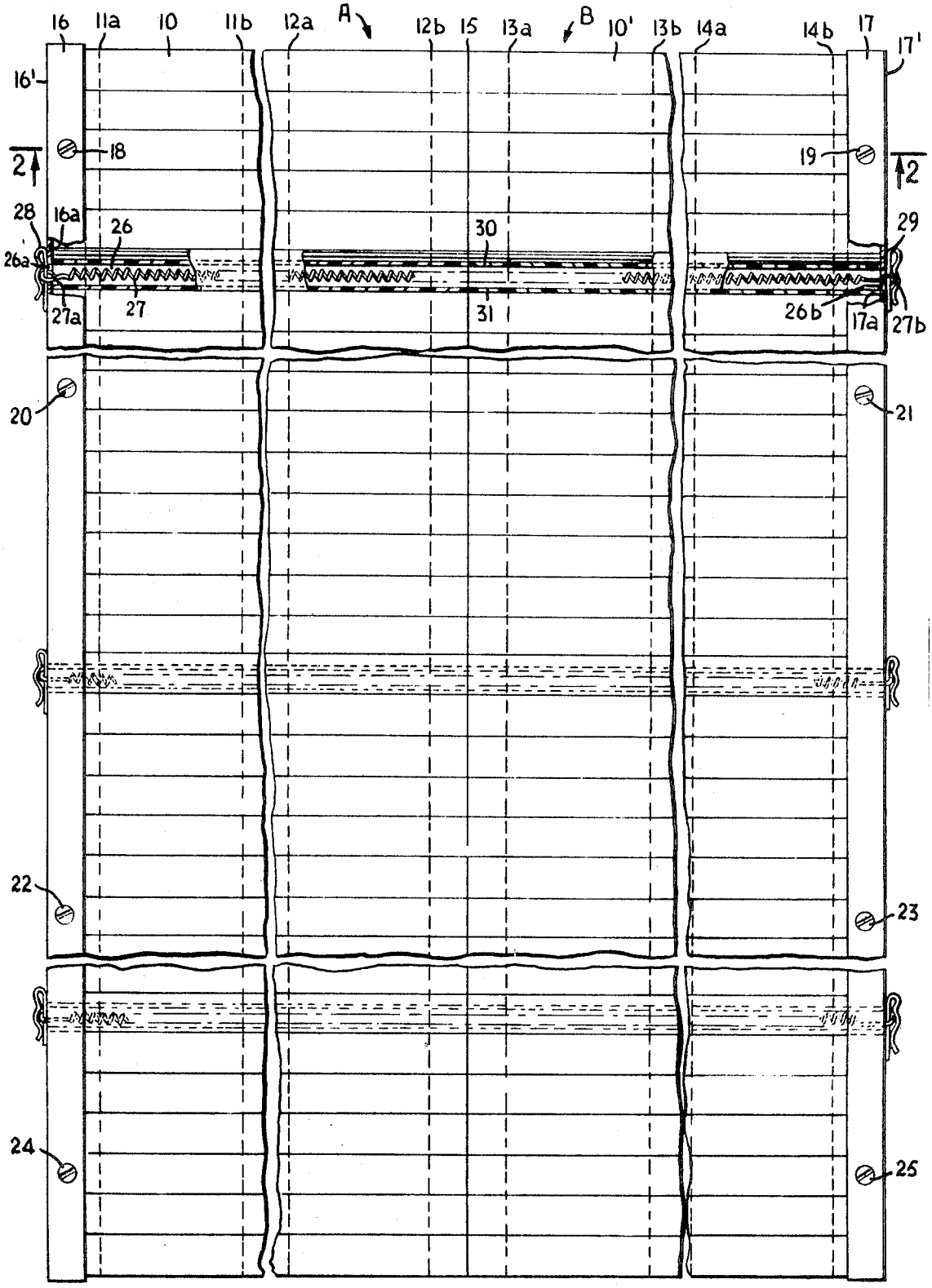
Oct. 12, 1971 W. LOEBNER 3,611,655

PORTABLE FLOOR

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FIG. 1



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PORTABLE FLOOR

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FIG. 2

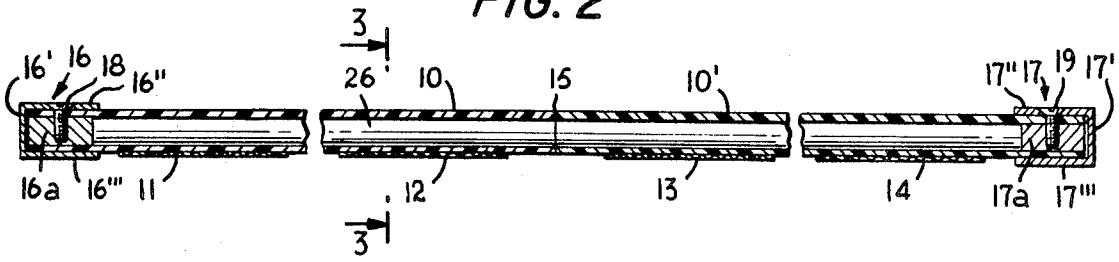
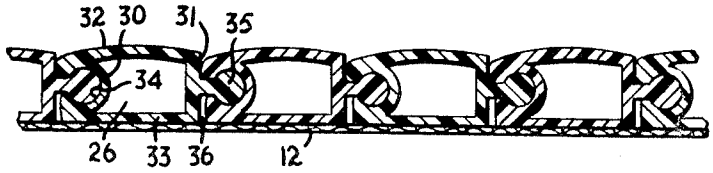


FIG. 3



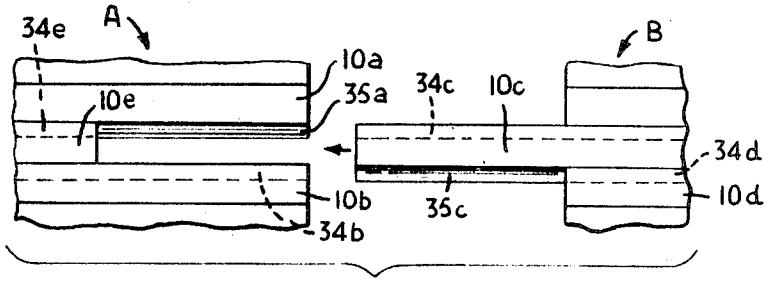


FIG. 5

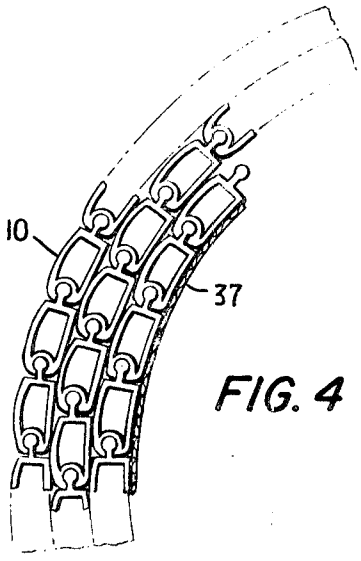
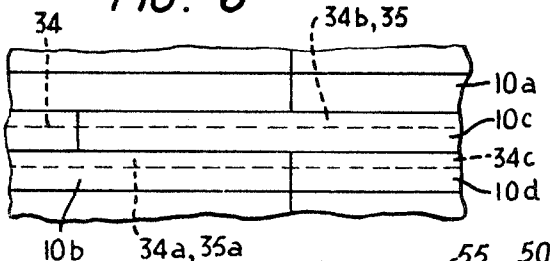


FIG. 4

FIG. 6



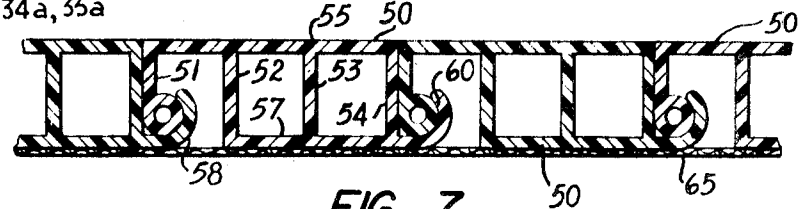


FIG. 7

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PORTABLE FLOOR

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U.S. Cl. 52—588 3 Claims

ABSTRACT OF THE DISCLOSURE

A portable floor usable as a dance floor made of a plurality of plastic, elongated slats assembled in lengthwise juxtapositioned relationship by a tongue-and-groove joint or a ball-and-groove joint between slats.

This invention relates to portable floors and to assemblies of said portable floors which assemblies constitute larger portable floors.

Frequently, a floor surface is not suitable for the purpose desired. Thus, for example, a floor surface may not be suitable for dancing because it is carpeted or because it is susceptible to scuffing. Similarly, when camping, the floor surface of a tent which normally would be the bare ground is not found desirable. Many other occasions may arise where it is desired to create a new floor surface. Thus, the need arises for portable floors.

It is the object of the invention to provide portable floors, which may, if desired, be assembled in different sizes and which portable floors may be placed into compact configuration for storage or transportation.

The invention will now be described by reference to the drawings in which:

FIG. 1 is a plan view of a portable floor according to the present invention;

FIG. 2 is a section of the portable floor of FIG. 1 taken through plane 2—2;

FIG. 3 is another section of the portable floor of FIG. 1 taken through plane 3—3 of FIG. 2;

FIG. 4 is a sectional view of the floor taken on the same plane as in FIG. 3 but showing the portable floor rolled on a drum;

FIG. 5 and FIG. 6 illustrate a mode of portable floor assembly according to the invention, FIG. 5 showing the portable floor before assembly and FIG. 6 after assembly; and

FIG. 7 is a fragmentary section view of another embodiment of a portable floor according to the invention.

