

C. H. TOMPKINS.

2 Sheets—Sheet 1.

Ambulance.

No 57,013.

Patented Aug. 7, 1866.

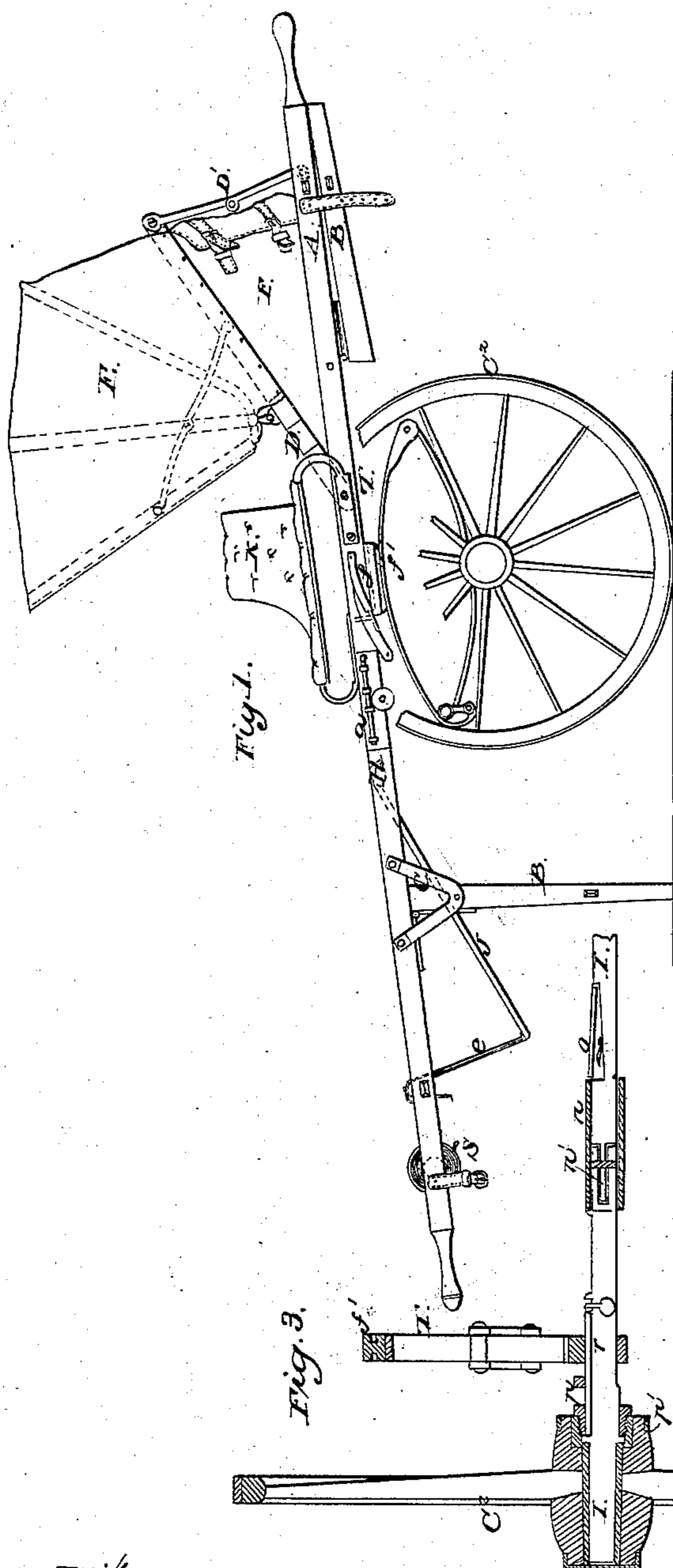


Fig. 1.

