T. CRAWFORD.

AMBULANCE STRETCHER VEHICLE.

APPLICATION FILED JULY 25, 1917.

1,270,383.

Patented June 25, 1918.

4 SHEETS—SHEET 1.

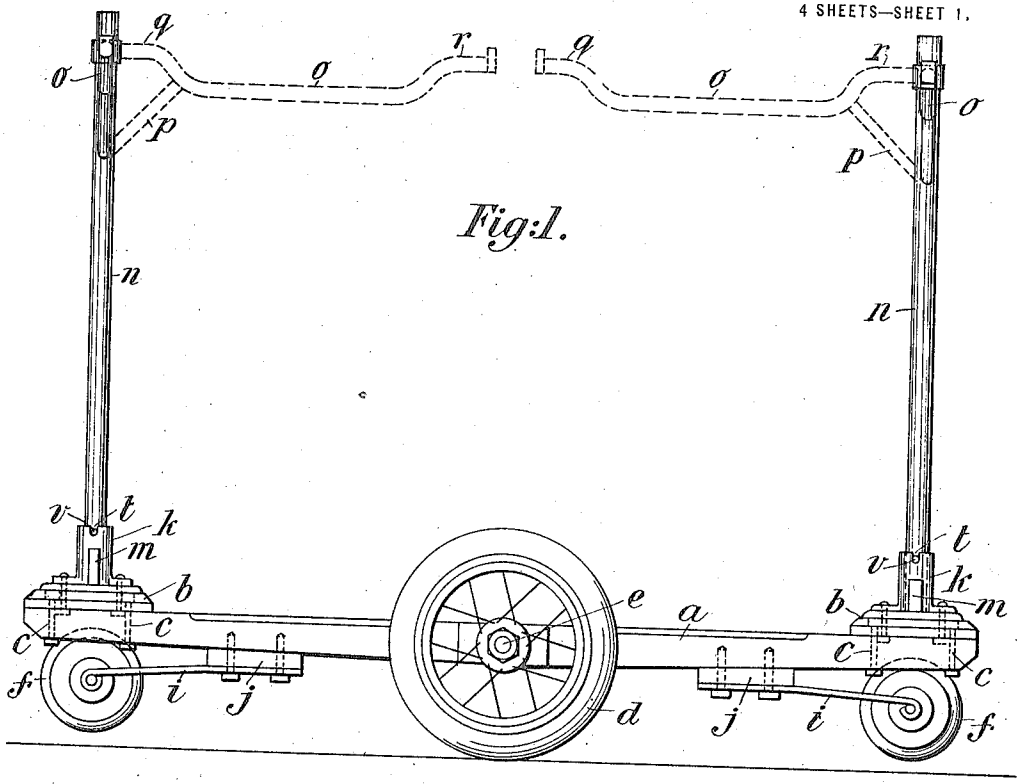


Fig:1.

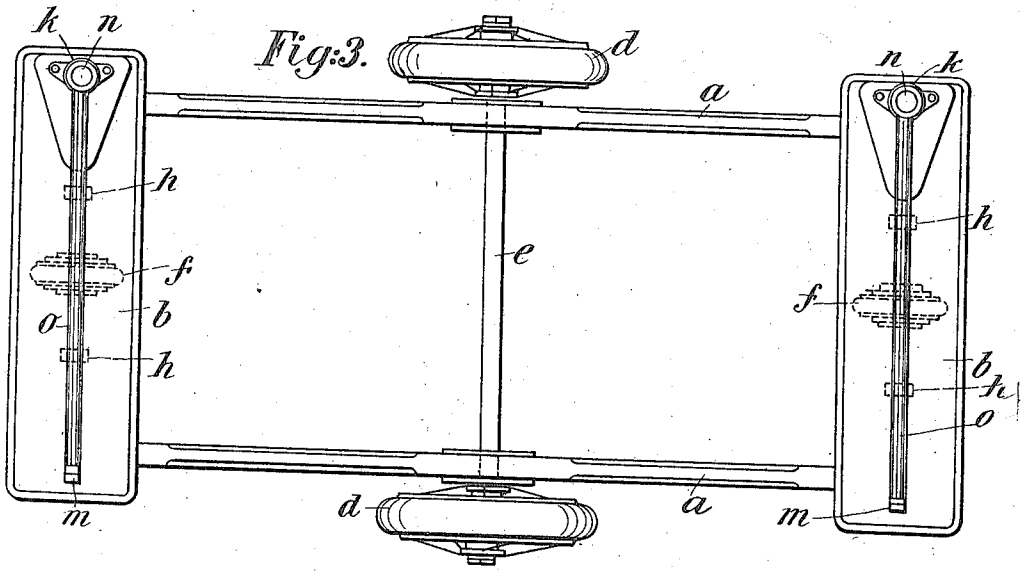


Fig:3.

