No. 769,579. PATENTED SEPT. 6, 1904.

S. A. WRIGHT & E. E. McMAHAN.

ADJUSTABLE SURGICAL COT.

APPLICATION FILED OCT. 12, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

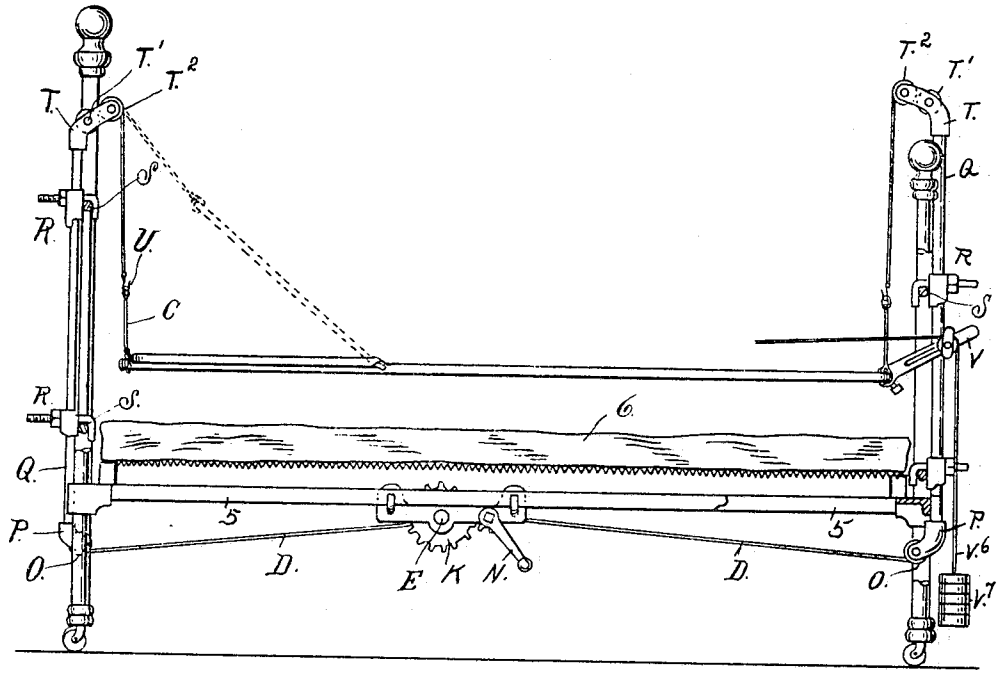



Fig. 1.

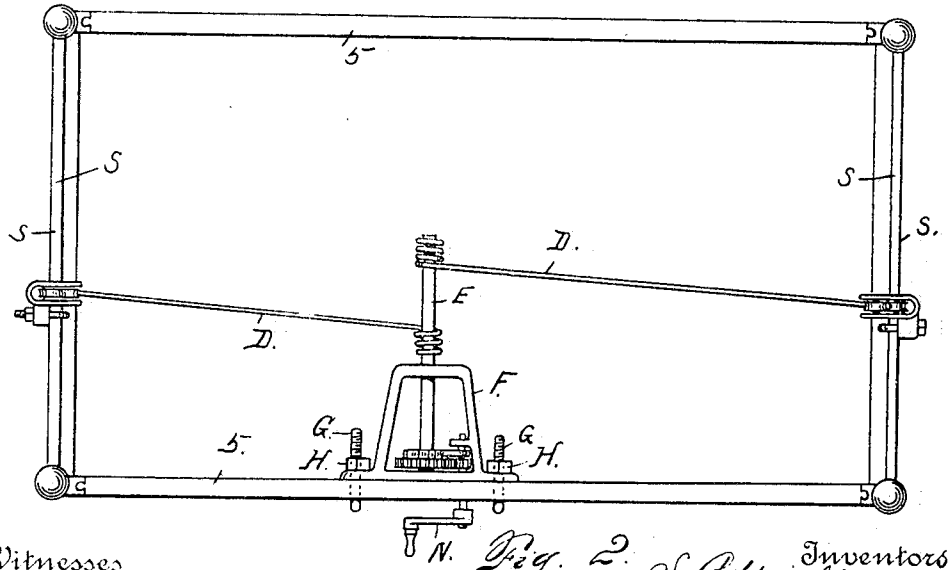



Fig. 2.

