

Nov. 12, 1929.

S. STRAUSS ET AL

1,735,552

HAMMOCK LITTER

Filed April 9, 1928

3 Sheets-Sheet 1

Fig. 1.

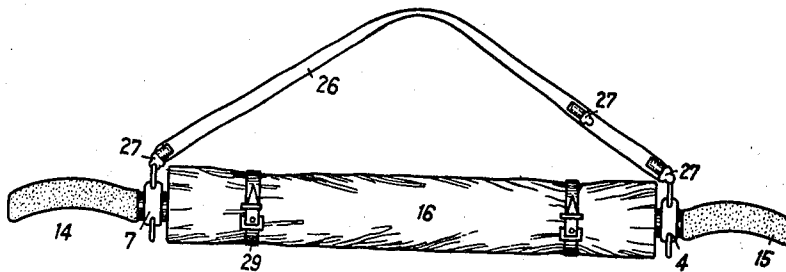


Fig. 2.

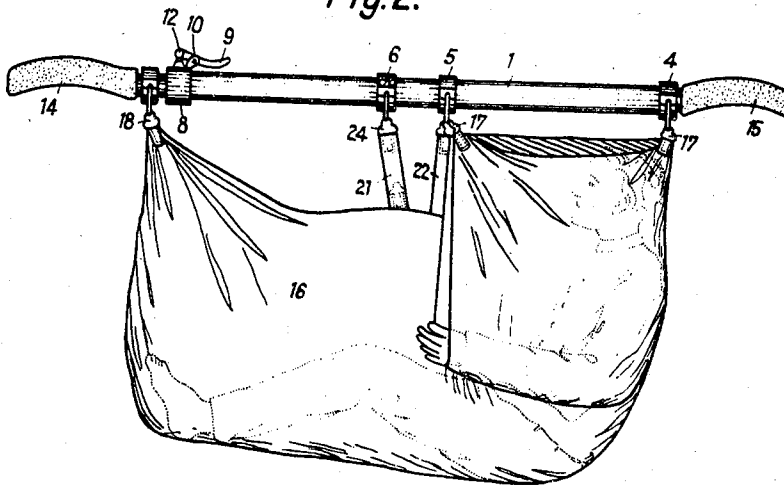
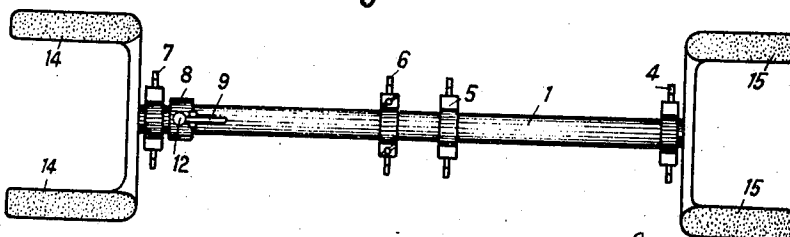


Fig. 8.



Inventors:
Siegfried Strauss,
Severin Gerschütz,
By *Kenneth O. Hoff* atty.

Nov. 12, 1929.

