July 10, 1951 J. H. B. HERTS ET AL 2,559,958

BEDRAIL FINISHING CARRIER

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FIG. 1.

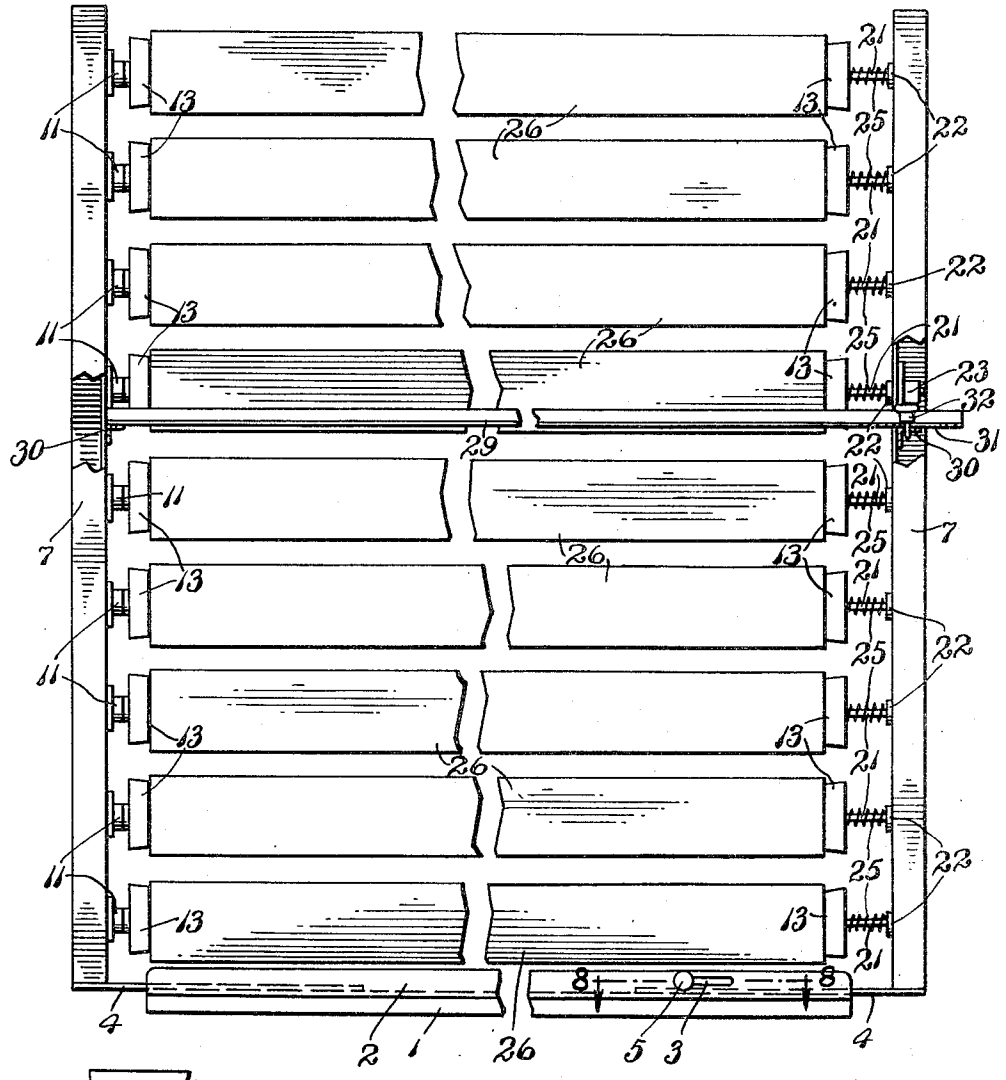
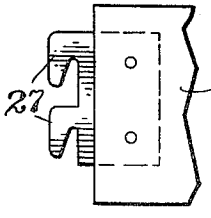


FIG. 2.



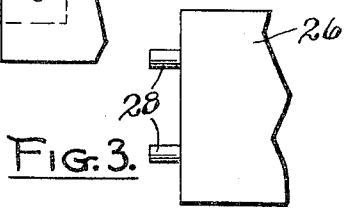


FIG. 3.

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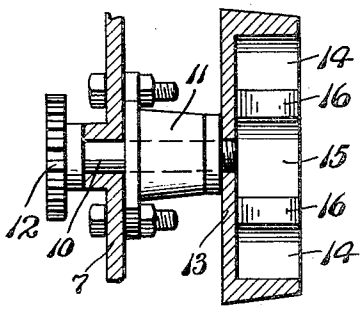


FIG. 4.

