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PATENTED APR. 19, 1904.

C. C. HAZARD.

PHYSICIAN'S EXAMINING AND TREATING COUCH OR TABLE.

APPLICATION FILED JULY 10, 1903.

NO MODEL.

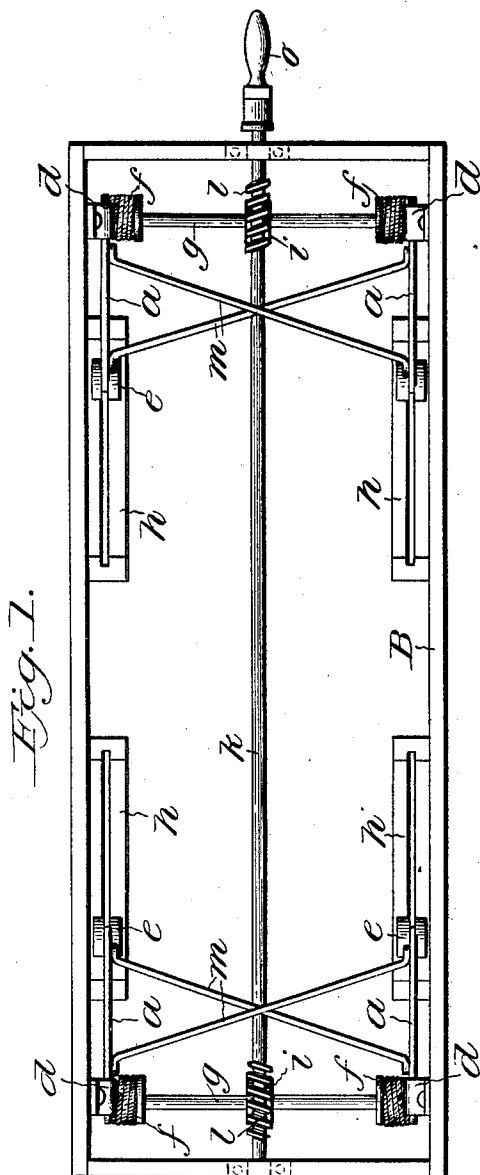
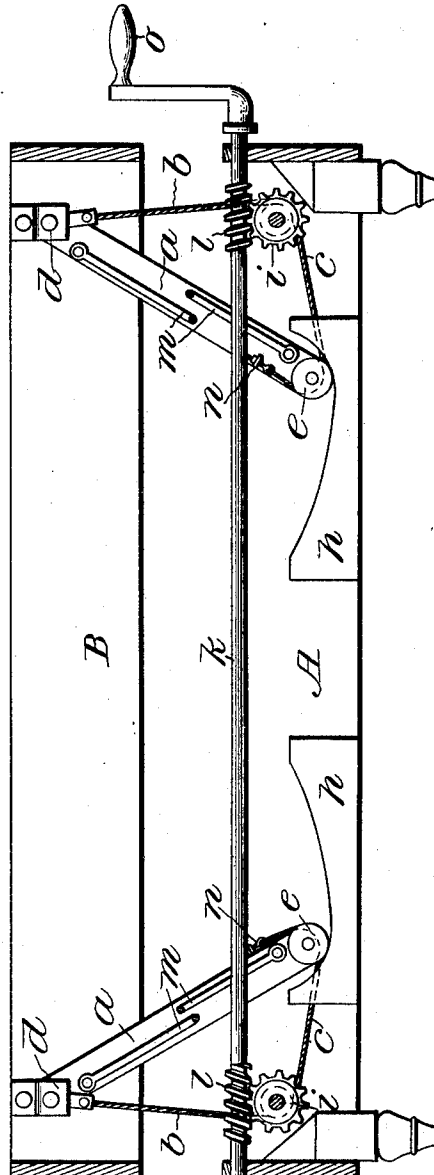


Fig. 2.



WITNESSES:

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PHYSICIAN'S EXAMINING AND TREATING COUCH OR TABLE.

SPECIFICATION forming part of Letters Patent No. 757,807, dated April 19, 1904.

Application filed July 10, 1903. Serial No. 165,006. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. HAZARD, a citizen of the United States, residing at Washington Court-House, in the county of Fayette and State of Ohio, have invented certain new and useful Improvements in Physicians' Examining and Treating Couches or Tables; and I 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 of reference marked thereon, which form a part of this specification.

The invention relates to certain new and useful improvements in a couch or table particularly for the use of physicians in examining, treating, and operating on patients, which couch or table may be raised or lowered on a horizontal line and there automatically held to any required elevation while occupied by patient or not and when closed down has the form of and may be used as an ordinary couch for office or domestic purposes.