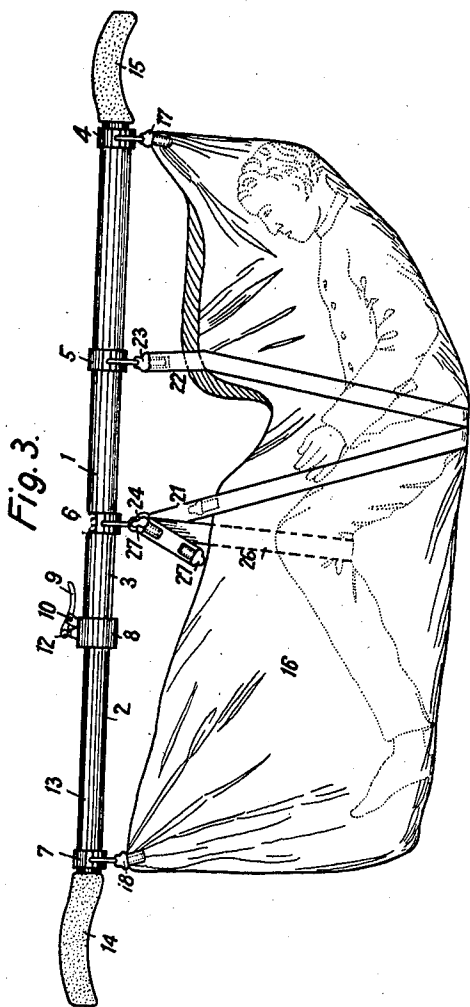
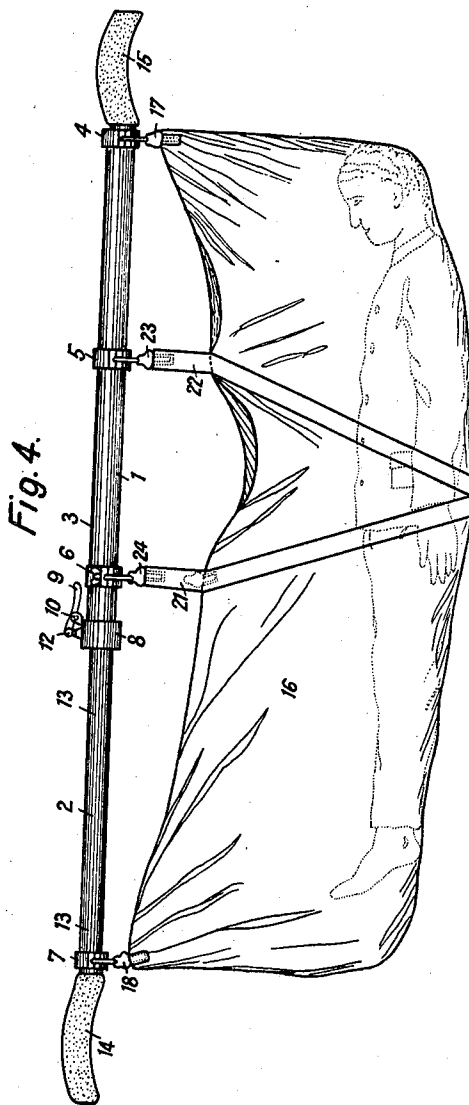
S. STRAUSS ET AL

1,735,552

HAMMOCK LITTER

Filed April 9, 1928

3 Sheets-Sheet 2



Inventors
Siegfried Strauss
Sverin Gerachitz
By Henry O. Smith atty.

Nov. 12, 1929.

S. STRAUSS ET AL

1,735,552

HAMMOCK LITTER

Filed April 9, 1928

3 Sheets-Sheet 3

Fig. 5.