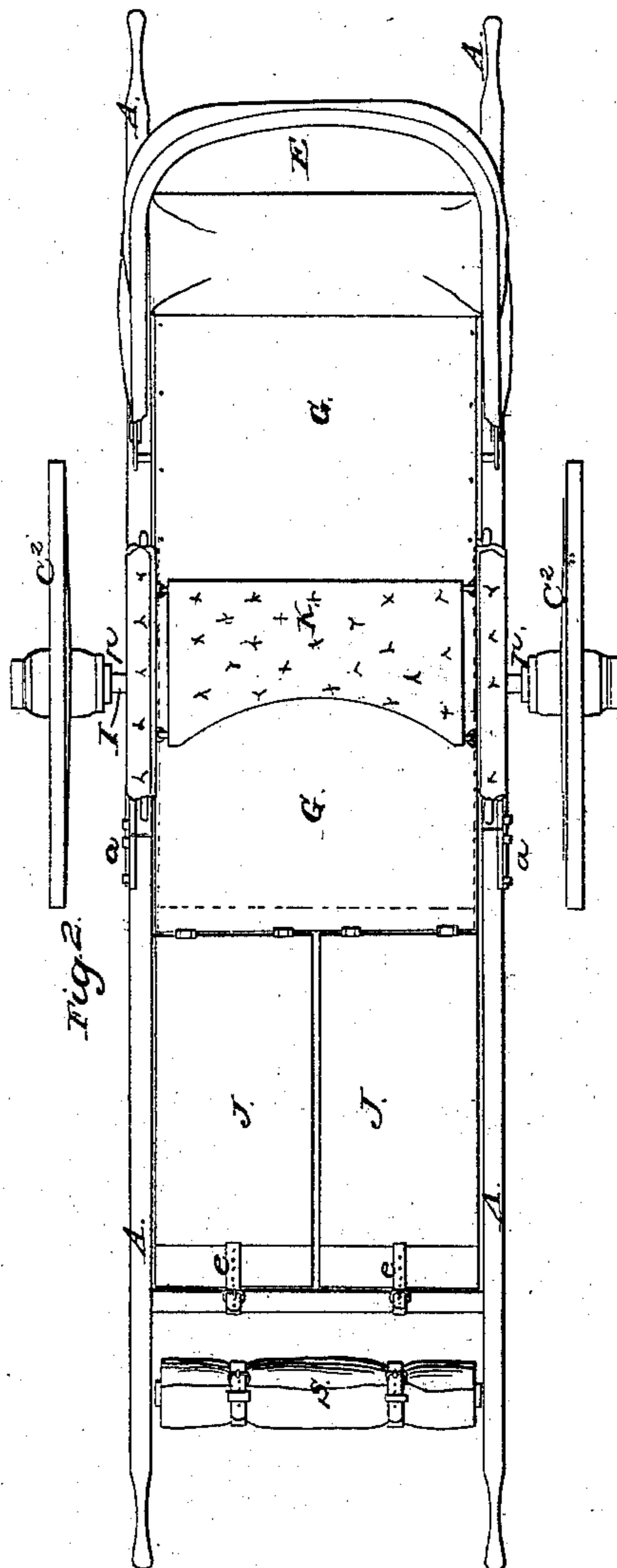


Fig. 2.

Fig. 3.