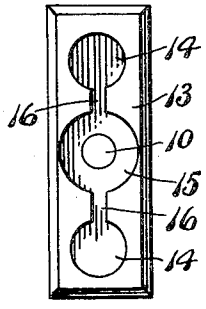


FIG. 5.

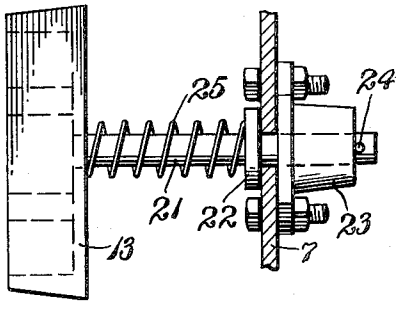


FIG. 6.

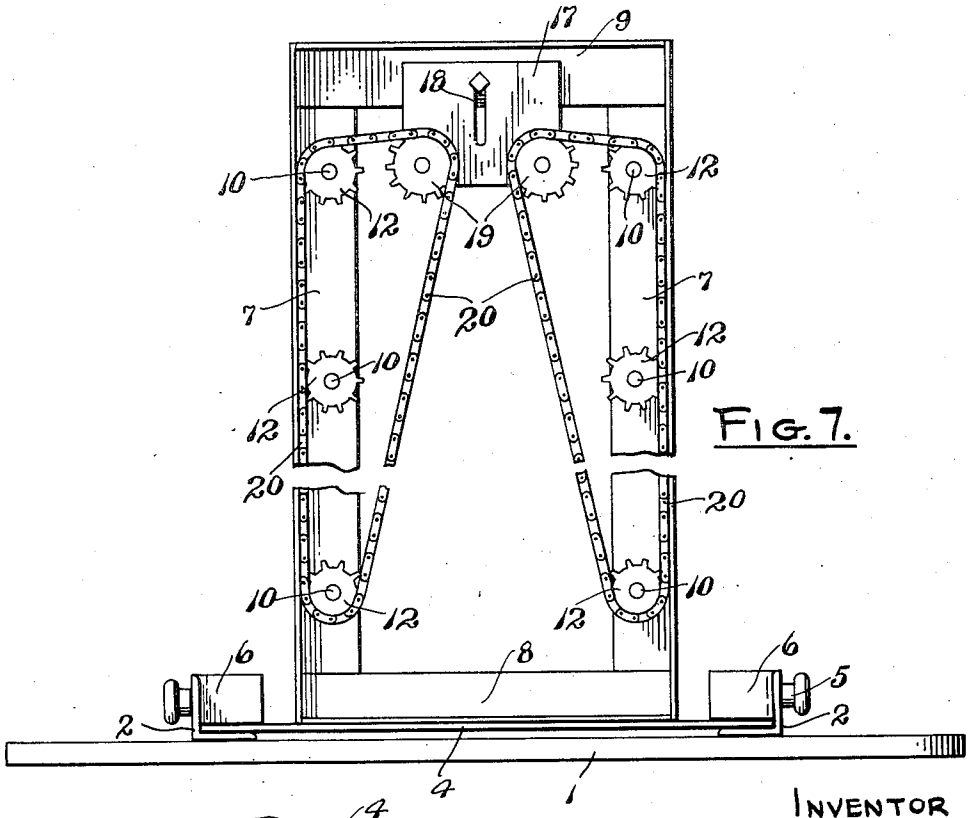


FIG. 7.

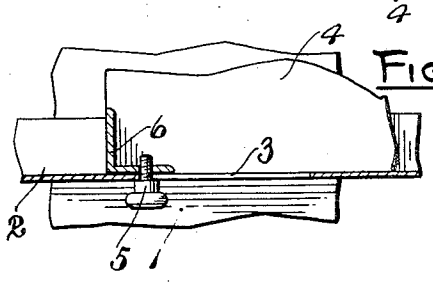


FIG. 8.

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UNITED STATES PATENT OFFICE

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BEDRAIL FINISHING CARRIER

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3 Claims. (Cl. 91—60)

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The present invention relates to a carrier, particularly designed for holding and carrying bed rails. Such bed rails are used at the sides of furniture beds, the rails being of varying lengths. The rails, after they have been manufactured, are finished by various operations thereon to acquire at the completion of the finishing a smooth and uniform varnished or other finishing coating. The present invention is directed to a novel carrier for such bed rails, preferably a plurality of them, in which the rails are supported in a substantially horizontal position and are spaced apart from each other, and may be moved or turned about their longitudinal axes to different positions for more ready access to different portions of the bed rail surfaces, such turning movements of the rails being simultaneously accomplished for all of them.

