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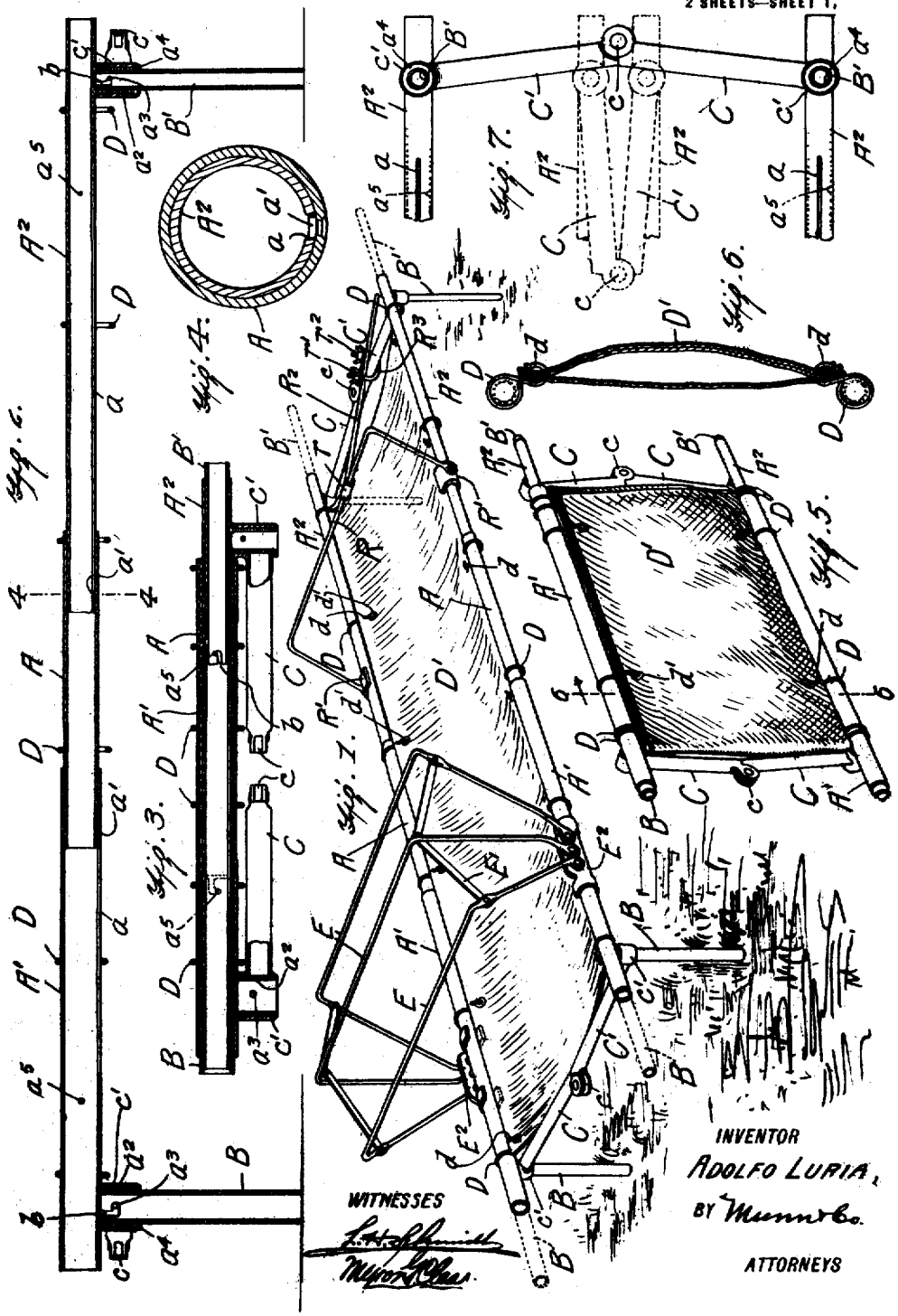
COMBINED FIELD COT AND SURGICAL STRETCHER AND MILITARY KNAPSACK.

APPLICATION FILED FEB. 5, 1915. RENEWED OCT. 18, 1918.

1,305,388. Patented June 3, 1919.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 8.