Inventor:
Thomas Crawford.
by R. Walden
his Attorney.

T. CRAWFORD.

AMBULANCE STRETCHER VEHICLE.

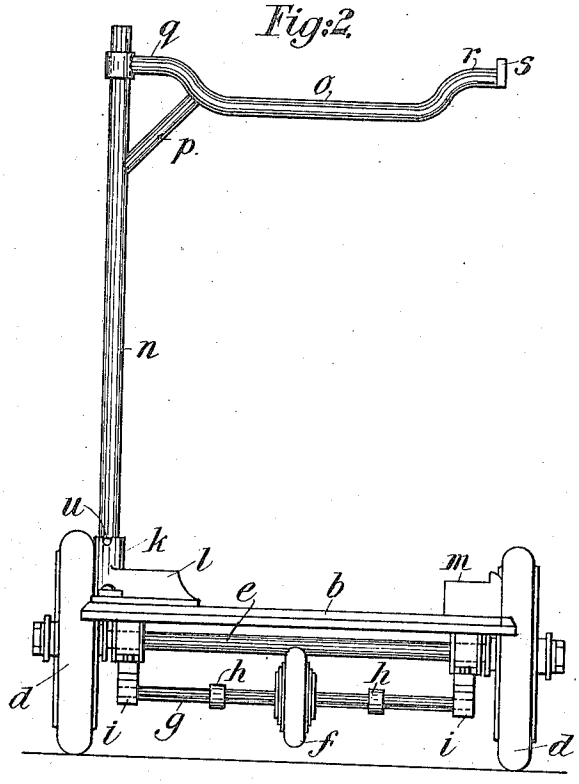
APPLICATION FILED JULY 25, 1917.

1,270,383.

Patented June 25, 1918.

4 SHEETS—SHEET 2.

Fig: 2.



Inventor
Thomas Crawford.
by R. Walden
his Attorney.

T. CRAWFORD.

AMBULANCE STRETCHER VEHICLE.

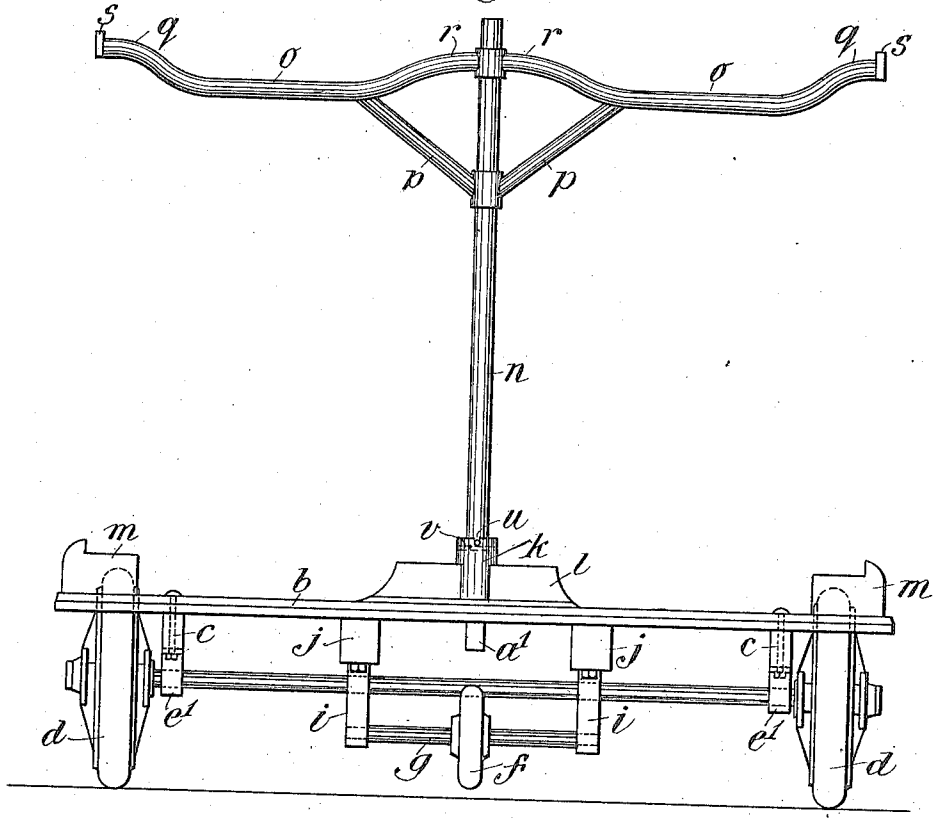
APPLICATION FILED JULY 25, 1917.