A further object of the invention is to provide a carrier for the bed rails which may be readily adjusted and conditioned for carrying rails of different lengths, and with which each of the rails may be quickly attached or detached from the carrier. A still further object is to provide a carrier structure which is universal in its adaptability to detachably receive and carry bed rails having different head and foot board connecting means at the ends thereof. Other objects and purposes than those stated, and novel structure for attaining the same, will appear and be understood from the following description of a practical embodiment of the invention which has been manufactured and is in use, shown in the accompanying drawings, in which,

Fig. 1 is an elevation of the bed rail carrier of our invention.

Figs. 2 and 3 are fragmentary, somewhat enlarged end elevations of different head and foot board attaching means which may be used at the ends of the bed rails.

Fig. 4 is a fragmentary vertical section through one of the end supports of a bed rail, a plurality of which are located one over another at one end of the carrier.

Fig. 5 is an elevation of the immediate bed rail supporting means, with one of which each end of a bed rail is detachably connected.

Fig. 6 is an elevation of the support for the opposite end of a bed rail, a plurality of which are located one over another at the opposite end of the carrier.

Fig. 7 is an end elevation of the carrier shown in Fig. 1, and

Fig. 8 is a fragmentary horizontal section looking downwardly substantially on the plane of line 8—8 of Fig. 1.

Like reference characters refer to like parts in the different figures of the drawings.

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In the structure disclosed, a horizontally disposed base pallet 1, which may rest upon the floor of a factory, has attached at its upper side two spaced apart parallel angle bars 2, the vertical legs of which near one end are horizontally slotted as indicated at 3 in Fig. 1. Such bars serve as guides and supports for two horizontal bottom plates 4, one or both of which may be slidably located over the horizontal, inwardly extending flanges or legs of the bars 2. The plates 4 are located in the same plane and extend toward each other over the lower legs of the guide bars 2. Set screws 5 passing through the slots 3 screw into members 6, which may be of angle form in cross section as shown in Fig. 8, permanently secured to and extending upwardly from a plate 4 and located alongside the vertical legs of the bars 2. Thus, one or both of the plates 4 may be adjusted so as to space vertical frame members, connected at the outer end edges of said plates 4, different distances apart and releasably hold them in adjusted position.

The vertical frame members include each two spaced vertical posts 7 connected at their lower ends by a cross bar 8 and at their upper ends by a parallel cross bar 9. The posts 7 and bars 8 and 9 likewise, preferably, are of commercial forms of angle iron for strength and rigidity with a minimum of weight.

On both of the posts 7, at one end of the structure, a plurality of short horizontal shafts 10 are rotatably mounted, which shafts may be spaced substantially equal distances apart and extend from the lower end portion of each of the posts 7 to the upper end portions thereof. Each of the short shafts is rotatably mounted on and extends through a bearing 11, such bearings 11 being located at the inner sides of the posts 7. Each of said shafts at its outer end is equipped with a sprocket wheel 12.

Each of said shafts 11 at its inner end carries a fixture 13 of generally rectangular outline which, at its inner side, has spaced upper and lower recesses 14 of circular outline between which is a larger recess 15 also of circular outline, the recesses or openings 14 or 15 being connected by vertical slots 16.

A plate 17 is mounted upon the upper cross bar 9 of such end frame by means of a set screw or bolt which passes through a vertical slot in the plate 17 (Fig. 7) whereby the plate 17 may be vertically adjusted. Two idle sprocket wheels 19 are mounted upon the plate 17 at the lower corners thereof. Endless chains 20 are around the several sprocket wheels 10 and 19 there being two of such chains. The wheels 12 and their connected shafts 10 at the front and at the back of the

structure are simultaneously turned on moving the chain 20 connected therewith.

The opposite end of the bed rail carrier has directly in line with each of the shafts 10, other short shafts 21 which pass slidably through the vertical posts 7 and through collars 22 at the inner sides of the posts, and members 23 similar to or identical with the previously described bearings 11. Each shaft 21 at its outer end has a pin 24 passing through it, which normally is brought against the outer end of its associated member 23 through the action of a coiled compression spring 25, around each rod 21. The spring at one end bears against its associated collar 22, and at the other end against a fixture 12, one of which is connected at the inner end of each shaft 21.

