Aug. 31, 1943. C. B. BELT ET AL 2,328,409

STRETCHER

Filed April 3, 1942

Fig. 1.

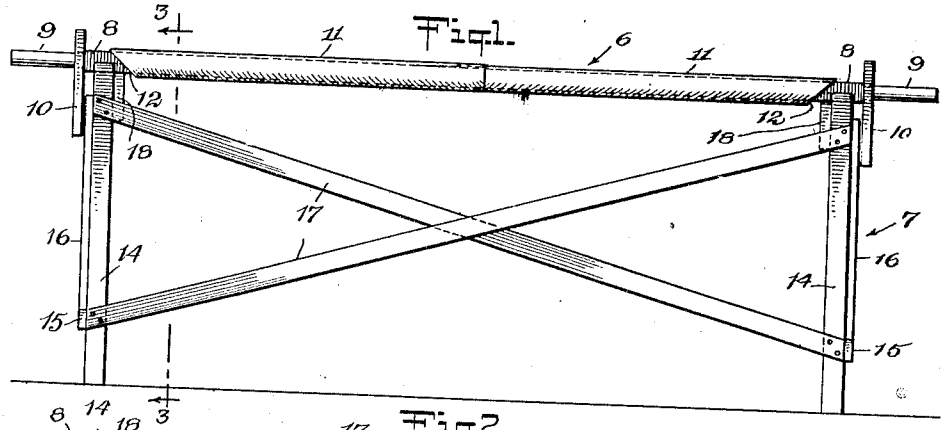


Fig. 2.

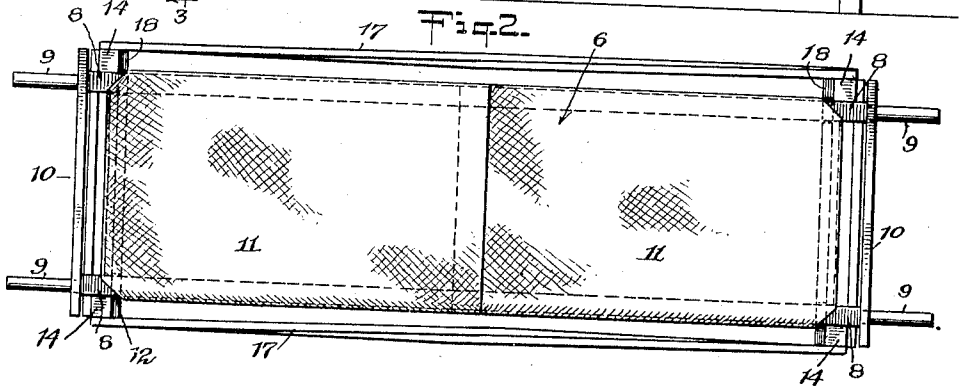


Fig. 3.

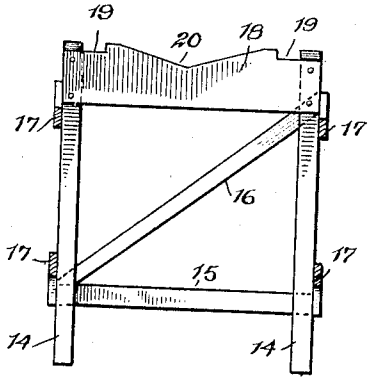


Fig. 4.

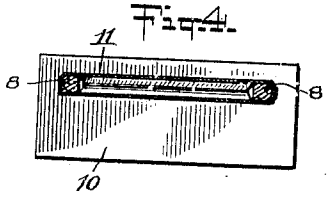
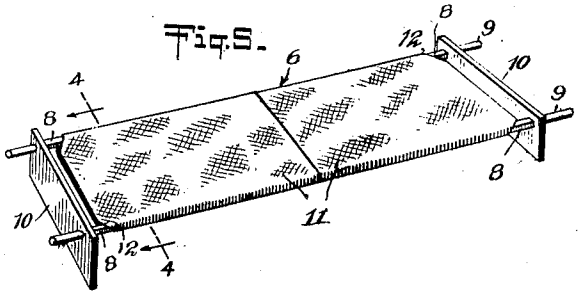


Fig. 5.



