C. C. HALL.

YIELDING MAT CONSTRUCTION.

APPLICATION FILED OCT. 9, 1920.

1,387,391. Patented Aug. 9, 1921.

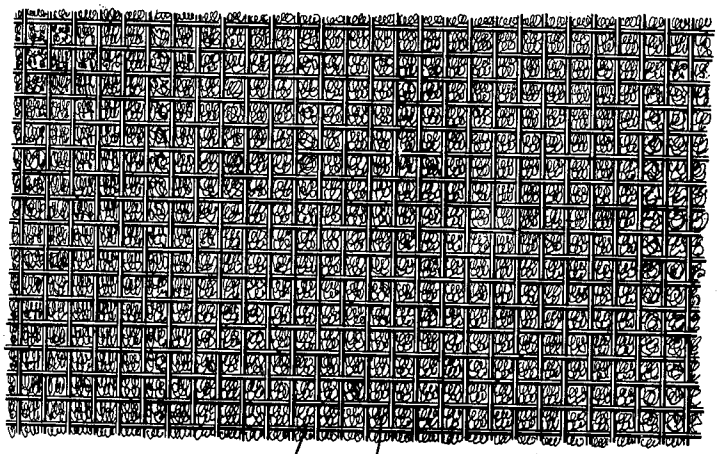


FIG. 1

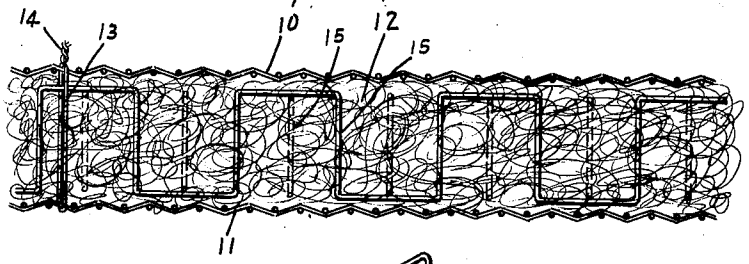
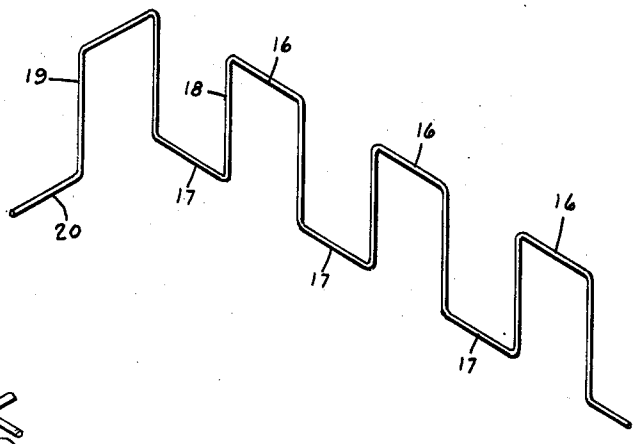


FIG. 2

FIG. 3



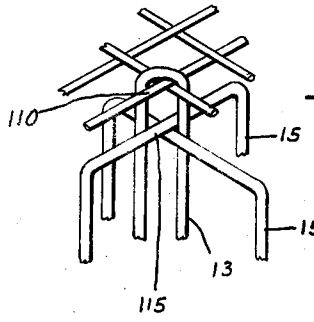


FIG. 4

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YIELDING MAT CONSTRUCTION.

1,387,391. Specification of Letters Patent. Patented Aug. 9, 1921.

Application filed October 9, 1920. Serial No. 415,872.

To all whom it may concern:

Be it known that I, CHARLES C. HALL, a citizen of the United States, and a resident of Alexandria, county of Madison and State of Indiana, have invented a certain new and useful Yielding Mat Construction; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

This invention relates to fiber mat constructions for wall boards, insulation and the like.

The chief object of this invention is to provide in a fiber mat construction or the like, suitable means for limiting the compression of the mat, especially when the same is piled for storage or transportation purposes, and to provide means for limiting the expansion of the mat construction.

Another feature of the invention is to secure in the mat construction by suitable means a fiber filler material and a pair of separated cover plates.

Still another feature of the invention is to so secure said cover plates, the compression limiting means, and the expansion limiting means in such relation that said parts will coöperate with each other to secure the same within the mat construction.

Still a further feature of the invention consists in the positioning of the compression means such that the several members constituting said means are associated with each other to prevent deformation of the mat, due to the shifting of the fiber filler material.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a plan view of a portion of the mat construction. Fig. 2 is a central sectional view through the mat. Fig. 3 is a perspective view of one of the compression members. Fig. 4 is a perspective view of the cover material, a plurality of compression limiting means, and an expansion limiting means all associated together.

This invention relates to the mat making art, wherein mats are constructed of suitable fiber material and are adapted to be used for wall board purposes, as well as insulation purposes. When constructed or made, the mats are usually stored in piles, said mats being superposed upon each other. For transporting purposes, a simple piling arrangement is made. Since the mat is constructed of fibrous filler, or equivalent material, it will be understood that the same will be compressed when stored in piles, and it is the purpose of this invention to prevent compressing said fibrous filler material beyond a predetermined amount.

Heretofore in the art, mats have been constructed of suitable cover material provided with a pair of cover plates between which is positioned suitable fiber filler material, and suitable means is associated with the cover plates to secure the same together, thereby preventing disassociation of said plates from the filler material. The invention, therefore, is an improvement upon the foregoing.

