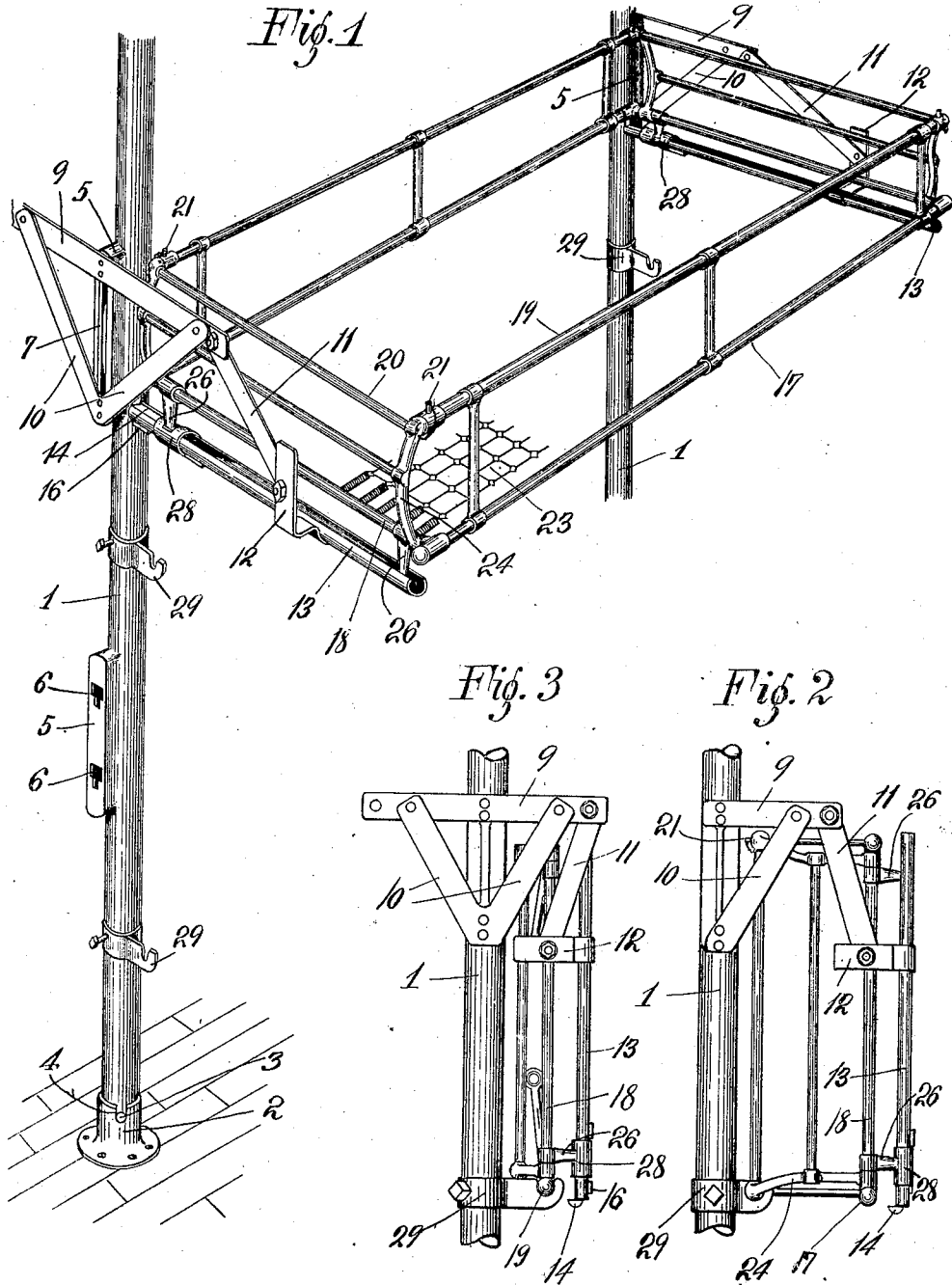


J. P. LEIN.  
COLLAPSIBLE BERTH.  
APPLICATION FILED MAR. 25, 1905.



Witnesses  
*Julian H. Husted*  
*Geo. A. Hoffmann*

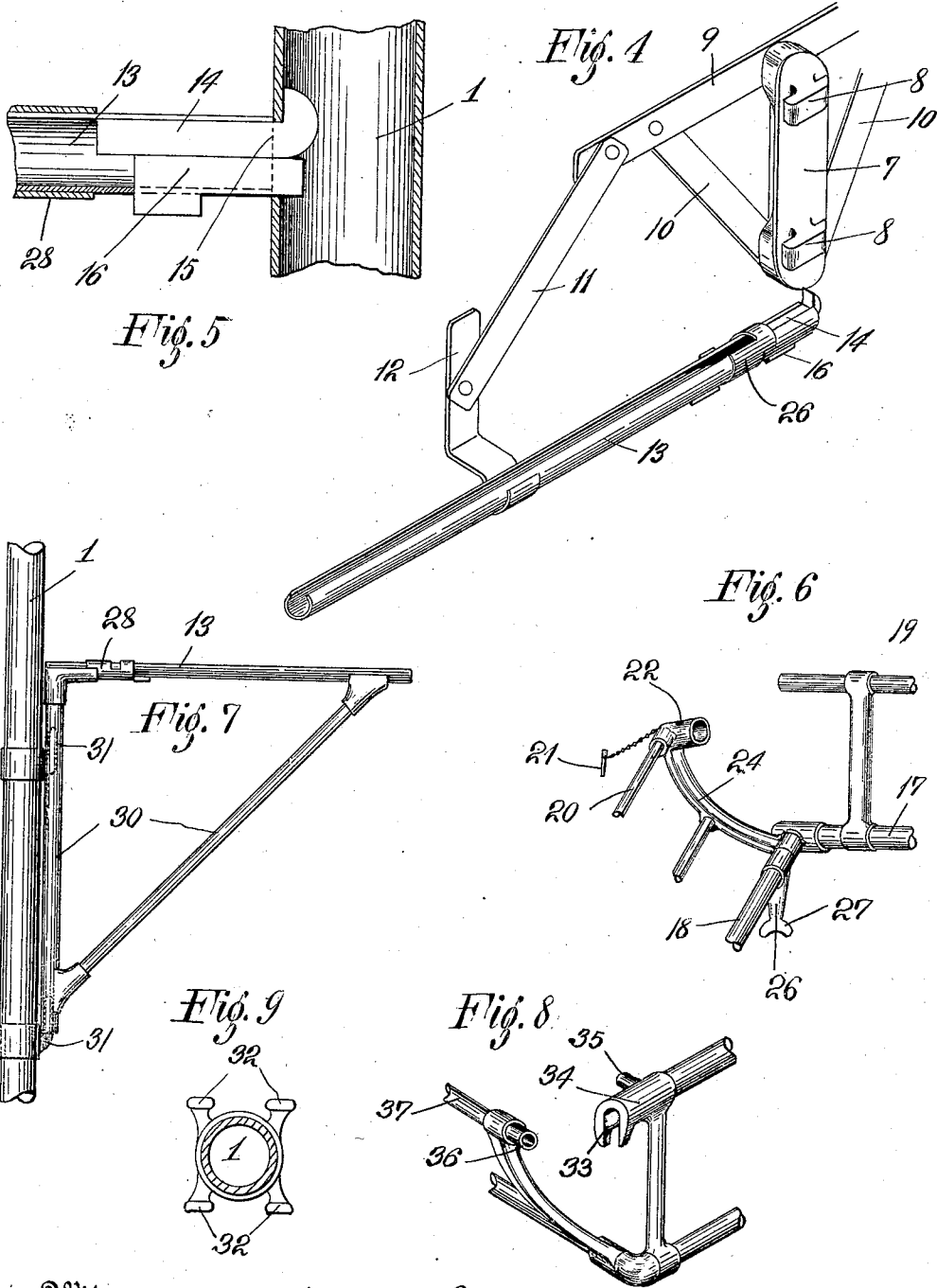
*John P. Lein* Inventor  
By his Attorney *C. W. Edwards*

No. 828,131.

PATENTED AUG. 7, 1906.

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2 SHEETS—SHEET 2.



Witnesses  
*Julian H. Foster.*  
*Geo. A. Hoffmann.*

*John P. Lein* Inventor  
By his Attorney *C. W. Edwards*

# UNITED STATES PATENT OFFICE.

JOHN P. LEIN, OF NEW YORK, N. Y.

## COLLAPSIBLE BERTH.

No. 828,131.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed March 25, 1905. Serial No. 251,960.

*To all whom it may concern:*

Be it known that I, JOHN P. LEIN, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Collapsible Berths, of which the following is a full, clear, and exact specification.

This invention relates to collapsible berths, and has reference more particularly to improvements in berths adapted for use on ship-board and in other places where the amount of space for operation and storage is limited.