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STRETCHER

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2 Claims. (Cl. 5—82)

This invention relates to an improved stretcher.

It is an object of the present invention to provide an improved stretcher which can be collapsed or dismantled when not in use so as to occupy a minimum amount of space, and which can be readily assembled to provided a strong, sturdy stretcher which is convenient to use and which is comfortable for the patient.

A further object is the provision of a stretcher of the above character which may be used as a bed and a times, in an emergency, as an operating table. In this connection, the stretcher is provided with supports whereby it can be rested on the ground or floor and the body supporting portion will be spaced above the ground or floor. Also it may be placed upon a separate cooperating base or stand which serves to support the stretcher at a convenient height so that it may be used either as a bed or a table for the performance of minor operations or the dressing of wounds.

Among other objects is the provision of a device of the above character which is made from relatively inexpensive and readily available material in which the parts are readily interchangeable, which does not require skilled labor for its manufacture, and which is particularly suitable for use during wars or other emergencies to provide stretchers, emergency hospital beds, and facilities for performing minor operations and dressing wounds.

Other objects will be apparent from the following detailed description of the drawing, in which:

Fig. 1 is a side elevational view of a stretcher and supporting stand embodying our invention;

Fig. 2 is a top plan view thereof;

Fig. 3 is a sectional view in the direction of the arrows on the line 3—3 of Fig. 1, showing the stand;

Fig. 4 is a cross sectional view through the stretcher in the direction of the arrows on the line 4—4 of Fig. 5; and

Fig. 5 is a perspective view of the stretcher.

Our invention comprises a stretcher 6 and a separate supporting stand or base 7, so formed that the stretcher may be conveniently rested thereon, in the manner shown, so that the stretcher may then be used as a bed or as a table for performing minor operations and for dressing wounds.

The stretcher comprises a suitable supporting frame which is readily dismantable, having a fabric web extending between the sides thereof and serving as a support for the body of the patient. The frame preferably takes the form of a pair of longitudinally extending bearer or poles 8, made of material which is slightly resilient so as to impart resiliency or springiness to the stretcher, thereby making it more comfortable. For this purpose we have found that poles made of wood, such as fir or pine, are highly satisfactory, since wood is readily available, is inexpensive, and can be easily worked. The poles illustrated are made from cross sectionally square pieces of wood which are two inches on each dimension, and the ends thereof are formed into cylindrical handles 9.

Adjacent the ends of the stretcher we provide the head and foot boards 10, which are of similar construction, and which, likewise, are preferably made of wood. For this purpose we prefer to use plywood, because of the greater strength thereof and because of the greater resistance to warping and distortion. The head and foot boards are provided with apertures of sufficient size to tightly accommodate the handles 9 of the longitudinally extending poles. As most clearly shown in Fig. 4, the apertures are preferably provided adjacent the opposite sides of the boards and substantially nearer the upper edge than the lower edge.

The head and foot boards 10 hold the poles 8 in spaced relationship and also serves as supports for the stretcher. Thus, the boards may be rested directly on the ground, in the manner indicated in Fig. 5, and the intermediate body supporting portion of the stretcher will be held in spaced relation with respect to the ground.

The body supporting web is connected between the poles 8 and is made of a suitable fabric of sufficient strength to support a person, and is preferably connected to the poles in such a fashion so that it may be readily removed therefrom to permit washing or replacement by a new web. For this purpose we have found that very satisfactory results are obtained by using a pair of bags 11, such as fertilizer bags, made from jute, burlap, or some other strong textile fabric. The corners at the two sides at the bottom of the bag are cut out, in the manner indicated at 12, and the poles 8 are extended longitudinally through the bags and through the cut-out corners, in the manner shown.