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NO MODEL. 2 SHEETS—SHEET 2.

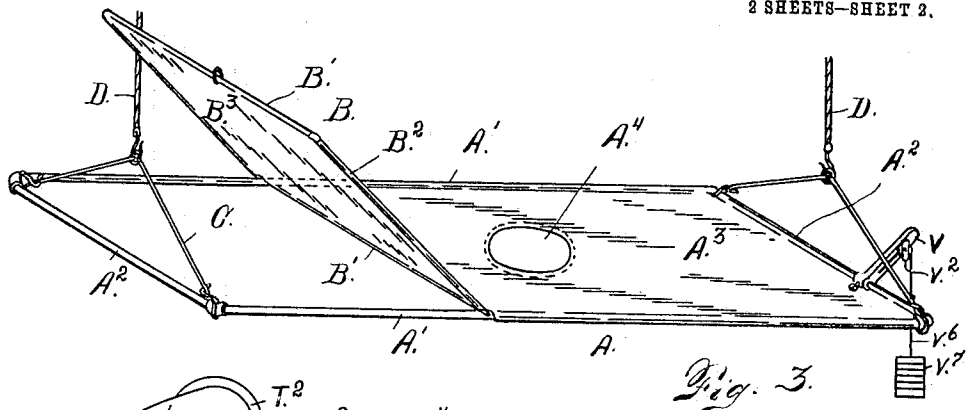



Fig. 3.

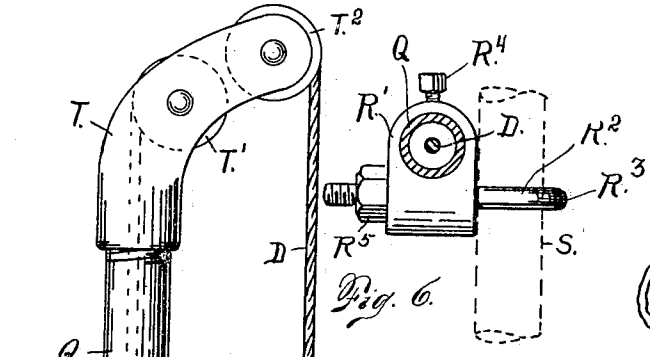



Fig. 6.

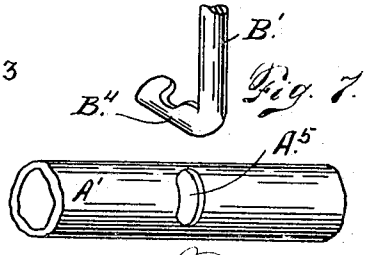



Fig. 7.

Fig. 8.

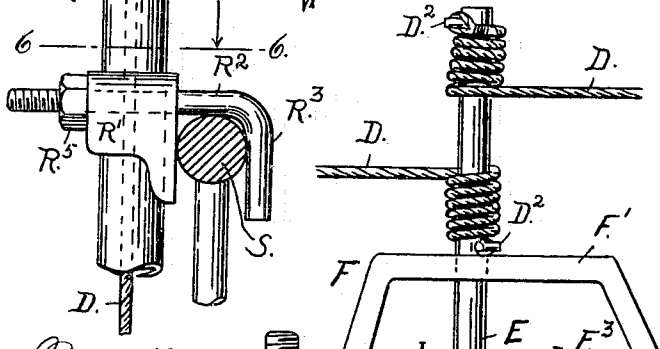



Fig. 5.

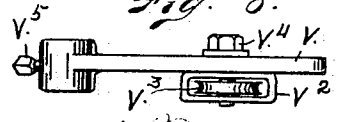



Fig. 10.

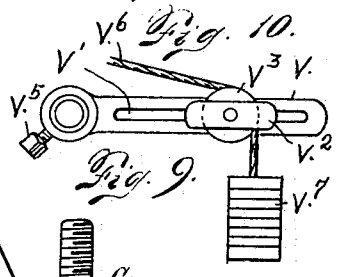



Fig. 9.




Fig. 4.

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No. 769,579. Patented September 6, 1904.

# UNITED STATES PATENT OFFICE.

SAMUEL A. WRIGHT, OF LOVELAND, AND EDDIE ERNEST McMAHAN, OF COLORADO SPRINGS, COLORADO.

