F. KUSTERLEE.

CORNER LOCK FOR TAKE-DOWN FRAMES.

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Fig. 1.

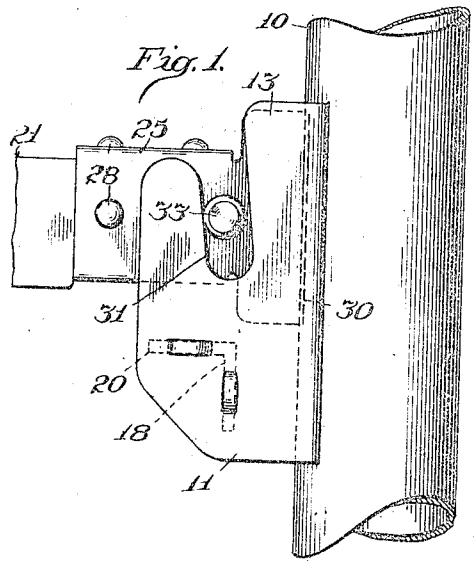


Fig. 2.

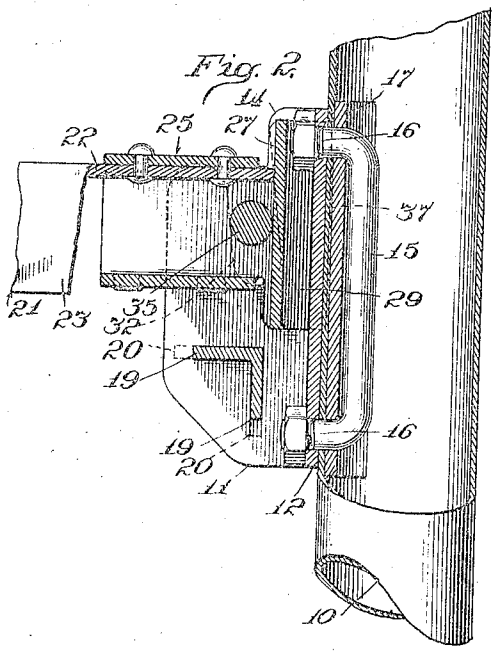


Fig. 3.

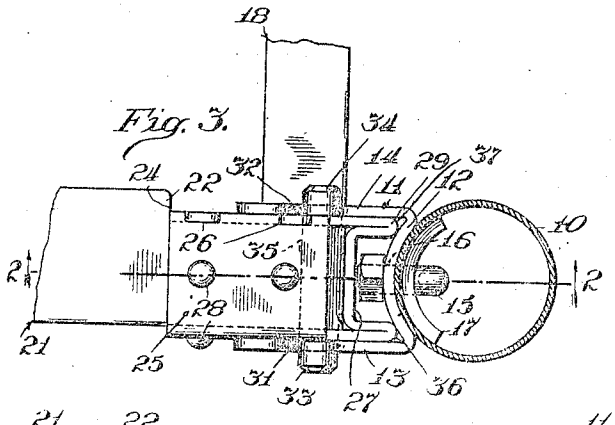


Fig. 4.

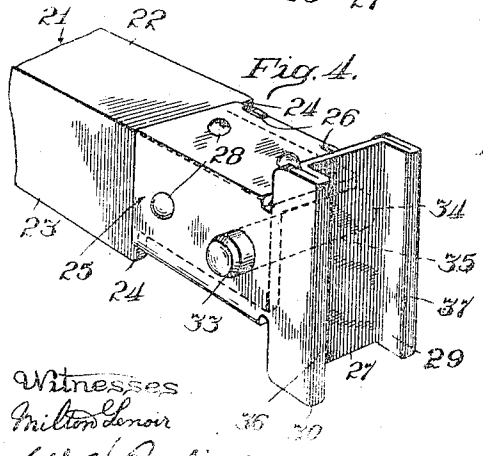
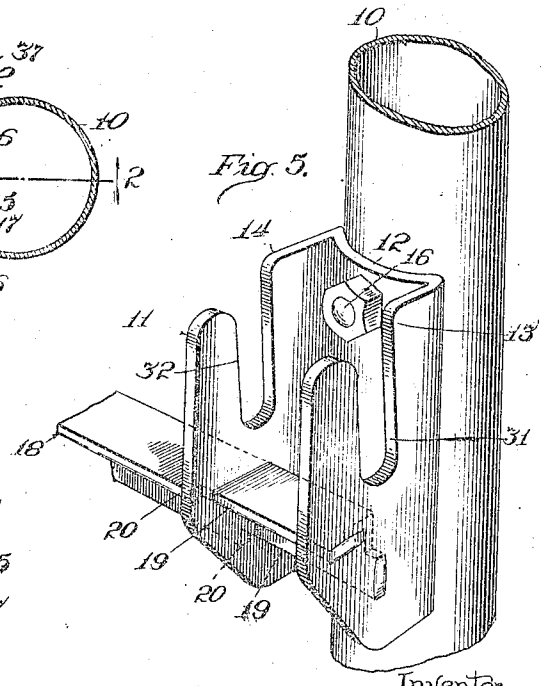


Fig. 5.