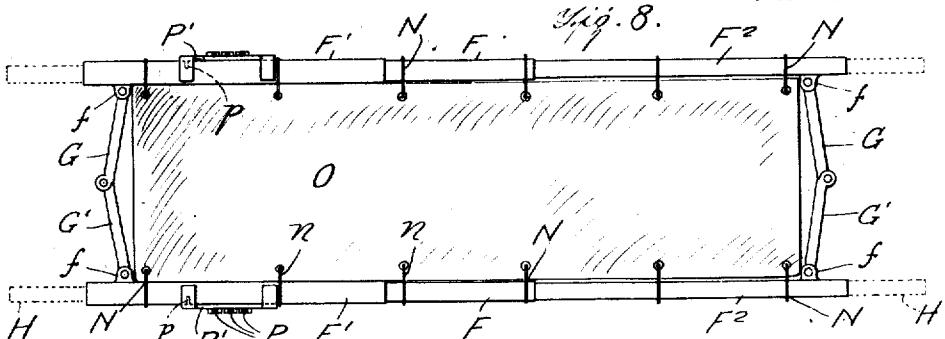


Fig. 9.

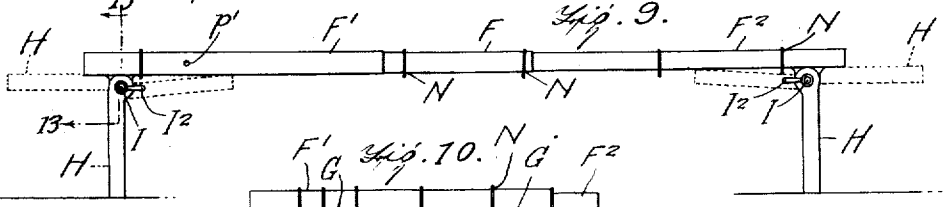


Fig. 10.

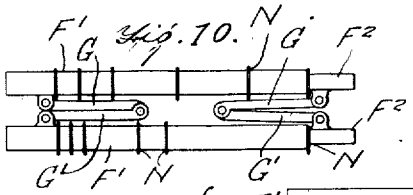


Fig. 11.

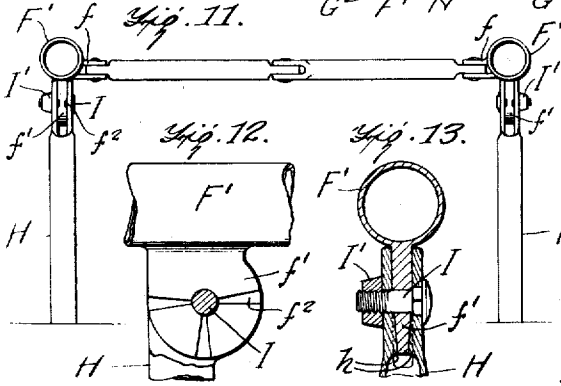


Fig. 12.

Fig. 13.

Fig. 15.

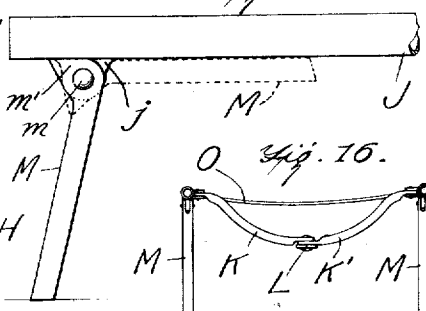


Fig. 16.

Fig. 14.

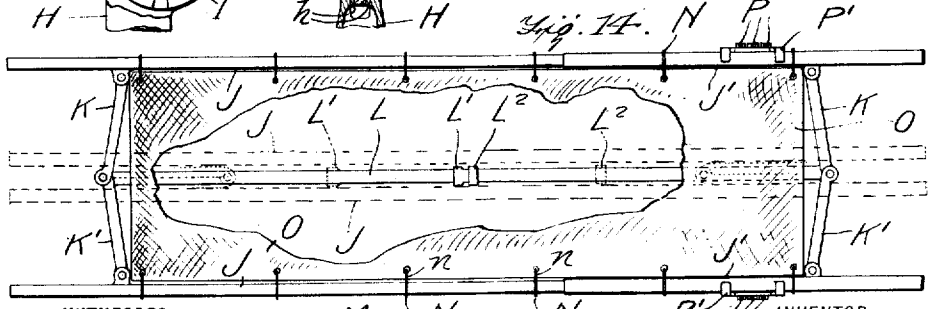
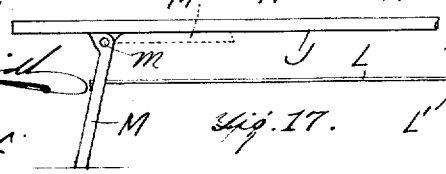


Fig. 17.