## ADJUSTABLE SURGICAL COT.

SPECIFICATION forming part of Letters Patent No. 769,579, dated September 6, 1904.

Application filed October 12, 1903. Serial No. 176,750. (No model.)

*To all whom it may concern:*

Be it known that we, SAMUEL A. WRIGHT, residing at Loveland, in the county of Larimer, and EDDIE ERNEST McMAHAN, residing at Colorado Springs, in the county of El Paso, State of Colorado, both citizens of the United States of America, have invented certain new and useful Improvements in Adjustable Surgical Cots; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in surgical cots, our object being to provide an apparatus of this class adapted for use with any bedstead.

Our further object is to provide an apparatus whereby the patient lying upon the bed may be elevated to any desired height without in any way disturbing him.

This device is of special importance for use with persons who have undergone surgical operations or who have been seriously injured, since, as before stated, the platform upon which they lie may be raised a suitable distance without any inconvenience whatever to the patient when for any reason it may be necessary to raise him.

The device proper consists of a rectangular skeleton frame the bars of which are provided with a canvas upon which the patient lies. This canvas is in direct contact with the bed normally and is therefore no inconvenience to the patient. There is an opening in the canvas, beneath which a bed-pan may be placed after the device is raised. The head of the frame is provided with a hinged auxiliary frame adapted to be elevated at one end, whereby the head and shoulders of the patient may be raised to a convenient position when he desires to sit up.

Suitable hoisting mechanism is connected with the cot proper for raising the same as aforesaid. When the cot is lying upon the bed and it becomes desirable to elevate the auxiliary frame at the head of the bed, the hoisting apparatus at one end of the bed may be connected with the auxiliary frame, whereby the latter may be tilted to occupy any desired inclination which may be found convenient or necessary for the comfort of the patient.

Having briefly outlined our improved construction as well as the function it is intended to perform, we will proceed to describe the same in detail, reference being made to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is a side view of an ordinary bed equipped with our improved apparatus. Fig. 2 is a top view of the same. Fig. 3 is a perspective view in detail illustrating the cot proper together with the hoisting-ropes which are connected with the extremities of the cot-frame. Fig. 4 is a top view, on an enlarged scale, of the operating mechanism for performing the hoisting function. Fig. 5 is a fragmentary view, on an enlarged scale, showing the manner of clamping the hollow vertical bar through which the hoisting-rope passes. Fig. 6 is a section taken on the line 6 6, Fig. 5, looking downwardly or in the direction indicated by the arrow. Figs. 7 and 8 are detail views, on an enlarged scale, illustrating the interlocking connection of the auxiliary tiltable frame of the cot with the main parallel side bars. Figs. 9 and 10 are side and top views in detail, on an enlarged scale, illustrating the attachment for the foot-bar of the cot-frame, whereby the limb of the patient may be stretched by means of a weight, if desired.

The same reference characters indicate the same parts in all the views.

Let A designate the cot proper considered in its entirety. This cot is composed of parallel side bars $A'$, parallel end bars $A^2$, and a piece of canvas $A^3$, connected with the side bars and provided with an opening $A^4$ for the purpose heretofore indicated. The forward portion of the side bars $A'$ are not connected with the canvas $A^3$, which only extends slightly beyond where an auxiliary frame B is connected with the side bars $A'$. The part B con-

sists of a U-shaped frame composed of parallel bars B′ and B′ and an end bar $B^2$. This frame is covered with canvas $B^3$. The rear extremities of the bars B′ are hinged in any suitable manner to the side bars A′, the object being, as heretofore outlined, to raise the head or shoulders of the patient when for any reason it may be necessary.

Figs. 7 and 8 show a special construction for connecting the bars B′ to the bars A′. In this construction each bar A′ is hollow and provided with an elongated slot $A^5$, into which the hooked end $B^4$ of the bar B′ is inserted in such a manner that when the tiltable frame is in use it is interlocked with the frame-bars A′ and can only be removed by turning it practically to the vertical position, when the hooked parts $B^4$ will be in position to be lifted out of the slot $A^5$.

Each of the end bars A′ and $A^2$ of the cot is provided with a rope C or other suitable flexible device, with which a lifting rope or cable D is connected, as hereinafter explained more in detail.

