Aug. 21, 1923.

1,465,784

J. E. RICHARDSON ET AL

MATTING

Filed April 10, 1922

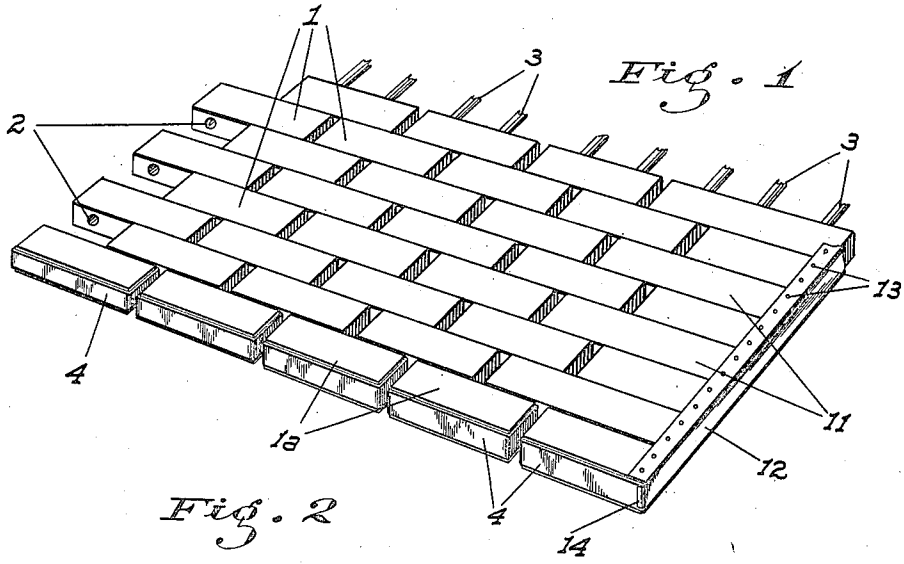


Fig. 1

Fig. 2

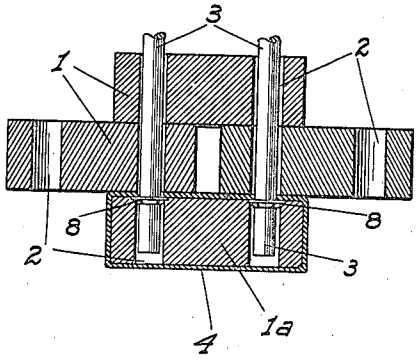


Fig. 3

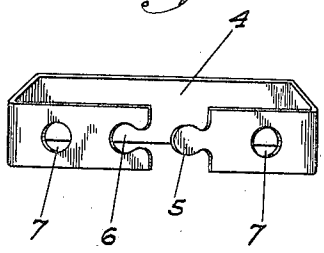
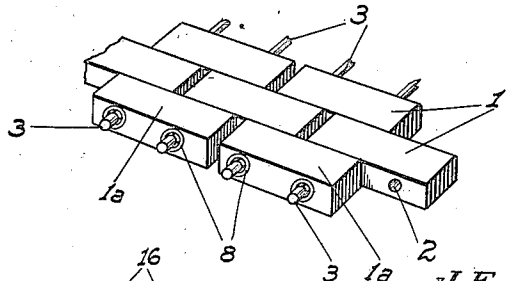
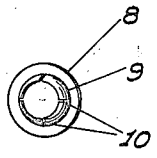


Fig. 4

Fig. 5





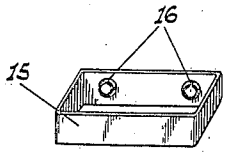


Fig. 6

INVENTORS
J.E.Richardson and W.B.Thurman

BY

ATTORNEY

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UNITED STATES PATENT OFFICE.

JAMES E. RICHARDSON AND WILLIAM B. THURMAN, OF STOCKTON, CALIFORNIA, ASSIGNORS TO CALIFORNIA CEDAR PRODUCTS COMPANY, OF STOCKTON, CALIFORNIA, A CORPORATION.

MATTING.

Application filed April 10, 1922. Serial No. 551,034.

To all whom it may concern:

Be it known that we, JAMES E. RICHARDSON and WILLIAM B. THURMAN, citizens of the United States, residing at Stockton, State of California, have invented certain new and useful Improvements in Matting; and we do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in matting, and particularly to a type adapted to be stood upon by workers in industrial plants and elsewhere, the floors of which are very often of steel or concrete, which is very hard on the feet and general physical health of the workers, especially if they are called upon to stand on their feet for any length of time.

Our improved matting is also serviceable however for any use to which a mat of ordinary character may be put.

The principal object of our invention is to provide a flexible matting, which may be made in any desired size as to length or width, and which will be constructed from the by-products and scrap wood from planing mills or other wood working establishments, thus putting to useful service material which at present has no value other than as kindling or the like.

