June 6, 1933. B. M. STANNARD 1,912,864

CHAIR RACK

Filed Aug. 20, 1931

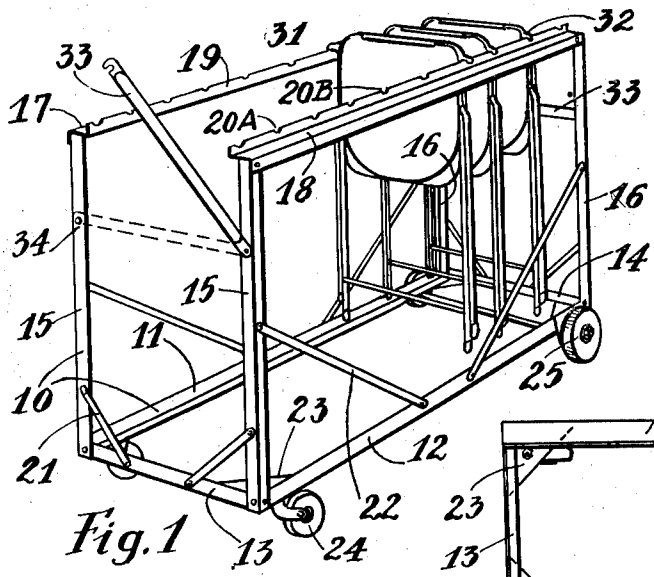


Fig. 1

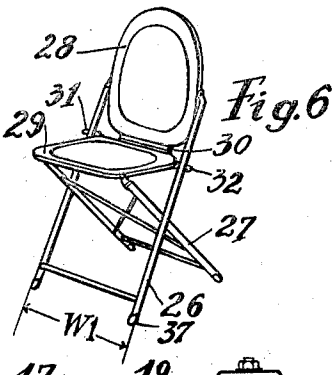


Fig. 6

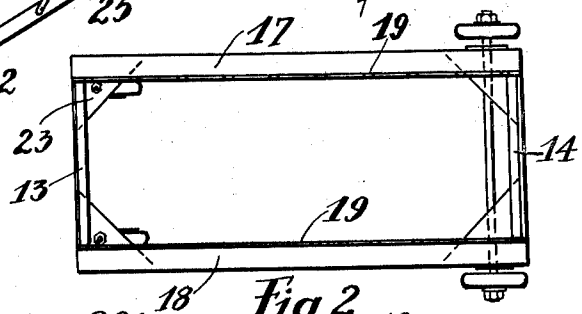


Fig. 2

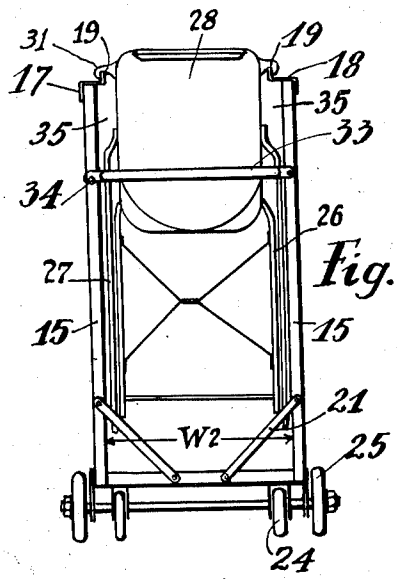


Fig. 4

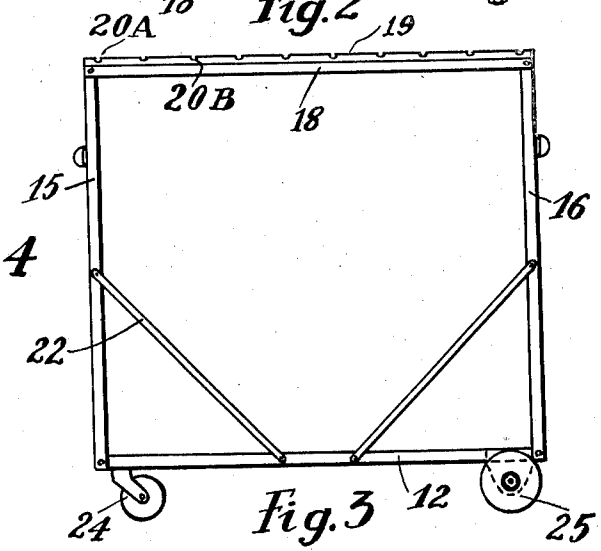


Fig. 3

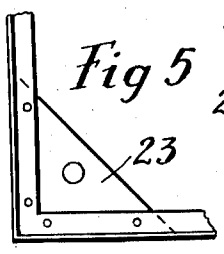


Fig 5

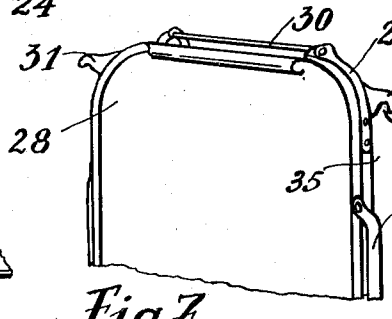


Fig 7

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UNITED STATES PATENT OFFICE

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CHAIR RACK

Application filed August 20, 1931. Serial No. 558,221.