FIG. 1 will now be described in detail. A portable floor is shown constituting an assembly of portable floor A with portable floor B. Each of portable floors A and B consists essentially of a set of slats **10** and **10'** respectively. The slats are arranged along side each other with their longitudinal edges in contact. Broken lines **11***a* and **11***b* indicate the longitudinal edges of adhesive strip **11** (not shown in FIG. 1), broken lines **12***a* and **12***b* indicate the longitudinal edges of adhesive strip **12** (not shown in FIG. 1), broken lines **13***a* and **13***b* indicate the longitudinal edges of adhesive strip **13** (not shown in FIG. 1) and broken lines **14***a* and **14***b* indicate the longitudinal edges of adhesive strip **14** (not shown in FIG. 1). The adhesive strips do not appear in FIG. 1 because they extend along the underside of the slats. Parting line **15** defines the boundary between floor A and floor B. Binder means **16** and **17** extend along the lateral edges of the slats. Screws **18, 19, 20, 21, 22, 23, 24** and **25**, by means of which binder means **16** and **17** are fastened to the slats are located at intervals in appropriate screws holes along binder means **16** and **17**. The details of the construction of the binder means and fastening thereof to the slats will be described with reference to FIG. 2. Some or all of the slats may

have a channel running through them. Thus, as shown in detail in the upper portion of FIG. 1, channel **26** runs through the length of the slat and is defined by side walls **30** and **31** of the slat. Member **27**, which is in the configuration of a spring through most of its length and has hooks **27***a* and **27***b* at its ends extends through the length of channel **26**. It will be appreciated that channel **26** actually consists of two channels in registry with one another, specifically a channel in a slat of floor A in registry with a channel in a slat of floor B. Channel **26** is open at its ends and thereby are defined end openings **26***a* and **26***b*. Furthermore, the side walls **16'** and **17'** of binder means **16** and **17** respectively, each contain an opening in rigistry with end openings **26***a* and **26***b* respectively. Hooks **27***a* and **27***b* at the ends of spring member **27** extend through the opening in side wall **16'** and the opening in side wall **17'** respectively and there are hooked about clips **28** and **29** respectively which are braced against side walls **16'** and **17'** respectively. The tension in spring member **27** is brought to bear inwardly against side walls **16'** and **17'** by means of clips **28** and **29** and holds floors A and B together at parting line **15** as shown in FIG. 1 This construction may be repeated several times along the length of portable floors A and B as shown in FIG. 1, thereby providing a number of places at which floors A and B are fastened together.

FIG. 2 will now be described in detail. In FIG. 2, the construction of binder means **16** and **17** can best be appreciated. Binder means **16** and **17** have side walls **16'** and **17'** respectively, top walls **16''** and **17''** respectively and bottom walls **16'''** and **17'''** respectively. Inserted at each end of channel **26** are anchor blocks **16***a* and **17***a*. Top walls **16''** and **17''** of binder means **16** and **17** respectively, each are provided with a hole therethrough in which screws **18** and **19** respectively fit. In registry with these holes are provided holes in anchor blocks **16***a* and **17***a*. Thus, the screws extend through the hole in the top wall of the binder means and into the hole in the anchor block whereby the binder means top wall and anchor block are all screwed together. The anchor block serves to provide a stronger base for the screw than would be provided by the top wall of the binder means and wall of the slat alone. To the bottom of the slats are adhered adhesive strips **11, 12, 13** and **14**.

FIG. 3 will now be described in detail. FIG. 3 shows the manner in which the slats are joined together at their longitudinal edges. The slats are essentially rectangular in cross-section, having side walls **30** and **31**, top wall **32** and bottom wall **33**. Side wall **31** has a tongue extension **35** which mates with the curvature of side wall **30**, which curvature defines groove **34** along the length of the slat. In cross-section, each juncture of the slats thus defined resembles a ball and socket joint and in fact, functions in this manner. Bottom wall **33** is set in somewhat so that space **36** is provided between slats. Space **36** permits the slats to rotate about the axis defined by the longitudinal dimension of tongue extension **35** and in this manner in effect a ball and socket joint is provided between each pair of slats.

In FIG. 4, the utility of the tongue extension feature is illustrated. In FIG. 4 the floor is shown in rolled configuration on drum **37**. This is particularly convenient for storage or for transportation of the portable floor.

