E. M. KEY.

COLLAPSIBLE COT.

APPLICATION FILED JUNE 12, 1918.

1,300,621.

Patented Apr. 15, 1919.

2 SHEETS—SHEET 1.

Fig. 1.

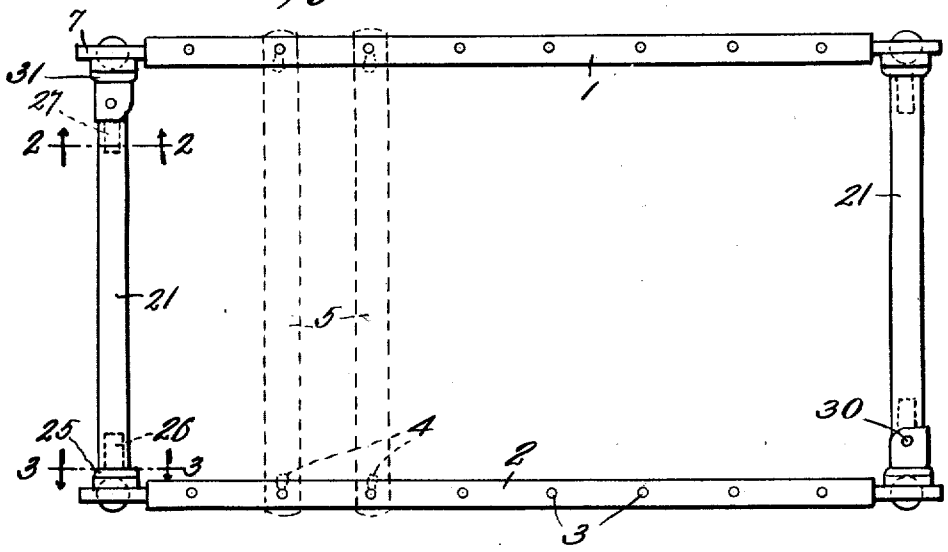


Fig. 2.

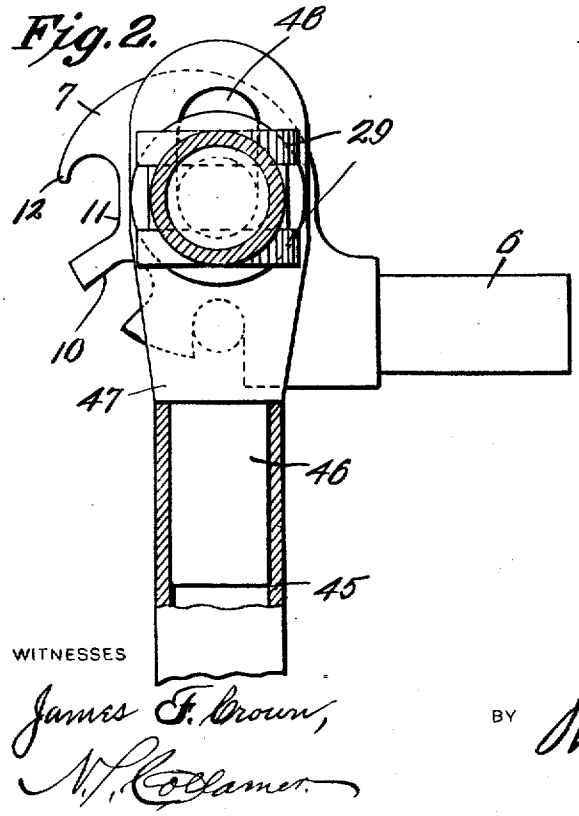
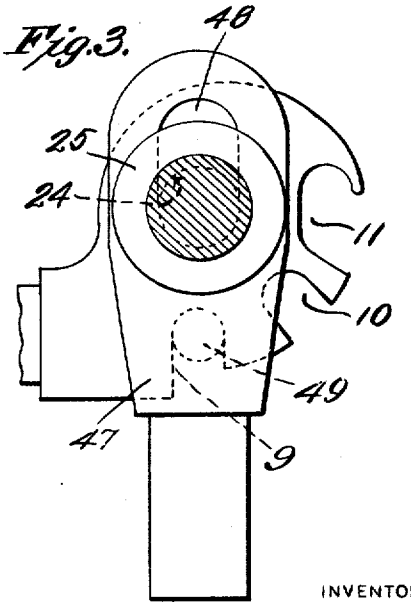


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 6.