The present invention relates to individual portable truck-like vehicle units, more particularly one intended to service, transport and compactly store away a group of folding seats after they have been removed and cleared from a convention hall or the like assembly places.

When not in use, the intent is to stow away each truck load of folded chairs in some convenient storage place, there to keep such stacked chair units in readiness for convenient transfer until needed, whereupon the truck may readily be unloaded and its chairs set up for use, all without scuffing door frames, marring the floor coverings or doing damage to the chairs themselves.

The truck herein contemplated represents a new departure in storage practice and the same underlying principles may also be applied to the packing and compactly carrying of any similar flat faced members other than folding chairs. For present purposes, my truck may comprise a crate-like framework affording a pair of raised top-rails adapted to have folding chairs compactly suspended thereacross. This framework is preferably carried upon suitable rollers in order to allow of more easily transporting such stacked chair loads from room to room or from floor to floor of a building and thus reduce labor and other chair handling expenses to a minimum.

The object of my improvements is to provide for a comparatively light weight and sturdy truck framework of this general character that shall prove durable and otherwise adequate when subjected to hard usage, particularly as applied to relatively heavy chairs of the foldable metal type. To this end, my stackable chairs may be equipt with outwardly projecting brackets or complementary supporting ears respectively adapted to rest upon the top-rails of the truck and allow the depending folded chair portions to be mounted in close adjacency, that is to say, my chairs are purposely hung and stowed away in vertical side-by-side relationship and without need of special partitions or other extraneous spacing means. The suspended chairs themselves are herein made to increasingly interlock the open ended rails against spread in direct proportion to the carried load and kept in stable equilibrium relative to the underslung base.

My invention further consists in novel structural features and in the cooperative relation of component parts thereof adapted to allow of completely filling the entire rail length without prop interference, my crate being especially designed to carry a folded chair in which the over all dimension of its outstanding suspension fixtures is kept substantially confined within the chair leg width, all of which will hereinafter be set forth in detail. Reference is had to the accompanying one sheet of drawing that is illustrative of a specific embodiment, in which like characters of reference indicate like parts, and in which:

Fig. 1 represents a perspective view of my truck assembly partially loaded with stacked chairs while Figs. 2 and 3, respectively show a top and an elevational side view thereof upon removal of said chairs.

Fig. 4 depicts an end view of Fig. 1 filled with foldable chairs.

Fig. 5 illustrates a gusset plate detail serving to mount casters thereunder.

Fig. 6 is a side elevation of an opened metal folding chair that is suited for stacking purposes in my truck, while Fig. 7 is a fragmental view of the folded seat of such chair.

Referring first to Fig. 1, my truck frame is preferably built-up from angle-irons into a crate-like structure designated in its entirety as 10, and may comprise a pair of spaced base bars 11 and 12 together with complementary end-bars 13 and 14, upon whose respective corner regions there may be erected pairs of mated uprights or props such as 15 and 16. Across the uppermost ends of these respective prop pairs, there are secured parallelly spaced top-rails 17 and 18, preferably of the cross-sectionally Z-shaped type, each affording a horizontal upturned flange portion 19 which may be spacedly notched out as at 20A, 20B, etc. For reasons that will presently appear, each such upstanding flange is preferably arranged to inwardly overhang its respective upholding prop, as shown.

The base members of my frame may be reenforced relative to their respective props, by means of cross-braces such as 21 and 22. Each corner region of my rectangular base member may further be provided with a gusset plate 23 of which the complementary forward pair of such web plates is made to mount swivel casters 24, while adjacent to the complementary rear pair of plates there is carried a cross shaft provided with a modified style of rollers 25, as shown.

Referring now more specifically to a folding chair structure which is adapted to be compactly stacked into my truck, this may be of the inverse folding metal type that is more fully disclosed in my prior Patent No. 1,774,190 granted August 26, 1930. As outlined in Fig. 6 hereof, such an all-metal chair may comprise complementary scissor-like folding elements including a pair of front leg straps 26 and also rear leg straps 27 of which the front legs are each disposed outermost and provided with sleevelike foot tips, such as 37. The respective uppermost extremities of said front legs are shown extended for pivotal attachment to the back panel 28 while the upper terminals of the rear legs pivotally carry the seat panel 29. The respective panels are shown hingedly connected at 30 and the respective rear corner regions of said seat panel may each be provided with an oppositely projecting hook-like member or complementary stop lug such as 31 and 32, which in my illustrative example, also serve to limit the spread on part of the opened chair leg structure. The foldable chair panels are preferably brought face to face in the fashion shown in Figs. 1 and 7.