In the illustrated embodiment, the bags are shown with their open ends disposed at the center of the stretcher in overlapping relationship. However, it will be appreciated that the bags may be arranged with their open ends facing in either direction. Generally speaking, a pair of bags, such as fertilizer bags, serve to provide a

web of the desired size. However, where necessary or desirable, it will be appreciated that a different number of bags may be employed.

In assembling the stretcher, a pair of poles 8 are inserted through the bags, in the manner shown, and the supports or boards 10 are then applied to the ends of the poles. In order to provide a desirable amount of stability and rigidity, the supports 10 should tightly engage the handles 9, and in this connection, the inner ends of the handles 9 may be tapered so that a tight frictional engagement may be obtained between the apertures in the supports and the handles. The device may then be lifted by the handles 9 and used as a conventional stretcher, and when desired, it may be rested upon the supports 10, in the manner shown in Fig. 5, and the intervening span of the stretcher, between the two supports, will be held above the ground. Due to the fact that the poles 8 are resilient, it will be appreciated that the stretcher provides a comfortable support for the patient. When desired, the stretcher may be rested upon a suitable stand or base, such as the device indicated by the numeral 7.

The particular stand or base shown in the drawing, comprises four uprights 14, transverse horizontal and diagonal braces 15 and 16, and longitudinal diagonal braces 17. At each end of the stand we provide a cradle or support 18 extending transversely thereof and attached to the legs near the upper ends thereof, in the manner shown. The cradle or support is cut out in the manner shown at 19, adjacent the two sides thereof to accommodate the poles 8 of the stretcher, and the center portion thereof may be recessed or notched, in the manner shown at 20.

The stand is preferably slightly shorter than the stretcher so that the portions of the poles 8, immediately inside of the head and foot boards 10, rest in the notches 19 with the head and foot boards disposed beyond the two ends of the stand, as most clearly shown in Fig. 1. The stand 7 should be of sufficient height so that the stretcher, when supported thereon, may serve conveniently as a bed or as an emergency operating table to be used for the dressing of wounds and for performing of minor operations. It will be appreciated that the specific dimensions of our stretcher may be varied, but it should be of sufficient length and width to comfortably accommodate a patient.

From the foregoing description of our invention, it will be appreciated that we have provided an improved stretcher which is dismantleable so that it will occupy a minimum amount of space when not in use, and which can be readily assembled to provide a comfortable stretcher of rugged and serviceable construction. It will also be seen that the stretcher can be used as an emergency hospital bed or as an emergency operating table. In addition, the stretcher has the advantage that the parts thereof are readily interchangeable and are made from materials which are inexpensive and are readily available. Furthermore, the stretchers can be constructed in a very short time and do not require skilled labor and accordingly are very inexpensive to make. The fabric webbing may be readily removed when desired, to permit washing thereof or replacement by new webbing. It will also be seen that the patient may be readily transferred from the stretcher directly to a hospital bed.

It should be understood, of course, that modifications may be made in the illustrated and described embodiment of our invention without departing from the invention as set forth in the accompanying claims. Thus, the foot board may be made somewhat higher so as to serve as a support for a Thomas splint or, if preferred, a rod or other device may be used to provide a support for this purpose.

We claim:

1. The combination of a stretcher, and a separate understructure for removably supporting said stretcher, said stretcher consisting of bearer poles, a fabric webbing engaged with said poles and extending between them, head and foot boards disposed at the opposite ends respectively of the stretcher, and each board having the adjacent ends of the poles tightly projecting through holes therein respectively, said understructure including notched supports on the ends respectively, and the ends of the poles being received in notches respectively in the supports, and said boards being disposed contiguous said supports respectively.

2. The combination of a stretcher, and a separate understructure for removably supporting said stretcher, said stretcher having a pair of spaced handles on each end thereof, head and foot boards disposed at the opposite ends respectively of the stretcher, and each board having the adjacent handles tightly projecting through holes therein respectively, said understructure including notched means on the opposite ends thereof respectively, and the handles being received in notches respectively in said means, and said boards being disposed beyond but in close proximity to the opposite ends respectively of said understructure.

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