Witnesses.
R. C. Campbell
J. W. Schuyler
Gordon B. Arliss

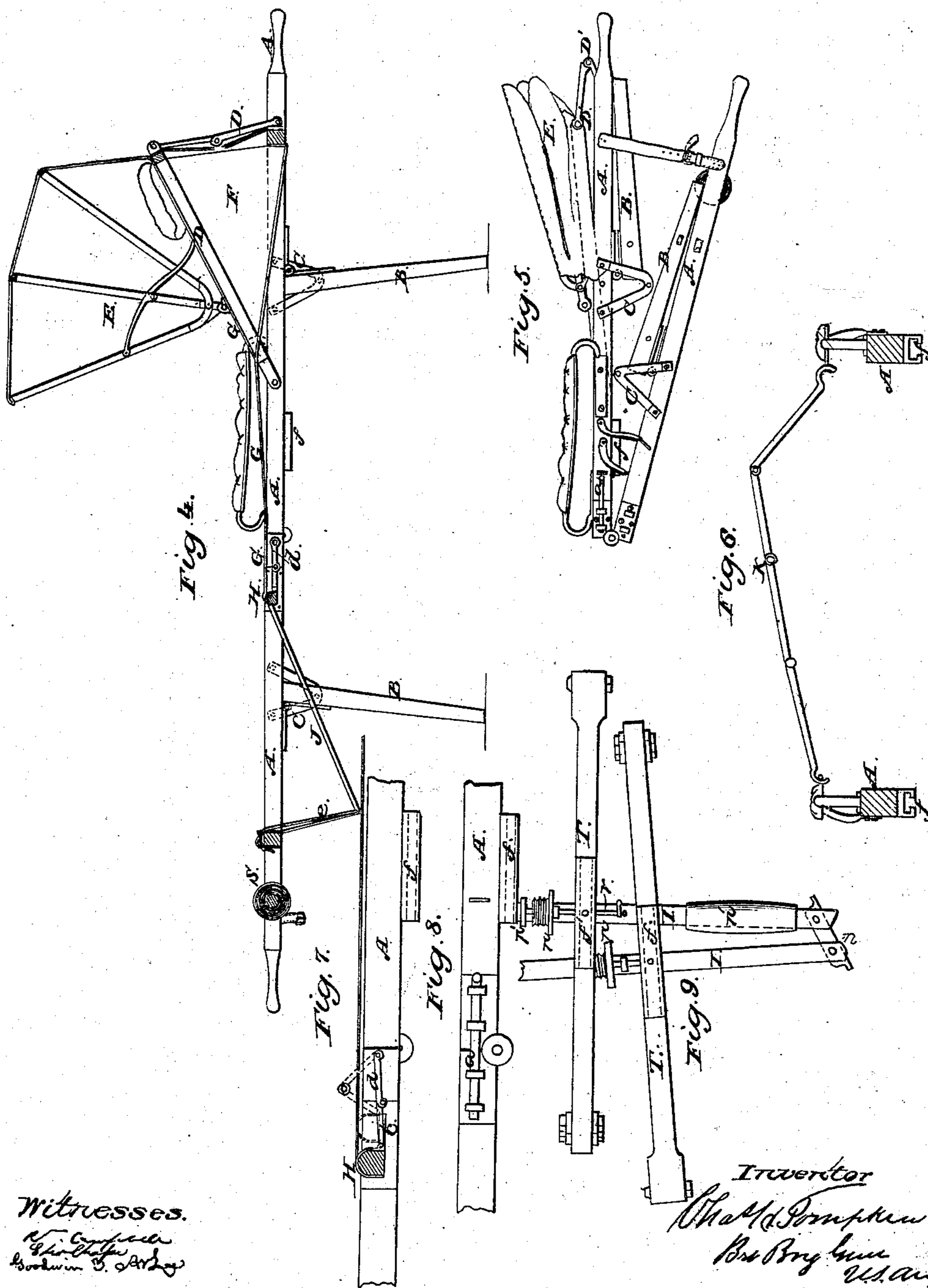
Inventor:
Charles Tompkins
By B. B. Linn
U. S. Atty.

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Witnesses.
R. C. Conner
Wm. B. Ardy

Inventor
Chas. H. Tompkins
Per Bryan
U.S. Atty.

UNITED STATES PATENT OFFICE.

CHARLES H. TOMPKINS, OF UNITED STATES ARMY.

IMPROVEMENT IN STRETCHERS.

Specification forming part of Letters Patent No. 57,013, dated August 7, 1866.

To all whom it may concern:

Be it known that I, CHARLES H. TOMPKINS, of the United States Army, now residing at Washington city, District of Columbia, have invented a new and Improved Stretcher; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, Sheet 1, is an elevation of one side of the stretcher when mounted upon wheels. Fig. 2, Sheet 2, is a plan view of Fig. 1. Fig. 3, Sheet 2, is a diametrical section through one of the carriage-wheels and a portion of its folding axle. Fig. 4, Sheet 2, is a longitudinal section taken vertically through the center of the stretcher when it is mounted upon its legs, the wheels and axle being detached. Fig. 5, Sheet 2, shows the stretcher folded for transportation. Fig. 6, Sheet 2, is a vertical transverse section through the stretcher-frame, showing the arched flexible arm-rest frame. Fig. 7, Sheet 2, is a sectional view, in detail, of the adjustable bar for tightening or loosening the canvas bottom. Fig. 8 is a view, in detail, showing one of the bolt-fastenings of the folding stretcher-frame. Fig. 9 is a top view of the axle and its springs folded for packing away.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements in the construction of stretchers which are particularly designed for the safe and comfortable transportation of wounded soldiers from the battle-field to the hospital, or to some other convenient locality where they can receive proper attention.