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UNITED STATES PATENT OFFICE.

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CORNER-LOCK FOR TAKE-DOWN FRAMES.

1,279,366. Specification of Letters Patent. **Patented Sept. 17, 1918.**

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To all whom it may concern:

Be it known that I, FRANK KUSTERLEE, a citizen of the United States, residing at Kenosha, in the county of Kenosha and State of Wisconsin, have invented certain new and useful Improvements in Corner-Locks for Take-Down Frames, of which the following is a specification.

My invention relates to improvements in corner locks for take-down frames, and, although susceptible of various applications, is of particular service for use in connection with metal bedstead frames which, in the majority of cases, must be shipped or transported in a knock-down condition. Such bedstead frames usually comprise a head frame or end and a foot end, said ends being connected by means of detachable side bars extending between the corner posts of the bedstead. In the drawings which accompany this application I have disclosed a corner lock for providing the detachable connection between the side rail of a bedstead and one of the corner posts or pillars.

Among the principal objects of the invention are, to provide a corner lock of the class described, the separable parts of which may be constructed of tough material, such as sheet metal, thereby obviating the risk of breakage incident to the use of cast metal, usually employed in such constructions; to provide a construction of the class described, so organized that certain parts may be detached from the members to be connected so that the several parts of the frame shall occupy a minimum amount of shipping space; to provide a construction in which the parts of the lock may be applied or united to the frame members without damaging the structure or injuring the surface finish of the frame; to provide a construction which admits of the convenient application thereto of subsidiary tie or strut members for stiffening or strengthening the frame as a whole; to provide a construction of the class described in which the lock is effective independently of any reversal of the rail member; to provide a construction of the class described which shall be simple and economical to construct, while being efficient to maintain and keep in repair; and in general, to provide an improved construction of the character referred to.

In the drawings which accompany this application—

Figure 1 is a side elevation of a bedstead corner lock;

Fig. 2 is a section taken on the line 2—2 of Fig. 3.

Fig. 3 is a plan view of the corner lock shown in Fig. 1;

Fig. 4 is a perspective view of the end of a reversible side rail equipped with the mating member designed to enter the socket member shown in Fig. 5, and

Fig. 5 is a perspective view of the pillar socket constituting one portion of the corner lock.

Referring to the drawings, 10 represents a hollow steel post or tube, to the outer portion of which is conformed a portion of a sheet metal stamping 11 which is U-shaped in plan, the bridge or back piece 12 of the U engaging the wall of the post and the arms or flanges 13 and 14 of the U being substantially vertical and parallel to each other. The U piece 11 is secured to the post by means of a bolt like member 15 in the interior of the post having its threaded ends 16 projecting outwardly through the walls of said post. Preferably, a curved liner is inserted in the tube 10 having a pair of openings therein through which the ends 16 of the member 15 pass. Nuts are provided for the threaded ends for securely holding the U shaped member on the tube 10.

The tie rail 18, which connects the post 10 with its companion post at the same end of the bedstead, is permanently united to the housing or socket 11 by having the ends of the two flanges riveted on the outer face of the arm 13 of the U. This rail 18 has the outer edges of its two flanges cut away as at 19 thereby furnishing shoulders 20 which, coöperating with the rivets on the opposite side of the U, firmly and permanently secure said rail 18 to the U 11. It is of course apparent that the rail 18 may be connected to the housing 11 in numerous ways other than that which I have just described.

The side rail 21 is a length of angle iron having a horizontal flange 22 and a vertical flange 23. As shown best in Fig. 4 the end of the horizontal flange 22 is cut away slightly, as at 24, in order to fit within a stamping indicated generally at 25. The

member 25 is made up of a single piece of metal folded back upon itself and secured by lips or tongues 26, or it may be welded or secured in any desired manner. It has a channel shaped part 27 formed from this blank 25 which projects forwardly therefrom, and is provided with outwardly facing edges of flanges 29 and 30 which are adapted to fit snugly within and between the flanges 13 and 14 of the socket 11. Said member 25 may be secured to the rail 21 by one or more rivets 28, by spot welding, or in any other approved manner.

