

(No Model.)

2 Sheets—Sheet 1.

W. H. JOHNSTONE.

STRETCHER FOR CONVEYING WOUNDED PERSONS.

No. 338,349.

Patented Mar. 23, 1886.

Fig. 1.

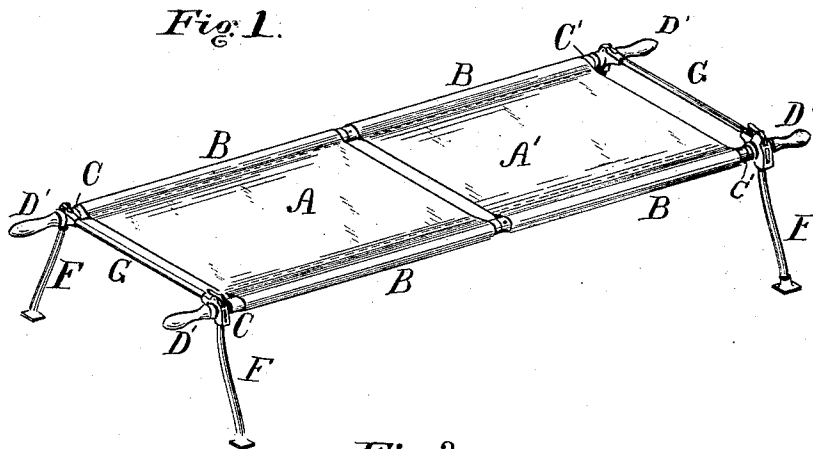


Fig. 2.



Fig. 3.

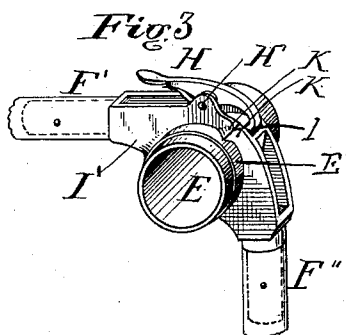


Fig. 4.

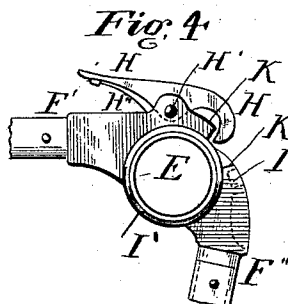
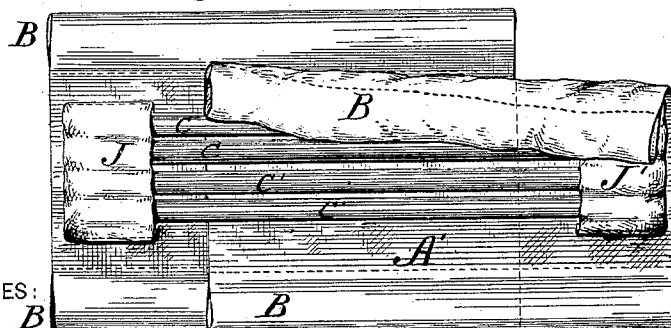


Fig. 5.