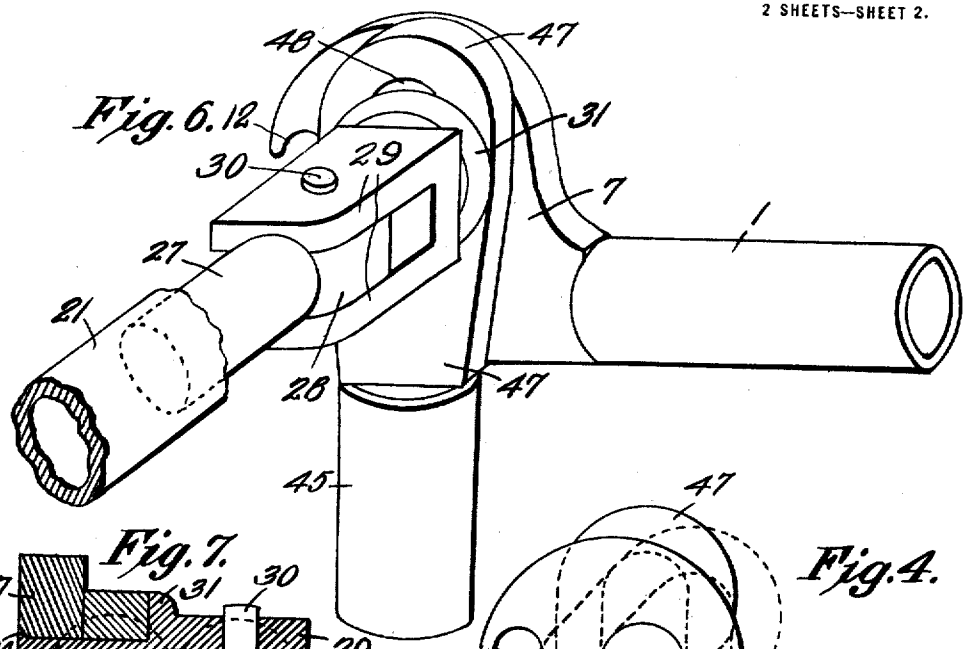


Fig. 7.

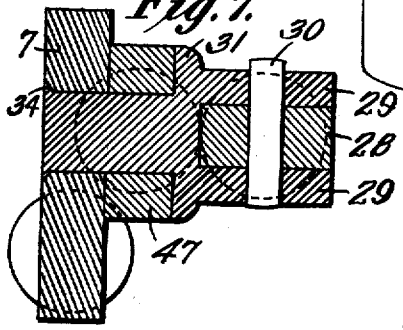


Fig. 4.

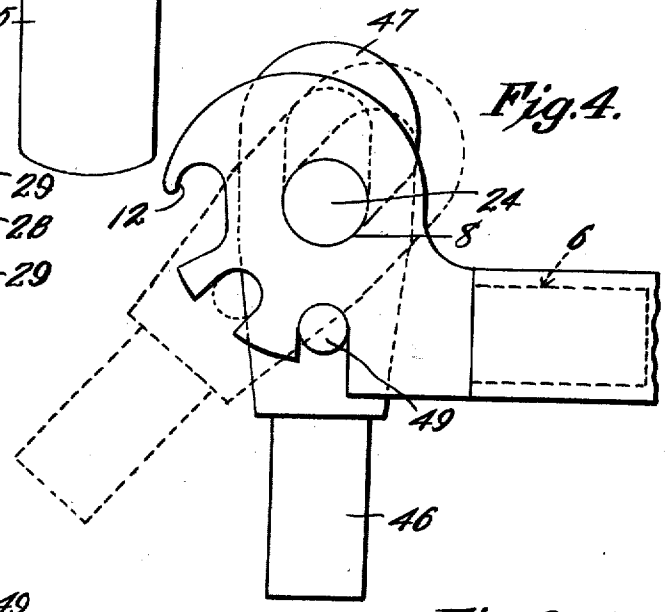


Fig. 5.

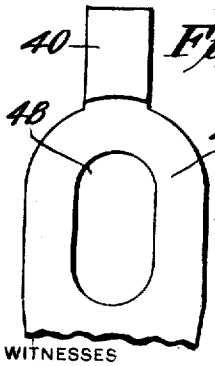
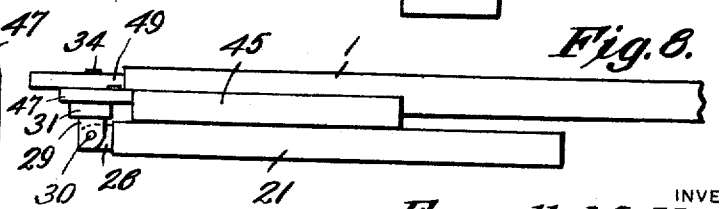


Fig. 8.