1,270,383.

Patented June 25, 1918.

4 SHEETS—SHEET 3.

Fig. 4



Inventor:
Thomas Crawford
by R. Hudson
his Attorney

T. CRAWFORD.

AMBULANCE STRETCHER VEHICLE.

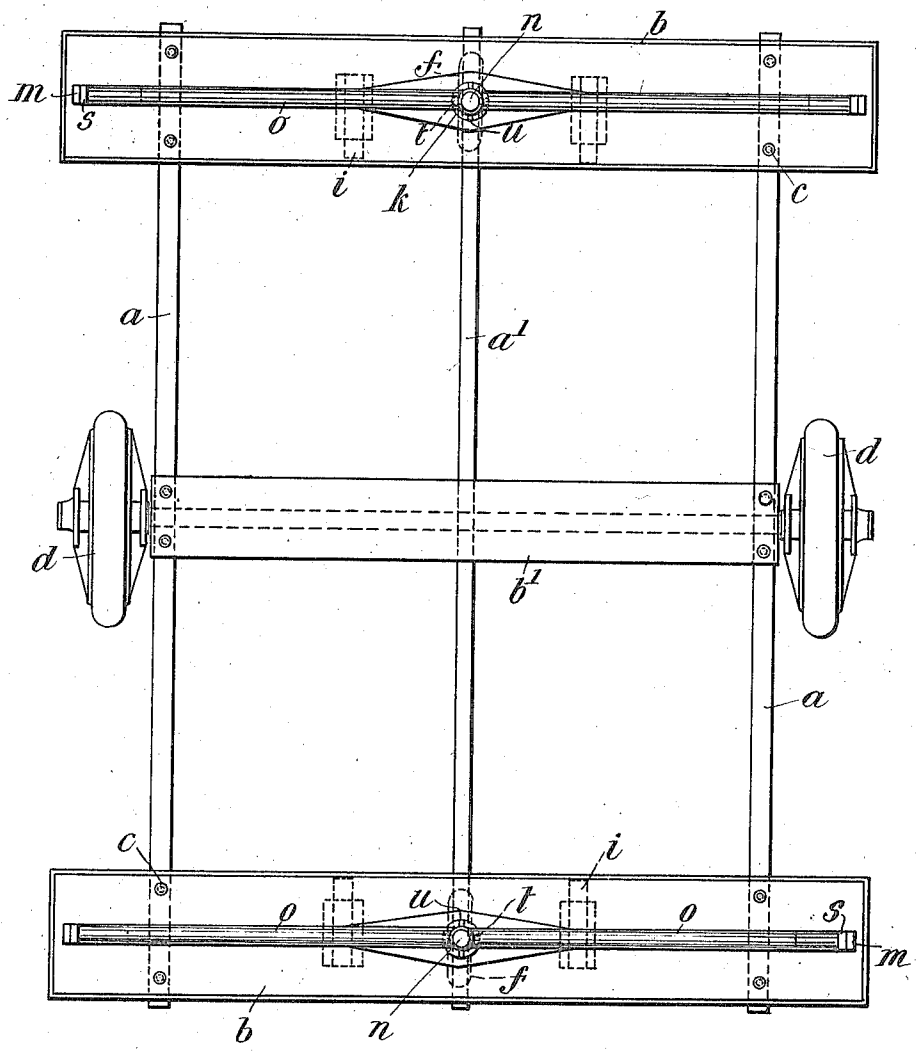
APPLICATION FILED JULY 25, 1917.

1,270,383.

Patented June 25, 1918.

4 SHEETS—SHEET 4.

Fig: 5.



Inventor:
Thomas Crawford
by R. Waddell
his Attorney.

UNITED STATES PATENT OFFICE.

THOMAS CRAWFORD, OF BRISTOL, ENGLAND.

AMBULANCE-STRETCHER VEHICLE.

1,270,383. Specification of Letters Patent. Patented June 25, 1918.

Application filed July 25, 1917. Serial No. 182,628.

To all whom it may concern:

Be it known that I, THOMAS CRAWFORD, a subject of the King of Great Britain and Ireland, residing at Bristol, county of Somerset, in England, have invented a certain new and useful Improved Ambulance-Stretcher Vehicle, of which the following is a specification.