It is apparent that the immediate bed rail carrying fixtures 13 are disposed in pairs upon shafts 10 and 21 located in horizontal alinement, so that a bed rail, as shown at 26, may be connected at its ends to and extend between the fixtures 13 of each pair of fixtures. Such bed rails 26 at their ends (Figs. 2 and 3) are equipped with attaching devices for detachably connecting with head and foot boards of a bed with which the rails are to be used, the well known hook connections at 27, or dowels at 28 being illustrated, respectively, in Figs. 2 and 3.

The fixtures 13, at their recessed portions 14 and 15, and with the connecting slots 16, will receive either form of bed rail connection, and hold the rails against turning movement with respect to the fixtures, and cause the bed rails to turn with said fixtures when the fixtures are turned. One end of a bed rail is connected with a fixture 13 secured to a shaft 10, and is connected to the opposite fixture 13 on an associated shaft 21 moving such fixture 13 and the shaft 21 outwardly compressing spring 25 with the shaft 21 slidably moved through collar 22 and the associated member 23. Then by locating the fixture 13 properly with respect to the end connecting means on the bed rail, the spring 25 will move such fixture inwardly and the bed rail is securely held against disconnection until spring 25 is again compressed with an accompanying outward movement of the shaft 21 and the fixture 13 secured thereto.

A horizontal bar 29 may extend between the vertical ends of the structure being supported upon bars 30 connected to the posts 7. Similar to the slots 3, the bar 29 has a slot 31 near one end associated with which is a set screw 32 similar to the set screw 5 to go through said slot and detachably connect with one of the bars 30, as shown in Fig. 1, to compensate for the adjustment of the adjacent end of the carrier, the opposite end of bar 29 having a permanent attachment to the other bar 30.

With the structure described, a plurality of bed rails 26 are mounted one over the other and may be carried at both the front and rear sides of the carrier structure. By pulling upon a chain 20 associated with the bed rails, one at the front side of the carrier structure and the other at the rear side, such rails at either side may be simultaneously turned about their longitudinal axes to different angular positions for easier access to all surfaces of the rails during the processing steps of finishing them. All steps and acts of finishing are performed upon the bed rails without taking them from the carrier structure, resulting in a marked saving in handling with resultant lessening of cost.

The bed rail carrier as described is exceptionally satisfactory in practical use. It is economically produced.

The invention is defined in the appended claims and is to be considered comprehensive of all forms of structure coming within their scope.

We claim:

1. In a structure as described, a horizontal support, two spaced vertical posts connected therewith to extend upwardly therefrom, a plurality of shafts mounted in vertical spaced relation one over the other on one of said posts, each of said shafts at its outer end having a driving element connected therewith, a second plurality of shafts rotatably and slidably extending through the other posts in horizontal alignment with the first shafts, a fixture connected to the inner end of each of all of said shafts, each fixture having means for the detachable connection of a bed rail at one end thereto, whereby a plurality of bed rails may be secured between opposed pairs of fixtures with said bed rails horizontally located and positioned vertically one over the other, yielding spring means surrounding each of the last mentioned shafts bearing against the fixture thereon and the post on which said shafts are mounted for normally moving said fixtures in a direction to engage with the end of a bed rail, but movable away therefrom to disengage from said end of the bed rail, and an endless driving member around all of said driving elements connected to the first shaft for simultaneously turning said first shafts about their axes of rotation.

2. A structure as defined in claim 1, a second pair of vertical posts spaced from each other and back of the first spaced posts, upper and lower cross bars connecting each of the pairs of posts, one post of each pair located back of the other, a second series of short shafts, fixtures, driving elements and springs mounted on the second posts, a second endless driving means around all of the driving elements associated with the second posts, a horizontal plate secured at the lower ends of the spaced pairs of posts, said plates extending toward each other, a horizontal pallet upon which a horizontal plate is slidably mounted, whereby the pairs of posts may be adjusted toward each other, and means for securing said pairs of posts in any relative positions to which adjusted.

3. A structure as defined in claim 1, each of said fixtures comprising, a block which in vertical position, at its inner side, has upper and lower spaced generally circular horizontal openings therein extending toward but terminating short of the outer side of the block, a central circular opening having a center substantially coincident with the axis of the associated shaft on which the fixture is secured, and vertical slots between said central opening and said upper and lower openings.

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