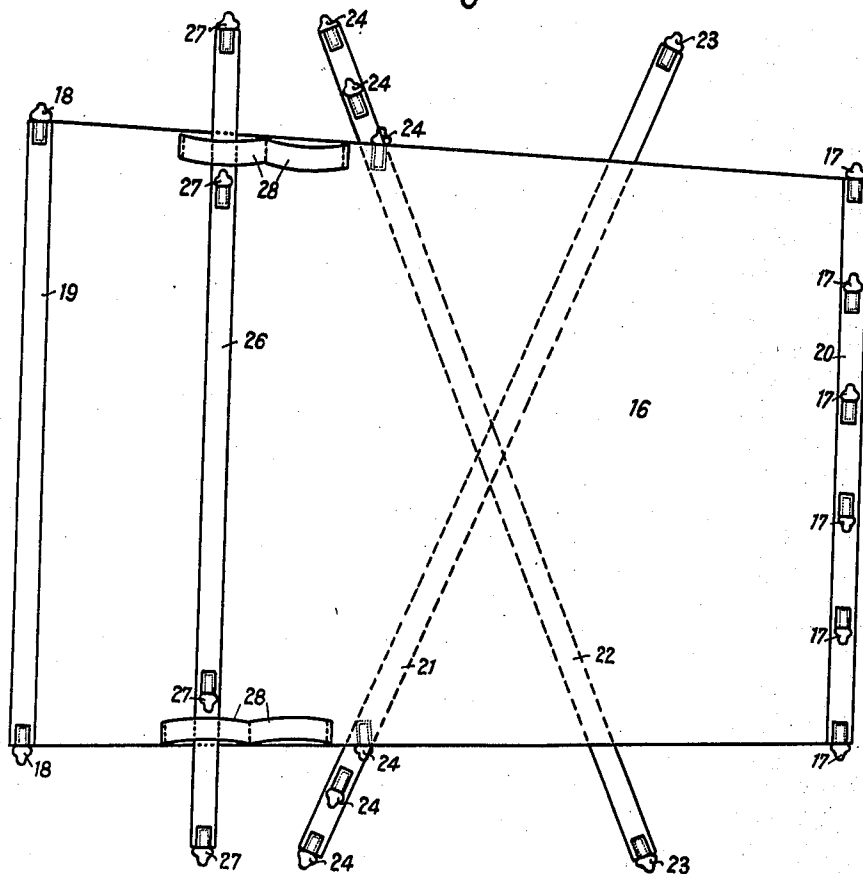


Fig. 6.

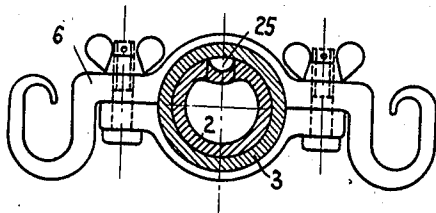
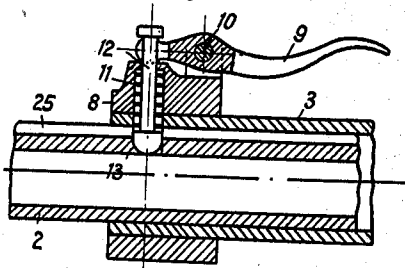


Fig. 7.



Inventors
Siegfried Strauss
Sverin Gerschütz
By Henry Orth atty.

UNITED STATES PATENT OFFICE

SIEGFRIED STRAUSS, OF WURZBURG, AND SEVERIN GERSCHÜTZ, OF STADTLAURINGEN,
GERMANY

HAMMOCK LITTER

Application filed April 9, 1928, Serial No. 268,557, and in Germany November 22, 1926.

Hammock litters are known, particularly those in which a canvas carrier is suspended from several points along a pole by means of bands (see German Patent No. 220362).

5 The object of the present invention is so to arrange the hammock, bar and supporting members that, by appropriate adjustment, persons suffering from any kind of injury are able to assume suitable positions in the
10 hammock according to the nature of their injuries; for instance a recumbent position, a sitting position (especially with a horizontal support for an injured arm), or a position with a support for the knees.

15 The new litter possesses at the same time all the advantages of the known hammock litters, and to some extent in a higher degree, inasmuch as its length can be shortened for use in the sitting position, thereby facilitating conveyance through narrow passages and round corners. A further feature is its very
20 simple manipulation, which enables it to be taken to the patient and adjusted easily and reliably to meet his needs of conveyance.
25 Further individual advantages will appear later.

To facilitate its shortening, the pole is telescopic (an arrangement already known in connection with hammocks not designed to
30 be used as litters), in order to adjust it to the varying stature of the users.

The disposition of the pole, the canvas carrier and the suspension means coact to attain the objects of the invention. The canvas may be a quadrangular piece of tent cloth, of sufficient width, however, to leave room—owing to the manner of folding—for the accommodation of the whole body of the patient in the sitting position in the trough
40 formed by the canvas, and to provide a support for the back; whilst, for conveyance in the recumbent position, the patient lies in the bottom of the trough. The primary supporting members comprise two laterally extending hooks, at the head and foot end respectively.
45 Between these, however, there are two other supporting members, one of which is adjustable and the other fixed, for the attachment of two or three carrier straps, and,
50 in particular, in conjunction with the speci-

