No. 777,284. PATENTED DEC. 13, 1904.

E. L. FULLER.

BED.

APPLICATION FILED FEB. 23, 1904.

NO MODEL.

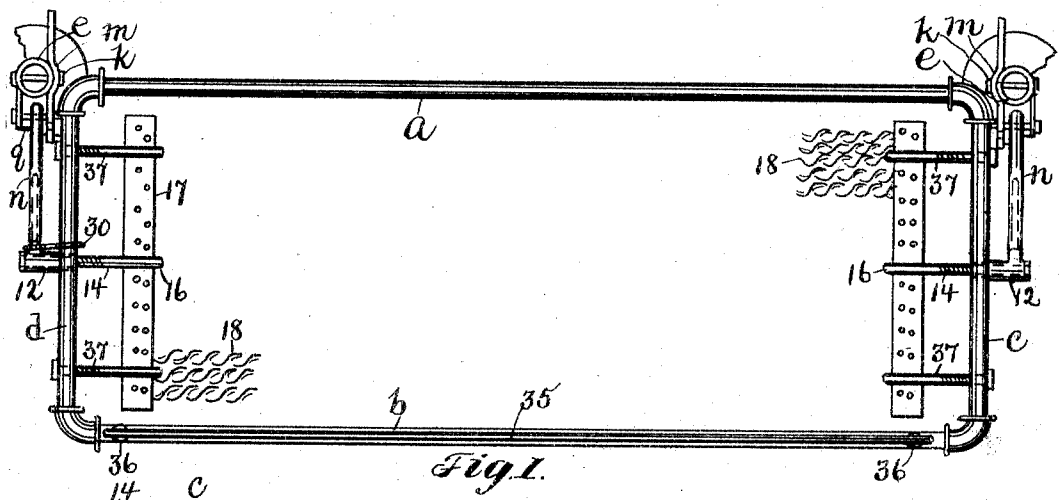


Fig. 1.

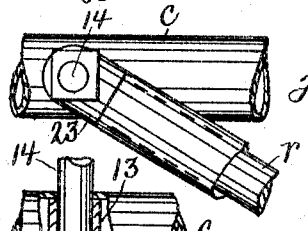


Fig. 3.

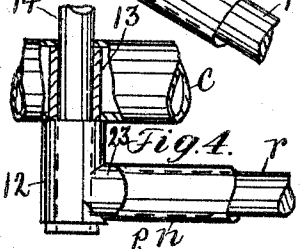


Fig. 4.

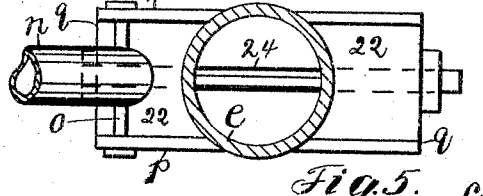


Fig. 5.

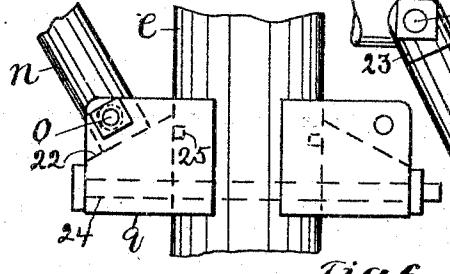


Fig. 6.

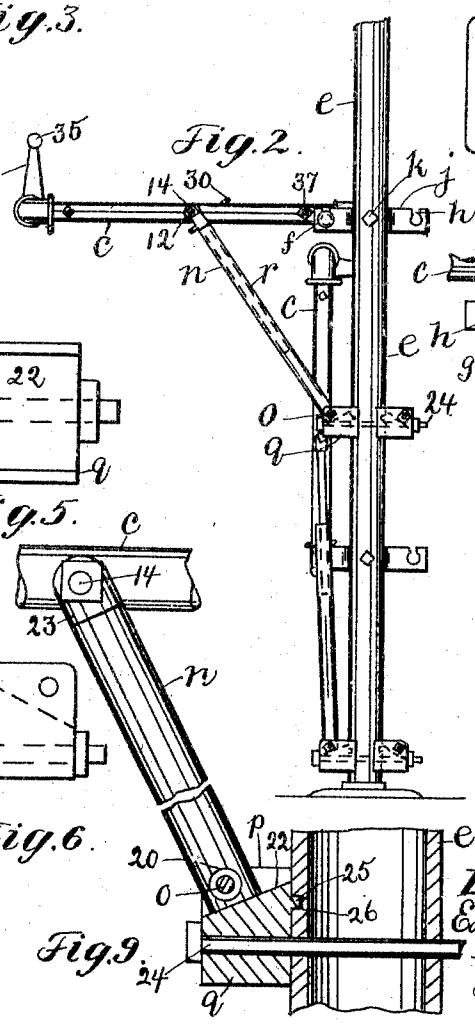


Fig. 2.

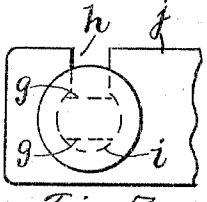


Fig. 7.

