

Figs. VII and VIII show elevational views of additional modifications.

Fig. IX illustrates a perspective assembly view of a fold-bat having one of my supports mounted therein; and

Fig. X is a top view of a modification of a ledge.

Fig. I shows a supporting frame or member 1 formed of a wire which is bent in a trapezoidal form and has its ends joined by means of a weld 2 or the like. The upper edge 3 of the frame is laid along the fold 4 of the bat 5 as shown in Fig. IX. The bat 5 may be formed from a blanket of fibrous material such as cotton, glass wool, balsam pulp or the like, which is folded upon itself so as to form a double layer. The lower edge 6 of the frame extends down to and lies flush with the lower edge 7 of the bat. In this manner the edge 6 may be held by the operator when installing the fold-bat into a receptacle or cavity, such as between the walls of an ice-box, stove, package or the like. It will be noted that in installing my fold-bat, the folded edge 4 is introduced foremost into a cavity and the bat then is pushed forward by pressure applied through the supporting frame, the pressure being transmitted to the bat along the edge 3 of the supporting frame without material distortion or lumping of the bat. In this manner it is possible to fill a cavity with fibrous insulating material expeditiously and economically, and with the assurance that the fibrous material is distributed uniformly throughout the cavity to produce optimum insulating qualities.

Owing to the open formation of the supporting frame, the two adjacent surfaces 8 of the bat are permitted to lie contiguously, with the fibers which form said surfaces more or less intertwined, so as to hold said surfaces together. It is to be observed that due to the trapezoidal shape of my supporting member, the two sides 9 and 10 have a lateral component which, when the fibrous material is gripped therearound with the bat in an upright position, helps to support the bat in a vertical direction. Moreover, in the particular embodiment of Fig. I, due to the fact that end 6 is shorter than end 3, the sloping sides 9 and 10 lie embedded in the fibrous bat and prevent the lower part of the bat from slipping through the frame or past said sides as it would do if the sides were conterminous.

Figs. II and III illustrate a modification of the present invention. The supporting member is again formed from a single piece of wire bent to the shape shown and having its ends connected at joint 2, and has a broad supporting flange or ledge 11 for engagement with the folded edge 4 of the bat. When a bat of loose, fluffy material is folded over the ledge 11, it is broadened along the ledge or distended laterally so that when the bat is installed in an upright position in a correspondingly shaped cavity, the upper portion of the

bat will be compacted between the ledge 11 and the opposite walls of the cavity and firmly held against said walls. Thus when the folded bat is subjected to considerable jolting and vibration, the upper edge will be prevented from stretching and falling away from the sides of the cavity. The lower edge 12 of the frame is formed with an upward extending cross-member 13 in the shape of a reentrant angle or any other suitable form which may assist in supporting the bat in a vertical direction.

Fig. IV depicts a slight modification of the embodiment of Fig. I in that the corners 14 are somewhat sharper and permit the edge 3 to lie along the full length of the fold 4 of the bat.

In Figs. V and VI, I have disclosed a frame 15 having a ledge 16 formed from the same or a separate piece of wire bent into an elongated loop, extending along the upper end of the frame and fastened thereto by means of welds 17.

Fig. VII illustrates a frame made of a single length of wire which has no joint or weld therein. The free ends 20 extend upward but can also extend in a cross-direction to serve as supports for the bat. Of course, it will be understood that a ledge such as is shown in Figs. III and/or VI if desired, may be provided with this form of frame.

As another form of ledge, I have provided as depicted in Fig. VIII a circuitous wire member 22 extending along the upper edge 3 of the frame. It will be noted that this circuitous member, illustrated in the form of a helix, may be joined to the upper edge of the frame in any suitable manner such as by winding it therearound, welding or the like. In Fig. X a ledge 23 is integral with the lower portion of the support in that it is formed of a single bent wire. With the zigzag formation of the ledge, a simple, expedient type ledge is provided which intermeshes with and supports the fibers of the fold-bat.

Although I have illustrated and described my invention in connection with specific embodiments thereto, it is to be understood that modifications may be resorted to without departing from its scope and spirit as defined in the appended claims.

I claim:

1. An insulating article of fibrous material which comprises a bat folded over upon itself to form a double thickness having the free ends of said bat terminating together at one end thereof, and a supporting member therefor embedded between the contiguous surfaces of said bat, said supporting member having a laterally disposed ledge lying along the inner edge of said fold.

2. An insulating article of fibrous material which comprises a bat folded over upon itself to form a double thickness having the free ends of said bat terminating together at one end thereof, and a supporting member therefor embedded between the contiguous surfaces of said bat, said supporting member having a laterally disposed ledge lying along the inner edge of said fold, and having one edge of said supporting member lying flush with the free ends of said bat.

3. An insulating article of fibrous material which comprises a bat folded over upon itself to form a double thickness having the free ends of said bat terminating together at one end thereof, and a supporting member therefor embedded between the contiguous surfaces of said bat, said supporting member being formed of a bent wire and having a laterally disposed ledge lying along the inner edge of said fold.

4. An insulating article of fibrous material which comprises a bat folded over upon itself to form a double thickness having the free ends of said bat terminating together at one end thereof, and a supporting member therefor embedded between the contiguous surfaces of said bat, said supporting member being formed of a bent wire and having a laterally disposed ledge lying along the inner edge of said fold and having one edge of said supporting member lying flush with the free ends of said bat.

5. A supporting frame for an insulating article of loose, fluffy material, which comprises a member lying substantially within a plane and adapted to be embedded in and support said article, and a ledge attached to one end and lying laterally of the plane of said member and adapted to distend said fluffy material at said end.

6. A supporting frame for a fibrous bat folded in diptych form, said frame including a center member adapted to be embedded between the juxtaposed surfaces of said bat, and a ledge attached to said center member and extending in a lateral direction of said center member and adapted to distend said fibrous bat at said fold.

7. A supporting frame for a fibrous bat folded in diptych form, said frame including a center member adapted to be embedded between the juxtaposed surfaces of said bat, and a ledge attached to said center member and extending in a lateral direction of said center member and adapted to distend said fibrous bat at said fold, said center member being formed wholly of metal in open formation.

8. An insulating article which comprises a substantially vertically disposed supporting member, and an insulating bat of loose, fluffy material folded over said supporting material and dependent thereon, said supporting member having in connection therewith means for supporting and distending in a lateral direction, said material in proximity to the upper edge thereof.

9. A supporting frame for an insulating material of loose, fluffy material, which comprises a member lying substantially within a vertical plane and adapted to be embedded in and support said material, and means in proximity to the upper edge of said supporting frame for distending said material laterally of the plane of said member and prevent sagging of said material thereat.

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