This scrap material forms the principal part of our matting construction, only such metal being used as is found absolutely necessary, as will be seen hereinafter.

As a result, we have provided a matting which is very easy on the feet, is practically noiseless when stepped on, and with reasonable care will last a long time.

The construction however is such that should any one member break or give out before the matting is worn out as a whole, it can easily be replaced with a minimum of time and expense being necessary for the job.

A further object is to provide a matting the length or width of which can be altered at will and with but very little effort or expense being necessary.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects we accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a perspective view of a portion of our improved matting, as preferably constructed.

Fig. 2 is a sectional plan of certain of the units used in the matting construction.

Fig. 3 is a perspective view, detached, of a metal edge-block binder.

Fig. 4 is a fragmentary perspective view showing a modified form of construction.

Fig. 5 is a perspective view of a metal binding-washer.

Fig. 6 is a perspective view of a modified form of a block-binder.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes a plurality of wooden blocks, of suitable size, being preferably $\frac{1}{2}$ x $\frac{3}{4}$/4 x 2 inches, with the smallest dimension extending vertically. These blocks are laid in longitudinally and alined rows, spaced slightly apart at the ends but being adjacent each other laterally, it being understood that the rows are alternately staggered, so that the breaks or spaces at the ends of alternate rows are in offset but continuous transverse alinement with respect to those on the other rows, as clearly shown in Fig. 1.

Through each block horizontally and transversely thereof is drilled a pair of holes 2, the holes in all the blocks being in transverse alinement when the blocks are assembled, as shown in Fig. 2.

Passing freely through the transversely alined sets of holes are wooden rods 3, such as are carried as stock equipment in pattern shops and the like for dowel pins. The outer rows 1^a of the blocks are preferably protected from possible splitting and too rapid wear by metal bands 4 passing around their vertical edges, these bands terminating slightly below the upper surface of the blocks, as shown in Fig. 1, so that the feet of the users will not come in contact with the metal edges. These bands are prefer-

ably formed of strips, bent to shape, and at the ends, which abut against each other each band has a lug 5 on one end adapted to dovetail into an eye 6 on the other end, so that when the lug is seated in the eye, the band cannot be separated at the ends by a longitudinal pull.

The ends of the bands face inwardly of the matting, so as to present a neat appearance from the outer edge of the mat, and also to prevent the dovetail joint from possibly opening up. The inwardly projecting faces of the bands are provided with holes 7 to aline with the block holes, the outer faces of the bands being blank, so as to cover the said block holes.

Placed between the bands and blocks encircled thereby and concentric with the holes are light metal washers 8, which have a somewhat sharp inner portion 9 projecting into the hole-area and sloping in the direction of the outer edge of the block, this inner portion being radially slit at various points as shown at 10 in Fig. 5. The normal inner diameter of the washer 9 is a trifle smaller than that of the rods 3, so that as the latter are passed through the holes 7 of the bands and through the washers, the inner portions of the latter are spread somewhat, this being possible on account of the radial slits, causing them to pinch the rods and biting into the same if any attempt is made to withdraw the rods once they are in place, on account of the direction of slope of the washer portions. This construction works most efficiently when wooden rods are used, but metal rods will also be held quite effectively.

It will be evident from the foregoing description that a very neat appearing mat will be had, since neither the rods, nor their holding means, will be visible at any time, since as previously stated, the block rows are laid in close transverse alinement. This feature also helps to prevent breakage of the relatively light rods used, since the blocks cannot have any transverse bending movement which would tend to break the rods.

In order to form the matting so that the ends or side edges will form a continuous and unbroken line, alternate ones of the blocks for the transverse end rows are made longer than the remainder as shown at 11, so as to allow for staggered or offset amount of the blocks of alternate longitudinal rows.

The outer edges of the blocks of the end rows are preferably bound with a channel 12 of light sheet metal, fastened to the blocks by brads 13 or otherwise. These channels may further be held from any tendency to longitudinal movement by means of lips 14 formed on the end of the channels and bent over outside the bands 4 adjacent thereto.

It will thus be seen that with a finished mat, all the outer edges, which are the points most subjected to rapid wear, are fully protected, while throughout the remaining extent of the mat, no surfaces project above any others, so that all wear will be evenly distributed over the entire surface of the mat. It will also be noted that should the mat be laid on a floor not perfectly true, no strain will be placed on the rods tending to bend the same, on account of the relatively greater size of the holes through the blocks with respect to the rods, which allows the blocks a certain freedom of independent vertical or longitudinal movement.

Also this difference in size allows for the swelling of the wood with dampness, thus preventing the rods from being seized in the blocks and tending to split the latter.