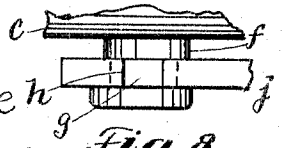


Fig. 8.

Fig. 9.

Witnesses.
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atty.

No. 777,284. Patented December 13, 1904.

UNITED STATES PATENT OFFICE.

EDGAR L. FULLER, OF EVERETT, MASSACHUSETTS.

BED.

SPECIFICATION forming part of Letters Patent No. 777,284, dated December 13, 1904.

Application filed February 23, 1904. Serial No. 194,636. (No model.)

To all whom it may concern:

Be it known that I, EDGAR L. FULLER, a citizen of the United States, residing in Everett, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Beds, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a folding bed, and is herein shown as embodied in a bed of that class known as a "bunk." The invention has for its object to provide a bunk which is capable of being lowered into a substantially horizontal position when in use and to be folded or turned up into a substantially vertical position when not in use, provision being made for automatically locking or holding the bunk in its elevated or upturned position. Provision is also made for firmly supporting the bunk in its lowered position, whereby the bunk is braced to support a substantially heavy load. For this latter purpose the bunk is provided with braces which are extensible to permit the bunk to be moved into its elevated or inoperative position. The extensible brace may and preferably will be made telescopic, one member being attached to the end frame or bar of the bunk and the other member loosely yet pivotally connected to a support or casting attached to an upright, which may be of any suitable construction, such as a metal post. The pivotal yet loose connection of one member of the brace with the casting referred to enables the said member to rest upon the casting when the bed is in its open or lowered position, thereby relieving the pivot from strain and affording a rigid connection or brace between the bed and its support, as will be described. These and other features of this invention will be pointed out in the claims at the end of this specification.

Figure 1 represents in plan view one form of bed or bunk embodying this invention, a portion only of the woven mattress being shown; Fig. 2, an end elevation of a plurality of beds, showing the upper one in its operative position and the lower one in its inoperative position; Fig. 3, a detail in elevation and on an enlarged scale to be referred to; Fig. 4, a plan view of Fig. 3 with the parts broken out; Fig. 5, a detail in plan and section of the upright and the castings attached thereto; Fig. 6, a side elevation of the parts shown in Fig. 5; Figs. 7 and 8, details illustrating the manner of detachably securing the bed to its support.

In the present instance I have illustrated my invention in a bed or bunk which is especially designed and adapted for use in narrow quarters—as, for instance, on shipboard or in immigrant-dentention stations, lodging-houses, and like places—the said bed comprising a metallic frame composed of side bars *a b* and end bars *c d*, which may be tubular metal rods. The beds referred to are designed to be attached to uprights or supports, shown in the present instance as metal posts *e*. For this purpose the end rods *c d* of the bed are provided at their inner ends with pivot-studs or projections *f*, each of which is flattened on its opposite sides, as at *g*, (see Fig. 7,) to form a contracted neck, which is adapted to be passed through a straight slot or opening *h* into a circular opening *i* in a metal bar *j*, which is secured, as by the bolt *k*, to the upright post *e*. The diameter of the circular opening *i* is greater than the width of the slot *h*, so that when the studs *f* are turned so that their flattened portions are substantially at right angles to the slot *h* the inner end of the bed is firmly locked or secured to the supporting-bar *j* against upward movement until the bed is turned into a substantially vertical position to bring the flattened portion of the stud into line with the slot. The supporting bar or piece *j* is preferably provided with a round or crimped portion *m*, (see Figs 1 and 2,) so as to conform to the circular form of the upright post and to partially embrace the same, which construction enables the supporting-bar *j* to be firmly secured to the post by a single bolt *k*, inasmuch as the post coöperates with the curved portion of the bar to prevent tilting or lateral movement of the same when weight is placed upon the bed.

The free end of the bed or bunk is also firmly supported, and this may be effected by

extensible braces pivotally attached to the end rods or bars of the bed.

The extensible braces referred to may and preferably will be made as herein shown, and each consists of two members, one of which is represented as a tubular rod *n*, pivotally connected at its lower end, as by the bolt *o*, to the sides *p* of a casting *q*, which is attached to an upright post or support *e*, as will be described. The tubular member *n* is designed to receive within it a rod *r*, (see Fig. 3,) constituting part of the other member of the brace, the said rod being secured at its upper end to a tubular hub 12, having a reduced portion or nipple 13, which is extended through an opening in one side of the end rod of the bed. The hub 12 and its nipple 13 have extended through them a bolt 14, which is bent at its inner end to form a hook 16 to engage the end bar 17 of the mattress, the springs 18 of which serve to firmly draw the hub 12 against the outer side of the end rod of the bed. This construction of the member attached to the bed is preferred, inasmuch as the opening in the end rod through which the bolt 14 extends is not required to be made as large as the opening on the outer side of the end rod through which the nipple 13 is extended, thereby avoiding weakening of the bed-frame. The nipple 13 constitutes the pivot for the upper member of the extensible brace and is kept in place, as above described, by the tension of the springs 18 of the bed. The member *n* of the extensible brace is pivotally yet loosely connected with the casting by making the hole 20 larger than the bolt *o*, so that when the bed is in its lowered position the lower end of the said member may bear upon the upper inclined surface 22 of the casting between the said walls *p*, and the upper end of the said member may bear against a projecting portion 23 on the hub 12, as clearly represented in Figs. 2 and 5, thereby forming a practically rigid brace or connection between the upright post *e* and the end bar of the bed when the latter is in its lowered position.