The objects of the invention are to provide a collapsible folding berth, one form of which can be turned up when temporarily not in use and which can be conveniently detached from its support for use as a stretcher when desired. Such a berth is particularly useful in a transport or warship, where a large number of berths are desired at intervals only and at other times are stored away. The requirements of such a berth are that it occupy small space when stored and that it be simply constructed and operated. A further desirable feature is that such a berth be capable of use as a stretcher in case of necessity and be so supported as to provide a maximum amount of head-room between it and adjoining ones above and below.

With these objects in view I have devised the invention forming the subject of this application, which I will more fully describe in connection with the form thereof shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the preferred form of my invention. Fig. 2 is an end view showing the berth temporarily swung up out of use. Fig. 3 shows the berth swung up, the side frames being folded down. Fig. 4 is a detail view showing the supporting devices for the folding berth-frame. Fig. 5 is a detail view showing the manner of locking the supports. Fig. 6 shows the construction of the side frames. Fig. 7 shows a modification of the support, and Figs. 8 and 9 show a modified berth-frame construction.

I have illustrated the invention as adapted for use on a ship where the berths when not in use can be cleared away entirely, leaving the space free for other uses. To this end I provide supports 1, which are removably held at each end by sockets 2 and prevented from turning by pins 3, fitting in slots 4.

As shown in the drawings, each pair supports two or more oppositely-disposed berths,

and a description of the mounting of one will suffice for the others. Rigidly secured to each support is a block or fitting 5, having sockets 6, to which a hanger 7, having T-headed lugs 8, is fitted, the T-head passing through the large part of the slot and then being pushed down and held against displacement by the narrow portion. (See Fig. 4.) Mounted on each hanger is a bracket comprising the cross-arms 9 and the braces 10, which may be riveted or otherwise secured. Pivoted on the cross-arm 9 is a link 11, and to the link is pivoted a chair 12, to which a rail 13 is fastened. The inner end of the rail is detachably secured to the support, preferably by a headed lug 14, which is inserted in a slot 15 in the support and held against displacement by a sliding latch 16, which is slid to fill up the slot after the lug 14 has been inserted. (See Fig. 5.) A similar construction is provided for the opposite support, and the berth-frame proper is detachably supported thereon in a manner I will now describe.

The berth-frame comprises the side and end bars 17 18, secured at the corners by suitable corner-blocks, and the side frames are pivotally mounted thereon, so as to be folded down flat when the berth is to be stored. The side frames 19 and the end frames 20 are separably joined at the four corners by pins 21, which pass through holes 22 in a socket carried by one frame and a projecting end of the top bar. The pins are attached to the corner-blocks by chains to prevent loss. In folding the berth the side frames may be folded down on the springs 23 and then the end frames, the end frames being curved, as at 24, so as to overlie the side frames. It will thus be seen that the berth-frame can be folded up so as to be substantially flat and will occupy a minimum amount of space.

Mounted on the end bars 18 are downwardly-extending legs 26, which have enlarged heads 27, adapted to engage the rail 13, and 28 is a revolving latch on each rail, adapted to lock one of the legs 26 to hold the berth-frame rigidly in place. By opening the latches 28 the berth-frame can be disengaged from the rails 13 and used as a stretcher and can be securely held by the latches when not so used. This provision is of especial advantage where the berth is used in a sick-bay of a ship, as it permits the patients to be easily transferred as desired. The four legs also prevent any longitudinal oscillation of the

frame because of their engagement with the rails, thus forming a rigid structure.

In order to turn the berth up when not in use, the rails 13 are disengaged from the supports and the front of the berth-frame swung upward on the links 11 to the position shown in Fig. 2, an adjustable notched bracket 29 or other suitable catch being provided to engage the rear side frame to hold the berth in vertical position against the supports or wall. As shown in Fig. 2, the berth-frame is turned up without collapsing the side frames; but in Fig. 3 I show the parts turned up with the side frames collapsed, thus requiring much less space. The bracket or catch 29 is made adjustable on the supports or support for this purpose. It will be observed that the head-room between the berths is not obstructed at the ends by the berth-frame supports, which feature I consider of particular importance where the berth is used on ship-board, since thereby free access is permitted at the ends as well as the sides.

The parts are so proportioned and located that the effort required to turn the berth up against the wall is very slight, and when so turned up it can be readily replaced, because the pivot of the link 11 and chair 12 is somewhat in advance of the center of gravity.