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Fig 6

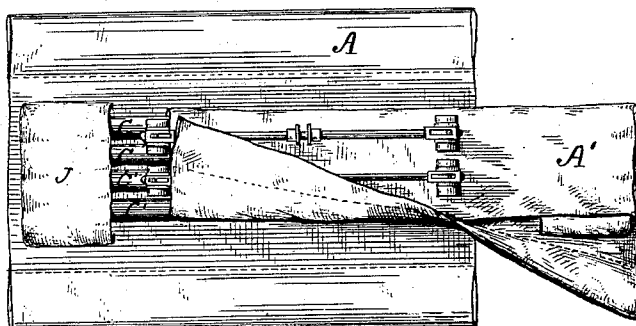


Fig 7

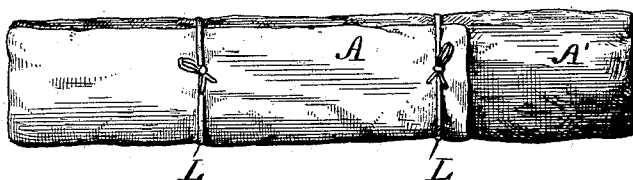


Fig 8

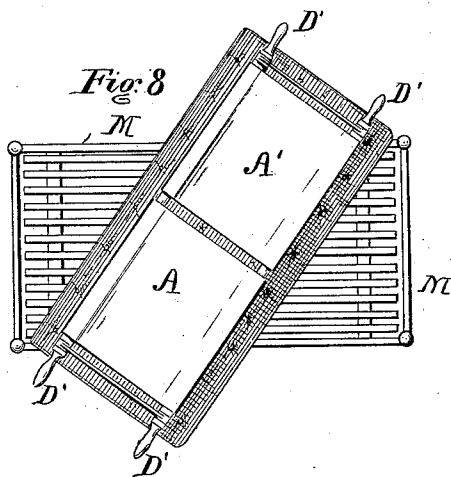


Fig 9



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UNITED STATES PATENT OFFICE.

WILLIAM H. JOHNSTONE, OF PHILADELPHIA, PENNSYLVANIA.

STRETCHER FOR CONVEYING WOUNDED PERSONS.

SPECIFICATION forming part of Letters Patent No. 338,349, dated March 23, 1886.

Application filed January 5, 1886. Serial No. 157,675. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. JOHNSTONE, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have made certain new and useful Improvements in Stretchers for Carrying Wounded Persons, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part thereof.

The nature of my invention will fully appear from the following specification and claims.

The invention has for its object the production of a stretcher which can be folded or rolled up and be packed in small space and be capable of being rapidly set up or put in position for use. It also attains the object of furnishing means to place the patient upon the stretcher without any disturbance of the physique of the patient, and after the patient has thus been provided beneath with a cloth or cushion, side carrying-poles may be secured to the cloth, and he may be raised from the ground and be supported therefrom by the standards or legs of the stretcher, which standards are pivoted at their juncture with the frame to which they are attached by a lock-joint in the ordinary well-known way. When they are allowed to drop they fall of their own weight at right angles therewith, forming nearly perpendicular supports.

In the drawings, Sheet 1, Figure 1 is a perspective view of my stretcher in position for use, showing two webs of flexible material with tubular edges pierced by side-supporting rods and lateral endwise dividing-rods, said side-supporting rods being provided with jointed supporting upright legs; Fig. 2, an elevation of one of the two side supporting rods of my stretcher, showing the screw-joint between the two halves of the rod in sectional view; Fig. 3, a detached perspective view of the joint formed between the transverse end bar of my stretcher and the leg which supports the same, together with a spring-catch, which device, being well known in mechanics, will require no special explanation here. Fig. 4 is a perspective view of the device shown in Fig. 3, simply showing the end of the joint of the leg before its catch has been latched; Fig. 5, an elevation and partial perspective view of my stretcher when out of use and ready to fold up; Sheet 2, Fig. 6, a

similar view of my stretcher in process of being folded up; Fig. 7, the stretcher folded up, ready for transportation; Fig. 8, my stretcher laid upon a hospital bed diagonally, to provide for either head-board or foot-board, or both. Fig. 9 is that of a patient, showing the two sections of the web which extends across between the two bars, which maintain the stretcher, showing the division of the two webs, whereby the webs can be drawn from beneath the patient from two different directions, substantially as described.

A A' are two sections or sheets of canvas, each having two tubular edges, B B, through which the poles or bearing-rods C C are passed. Each of these rods is composed of two parts or halves, which are connected by a screw-joint (see D, Fig. 2) in the middle.

D' D' are handles at the ends of the poles or rods C C'. A narrow neck, D'', is located on each rod between each handle D' and the main part of the rod. These necks are adapted to receive the rings E, which are attached to the standards or legs F. Each of the latter is made of metal, its upper end being let into a socket, which is fitted to receive it in the hinged joint F'. These hinged joints permit the legs to be thrown or folded inward against the bars G, when the stretcher is not in use. The bars G serve to hold the legs at the ends of the stretcher apart, and they are let into sockets in the hinged joint F, similarly to the manner in which the legs are attached.