The casting *q* may be secured to the upright support *e* by a bolt 24, extended through the casting and through the said support, and in order that the casting may be made of minimum size and yet be strongly attached to the upright support the said casting is provided on its inner face or surface with a teat or projection 25 above the bolt 24, which enters into a suitable socket or opening 26 in the support, as clearly represented in Figs. 6 and 9.

The bed or bunk may be turned from its lowered position (shown at the upper part of Fig. 2) up into a substantially vertical position, as represented at the lower part of Fig. 2, and provision is made for automatically locking or holding the bed in its elevated position (represented in Fig. 2) or at any intermediate angular position into which the bed may be turned. This result may be accomplished, as herein shown, by means of a yoke or ring 30, which embraces one of the end rods of the bed and also the extensible brace connected to said end rod, as represented in Figs. 1 and 2. I prefer to place the ring 30 on the left-hand end rod *d*.

When the bed is lowered, the ring 30 is lifted by the operator and follows the downward movement of the bed and assumes the position represented in Figs. 1 and 2, it engaging the upper end of the extensible brace. When the bed is turned upward on the studs *f* as a pivot, the ring 30 falls down on the end rod of the bed and also on the extensible brace, and in the vertical position represented at the lower portion of Fig. 2 the ring rests upon the inner one of the tension-bolts 37.

At any intermediate position of the bed the ring 30 assumes a position intermediate the bolt 14 and the inner tension-bolt 37.

The outer side bar *b* of the bed-frame may have secured to it a supplemental side bar 35 by the uprights 36, which in the lowered position of the bed or bunk forms a guard-bar for the bed.

From the above description and inspection of the drawings it will be seen that the bed is capable of being folded up into a substantially vertical position when not in use, in which position it is maintained by the locking device or ring 30, and when it is desired to use the bed it can be drawn down into its horizontal position, in which it is firmly supported. Furthermore, if it is desired, the bed can be readily removed from the supporting-bars *j* by turning the bed into its vertical position, so as to bring the contracted neck portion *g* of the stud into line with the slot *h* in the bar *j*, after which the bed may be readily lifted to withdraw the pivots *f* from the slotted bar, the upper part of the extensible brace in this case being drawn out of the tubular lower member, which remains attached to the casting *q*, but which tubular member may be readily disconnected from said casting.

By the construction above described I have provided a bed or bunk especially designed for use on shipboard, in detention-stations for immigrants, and other places where it is desired to economize in room. Furthermore, the construction referred to enables a strong and light bed to be made at a minimum cost.

I have herein shown the bed or bunk as attached to an upright support in the form of posts; but I do not desire to limit my invention in this respect, as it is evident that the supporting-bar *j* and the casting *q* may be readily modified to enable them to be secured to other forms of supports—such, for instance, as an upright wall.

I claim—

1. The combination with an upright support, of a bed or bunk pivotally attached thereto to move in a substantially vertical direction,

an extensible brace secured to the said bed beyond the said pivot to support the free end thereof, and a locking device to engage the end bar of the bed and the said brace to automatically hold the bed in its vertical position, substantially as described.

2. The combination with an upright support, of a bed or bunk pivotally attached thereto to move in a substantially vertical direction, an extensible brace to support the free end of said bed, said brace comprising telescopic members, one of which is pivotally attached to the bed and the other to the said support, and a locking device to engage the end bar of the bed and said brace, to automatically hold the bed in its vertical position, substantially as described.

3. The combination with an upright support, of a bed or bunk pivotally attached thereto to move in a substantially vertical direction, an extensible brace comprising two members, one of which is pivoted to the bed and the other of which is pivotally connected with the support and bodily movable with relation thereto, and a rest against which the bodily-movable member bears when the bed is in its lowered position, substantially as described.

4. The combination with an upright support, of a bed or bunk pivotally attached thereto to move in a substantially vertical direction, a telescopic brace having one member pivoted to the bed, and the other member pivotally connected with said support and bodily movable with relation thereto, and a rest against which the bodily-movable member bears when the bed is in its lowered position, substantially as described.

5. The combination with an upright support, of a bed or bunk pivotally attached thereto to move in a substantially vertical direction, a device secured to said support and provided with an inclined surface, and a telescopic brace having one member pivoted to the bed and the other member loosely pivoted to said device to permit bodily movement of said member and enable it to rest upon said inclined surface when the bed is in its lowered position, substantially as described.

6. The combination with an upright support, of a bed or bunk pivotally attached thereto to move in a substantially vertical direction and having tubular end bars, a brace connecting said end bars with said support and provided at its upper end with a hub having a reduced portion or nipple extended into the tubular end bar, and a bolt extended through said hub, nipple, and tubular end bar, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDGAR L. FULLER.

Witnesses:
JAS. H. CHURCHILL,
J. MURPHY.