In Fig. 7 I show the rails 13 carried by a bracket-support 30, which are attached to the supports by hooks 31, passing through a slot in the vertical bar of the bracket. In this form the berth is not adapted to be turned up vertically, but can be folded for storage, as before described, and can also be separated from the rails for use as a stretcher in the same manner as before described.

Figs. 8 and 9 show a modified form of collapsible stretcher-berth, in which the berth is supported at each corner, the upright supports being provided with one or more headed pins 32, which are engaged by hooks 33, cast on the corner-blocks 34 of the end frames. The corner-block 34 has a projecting pin 35, which fits into the end 36 of the upper side rods 37, and when the berth is hung on the pins 32 at each corner the side frames are rigidly held in upright position. The pins 21 may be provided where desirable for fastening the corners, as before described; but this form is readily removable from the supports by disengaging from the pins and can then be collapsed, as before described. The other three corners are similarly constructed, and the upright support (shown in Fig. 9) has four pins, because it is adapted to support the adjacent corners of four berths.

Having thus described my invention, I declare that what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with supports, of hangers or brackets adapted to engage said supports, rails carried by each bracket, a berth-frame adapted to engage said rails at each

end, and means for locking said berth-frame to said rails, substantially as described.

2. The combination with supports, of hangers or brackets adapted to engage said supports, a berth-frame having means for engaging said brackets and thereby rigidly connecting the supports, brackets and berth-frame, and means for locking the berth-frame to the brackets, substantially as described.

3. The combination with supports, of hangers removably secured thereto, a berth-frame removably secured to said hangers, and means for locking the berth-frame to the hangers, substantially as described.

4. The combination with supports, of hangers removably secured thereto, a berth-frame carried by said hangers, and means whereby the berth-frame can be swung vertically relatively to said supports independently of the connection between the berth-frame and the hangers, substantially as described.

5. The combination with supports, of hangers secured thereto, rails pivotally connected with said hangers, means for fastening the rails at one end to the supports, and a berth-frame carried by the rails and rigidly connecting the rails and the supports, substantially as described.

6. The combination with supports, of hangers secured thereto, a berth-frame pivotally connected with said hangers, and a catch at each end of the berth-frame adapted to engage the support and hold the berth-frame rigidly against movement, substantially as described.

7. The combination with supporting means, of hangers secured thereto, a berth-frame having collapsible side and end frames provided with coöperative engaging devices, means permitting said frames to be collapsed so as to overlie each other, means whereby said berth-frame can be swung to a vertical position adjacent said supports, and retaining means for holding the berth-frame in such position, substantially as described.

8. The combination with a support, of a berth-frame having means for attaching it to said support, a link pivoted to said berth-frame and to said support, and means whereby the connection between the berth-frame and the support can be released to permit the berth-frame to be swung vertically, substantially as described.

9. The combination with supports, of hangers carried thereby, rails pivoted to said hangers by an intermediate link and adapted to be detachably secured to said supports at one end, a berth-frame having legs for engaging said rails, and means for locking said berth-frame to the rails, substantially as described.

10. The combination with supports, of hangers secured thereto, means pivotally secured to said hangers for carrying a berth-frame, a berth-frame and catch devices for

securing said means to the supports, whereby the hangers, the berth-frame and said means together form a rigid structure, substantially as described.

5 11. The combination with supports, of means pivoted thereto adapted to support a berth-frame at each end, a berth-frame, catch devices for securing said means to the supports, whereby the berth-frame may be  
10 swung up when the catch devices are released, substantially as described.

12. The combination with supporting devices, of a berth-frame removably mounted in said supports, said berth-frame comprising  
15 a base-frame having side and end rails pivoted thereon, one of said rails having means for engaging the support and thereby locking the rails to prevent collapsing, substantially as described.

20 13. The combination with supporting devices each provided with retaining means adapted to engage a corner of a berth-frame, of a collapsible berth-frame comprising a

base-frame having side and end rails loosely mounted thereon, means for engaging one  
25 rail with the adjoining one to prevent displacement, and means for engaging one of said rails with said retaining means to thereby rigidly lock both rails, substantially  
30 as described.

14. The combination with supporting devices each provided with retaining devices adapted to engage a corner of a berth-frame, of a collapsible berth-frame comprising a  
35 base-frame having side and end rails loosely mounted thereon, a socket in one rail adapted to receive a lug on the other rail, and means for engaging the latter rail with said retaining devices to thereby rigidly lock both rails,  
40 substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN P. LEIN.

Witnesses:

JULIAN S. WOOSTER.

GEO. A. HOFFMAN