The main object of my invention is to so construct a stretcher that it can be adjusted and adapted to afford support and the greatest possible comfort to wounded limbs or other parts of the body which may be wounded; at the same time provision is made for folding the several parts of the stretcher into a very compact space, so as to occupy the least amount of space when packed away, as will be hereinafter described.

Another object of my invention is to so construct a stretcher that it can be quickly mounted upon wheels and springs, and readily converted into a light and portable ambulance when it is necessary to move the sick and wounded con-

siderable distances and other means of transportation are not at hand, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents the stretcher-frame, which is constructed of longitudinal pieces of suitable length secured together by transverse bars, so as to afford strength and lightness. The extremities of the longitudinal bars of this frame have handles formed on them, so that two persons can conveniently carry a third person lying upon the canvas bottom, which is supported between said bars. This stretcher-frame is divided centrally and hinged together, so that it can be folded as shown in Fig. 5. When unfolded, two sliding bolts, *a a*, are applied to the hinged ends of the longitudinal bars for the purpose of rendering the joint inflexible and keeping the frame in the position shown in Figs. 4, 7, and 8. The frame A is also provided with legs B B, two in front and two behind, which are hinged to the bottom edges of their respective longitudinal bars so as to fold outward, as shown in Figs. 1 and 5. When these legs B are adjusted so as to afford a support for the frame A, they are confined in such position by means of V-shaped braces C C, that are made of spring-metal and adapted for receiving pins, which project from the legs B, as shown in Figs. 1, 4, and 5. These braces C are secured to the outer sides of the longitudinal bars of frame A, so that by pressing their lower ends outward laterally they will receive or release the pins or studs which project from the legs.

A short frame, D, consisting of two longitudinal bars which are connected together near their rear ends by a transverse bar, is pivoted at its front end to the longitudinal bars of the frame A, in rear of the joints of this frame, as shown in the drawings. This frame D has two jointed braces, D' D', applied at its rear end, for supporting it in the inclined position shown in Figs. 1 and 4, or for allowing it to be adjusted to a horizontal position, (shown in Fig. 2,) in which latter position its rear end rests upon the rear cross-bar of frame A. To this hinged frame D, I apply a folding cover, E, corresponding somewhat in shape and construction to the folding top of a buggy. This top or cover may be thrown

back, as shown in Fig. 2, when it is not required, and it can be erected or folded whether the frame D be in an inclined or a horizontal position. Beneath this frame D is a space, which may be inclosed by cloth or canvas, so as to form a pocket or receptacle, F, for containing such articles as are required in the field for the comfort of the wounded.

The canvas bottom G is secured to the side and cross bars of frame D at one end, and to a transverse bar, H, at the other end. The ends of this bar H are inserted into longitudinal grooves *c*, which are formed in the side bars of frame A, so as to allow this bar to be moved back and forth for the purpose of causing the bottom G to bag more or less, or to bring it to a straight position, as may be required. Two jointed braces, *d d*, are applied to the bar H, for keeping the canvas bottom G tight when it has been properly stretched, as shown in Fig. 4.

Two leg-supports, J J, are suitably hinged to the bar H at one end, and supported at their opposite ends by means of straps *e e*, which are attached to the cross-bar of frame A by means of buckles, as shown in Figs. 1, 2, and 4. By means of said straps *e e* either one or both of the leg-rests can be adjusted and secured either in a horizontal position or at any desired angle of inclination. In cases of leg or thigh fractures the supports J J will admit of a limb being supported in the best and most comfortable position for transportation of the person.

On the sides of the stretcher, near the inclined frame D, are two hand-rails having eye-pieces projecting from them for receiving and holding in place a flexible arm-rest, K. This arm-rest is made up of jointed rods, as shown in Fig. 6, which are suitably covered and cushioned, so as to form a comfortable support for wounded arms of persons lying upon the stretcher. When the arm-rest is properly applied to the rails its jointed rods or frame is so constructed that it forms an arch over the person, and can be adjusted so as to support either the right or left arm, or both arms, as circumstances may require.