This invention relates to stretcher vehicles of the type intended for manual propulsion, and comprises a wheeled frame on which are detachably mounted superimposed stretcher supports. The object of the invention is to provide a much simplified and highly efficient construction and one which, in use, will allow the patients to be readily tended to or fed while supported on the vehicle, and more easily and rapidly loaded or unloaded therefrom than has been the case with prior art constructions. The improved construction also provides for economy of space in storing the vehicles, since the supports can be secured to the frame of the vehicle and the same turned up on end one against the other in tiers, and again, in assembling or disassembling the parts, no bolts or other fixing elements have to be manually operated or manipulated, the supports alone being handled.

To these ends, the frame is mounted on wheels, preferably two side by side at or about its longitudinal center, and one at each end at or about the transverse center, these latter being carried by springs and mounted to enable the trolley to be easily steered or turned. The stretcher supports are preferably constructed on the cantaliver principle and comprise standards carrying horizontal arms or brackets extending therefrom, and formed either integral therewith or detachable therefrom.

Sufficient space is provided between the tiers of cantaliver brackets, and consequently between the superimposed stretchers, to allow of the patients on the lower stretchers being readily placed in position and removed, but, if necessary, the brackets can be swung to the longitudinal position to allow of this being done more easily, and, if desired, the space mentioned may be such as to permit of the patients being fed or otherwise attended to while on the stretchers carried by the vehicle.

The standards which support the stretcher carrying brackets are preferably maintained in upstanding position on the frame by sockets positioned on said frame, and in which sockets the standards are seated. Cotter-pins or equivalent means coöperate with the standards and with the sockets for the purpose of normally precluding rotary movement of the standards in the sockets. The brackets may be formed of steel tubing brazed to the standards, but they can also be made of malleable cast iron or other metal and slid into grooves in castings attached to the standards, or dropped over standards and held in position by cotter-pins extending from the standard. Other convenient means for the detachable mounting or erecting of the standards or brackets, or both, may be used, according to requirements or method of construction adopted.

The lower stretchers are supported by rests on the frame, certain of these being advantageously formed integral with the sockets above mentioned.

Two embodiments of the invention are represented in the accompanying drawings one form being shown in Figures 1 to 3 in side elevation, plan view and end elevation respectively which represent a simple and efficient construction for receiving two stretchers especially adapted for railway platform or hospital ward use and a second form for receiving four stretchers being illustrated in Figs. 4 and 5 of which Fig. 4 is an end elevation and Fig. 5 a plan.

To refer firstly to the construction of Figs. 1 to 3 the ambulance vehicle is shown comprising two side frames or runners *a*, as of hard wood, and two end cross frames *b* of similar material secured to the runners by bolts *c*, this frame structure being mounted on four wheels viz. two main supporting wheels one at each side provided with pneumatic tires and mounted on an axle *e* as of gas barrel or piping carried by the side runners *a*, and two other auxiliary running and steering wheels *f* also provided with resilient tires and each mounted to slide laterally on a spindle *g* within limits determined by stops *h* on said spindle, and the spindles being carried in a resilient manner as by steel springs *i* encircling the ends of the spindles and secured with interposed blocks *j* to the underside of the side runners *a* as by screws.

Secured to the upper surface of each of the cross frames *b* at one side thereof is a socket *k* for instance of cast iron having formed integrally therewith a

stretcher rest *l* which coöperates with another rest *m* at the opposite side of the frame to support a stretcher, the said latter rest being conveniently of wood and also secured to the cross frame. The said sockets each receives a vertical standard *n* preferably formed of steel tubing the upper end of which has attached thereto, as by a brazed joint, a horizontal bracket or arm *o* also conveniently of steel tubing, the connection being strengthened if required by an inclined strut *p*. The bracket *o* is by preference as shown bent to produce stretcher resting surfaces *q* and *r* on its surface.

The ends of the arms have projections *s* to prevent the stretcher slipping off sidewise.

The upper edge of the socket *k* is provided with two notches or depressions *t* and *u* into either one of which a cotter pin *v* or equivalent extending from the standard may engage to hold said standard against axial rotation either with the bracket in the position shown in full lines in Fig. 3 for reception of a stretcher or in the position shown in broken lines in Fig. 1 where the brackets are swung inward for convenience in loading or unloading the lower stretcher.

To now refer to the construction shown in Figs. 4 and 5 the frame structure is formed similarly to that above described, but in addition is provided with one additional longitudinal runner a^1 and a central cross frame b^1. The main wheel axle *e* is also here supported by brackets or hangers e^1 carried by suitable shackles or the like and the steering wheels *f* are mounted on short axles *g* carried on steel springs *i* depending from wood blocks *j* fixed to the end cross frames.