In order to lock the end of the rail in the socket 11, the vertical flanges 13 and 14 of the latter are cut out to form opposed slots 31 and 32 slightly inclined to the vertical, the tops of the slots diverging outwardly from the post. Said slots are made of sufficient width to readily admit the projecting ends 33 and 34 of the transverse horizontal cylindrical pin 35 securely seated in apertures drilled through the sides of the member 25, and the vertical flange 23 of the side rail 21. Preferably, said apertures are so positioned that the lengths of the abutment edges 36 and 37 of the rail end member 25 above and below the level of the pin are substantially identical. This enables the rail 21 to be reversed in the socket, if for any reason it is desired to position the horizontal flange 22 of the side rail at the bottom instead of at the top of the flange 22. When making such reversal, it will of course be understood that the rail is turned end for end so that the edge of the flange 22 remains on the inside of the bedstead frame. This reversibility of the side rails in the sockets enables the same construction to be used for different types of bed springs.

In view of the above description, nothing special need be said further about the functions of the several parts of the structure. It will be noted that the vertical edges 36 and 37 of the rail member are forced into the angles between the flanges 13 and 14 and the back piece 12 throughout their entire length, by reason of the wedging action, due to the inclination of the slots 31 and 32. In this connection, it should be understood that the ends of the pin 35 press outwardly against the outer edges of the said slots, which thus constitute wedging abutments opposite to the abutments formed by the angles at the roots of the flanges 13 and 14.

By utilizing a pin for engaging the inclined abutment of the separable joint, I am not only enabled to produce a reversible construction, but, in addition thereto, the joint possesses great structural rigidity against transverse or twisting stresses. For instance, relative swinging movement of the rail about the axis of the post is positi ely prevented by reason of the fact that the edges 26 and 27 are widely spaced apart on either side of the vertical axis of the joint; also swaying of the post is minimized by reason of the fact that the pressure on each side of the joint is concentrated at three widely spaced points, viz., the pin, and the top and bottom of the vertical abutting edges of the members.

The described details of construction may be varied considerably without departing from the spirit of the invention, the scope of which must be determined by reference to the appended claims.

I claim—

1. In a corner lock for take-down frames, the combination of a post, a sheet metal stamping U-shaped in cross sectional plan and having the back piece of the U united to said post with its legs vertical and widely spaced apart and projecting outwardly from the post, the junctions of the legs with the back piece of the U constituting angular, widely spaced apart vertically extending parallel abutments, said legs having wedging portions presented toward the post, a rail having its end fitting within said stamping and provided with spaced apart terminal parts, the upper and lower ends of which constitute abutments engaging the first mentioned abutments and projections on the respective sides of said rail end engaging said wedge-portions for forcing said last named abutments into engagement with the first named abutments.

2. In a reversible corner connection for bedsteads, the combination of a bed post, a sheet metal stamping U-shaped in cross sectional plan and having the bridge piece of the U united to the bed post and having its legs vertical, widely spaced apart, projecting outwardly from the post and provided with inclined open-topped slots, the junctions of the legs with the bridge piece of the U constituting angular, widely spaced apart vertically extending parallel abutments, a rail having its end fitting between said legs and provided with spaced apart terminal lugs, the upper and lower ends of which constitute abutments fitting the first mentioned abutments, and a pin extending horizontally through the end of said rail and having its ends respectively projecting from the sides of said rail and wedgingly engaging said slots for forcing said last named abutments into tight fitting engagement with said first mentioned abutments.

3. In a reversible corner connection for bedsteads, the combination of a bed post, a sheet metal stamping U-shaped in cross sectional plan and having the bridge piece of the U united to the bed post and having its legs vertical, widely spaced apart, projecting outwardly from the post and provided with inclined open-topped slots, the junctions of the legs with the bridge piece of the U constituting angular, widely spaced apart

vertically extending parallel abutments, a rail having its end fitting between said legs and provided with spaced apart terminal lugs, the upper and lower ends of which constitute abutments fitting the first mentioned abutments, and a pin extending horizontally through the end of said rail and having its ends respectively projecting from the sides of said rail and wedgingly engaging said slots for forcing said last named abutments into tight fitting engagement with said first mentioned abutments, said pin being symmetrically located as to its height intermediate the upper and lower abutments.

FRANK KUSTERLEE.