fied shape of the canvas, enable the latter to be folded in a suitable manner for the recumbent or sitting position, or the position with a support for the knees. A further special feature consists in the arrangement of the
55 supporting members in connection with the shape of the canvas and its suspension. These supporting members are disposed so as to project, to a considerable extent, laterally of the pole, so that the sides of the canvas carrier hang down almost vertically, do not
60 exert any substantial lateral pressure on the body, and enable the method of folding, hereinafter described, to be carried out. In order to retain their position these supporting
65 members have to be secured to the pole by means which prevent them from tilting, and at the same time enable free adjustment on that portion of the pole in which the other
70 portion is adapted to telescope. In the simpler embodiments, this telescopic arrangement of the pole may be dispensed with, in certain circumstances; in which case, one or both of the end supporting members may be
75 adjustably mounted.

In the accompanying drawings Figures 1 to 6 illustrate the invention diagrammatically, Figure 1 showing a side elevation of the litter folded for transport, the hammock being wrapped round the pole and secured by
80 two straps 29, whilst a loose belt 26 serves as a carrying sling.

Figure 2 shows a side elevation of the litter in use, with a patient in a semi-sitting position, the pole 1 being in its collapsed and
85 therefore shortest condition, whilst the canvas of the hammock 16 is slung in such a way as to form a convenient support for the arms of the patient, at the proper level for that purpose—an arrangement of special importance
90 in the case of injured arms.

Figure 3 shows a side elevation of the litter with a patient in a three-quarter recumbent position, with the belt 26 passed loosely
95 through the loops 28 so as to support the knees of the patient in the raised position, the pole being partially extended.

Figure 4 shows a side elevation of the litter with a corpse or patient in full recumbent
100

position, the pole being extended to its full length.

Figure 5 shows the hammock canvas 16 spread out, and indicates the portions which are strengthened by the belts.

Figure 6 is an enlarged sectional elevation transversely of the pole showing a supporting member 6 for slinging the hammock 16; Figure 7 is an enlarged longitudinal section showing a fastening device for preventing the axial displacement of the parts of the pole; and Figure 8 is a plan of a pole with forked handles.

The adjustable litter comprises a pole 1, preferably consisting of two telescoping members, i. e. an outer tubular main portion 3 and an inner tubular auxiliary extensible portion 2. On the main portion 3 at and adjacent the ends thereof are mounted supporting members 4 and 6, and between the latter is mounted an intermediate supporting member 5. On the auxiliary portion 2 at the outer free end thereof is mounted a supporting member 7. Each of said supporting members consists of a collar having a laterally extending member in the form of a hook projecting on each side of the pole. The members 4, 5 and 7 are in fixed positions while the member 6 is adjustable to suit the stature and position of the occupant of the litter. The adjustable construction of the unit 6, i. e. two bowed members and clamping screws and nuts is shown in Figure 6. At the inner end of the tube 3 is disposed a strengthening collar 8, provided with a latching device comprising (see Figure 7) a lever 9, pivot pin 10, compression spring 11 and locking pin 12. By engaging any one of a row of holes such as 13, this device prevents the extensible portion 2 of the pole 1 from shifting in the longitudinal direction. The ends 14 and 15 of the pole can be forked in a known manner (see Figure 8). The canvas 16, preferably of tent cloth, is provided at its ends with eyes or rings 17 and 18 so that it may be suspended from the hooks of the laterally extending supporting members 4, 5, and 7, whilst belts 19 and 20 are attached for the special supporting and folding of the hammock; in addition, there are two diagonal belts 21 and 22 having eyes or rings 23 and 24, which strengthen the hammock very considerably at the main point of application of the load under the seat.

The method of using the new litter is as follows: The hammock 16 is spread out on the ground (Figure 5); the patient is laid or seated on it; the pole 1 is lengthened or shortened according to the pose or position in which the patient is to be conveyed, which is done by depressing the free end of the lever 9, thus drawing the locking pin 12 clear of the hole 13, and freeing the two members 2 and 3, whereupon they can be displaced relatively to one another in the longitudinal

direction until the locking pin 12 engages another hole 13. The tube 3 is prevented from turning by the fact that the pin 12 is drawn only just clear of the hole 13 and remains as a key in a longitudinal groove 25 machined in the tube 3. The eyes 17 and 18 are then attached to the hook units 4, 5 and 7 in accordance with the desired position; the loose belt 26 with the eyes 27 is passed under the knees of the patient and through the loops 28, as required, the knees being drawn up by attaching the rings 27 to the hooks of laterally extending supporting member 6.