H is a spring-latch pivoted at H', its inner end being thrown up by a small spring, H'', as shown. The outer end of this latch hooks into a recess, I, in the socket-piece F', whereby, when the leg F is thrown out in a position to support the stretcher, the latch H will engage in the depression I and lock the leg or standard F in position until the latch is released by the operator. The ring E is cylindrical in form, and the socket-piece F' is hinged thereupon by means of the ring E', moving freely around the same. (See Fig. 3.)

J J' are pockets sewed or otherwise securely attached to the lower faces of the two sheets, A and A', respectively. These pockets (see Fig. 5) are adapted to receive the ends of the poles or rods C C C' C' when the same are detached and ready to be rolled up for transportation. The rods G are secured in place, when the

stretcher is set up for use, by passing the cylindrical rings E E over the handles D' and setting them upon the necks D'' of the supporting-bars C C'. (See Fig. 1.) These bars G are detached for packing by sliding the rings E off the necks D'' and over handles D', after which the catches H are opened, thus releasing the legs F, and the latter are thrown in against and almost parallel with the bars G. These bars G, with the legs F, are then ready to be packed in with the pocketed bars C C' C', (see Fig. 6,) when the whole can be rolled up, as shown in Fig. 7. The legs F continue to open until the shoulders K K of the socket-pieces F' F'' about one against the other, when the hook of latch H enters the depression I and locks the leg in an extended or upright position.

L L, Fig. 7, Sheet 2, are two bands or straps secured by their middle to the under sides of the sheets A A', respectively, and are used to tie up the stretcher into a roll when it is out of use.

M is intended to represent a hospital-bed, and Fig. 8 shows the manner of transferring the patient from the stretcher to the bed.

N, Fig. 9, shows the method of getting the sheets beneath the patient preliminarily to rigging up the stretcher and raising him from the ground.

My device is generally carried in the compact form shown in Fig. 7, Sheet 2.

When it is desired to use my stretcher the bands L L are untied and loosed and the sheets are spread out, as in Fig. 6. The bars and legs are then removed from the inside of the sheets, and sheet A is folded up in the center, partially, fold upon fold, as in Fig. 9. Supposing the patient to be lying upon his back the unfolded portion is placed beneath the head of the patient, the folds passing transversely beneath the neck. The lower end of sheet A is worked down by drawing it gradually beneath the body of the patient without disturbing him until the folds are all drawn out and the sheet is completely extended beneath the head and body of the patient. The lower sheet, A', is then worked up or drawn beneath the feet and legs of the patient until the contiguous edges of the two sheets are about as close as is shown in Fig. 1. The side rods, C C', are then inserted through the tubular edges B B until their ends meet, when they are screwed one into the other, as is shown in Fig. 2. This is done upon both sides of the two sheets A A' without disturbing the patient. The bars G G are then pushed into place over the ends of the long bars C C' by means of their rings E E. This will serve to hold the long side bars a proper distance apart. (See Fig. 1.) Now, by raising the stretcher by its handles D' D' the legs F F will drop down until the catches H engage with the depressions I, when the stretcher with the patient may be carried to any desired point.

When the patient is to be transferred to the

hospital-bed M, Fig. 8, which may have a head and foot board, the operation of placing the patient upon the stretcher is reversed, the stretcher is placed diagonally across the bed from head to foot, so that its handles will not interfere with the head and foot boards of the bed, and its legs F F are simultaneously folded up. The brace bars G G are then removed and the side bars, C C', are unscrewed from each other, as they turn freely in the tubular edges B B, and each half of each side bar is drawn out by means of its handle D'. The sheets are then moved around until the patient lies longitudinally upon the length of the bed. The sheets A A' are then drawn from beneath the patient, the ends of the halves of the side bars are then pocketed, as shown in Fig. 5, Sheet 1, in the pockets J J' of sheets A A', and the sheets are drawn over each other and overlap until the ends of these half-bars are deeply seated in the pockets. One side of flap A' is thrown over the cross-bars, as in Fig. 6, Sheet 2, and the end brace-bars, G G, with the folded legs F F, are then laid onto the turned-over flap of sheet A. The apparatus is then rolled up in the sheets, as shown in Fig. 7.

