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METHOD OF MAKING SOUND AND VIBRATION INSULATING UNITS

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Fig. 1.

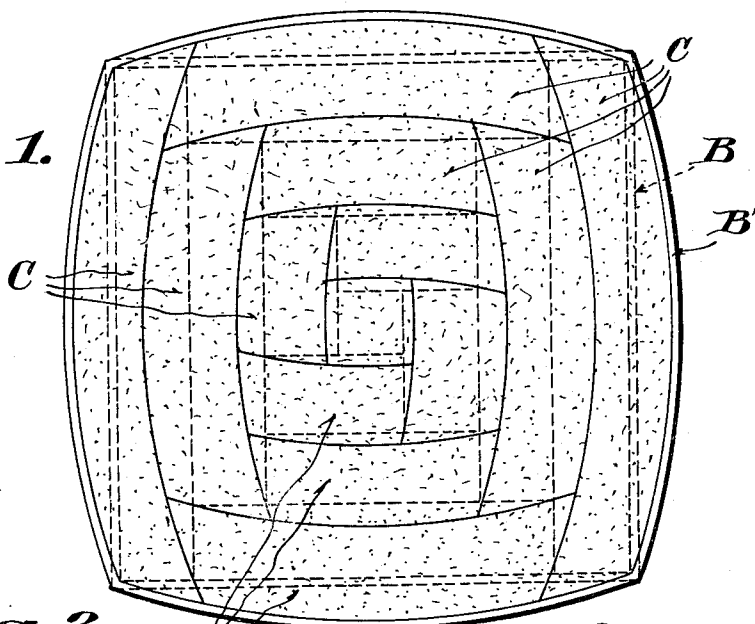


Fig. 2.

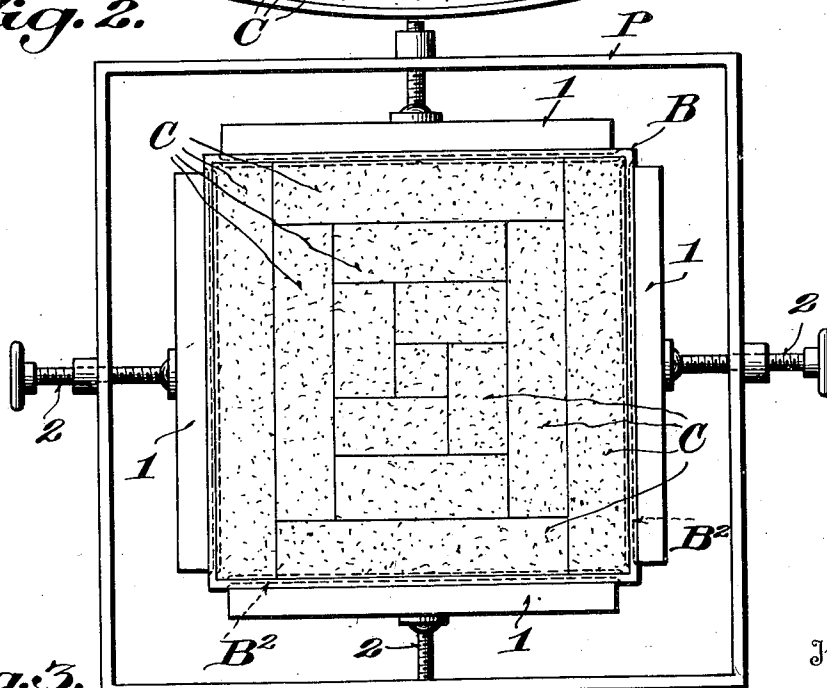
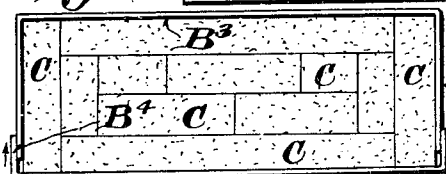


Fig. 3.



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## METHOD OF MAKING SOUND AND VIBRATION INSULATING UNITS.

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This invention relates to a novel method for making units for insulating machinery foundations from the floor of a building or other support thereby to absorb vibration and 5 deaden the sound.

To that end the invention contemplates a simple and practical method whereby insulating units of the type employing strips or sections of cork or the like may be made in 10 thoroughly practical and more expeditious manner than heretofore.

In making units of the character set forth it is customary to use a surrounding metal frame or clamping band. A straight out- 15 side frame is essential especially when the plates are placed side by side on a concrete foundation and a gap between the same due to curvature of the frame which would be undesirable. Therefore, in the method now 20 in vogue the frame is made first and the strips or sections of cork are cut and, to prevent bulging of the frame, fitted loosely into the frame as an initial operation. Then, after the strips have been fitted they are removed 25 and immersed in or otherwise applied with a binder and again reset into the frame so that when the binder sets or dries all of the cork sections will be held in position within the frame and not drop out. Usually an asphalt 30 binder is used. However, this method has proven undesirable not only from the standpoint of requiring a multiplicity of operations in the manufacture of the unit, but also after a time the asphalt binder hardens and destroys to a certain degree the resilient 35 shock-absorbing and sound deadening effect of the cork.