In the drawings there is illustrated a portion of a mat embodying the features of this invention. Said mat comprises in its preferred form a pair of spaced and preferably parallel cover plates 10 and 11, which cover plates in the present instance are illustrated as a woven wire fabric; although it will be understood that poultry netting and expanded metal lathing are the full equivalent thereof and may be readily used, as well as other materials if desired. Positioned between the woven wire covers is a suitable filler material 12 of fibrous net. In the present instance said material is described as mineral wool; although any vegetable or mineral or animal fiber may be readily substituted therefor, or a combination thereof may be used. In order to secure the two cover plates 10 and 11 together in spaced relation with each other and retain the same together to retain the filler material 12 between the same and form a mat construction, the retaining members 13 are provided, which retaining members constitute a loop which passes transversely through the mat and is suitably secured thereto as by twisting the free ends 14 thereof. In this manner, the two cover plates 10 and 11 are secured together in spaced relation and are prevented from separation beyond the distance afforded by the loop provded by the retaining member 13.

Positioned within the fibrous material and between the cover plates 10 and 11 is the

compression limiting means. Said means in the present instance comprises a plurality of rod members 15, which rod members are preferably positioned in staggered and spaced relation with each other. Each of the rod members 15 is bent to form a plurality of parallel bearing portions 16 and 17, the bearing portion 16 being adapted to lie adjacent one cover plate and the bearing portion 17 being adapted to lie adjacent the other cover plate, said bearing portions being secured together by the connecting and spacing portions 18. Adjacent one end of the compression limiting rod is an angularly turned portion 19, the end 20 of which is adapted to provide a rest such that the rod 15 when positioned between said plates, will not rotate therein, and thus fail to limit the compression of the mat. As shown clearly in Fig. 2, the rod members 15 are so positioned within the mat that the same form a regular retaining framework, the fibrous material being positioned between the parts thereof. Thus, the fibrous material will be held within the mat construction in substantially stationary relation by the reinforcing framework and compression limiting means. Thus, as shown clearly in Fig. 2, the compression of the mat construction is limited by the two cover plates 10 and 11 engaging the bearing portions 16 and 17 of the compression limiting framework, which limits the compression of the entire mat construction.

In addition to the foregoing novel construction, the same, if desired, may be associated together in any manner, but preferably associated together, as shown in Fig. 4. The intersecting portion 110 of the woven wire cover and the intersecting portion 115 of a plurality of compression limiting rods 15 may be secured together by the retaining and expansion limiting loop means 13. When thus constructed, it will be noted that the compression limiting means is positioned within the mat construction so that the same cannot move longitudinally thereof, yet when so arranged, the mat can expand and contract until the member 13 and the members 15 respectively limit said expansion and said contraction.

It will also be understood that when thus constructed, the mat may be used for insulation purposes, since the same is relatively flexible and can be shaped as desired.

While the invention has been described in considerable detail, it will be understood that many modifications thereof will readily suggest themselves to those skilled in the art to which this invention applies, and said modifications are considered to be within the broad purview of this invention as outlined by the appended claims. In the claims the cover material, cover plates and similar terminology used are considered to be full equivalents of each other, since while mesh-like, metallic cover plates are used, other similar flexible plates may be used without departing from the invention.

The invention claimed is:

1. In a mat construction, the combination of a pair of separated cover plates, fibrous material between said cover plates, and means associated with said cover plates for limiting the compression of the fibrous material.

2. In a mat construction, the combination of a pair of separated cover plates, fibrous material between said cover plates, and means associated with said cover plates for limiting the compression and expansion of the fibrous material.

3. In a mat construction, the combination of a pair of separated cover plates, fibrous material between said cover plates, means associated with said cover plates for limiting the compression of the fibrous material, and other means associated with the cover plates for limiting the expansion of the fibrous material.

4. In a mat construction, the combination of a pair of separated cover plates, fibrous material between said cover plates, means associated with said cover plates for limiting the compression of said fibrous material, and means for securing said cover plates together, said means limiting the expansion of said fibrous material and simultaneously securing said compression limiting means within said fibrous material.

5. In a mat construction, the combination of a pair of separated cover plates, fibrous material between said cover plates, a plurality of elongated members positioned within said fibrous material for limiting the compression thereof, said elongated members extending angularly of each other, and means for limiting the expansion of said fibrous material, said expansion limiting means being associated with said elongated compression limiting means to secure the same together in said angular relation.

6. In a mat construction, the combination of a pair of separated cover plates, fibrous material between said cover plates, a plurality of elongated members positioned within said fibrous material for limiting the compression thereof, said elongated members extending angularly of each other, means for securing said cover plates in spaced relation with each other, and means for limiting the expansion movement of said fibrous material, said expansion limiting means being associated with said elongated compression limiting means to secure the same together in said angular relation to form a framework and to secure said framework within said cover plates and to the same.

7. In a mat construction, the combination of a pair of separated cover plates, a fibrous

filler material between said cover plates, and a plurality of elongated rod members positioned within said filler material for limiting the compression movement thereof, said elongated members each being provided with a plurality of bearing portions, said bearing portions being connected by an intermediate portion, said intermediate portion determining the compression movement of said fibrous material.

8. In a mat construction, the combination of a pair of separated cover plates, a fibrous filler material between said cover plates, and a plurality of elongated rod members positioned within said filler material for limiting the compression movement thereof, said elongated members each being provided with a plurality of bearing portions, said bearing portions being connected by an intermediate portion, said intermediate portion determining the compressible movement of said fibrous material, and each of said elongated members being provided with an angular portion to prevent turning movement of the elongated member.

In witness whereof, I have hereunto affixed my signature.

CHARLES C. HALL.