What we claim is:

1. A hammock litter comprising a carrier pole, laterally extending supporting members mounted on the pole at the ends thereof, laterally extending supporting members mounted on the pole intermediate its ends, a flexible sheet, eyes on one end of the latter to which the supporting members at one end of the pole are connected, and a plurality of eyes extending across the other end of the sheet connecting the latter to both end and intermediate supporting members, whereby the sheet may be folded to form arm supports.

2. A hammock litter comprising a carrier pole, laterally extending supporting members fixed to the pole at the ends thereof, laterally extending supporting members connected to the pole intermediate its ends, a flexible supporting sheet, centrally arranged eyes at one end of the sheet connecting the latter to the supporting members at one end of the pole, and laterally arranged eyes at the same end of the sheet connecting the latter to the intermediate supporting members, whereby the sheet is folded to form arm supports.

3. A hammock litter comprising a carrier pole having a main portion and an auxiliary extensible portion movable longitudinally thereof, laterally extending supporting members fixed at the outer ends of the main and auxiliary portions, laterally extending supporting members fixed intermediate the ends of the main portion, a flexible supporting sheet, eyes on one end of the latter connecting the sheet to the end supports of the main portion and to said intermediate supports, and eyes on the opposite end of the sheet connecting the latter to the supports on the end of the auxiliary portion.

4. A hammock litter comprising a carrier pole having a main portion and an auxiliary extensible portion movable longitudinally thereof, laterally extending supporting members fixed at the outer ends of the main and auxiliary portions, laterally extending supporting members fixed adjacent the inner end of the main portion, a flexible supporting sheet, eyes on one end of the latter connected to the end supports of the main portion and to said intermediate sup-

ports, laterally extending supporting members adjustably mounted on the main portion, transversely extending belts attached to the sheet connected to said intermediate and adjustable supporting members, and
5 eyes on the opposite end of the sheet connecting the latter to the supports on the end of the auxiliary member.

10 5. A hammock litter comprising a carrier pole consisting of a main outer tube and an inner telescoping tube, collars fixed on the ends of the tubes having laterally extending supporting hooks, a collar fixed on the outer tube intermediate its ends and having laterally extending supporting hooks, a
15 collar adjustable on the outer tube having laterally extending supporting hooks, means to lock the tubes against relative longitudinal movement, means to prevent relatively rotary movement of the tubes, a flexible supporting sheet, eyes secured to one end of the latter connecting the sheet to the end supports of the inner tube, eyes secured to the other end of the sheet connecting the
20 latter to the end and intermediate supports on the outer tube, cross-straps fixed on the sheet connected to said intermediate and adjustable supporting hooks, and an adjustable limb supporting strap connected to said adjustable supports.

30 6. In a hammock litter, a carrier pole comprising a main outer tube, an inner telescoping tube having a longitudinal groove therein, a spring-actuated pin mounted in the outer tube extending into said groove to prevent relative rotation of the tubes, said
35 groove having a plurality of apertures to receive said pin to lock the tubes against relative longitudinal movement, and a lever for operating the pin against the action of the spring.

40 7. In a hammock litter, a carrier pole comprising a main outer tube, an inner telescoping tube having a longitudinal groove therein, a spring-actuated pin mounted in the outer tube extending into said groove to prevent relative rotation of the tubes, said groove
45 having a plurality of apertures to receive said pin to lock the tubes against relative longitudinal movement, a lever for operating the pin against the action of the spring, and a plurality of laterally extending supporting
50 hooks mounted on the tubes.

In testimony that we claim the foregoing
55 as our invention, we have signed our names this 21st day of March, 1928.

SIEGFRIED STRAUSS.
SEVERIN GERSCHÜTZ.