The cot is raised through the instrumentality of an operating-shaft E, journaled in a frame F, which is clamped to one of the side rails 5 of the bedstead. The frame F consists of a horizontally-disposed yoke F′, provided with a base $F^2$, through which are passed clamping-bolts G, provided with upturned extremities G′, adapted to clamp the rail 5 on the outside. These clamping-bolts are tightened upon the rail by means of nuts H, which are screwed thereon as tightly as may be desired. The base $F^2$ of the frame F is provided with an auxiliary arm $F^3$, upon which is mounted a dog I, which engages a ratchet-wheel J, fast on the winding or operating shaft E. Also fast on the shaft E is a gear K, which meshes with a pinion L, fast on a shaft M, provided with a hand-crank N.

Each of the ropes or cables D which are connected with the head of the cot, as heretofore explained, is connected at its extremity remote from the cot with the operating-shaft E of the hoisting mechanism and extends from said shaft in opposite directions, so that as the shaft is rotated by turning the hand-crank N the two ropes will be simultaneously wound upon the shaft E. The connections of these ropes with the shaft are indicated at $D^2$. Each rope D passes from the shaft to a pulley O, mounted in a fitting P, fast on the lower extremity of a hollow bar Q, which occupies a vertical position at the end of the bedstead and being centrally located. This hollow bar Q is clamped to the bedstead at two points, as shown at R. The bar Q passes through a part R′, mounted on the clamping-bolt $R^2$, which has a bent end $R^3$, which grasps each rail S of the bedstead. These clamping-bolts $R^2$ are secured in place by nuts $R^5$. Each clamp R is adjustable on the vertical bar Q by means of a set-bolt $R^4$ in order to adapt the device for use with bedsteads of different construction. The upper extremity of each bar Q is provided with a fitting T, provided with two pulleys T′ and $T^2$, the fitting projecting slightly inwardly over the cot. Each rope D after leaving the shaft E passes first under the pulley O and thence upwardly through the hollow bar Q, thence over the pulleys T′ and $T^2$, and thence downwardly to the part C, connected with the extremity of the cot-frame, as heretofore explained.

From the foregoing description the use and operation of our improved device will be readily understood. Normally the cot A rests upon the mattress or bedding 6 of the bedstead, the latter being of ordinary construction. The ropes D may be connected or not with the cot at all times, as may be desired. If they are not connected, they are provided with hooks U, whereby they may be readily hooked into the part C whenever it becomes necessary to lift the patient from the bed. In order to perform the lifting or hoisting function, it is only necessary to turn the crank N, which through the instrumentality of the gears L and K rotates the shaft E and winds up the ropes D until the cot, with its patient, is lifted to the desired height. The dog I is then thrown into engagement with the ratchet-wheel J, whereby the parts are supported in the elevated position.

Attention is called to the fact that the upright bars Q may be located at any desired point between the posts of the bedstead. In other words, it is not necessary that each bar Q should be located exactly centrally between two bed-posts, as shown in Fig. 2 of the drawings. The rear bar $A^2$ of the frame A of the cot may be equipped with a bar V, provided with a slot V′, upon which is mounted a holder $V^2$, carrying a pulley $V^3$. The pulley-holder is adjustable longitudinally on the bar by means of a set-bolt $V^4$. The bar V may be made to occupy any desired position on the bar $A^2$ by means of a set-bolt $V^5$. Over the pulley $V^3$ is passed a rope or cable $V^6$, having a weight $V^7$ at one extremity, its other extremity being connected with a limb of the patient, whereby the latter may be stretched or extended as may be desired.

Having thus described our invention, what we claim is—

The combination with a suitable frame, means for clamping the same to one of the side rails of a bedstead, a shaft journaled in said frame, a crank-shaft, gears connecting the crank-shaft with the first-named shaft, a ratchet mounted on the first-named shaft, a locking-dog engaging the ratchet, cables connected with the first-named shaft and adapted to wind thereon in opposite directions, hollow bars located at each end of the bedstead, means for clamping the bars thereto, pulleys con-

nected with the said bars at their extremities, the cables passing through the hollow bars and extending downwardly from their upper extremities, and a cot with which the extremities of the cable remote from the winding-shaft are connected whereby as the last-named shaft is operated the cot is raised above the bedding.

In testimony whereof we affix our signatures in presence of two witnesses.

SAMUEL A. WRIGHT.
EDDIE ERNEST McMAHAN.

Witnesses:
DENA NELSON,
A. J. O'BRIEN.