Figure 1 represents a horizontal or top view of the framework of the couch or table, and Fig. 2 a vertical view showing the elevation.

Similar letters represent similar points in the several views, and the two ends of the framework and mechanism of the couch being constructed, geared, and adjusted identically, only reverse, the letters at one point at one end refer to the letters at similar points at the other end, and the letters refer to similar points at the two sides in the several views.

The framework of the couch or table is constructed in two sections, base A and top B, the base resting on four legs or casters, and when the top rests upon the base has the appearance of an ordinary couch. The upholstering being made separate may be removed, forming a table. The top frame B rests upon and is elevated from the base A by four equal lifts of triangular form, the three sides being represented by *a*, *b*, and *c*. The side *a* is a rigid bar with one end pivoted to the top frame at *d*, and like bars are correspondingly pivoted at the opposite sides at each end of the couch. The other two sides, *b* and *c*, of the lifts are constructed of rope or cable.

The two rigid bars *a* at each end of the couch are formed into pairs and held parallel to each other by cross-bars *m*, Fig. 1, to prevent lateral motion when the top B is elevated upon the base A.

In the base-frame A, in a substantially vertical line with pivot *d*, at each end are set rotating shafts *g*, and near the end of each shaft are set or cast winding-drums *f*. The end of each cable *b* and *c* is attached to top frame B at pivot *d* and dropped vertically to, passed several times around, and fixed to its adjacent drum *f*, again several times around spool in same direction, extended, and attached at the free end of rigid bar *a* by tension-nut *n*. Similar cables are so adjusted at each respective side and end of the couch-frame. At the movable end of each rigid bar *a* is an anti-friction-roller *e*, which rests upon tracks or guideways *h*, the tracks being attached to base-frame A and curved so as to accommodate the movable ends of each respective rigid bar, so as to keep pivots *d* in a substantially vertical line with drums *f*.

In order to maintain the moving section of the couch in a horizontal plane, it is apparent that the pivoted ends of the elevating-bars should move in substantially vertical lines, and in order to effect such movement and at the same time maintain tautness in the flexible connections the said guideways must be of a definite curvature. Theoretically this curve will lie in the locus of the moving end of the elevating-bar, and under any given conditions of length of bar and length of flexible connection this locus may readily be plotted.

On each of the shafts *g*, between the drums *f*, is set or cast worm gear-wheel *i*. Power-shaft *k*, which is journaled to the base-frame lengthwise, is provided with worm-screws *l*, reversed right and left, said worm-screws being geared into the respective worm gear-wheels *i*, whereby reverse motion may be imparted to the drum-shafts. At one or both ends of the power-shaft *k* may be attached crank or cranks *o*.

It is thus apparent that by moving the crank *o* in proper direction the drums *f* each take up the cable from the horizontal side *c* of the

lift as it is let out on the vertical side *b*, thus maintaining tautness in the cable and bringing the movable end of the stiff bar *a* over the step or curved track *h* nearer the drums
 5 *f*. It will thus be seen that a powerful and even lift is effected and that the worm-gear connections serve as a lock to hold the top frame rigidly at any point to which it may be elevated from the base.

10 While I have described my invention with particular reference to a physician's couch or table, I do not limit myself to such use, for it is obvious that the elevating mechanism may be employed in other devices having a table
 15 or platform designed to be raised or lowered and adjusted at any desired height.

What I claim as my invention, and desire to secure by Letters Patent, is—

20 1. In a surgical table or similar device having a movable and a stationary section, an elevating-bar pivoted at one end to the moving section, a winding-drum mounted on the stationary section, a flexible connection between the moving section and the free end of
 25 the elevating-bar and wound about said drum, a curved guideway for the free end of said bar, the curvature of said guideway being determined by the length of said bar, the substantially vertical movement of the pivoted

end thereof and the maintenance of tautness 30 in said flexible connection; and means for revolving said drum.

2. A surgical table or similar device having a movable and a stationary section, elevating mechanisms at each end of said table 35 comprising a pair of rigidly-connected elevating-bars pivotally connected at their ends to the movable section, a shaft on the stationary frame, winding-drums and a worm-wheel on said shaft, flexible connections be- 40 tween the movable section and the free ends of said bars and wound about said drums, and curved guideways on the stationary section for the free ends of said bars, the said guideways being so curved as to effect a sub- 45 stantially vertical movement of the pivoted ends of the bars and maintain tautness in the flexible connections; a power-shaft and worms thereon adapted to engage said worm-wheels, and means for revolving said power-shaft. 50

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

CHARLES C. HAZARD.

Witnesses:

T. M. SAXTON,
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