When the chair is folded, said lugs assume the position indicated in Fig. 7 and are at the same time made to constitute oppositely disposed suspension ears for stacking these folded chairs within the crate structure of my truck. Fig. 4 shows the manner in which the hook jaw or gap 36 of each such suspension lug is kept aligned to interlockingly engage the rear edge of its contiguous front leg strap 26 when the unfolded chair is placed in operative position. Each hook extremity or bill is well rounded and extends but slightly beyond its hook gap to obviate catching the clothes of a seat user. The problem herein solved is one in which a rack is suitably designed to suspend a folded chair by means of ear lugs that are primarily designed for chair purposes and in which the hook bill is kept confined within the overall leg width W1 (see Fig. 6).

The lateral spacing W2 between the crate props 15—15 is preferably made somewhat wider than the dimension W1 to avoid prop interference. Between each ear lug and its adjacent depending rear leg strap, the folded chair discloses a nichelike recess 35 adapted to receive one of the inset rail flanges therein and thus allow the widest chair portion to be freely suspended in an underlying depending relation to the respective side-rails, said rails being spaced apart to a lesser distance than the overall chair width W1.

In packing said crate, it is preferred to slide the folded chairs lengthwise of the open ended top rails rather than have to bodily lift such relatively heavy chairs over one such rail. As indicated, the respective suspension lugs may be dropped into mesh with mated pairs of notches in the fashion shown in Fig. 1. The respective hook gaps are cooperatively received by the upturned flanges to prevent undue spread on part of the loaded top rails. Said hooks may also be made to engage a contiguous rail notch so as to restrain one or more of the suspended seats against endwise rail movement. It will be apparent that any chairs not so provided with the cited stop lugs, may readily be equipt with equivalent supplementary ears or the like fixtures in order to afford the desired suspension means for vertically stacking such chairs into my transportable crate device.

It is preferred to similarly fill up the entire free spacing provided lengthwise of the side-rails; where a dozen or more chairs are so stacked, they may be made to bulge out and extend slightly beyond the confines of the end posts 16 and 17. For supplementary retaining means, I provide for a tiltable clamping lever 33 across each end of my crate, of which levers one such may be pivoted to the prop 15 and made to releasably interlock with the latch stud 34 carried by the opposite end post. In the position shown in dotted lines, the closed lever 33 crowds together the interposed seats against relative movement, which facilitates noiseless transport and obviates undue rubbing or wear between adjacent chair faces. If desired, suitable rubber buffers (not shown) may also be utilized to maintain the chairs in separated relation.

From the foregoing, it will be apparent that I am enabled satisfactorily to dispose of considerable quantities of folding chairs within small space when not in use, and to hold such chairs in readiness for set up upon short notice. By virtue of the defined vertical suspension, it merely becomes necessary to individually lift the folded chairs but twice; once while being stacked in the truck for storage and again while being unloaded for use, it being emphasized that the complementary ear lugs 31 and 32 preferably constitute the sole means of suspension for said chairs and that the stacked chairs hang freely therefrom.

It is to be understood that the described chair truck also finds application to other similar purposes, also that the use of frame rollers is a non-essential expedient, and it will be obvious that various changes or struc-

tural details may be resorted to in likewise carrying out the present embodiment, all without departing from the spirit and scope of my invention heretofore described and more particularly pointed out in the appended claims.

I claim:

1. In a stowage rack for packing therein similar folding chairs or the like articles that are respectively equipt with oppositely disposed suspension fixtures of the hook type, said rack comprising a rectangular base framework having a prop erected at each corner region thereof, and further comprising a pair of laterally spaced top rails supported between said props in an open ended and inwardly overhanging relation to provide for a lesser spacing between said rails than the lateral spacing given between the props thereof and which rails are interlockingly reenforced against spread in direct proportion to the article weight suspended thereacross.

2. In a stowage rack for packing therein a plurality of similar folding chairs or the like articles that are respectively equipt with oppositely disposed suspension fixtures of the hook type, said rack comprising a rectangular base framework having a prop erected at each corner region thereof, and further comprising a pair of laterally spaced top rails respectively including a notched upturned flange supported between said props in an inwardly overhanging relation to provide for a lesser flange spacing than the lateral spacing given between the props thereof and which rails are interlockingly reenforced against spread in direct proportion to the article weight suspended thereacross.

In testimony whereof, I have herewith set my hand this 17th day of August, 1931.

BRUCE M. STANNARD.