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COMBINED FIELD-COT AND SURGICAL STRETCHER AND MILITARY KNAPSACK.

1,305,388. Specification of Letters Patent. Patented June 3, 1919.

Application filed February 5, 1915, Serial No. 6,375. Renewed October 18, 1918. Serial No. 258,757.

To all whom it may concern:

Be it known that I, ADOLFO LURIA, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Combined Field-Cots and Surgical Stretchers and Military Knapsacks, of which the following is a specification.

My present invention relates generally to invalid beds, cots, and stretchers, and particularly to a collapsible construction equally adapted to field, hospital, and domestic or home use, which may be telescoped and folded, telescoped without folding, or folded without telescoping, my object in any case being to permit the normal size and bulk of the structure in use to be reduced either for storage in minimum space or to facilitate its transportation.

A further object is to provide an improved canopy or hood frame which may be readily associated with and disassociated from, the cot frame when desired, having to this end, collapsing portions engageable with and disengageable from, portions of the cot frame itself.

A still further object of my invention is to provide a cot having a canvas, the connections of which are such as to permit of its quick detachment, either partially or wholly from the frame, whereby when desired, it may be folded, when the frame is collapsed, to form a pouch or knapsack for the ready reception and transportation of other articles along with the collapsed cot frame.

These and other objects of my invention, and their resulting advantages, will be apparent from the following description, in which reference is made to the accompanying drawings forming a part of this specification, and in which—

Figure 1 is a perspective view illustrating one form of my invention, with its canopy or hood frame in position, and the frame extended for use as a cot;

Fig. 2 is a vertical longitudinal section through one side of the frame shown in Fig. 1;

Fig. 3 is a similar view with the parts in collapsed position;

Fig. 4 is a detail cross section taken therethrough substantially on line 4—4 of Fig. 2;

Fig. 5 is a perspective view illustrating the frame collapsed, and the detachable foldable canvas folded to form a pouch or knapsack;

Fig. 6 is a cross section taken therethrough substantially on line 6—6 of Fig. 5;

Fig. 7 is a plan view of one end of the frame shown in Fig. 1;

Fig. 8 is a plan view of a slightly modified form of frame;

Fig. 9 is a side elevation of the frame in open position;

Fig. 10 is a plan view of the frame shown in Figs. 8 and 9 in collapsed position;

Fig. 11 is an enlarged end view thereof;

Fig. 12 is an enlarged detail, partly broken away and in section, of one of the leg connections;

Fig. 13 is a detail cross section through one of the leg connections, taken substantially on line 13—13 of Fig. 9;

Fig. 14 is a plan view of another slightly modified form;

Fig. 15 is an enlarged side elevation of one end of the frame shown in Fig. 14;

Fig. 16 is an end view of another slightly modified form; and

Fig. 17 is a side elevation of one end portion of the frame shown in Fig. 16.

Referring now to these figures, and particularly to Figs. 1 to 7 inclusive, it will be seen that I provide a collapsible and combined cot and stretcher consisting of spaced parallel side bars, each of which consists of an intermediate section A and end sections A′ and A², the end section A′, the end section A′ adjacent the head of the cot being the largest in diameter of the three parts of each side bar, which are tubular in form and telescope one within the other, the section A into the section A′ and the section A² into the section A, it being noted that the intermediate section A is comparatively short and the section A² correspondingly lengthened.

Each of the end sections A′ and A², is provided with a longitudinal slot *a* receiving a pin *a′* projecting from the intermediate section A, so as to prevent relative turning movement of the sections with respect to one another. It will also be noted that each of the end sections A′ and A² is provided with a depending socket a^2 adjacent its outer end, having an inwardly projecting pin a^3, and an outwardly flanged lower edge a^4.