The side tubes, B B, of my sheets are formed by lapping the edges of the canvas under and riveting or sewing them in that position, and they are large enough to fit loosely upon the side bars, C C', whereby the latter may be freely turned for screwing one into the other.

Eyes and buttons might be substituted for the side tubes, to connect with the bars, but this would incline the bars to turn around in the hands of the carriers, under great weight, and so loosen or strain the buttons, unless the rings of rods G G were made polygonal, to fit corresponding polygonally-shaped bars. I prefer the tubes B B, as they are cheapest and avoid the last-named difficulty.

It will be observed that when the brace-bars G G are in place the latches H, which lock the socket-pieces for the legs F F, are so close to the handles D' D' that the persons carrying the stretcher can press upon the latch with the thumb without setting down the apparatus, which will release the legs, and the fingers of the hand may be used to swing the legs in under the brace-bars G G prior to setting the stretcher upon a bed, as shown in Fig. 8, Sheet 2.

The brace-rods G G and the legs or standards F F are for lightness and strength composed of hollow tubing, set at the ends into the socket-pins F' F'', and secured therein by a rivet or pin.

My present invention is an improvement upon my stretcher which is described in United States Letters Patent issued to me upon March 6, 1882, numbered 273,287.

What I claim as new is—

1. A folding stretcher composed of two bars, C C' C', each in two halves, as shown, connected by a joint, D, sustaining between them a soft or yielding fabric, A A', the latter being provided upon the under side with two pock-

ets, J J', to receive the ends of the disjointed halves of the bars C C' C C', whereby the same may be rolled up into a compact and close roll, substantially as described.

5 2. A folding stretcher composed of two bars, C C' C C', each in two halves, as shown, connected by a joint, D, sustaining between them a soft or yielding fabric, also in two parts, A A', each of said sections of fabric being provided with a pocket upon its under side, J J',
10 to receive the ends of the disjointed halves of the bars C C' C C', whereby the stretcher mechanism may be rolled up into a compact and close roll, substantially as described.

15 3. A folding stretcher composed of two bars, C C' C C', each in two halves, as shown, connected by a joint, D, sustaining between them a soft or yielding fabric, A A', the latter being provided upon the under side with two pockets, J J', to receive the ends of the disjointed
20 halves of the bars C C' C C', and bands or straps L L, secured to the fabric A A', whereby the same may be rolled up into a compact and close roll and tied securely, substantially as described.
25 as described.

4. A folding stretcher composed of two longitudinal bars, C C' C C', each in two halves, as shown, connected by a joint, D, sustaining
30 between them a soft or yielding fabric, A A', the lateral brace-bars G G, to hold the longitudinal bars C C' C C' apart, provided with rings E E, to slip over the ends of said longitudinal bars and legs F F, sockets F' F'', to receive the bars G G and the legs F F, hinged, as shown, to fold the legs inwardly, and spring-latches H H, whereby the legs may be locked in position or released to be swung inwardly at pleasure, substantially as described.

35 5. A folding stretcher composed of two longitudinal bars, C C' C C', each in two halves, as shown, sustaining between them a soft or yielding fabric, A A', the lateral brace-bars G G, to hold the longitudinal bars C C' C C' apart, provided with rings E E, to slip over the ends of said longitudinal bars and legs F F, sockets F' F'', to receive the bars G G and the legs F F, hinged, as shown, to fold the legs inwardly, and spring-latches H H, whereby the legs may be locked in position or released to be swung inwardly at pleasure, substantially as described.

40 6. In a stretcher for wounded persons, the combination of the hinged socket-pieces F' F'', ring E, and hollow tubular legs or standards F F, substantially as and for the purpose described.

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Witnesses:

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