Near the foot-bar of frame A is a roller, S, around which is wound a piece of cloth, which is designed to serve as a covering for a person lying upon the stretcher. When a cover is not required it is wound upon the roller S, and strapped thereon, so as to be out of the way, and handy when required.

Two metallic blocks, *ff*, are securely bolted to the lower edges of the longitudinal bars of frame A at a suitable point, which blocks have longitudinal T-shaped grooves formed in them for receiving correspondingly-shaped tenons, which are formed on the spring-blocks *f' f'*. These latter blocks are rigidly bolted to the elliptic springs T T, which are secured to the axle I of two transporting-wheels, C² C².

The axle I is constructed of two parts, which are hinged together by means of a link, *n*, so that this axle, with its springs, can be folded,

as shown in Fig. 9. The sliding collar *n'* is used for stiffening the joints of the axle when it is unfolded and straightened, as shown in Fig. 3. A latch, *o*, keeps the collar *n'* in its place and admits of its being slipped to one side of the joint when required.

The wheels C² are constructed with hub-boxes, in the usual manner; but, instead of having the skeins or ends of the axles to pass through the hubs and receive nuts on them in the usual manner, I provide the outer ends of the hubs with covers or caps, and secure the wheels upon their axle by means of screw-collars *p p*, which are applied inside of the shoulders *p'* on the axle, and allowed to turn freely and also to have endwise play. These screw-collars have male screws formed on them, which enter female screws cut in the hub-boxes, and thus attach the wheels to the axle.

Sliding bolts *r r* are applied to the axle I, as shown in Figs. 3 and 9, which, when moved outward, will enter recesses formed in the collars *p p*, and hold these collars so as to allow their wheels to be applied to or removed from the axle. The collars turn with the wheels when they are not arrested by the bolts.

By this simple mode of applying the carriage-wheels to their axles no inconvenience will arise from loss of nuts and washers or tools for removing or applying the wheels.

The axle-tree and its springs are to be removed from the frame A when this frame is folded, as shown in Fig. 5, or when the stretcher is used, as shown in Fig. 4.

When the axle-tree is applied to the stretcher the two blocks *f f'* should be prevented from slipping apart by the insertion of a bolt or pin through them, which should be attached, by a strap or otherwise, permanently to the stretcher-frame.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The frame A of a hand-carriage stretcher, constructed with a transverse joint, which is provided with bolts *a a* for stiffening it, and is also constructed with hinged legs B B, and with jointed leg-rests J J, which are adjustable, and with a head-rest, D, which is also adjustable, all substantially as herein described, and for the purposes set forth.

2. The open hand-carriage stretcher-frame A, in combination with the adjustable divided leg-rests J J and sliding bottom G, substantially as and for the purpose set forth.

3. Attaching the canvas bottom G at one end to the hinged frame D, and at the other end to a sliding bar, H, having locking-braces *d d*, or their equivalents, applied to it, substantially as described.

4. The combination of the jointed supports D', adjustable head-rest D, and the jointed stretcher-frame A, substantially in the manner and for the purposes described.

5. The application of a flexible arm-rest, K, to the stretcher, substantially as described.

6. The hand-carriage stretcher-frame A, con-

structed with a transverse joint near its middle, with an adjustable bottom, G, and with adjustable and sectional rests J J, for the legs of a person, substantially in the manner and for the purpose described.

7. Connecting the stretcher to transporting-wheels by means of the sliding fastening, or its equivalent, which is so constructed that the wheels can be attached or detached at pleasure, as set forth.

8. Constructing the axle-tree of the carriage-wheels of the stretcher of folding sections

jointed together and provided with means for stiffening the joints, substantially as described.

9. Attaching the carriage-wheels to the loose screw-collars *p p* upon the axle-tree so that these wheels can be removed or applied at pleasure without the use of detachable nuts or other similar devices, substantially as described.

CHAS. H. TOMPKINS.

Witnesses:

GOODWIN Y. AT LEE,
W. H. HILDRETH.