Into the sockets a^2 are received the legs B and B′ for the head and foot ends respectively of the frame, the former being of a

diameter permitting of its movement within the outer end of section A′ when detached from its holding socket, and the latter being of a diameter permitting its insertion within the outer end of section A^2 when so detached, such disposition of the legs within section A′ and A^2 being shown in the collapsed position of the parts in Fig. 3. The legs are also shown partially extended into their respective sections of the side bars in dotted lines in Fig. 1, in which position they form continuations of the side bars and act as handles when the frame is being transported and in use as a stretcher.

Each of the legs B and B′ is provided adjacent one end with a bayonet slot *b* engageable with the pin a^3 of the side bar socket a^2 in the position shown in Figs. 1 and 2, and also engageable with pins a^5 of the sections A′ and A^2 when in the position shown in Fig. 3.

The side bars of the frame thus constructed to telescope in disuse, are braced and supported in spaced parallel relation when in use, by means of end bracing bars C and C′, forming lateral supports, these bars being hingedly connected at *c* at their inner ends, and having transverse tubular bearings *c′* at their outer end, disposed around and swivelly movable upon, the depending sockets a^2 of the side bars, and confined as best seen in Fig. 2, by means of the lower flanges a^4 of said sockets, to prevent accidental displacement of these braces.

It will be seen by comparison of the full and dotted lines in Fig. 7, that the hinged connection *c* between the lateral bracing bars C and C′, is movable inwardly without restraint, but is prevented from outward movement beyond a point slightly out of a straight line, so that no matter what strain is thereafter applied tending to bring the side bars of the frame together, the braces C and C′ are but more firmly held, that is, of course, within the limits of strain of the particular frame.

The side bars of the frame are also provided with a plurality of loose slidable rings D, having hooks *d* for engagement with eyelets *d′* of the canvas D′, thus permitting ready detachment of this canvas, either wholly, for transportation in a vehicle or other means, or permitting partial detachment of said canvas and folding thereof as shown in Figs. 5 and 6, wherein the foot and head portions of the canvas are alternately lapped over the intermediate portion to form a substantial pouch or knapsack which is open at one end of the telescoped, though unfolded frame, which is thus in position to be conveniently carried upon the back of the user.

It will also be noted that I provide a canopy or hood frame consisting of several supporting bows E, the side portions of which may be connected by pivoted connecting rods E′, and the lower ends of which sides are pivotally connected to concaved clasping members E^2 adapted to partially surround the sections of the side bars and to be firmly engaged therewith by the elasticity of the bows E themselves.

As thus described, my improvement particularly aims at the provision of a combined stretcher and cot for army use with a pouch or knapsack as described.

As shown in Figs. 8 to 13, the side bars of the frame are composed of sections F, F′ and F^2 which are identical with the sections A, A′ and A^2 before described, and which are braced by similar lateral brace bars G and G′, which latter are pivotally connected at their outer ends, however, to laterally and inwardly projecting ears *f* of the side bar sections F′ and F^2, these side bar sections being also provided with depending ears *f′* having central apertures and radial slots f^2. The legs H in this form of the invention are foldable to positions inwardly and outwardly adjacent the side bars as shown in dotted lines in Fig. 9, and also to positions at right angles thereto, in each of which positions, inward projections *h* of the upper bifurcated ends of the legs H, are engaged within certain of the radial slots f^2 of the depending ears *f′* as best seen by reference to and comparison of Figs. 12 and 13, a clamping bolt I in each instance compressing the parts together to effect this engagement. The nut I′ in connection with clamping bolt I may have a handle I^2 as seen in Fig. 9.

As shown in Figs. 14 to 17, inclusive, the side bars may consist of but two telescoping sections J and J′, to each of which is connected one of the pair of lateral brace bars K and K′ in substantially the same manner as in Figs. 8 to 13. In this form, however, a central brace bar L is utilized parallel with the side bars J, J′, and formed of telescoping sections having slides L′ and L^2 the outer ends of which sections are connected to the pivot bolts between the brace bars K and K′ as clearly seen by reference to Fig. 16. The legs M in this form of the invention are pivoted at *m* to depending ears *j* of the side bars and may have extensions *m′* engageable beneath the side bars to hold them in operative position as clearly seen by reference to Fig. 15.