It will also be seen that the matting is flexible longitudinally and can be rolled up up to occupy a minimum of space when not in use.

Should it be desired to alter the size of the matting either as to its length or width, the rods are forcibly withdrawn from the edge blocks where necessary, and certain longitudinally or transversely disposed rows of the blocks removed or added intermediate the outer edge rows. The rods, if rendered useless by their removal, are replaced by new ones, the cost of which is trifling. The same procedure is carried out when it is found necessary to replace any block broken in service or showing signs of wear greater than the majority.

In the style of matting shown in Fig. 4, a cheaper method is shown for binding the ends of the rods in place and holding the transverse rows of blocks together.

The metal binding-bands for the outer blocks are eliminated, and the metal washers 8 are placed about the ends of the rods 3 which project beyond the outer faces of the outer blocks 1^a, with the portions 9 projecting outwardly thereof, so that the washers cannot then be readily withdrawn and the blocks separated.

This arrangement, while firmly holding the units together, does not present as neat an appearance as the first described type, and it is doubtful whether it will give as good service.

The block binder 15, shown in Fig. 6, is thinner than the first described type, and the inner face is cupped somewhat toward the outer face, and has radial slits as at 16, so that the need of the separate washers 8 is eliminated and the member 15 serves both to bind the blocks and hold the connecting rods against movement, thereby cheapening the construction without reducing its efficiency.

From the foregoing description it will

be readily seen that we have produced such a device as substantially fulfills the objects of the inventiton as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described our invention, what we claim as new and useful, and desire to secure by Letters Patent, is:—

1. A matting consisting of transverse rows of blocks, the blocks in each row being disposed in longitudinal alinement with the ends of the blocks of alternate rows arranged in offset relation to those of the other rows, protective bands placed about the vertical faces of the blocks of the outer rows, and means for uniting the blocks to form a complete unit.

2. A matting consisting of transverse rows of blocks, the blocks in each row being disposed in longitudinal alinement with the ends of the blocks of alternate rows arranged in offset relation to those of the other rows, protective bands placed about the vertical faces of the blocks of the outer rows, and means connecting the blocks together to form an inseparable structure while allowing said structure to be rolled up lengthwise of the rows.

3. A matting consisting of transverse rows of blocks, the blocks in each row being disposed in longitudinal alinement with the ends of the blocks of alternate rows arranged in offset relation to those of the other rows, protective bands placed about the vertical faces of the blocks of the outer rows, and rods projecting through the rows transversely thereof and terminating inside the blocks of the outer rows.

4. A matting consisting of transverse rows of blocks, arranged in predetermined order the blocks being of wood, metal bands placed about the vertical faces of the blocks of the outer rows, rods projecting through the rows transversely thereof and terminating inside the blocks of the outer rows, and means placed in said outer blocks for engaging the rods and preventing transverse separation of the rows.

5. A matting consisting of transverse rows of blocks, arranged in predetermined order, rods projecting through the rows transversely thereof and terminating inside the blocks of the outer rows, and means placed about the rods between the metal band and the adjacent faces of the blocks encircled and adapted to engage the rods to prevent relative transverse movement of the blocks and rods.

6. A matting consisting of transverse rows of blocks, arranged in predetermined order, protective bands placed about the vertical faces of the blocks of the outer rows, rods projecting through the rows transversely thereof and terminating inside the blocks of the outer rows, and washers provided with means for pinching the rods placed thereabout between the metal bands and the adjacent faces of the blocks encircled thereby.

7. A matting consisting of transverse rows of blocks, arranged in predetermined order, rods extending transversely of the rows through the blocks, and washer members about the rods and bearing against the outer blocks, the portions of the washers surrounding the rods sloping inwardly in the direction of the outer faces of the blocks and being radially split.

8. A matting consisting of transverse rows of blocks, arranged in predetermined order, rods extending transversely of the rows through the blocks, washer members about the rods and bearing against the outer blocks, and means formed with said washers whereby the rods may be moved freely therethrough in one direction but cannot then be withdrawn.

9. In a matting comprising transversely alined rows of blocks, metal binders for the outer blocks, a rod passing through each row and the binder and into the outer blocks, and means incorporated with the binders and acting automatically whereby the rod may be moved freely therethrough in one direction but cannot then be withdrawn.

10. A matting consisting of transverse rows of blocks arranged in predetermined order, protective bands placed about the vertical faces of the blocks of the outer rows, rods projecting through the rows transversely thereof and terminating inside the blocks of the outer rows and means between the inner faces of the inner sides of the bands and the adjacent faces of the blocks for frictionally engaging the rods.

In testimony whereof we affix our signatures.

JAMES E. RICHARDSON.
WILLIAM B. THURMAN.