The sockets *k* are in this construction attached to the end cross frames at the longitudinal center of the vehicle and have stretcher rests *l* cast on as shown. The sides of the sleeve are slotted as at *t*—*u* to receive a cotter-pin extending through the standard to hold the latter against axial rotation. The standards can thus be slipped into and out of the sockets with ease and held securely in the desired position. The said sockets each receive a vertical standard *n* preferably formed of solid steel the upper end of which has attached thereto as by brazed joints two horizontal brackets or arms *o* formed preferably of steel tubing, the connections being strengthened if required by inclined struts *p*. The brackets *o* are by preference shaped as shown, being bent to produce stretcher resting forms on their upper surfaces. The ends of the arms have projections *s* to prevent the stretcher slipping off sidewise.

With this construction it will be seen that the brackets and standards can be readily dismounted from the sockets and fixings can be provided on the bed of the trolley transporter to take the standards when dismounted so that a number of vehicles can be stored in a very small space in tiers or on end. It will also be seen by this construction that the re-assemblage of the parts is capable of rapid performance.

Vehicles or trolleys as above described and illustrated present many advantages for dealing with patients among which may be mentioned the saving of labor, since one person can convey a number of patients from one point to another, for instance from an ambulance, boat or train to a transport or vice-versa instead of two persons to each stretcher being required when the patients are carried on stretchers by hand. The cantaliver principle of stretcher-supporting brackets employed avoids the tilting of the trolley even when the same is loaded on one side only, and saving of space, time and labor is effected by the detachable nature of the standards and brackets which permit of them being dismounted without the use of tools.

I do not limit myself to the exact construction or arrangement of parts hereinbefore described since the same may be varied within the limits prescribed by the appended claims without departing from the spirit of the invention.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. A stretcher vehicle embodying a base frame mounted on a plurality of wheels, a stretcher support formed on said base frame, a socket at each end of said base, vertical standards seated in said sockets, and laterally extending cantaliver arms mounted on said standards, said cantaliver arms serving to support a stretcher above the stretcher adapted to be supported by the base frame, and said standards being rotatable to bring the cantaliver arms into substantial alinement, when the upper stretcher is removed therefrom, to allow the stretcher supported upon the base frame to be removed therefrom or replaced thereon without interference by the cantaliver arms.

2. A stretcher vehicle embodying a base frame mounted on a plurality of wheels, a stretcher support formed on said base frame, a socket at each end of said base, vertical standards seated in said sockets, laterally extending cantaliver arms mounted on said standards, said cantaliver arms serving to support a stretcher above the stretcher adapted to be supported by the base frame, and said standards being rotatable to bring the cantaliver arms into substantial alinement, when the upper stretcher is removed therefrom, to allow the stretcher supported upon the base frame to be removed there-

from or replaced thereon without interference by the cantaliver arms, and means for locking the standards against rotation while the upper stretcher is supported on the cantaliver arms.

3. A stretcher vehicle embodying a wheeled base, a plurality of stretcher supports mounted upon the wheeled base for supporting a stretcher directly thereon, a plurality of standards positioned in upstanding relation on said base and mounted for axial rotation, each of said standards being provided with a laterally extending cantaliver arm, which arms serve to support a second stretcher above the one supported by the base, and means for locking the standards against rotation when the upper stretcher is supported thereby, said standards being adapted to be released and rotated to bring the cantaliver arms into substantial alinement, when the upper stretcher is removed, to allow of the removal of the lower stretcher without interference by said cantaliver arms.

4. A stretcher vehicle embodying a wheeled base provided with means for carrying a plurality of stretchers directly thereon, standards rotatably mounted in upstanding position on said base, and each of which is provided with oppositely extending lateral arms, which arms are adapted to support stretchers above those supported directly upon the base, and means for locking the standards against rotation while the upper stretchers are supported thereby, said standards being rotatable, after the upper stretchers are removed, to a position wherein the normally laterally extending arms of both standards are in substantial alinement, whereby the lower stretchers may be removed without interference by said arms.

5. A stretcher vehicle embodying a base frame mounted on a plurality of wheels, a stretcher support formed on said base frame, a socket at each end of said base, vertical standards detachably seated in said sockets, and laterally extending cantaliver arms mounted on said standards, said cantaliver arms serving to support a stretcher above the stretcher adapted to be supported by the base frame, and said standards being rotatable to bring the cantaliver arms into substantial alinement, when the upper stretcher is removed therefrom, to allow the stretcher supported upon the base frame to be removed therefrom or replaced thereon without interference by the cantaliver arms, the standards being removable from the sockets, when the vehicle is not in use, to allow of the compact storing of a plurality of such vehicles.

In witness whereof I have signed this specification in the presence of two witnesses.

THOS. CRAWFORD.

Witnesses:
HENRY HOWE,
G. W. D. CARRIE.

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