As seen in Fig. 14, however, the central brace bar L in telescoping sections, is in a plane substantially level with the side bars K and it may in some cases present the objection that the occupant comes into contact therewith. To obviate this objection the brace bars K and K′ may be curved so that their inner connected ends are at a point substantially below the plane of the side bars as clearly seen by reference to

Figs. 16 and 17, and thus the longitudinal central brace bar L will, inasmuch as it is connected thereto, be positioned out of possible contact with the occupant.

In both of the modified forms shown respectively in Figs. 8 to 13 and 14 to 17, however, the side bars are provided with rings N having hooks *n*, to engage eyelets in the canvas O, in a manner exactly similar to that before described in connection with the form shown in Figs. 1 to 7, inclusive, so that in any case the canvas may be wholly detached for transportation in a separate vehicle, or may be partially detached and folded to form a pouch or knapsack as previously described, particularly in connection with Figs. 5 and 6.

Furthermore, in each of the modified forms as above mentioned, the canopy or hood frame may be utilized, this frame being shown at P which indicates its several bows pivotally connected at the lower ends of their side portions to clasps P′, similar to the clasps E^2 as seen in Fig. 1, although these clasps may be provided with inwardly projecting pins *p*, engageable with small side apertures *p′* of the side bars, in order to prevent longitudinal displacement of the clasps and bows upon the side bars.

Furthermore, I may provide a U-shaped foot or leg rest R, the ends of the extension of which are pivotally connected to clasping members R′ for engagement with the sides of the frame of the cot, an adjusting rod R^2 having a tubular guide disposed on the foot rest R as shown at *r*, and being extended through a clip R^3 engageable with the lateral braces at the front end of the cot, the clip as well as its bearings having thumb screws, by which it may be respectively secured to the lateral braces at a desired point, and engage and hold the adjusting rod at a desired point, as shown at *r′* and r^2. It is to be understood, of course, that this foot and leg rest, which is primarily for use in the field to prevent the wounded leg of an occupant from stiffening before medical attention is at hand, may be utilized in connection with the frame of each of the forms of my invention as previously described, being adaptable to all of them in view of its particular connections as just outlined.

I claim:—

1. A stretcher and cot frame having side bars in telescoping sections, a plurality of hook members loosely disposed thereon, and a canvas between the side bars having a plurality of side openings engageable by said hooks and spaced apart suitable distances, whereby the ends of the canvas may be alternately lapped upon one another and upon its central portion to form a pouch or knapsack attached to the frame when the sections of the said side bars are telescoped, and with the openings in alinement through the several folds to receive the said hooks in the folded position, each of the said side bars having a plurality of sections whereby to reduce the length thereof in telescoped position to approximately that of the folded canvas knapsack.

2. A stretcher and cot frame having side bars in telescoping sections, a plurality of hook members loosely disposed thereon, and a canvas between the side bars having a plurality of side openings engageable by said hooks and spaced apart suitable distances, whereby the ends of the canvas may be alternately lapped upon one another and upon its central portion to form a pouch or knapsack attached to the frame when the sections of the said side bars are telescoped, and with the openings in alinement through the several folds to receive the said hooks in the folded position, and lateral braces between the said side bars including sections hinged to one another at intermediate points, whereby the frame may be entirely folded and the side bars moved contiguous to one another, each of the said side bars having a plurality of sections whereby to reduce the length thereof in telescoped position to approximately that of the folded canvas knapsack.

3. A combined cot and stretcher comprising side bars in telescoping sections, lateral braces between the side bars, and a foot and leg rest consisting of a U-shaped frame having pivoted clasping members at the ends of its extensions for adjustable and detachable engagement with the said side bars, an adjustable member movably connected to the intermediate portion of the said frame, and a clamping member for engagement with the said adjusting member and disposed upon one of the lateral braces whereby to secure the leg rest in adjusted position.

4. A combined cot and stretcher consisting of parallel side bars, lateral braces between the said side bars, and a foot and leg rest consisting of a U-shaped frame, clasping members to which the extremities of the frame are pivoted, and which are engageable with the side bars of the frame and adjustable therealong, an adjusting rod pivotally connected at one end with the said frame, and a clip engageable with the lateral braces and adjustably connected to the said adjusting rod whereby the latter may be moved to raise and lower the frame of the foot and leg rest.

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