FIGS. 5 and 6 show another manner of fastening together portable floors A and B. The broken lines indicate grooves in the slats like groove **34** in FIG. 3. Slot **10***a* has tongue extension **35***a*, slat **10***b* has groove **34***b*, slat **10***c* has groove **34***c* and tongue extension **35***c*, slat **10***d* has groove **34***d* and salt **10***e* has groove **34***e*. Though not all the tongue extensions and grooves are thus indicated, it is to be understood that the slats each have a tongue extension and a groove as indicated in FIG. 3 and are joined as

indicated in FIG. 3. Slat **10***c* extends beyond its neighboring slats and slat **10***e* is displaced inwards of its neighboring slat, thus creating a space into which slat **10***c* fits as indicated in FIG. 6. In this manner, floors A and B are fastened together.

It will be appreciated that strips **11, 12, 13** and **14** adhered to the bottom of the slats and binder means **16** and **17** each function to keep the slats from sliding longitudinally with respect to one another. Thus, the binder means or strips may be used alone rather than jointly. Similarly, any other equivalent means which restrain the slats from sliding longitudinally with respect to one another may be used. Also, rather than using either of the two modes illustrated for fastening the portable floors together, an adhesive strip, like strips **11, 12, 13** and **14**, may be placed so as to extend laterally across parting line **15** and thus bind floors A and B together as well as restraining the slats thereof from sliding longitudinally with respect to one another.

Other alternatives may be obvious to those skilled in the art and it is intended that the invention not be construed as being limited to the foregoing exemplary description but that all obvious equivalents be deemed to be within the scope of the appended claims. Thus, the top wall of the scope of the appended claims. Thus, the top wall of of the slats is curved in order to impart additional strength thereto and also in order that the main weight of one walking on the floor be exerted on the central portion of the top wall and not be exerted in the area of the tongue-like extension mating with the groove, thus protecting the joints between the slats from excessive wear; however, changes in this configuration may be made without departing from the general spirit of the invention.

A preferred embodiment of a portable floor according to the invention is illustrated in FIG. 7 in which a plurality of longitudinally extending, parallel, hollow slats **50** each has four walls **51–54** joined to a top wall **55**. A lower wall **57** joins only three of the vertical walls. An outermost wall **51** has a ball **58**. The other outermost wall has a longitudinal groove **60** defined by a curved portion of the lower wall **57** so that next adjacent strips or slats **50** are joined by a ball-and-groove joint.

The ball-and-groove joint allows the slats to be rolled when assembled into a portable floor. Moreover, the joint is constructed so that the assembly of the slats in a floor is by positioning the ball of a slat over the groove of another slat to which it is to be assembled and snapping them together. There is no need of sliding the slats longitudinally relative to each other, for assembly and disassembly, as in the other joints in assembling the floor.

The individual slats are made of a suitable plastic such as PVC and are made of a suitable color. A flexible fabric sheet **65** may be provided on the assembled slats bonded to the lower walls thereof to hold the assembly together. This fabric is readily cut with a sharp edge from the underside of the slats for separating a given member of slats from a roll, when selecting a given width of flooring from a number of assembled slats. The fabric in no way impedes rolling up the portable flooring.

While preferred embodiments of the portable floor according to the invention have been shown and described,

it will be understood that many modifiactions and changes can be made within the true spirit and scope of the invention.

What I claim and desire to secure by Letters Patent is:

1. A portable dance floor comprising, a set of elongated hollow slats having a generally rectangular cross-section disposed assembled in lengthwise juxtaposition, each slat comprising a top wall and side walls, each slat having means defining a ball interiorly of said hollow slat and along one edge of a side wall edge remote from said top wall, and means defining a groove at an opposite side wall edge remote from said top wall of the slat, said groove being disposed exteriorly of said hollow slat and open at the top and along the full length thereof and the means defining the groove comprising a flexible curved portion extending the full length of the slat configured in cross-section to define an opening of lesser width than the cross-section of said ball and releasably hold a ball of a next adjacent slat, each ball being received in a groove of a next adajcent slat defining pivotal ball-and-groove joints between next adjacent slats, whereby the slats can be assembled by placing the ball of a slat on said opening of a groove of a next adjacent slat and snapping the ball of said slat thereinto, and the assembled slats are rollable into a roll and assembled and disassembled without moving the slats relative to each other axially.

2. A portable dance floor according to claim **1**, including a flexible fabric bonded to the underside of the assembled slats.

3. A portable dance floor according to claim **1**, in which each of said slats comprises walls intermediate the side walls, and a lower wall intermediate the side walls and not extending to one outermost side wall, said means defining said ball comprising an extension of said one side wall, and the other outermost wall having said curved portion externally thereof and integral therewith defining said groove extending along said other side wall externally thereof.

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JOHN E. MURTAGH, Primary Examiner

U.S. Cl. X.R.

52—388, 594; 160—133