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UNITED STATES PATENT OFFICE.

EMMETT M. KEY, OF TULSA, OKLAHOMA, ASSIGNOR OF FIVE THIRTY-SECONDS TO I. W. PATTERSON, ONE THIRTY-SECOND TO C. H. VEALE, ONE THIRTY-SECOND TO C. Z. WILEY, AND ONE THIRTY-SECOND TO E. B. VELTON, ALL OF TULSA, OKLAHOMA.

COLLAPSIBLE COT.

1,300,621. Specification of Letters Patent. Patented Apr. 15, 1919.

Application filed June 12, 1918. Serial No. 239,599.

To all whom it may concern:

Be it known that I, EMMETT M. KEY, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Collapsible Cots, of which the following is a specification.

This invention relates to beds, and more especially to those for use in camps and elsewhere and which when not in use are designed to be folded into small compass for transportation and storage.

The primary object of the invention is to produce a collapsible cot composed of as few members as possible.

Another object is to devise a structure in which the legs may stand upright, or oblique, or may be turned into practical alinement with the side bars of the cot so that the device may be used as a stretcher.

Yet another object is to provide for stacking one cot upon another in a tier for berthing the occupants in a tent or perhaps in a field hospital.

Yet other objects will appear from the following specification and claims, and reference is made to the accompanying drawings, wherein:—

Figure 1 is a plan view of this improved cot set up ready for use,

Figs. 2 and 3 are enlarged cross sections on the lines 2—2 and 3—3 respectively of Fig. 1,

Fig. 4 is an elevation of one corner, showing the leg in full lines as vertical and in dotted lines as oblique,

Fig. 5 is a detail of one leg with an additional stud for berthing,

Fig. 6 is a perspective detail showing all parts at one corner of the cot,

Fig. 7 is a sectional detail through the pivoted knuckles when folded, the elements being indicated by the circles,

Fig. 8 is a plan view of one group of elements in a folded condition.

The side bars may be tubes 1 and 2 with pins or studs 3 to engage key-hole openings 4 in the slats 5 which may be of very light strip or strap metal, or might in fact be of canvas or other fabric. Into each end of each side bar is plugged as at 6 a casting having a flattened head 7 upbent so as to be disposed mostly by preference above the axial line of the side bar 1 itself. Formed transversely through this head is a hole 8, and in its periphery is a notch 9 directly beneath the hole, another notch 10 obliquely beneath the hole, and a third notch 11 in the outer edge of the casting or head and having an overhanging tongue 12.

Each end bar consists of a pipe or tube 21 constituting most of the length of this element, and a relatively short member pivotally connected to one end thereof. Plugged into one end of said pipe at 26 is a casting having a flange 25, and beyond the same a reduced trunnion 24 of a size to engage the hole 8. This trunnion is shown only in dotted lines in Fig. 3, but it appears in full lines in Fig. 4. The extremity of the trunnion is upstruck or headed so that the relatively short member 26 is permanently attached to the casting forming the head of one side bar. Secured permanently within the other end of the tubular member 21 is a plug 27 which carries beyond the extremity of this member a quadrant knuckle 28. The latter passes between and co-acts with two other knuckles 29, between which it is pivoted on a pin 30. Said knuckles 29 form part of a casting which includes a flange 31 and a trunnion 34, the latter passing through the hole 8 in the opposite side bar and upset or headed as already described with respect to the trunnion 24. Thus the end bar is made up of the short or male member 26 whose trunnion is secured to the head 7 of one side bar, the long or female member 21 adapted to slip over the male member 26 at one end and having a single knuckle at its other end, and a double-knuckle member pivoted astride said single knuckle and itself having a trunnion rigidly secured in the head of the opposite side bar. With the pivot pin 30 standing upright as shown, it is quite obvious that when the long female member 21 is withdrawn from the male member 26, it may be turned or swung on its pivot so as to stand in parallelism with and closely alongside the side bar.

Four legs constitute the remaining element of the frame of this cot. Each has a tubular body 45 into whose upper end at 46 is plugged a casting having a flattened head 47 provided with an upright or longitudinal slot 48, and below the slot said head has an outstanding rigid stud 49 which is adapted for co-action with one of the notches