Accordingly, the present invention aims to provide a method of making the insulating 40 units which will obviate the necessity of a binder being used; do away with the extra step of first fitting the corks into the frame, and then removing them and putting them back again after the binder has been applied; 45 and primarily to preserve the maximum resiliency of the cork.

Therefore, the present invention contemplates a method which will effect considerable economy in the manufacture of these units 50 while at the same time preserve them in such a way that their efficiency and longevity will be maintained and increased.

Since the method may be carried into effect with various forms of apparatus, the accom- 55 panying drawings illustrate a more or less diagrammatic form, the means employed and

steps of the method herein described. Therefore,

Figure 1 is a diagrammatic plan view illustrating the initial step of the present method. 60

Figure 2 is a diagrammatic view of a press or the like illustrating a subsequent step of the method.

Figure 3 is a further diagrammatic view illustrating an alternative way of pressing 65 the body of yielding shock and sound absorbing material.

Similar reference characters designate corresponding parts throughout the several fig- 70 ures of the drawings.

Accordingly, with a view to overcoming the objection incident to the use of the binder and also provide adequate means for holding the strips or sections in place, I propose to use a frame or band B, of metal having the 75 normal shape shown in dotted lines shown in Figure 1 and into this frame I press a plurality of strips C of cork or its equivalent. As it is practically impossible to cut cork strips to fit in such way that no gap will exist between them, I propose to crowd them 80 into the frame permitting the sides of the frame to bulge slightly outwardly as indicated in an exaggerated way at B'.

After the strips have been fitted in place 85 in the manner indicated the entire frame is placed in a suitable press diagrammatically indicated as P, and comprising the press jaws 1 operated in any suitable manner as by the screws 2 or their equivalent. The frame B 90 after being placed within the press is subjected on all sides to pressure in such a way that all slack between the single or individual cork or equivalent strips is taken up until the frame has been pressed inwardly so that all sides are straightened out. This pressing in 95 of the sides of the frame compresses the cork strips thereby not only taking up slack or inequality in the strips thus locking or holding all of the strips in position so that they will 100 not pull out of the frame, but also provides a compressed body of cork having greater resistance to both vibration and sound.

From the foregoing it will be apparent that that first step in the present method is to as- 105 semble the cork strips C within the metal frame or band in such a way that the sides of the frame are caused to bulge or flex outwardly under the pressure of the bulk of cork crowded into the frame. Then, the entire 110 unit is subjected to a pressing operation wherein the metallic frame is pushed in-

wardly from all sides thereby to straighten out the sides of the frame, and simultaneously pressing the cork strips together so that each section is held fixed with reference to the other by friction thereby obviating the necessity of an adhesive binding. Furthermore, there is only one insertion of the strips which are left in place after being crowded into position.

While it is preferred to stop the operation of pressing the frame when the sides of the frame becomes straight, nevertheless, the same may be pressed further as indicated at B<sup>2</sup> in Fig. 2, if desired, to thereby reinforce the frame. A plate of this type however would preferably be used where it did not adjoin another plate, because as previously indicated it is undesirable to have any space between the plates or units under certain conditions of use.

The pressing inward of the frame not only produces a finished appearance, but also gives the frame a considerable resistance against the outward pressure of the cork, especially when the weight of the machine is placed on it.

Figure 3 of the drawings illustrates a clamping band or frame made in sections B<sup>3</sup> and B<sup>4</sup>, the latter being relatively adjustable with respect to the former, thereby to compress and clamp the cork or equivalent material in the frame. In making a unit of this type the same method is pursued, except that in the pressing or compressing step the member B<sup>4</sup> may be moved relatively to the member B<sup>3</sup> instead of bending the metal frame itself.

If desired, the frame having the cork strips

therein after the initial assembly, may be subjected to heat so that the cork will shrink somewhat and permit the frame to be pressed inwardly under less resistance.

However, the preferred method involves the distinguishing characteristics above set forth and it is thought that without further description that the advantages of the present method will be well understood by those skilled in the art.

I claim:—

1. A method of making sound and vibration insulating units of the type including a sound deadening center and a metal frame which consists in assembling a plurality of pieces of soft material in a rectangular metal frame until the sides of the frame bulge outwardly, and subsequently restoring the frame to its normal shape by exerting pressure on the outwardly bulged sides thereof to compress the pieces of material to lock the same in place.

2. A method of making sound and vibration insulating units of the type including a sound deadening center and a metal frame which consists in assembling a plurality of cork blocks having rough and relatively uneven contacting side edges in an embracing frame, and subsequently locking the blocks in the frame by exerting pressure on the frame to bend the same inwardly to thereby take up slack between the blocks and compress them into locking engagement with each other and the frame.

In testimony whereof I hereunto affix my signature.

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