9, 10, or 11. The slot 48 is movably mounted on the trunnion 34 or 24 between the flange 21 or 25 on the end bar of the frame, and the adjacent face of the head or casting 7 on the side bar of the frame. In Fig. 5 is shown a slight amplification to the extent that the head 47 of the leg element may be provided with an upstanding stud 40 of a size to slip into the lower end of the tubular leg-body 45. Thus when several of these cot frames are stacked one upon the other, the legs of an uppermost frame are passed over the studs of one beneath and the aggregated structure might be called a series of berths of convenient length accommodating a number of sleepers or patients within restricted space. This of course is when the legs stand upright as seen in Fig. 4. By disengaging the stud 49 from the lowermost notch 9 and drawing the slot 48 down on the trunnion the entire leg can be swung and its stud reengaged with the notch 10 so that the leg will stand at an oblique position as dotted in Fig. 4; or by carrying the adjustment further, the leg may be caused to stand horizontal and in practical alinement with the side bar of the frame, so that the device becomes in effect a stretcher and the legs become handles by means of which it may be carried from place to place. By disengaging the studs from the outermost notches 11 and swinging the legs clear over, they may be folded on top of and in parallelism with the side bars when the entire structure is in its collapsed condition. That is to say, at this time one side bar, the two legs thereof, the long member 21 of one end bar, and the short member 26 of the other end bar, all form one piece; and the corresponding members or parts of members remaining form another piece, the two pieces being laid closely side by side and wrapped about with the canvas or other bed bottom so that the whole occupies very little space.

With respect to the use of this device, while I have hereinbefore suggested that it is a collapsible cot, it is obvious that it is not restricted in that respect. If the cot bottom be of canvas, it may be pulled taut when in position but the male and female members 26 and 21 of the end bars are held together by the bed bottom itself, with or without the weight of the occupant. Or the slats dotted in Fig. 1 may be used. These, in fact, could be flexible metal strips, and the distance between their holes 4 somewhat greater than the distance between the studs 3 on the side bars. In that case the device as a whole would serve and could be used as a stretcher. Assuming that in its skeleton condition and with its legs disposed horizontal as suggested above, it is brought to a wounded man on the battlefield and laid on the ground around him. Then several of the flexible slats 5 are slipped under him and the holes 4 placed over the studs 3. Then the entire device is raised and carried to a distant point, and for purpose of illustration we may assume that it is then laid upon a cot bed. The holes 4 are disengaged from the studs 3 and the entire frame lifted away, and finally the flexible slots 5 are slipped out from under the injured man, without having had to raise him by hand or lay him by hand on the cot, and altogether with the least possible discomfort to him. Again, if a flexible bottom be employed, it may have sufficient slack to permit it to assume a trough-like condition when suspended from the studs 3, and in that case the device becomes a feeding trough for horses and cattle. It might be possible to have this bottom provided with ends so that the device becomes a watering trough. In fact, I reserve the widest latitude as to the uses to which this structure could be put, as the invention lies mainly in the framework and its collapsibility and adjustability.

The foregoing description and the drawings have reference to what may be considered the preferred, or approved forms of my invention. It is to be understood that I may make such changes in construction and arrangement and combination of parts, materials, dimensions, et cetera, as may prove expedient and fall within the scope of the appended claims.

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

1. In a structure of the type described, the combination with a frame whereof each corner includes an upright flattened head on the side bar provided with a transverse hole and a plurality of notches in its periphery whereof one is beneath said hole, another is at right angles to the first and formed with an overhanging tongue, and a third notch is between the other two, and an end bar having a trunnion fixed in said hole and a flange spaced from the contiguous face of said head; combined with another element having a flattened head standing between the first-named head and the flange and provided with a longitudinal slot slidably mounted on said trunnion, and a stud in this head for selective engagement with said notches, for the purposes set forth.

2. In a collapsible structure of the type described, the combination with two side bars whereof each has at each end an upbent flattened head pierced with a transverse hole and provided with peripheral notches radial to said hole, and four leg elements whereof each has at its upper end a flattened head pierced with a longitudinal slot adapted to register with said hole and provided with a stud adapted for selective engagement with one of said notches; of two end bars whereof each is composed of a

short male member having a trunnion passing through the slot in the head of one leg and secured rigidly in the hole of the head of one side bar, and a female member removably engaging the male member at one end and having a knuckle joint within its length and at its farther end beyond said joint a trunnion passing through the slot in the head of another leg member and secured rigidly in the hole of the opposite side bar.

3. In a frame for cots and the like, the combination with two side bars having flattened heads at their ends pierced with transverse holes; of two end bars whereof each is composed of a short male member with a trunnion fast in the hole of one side bar, a long female member, means for detachably engaging one end with the male member, a knuckle having a plug secured in the other end of the female member, a second knuckle having a trunnion fast in the hole of the opposite side bar, and a pin pivotally connecting said knuckles whereby the long female member may be folded alongside one side bar.

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

EMMETT M. KEY.

Witnesses:
G. C. BATES,
ROY C. OLIVER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."