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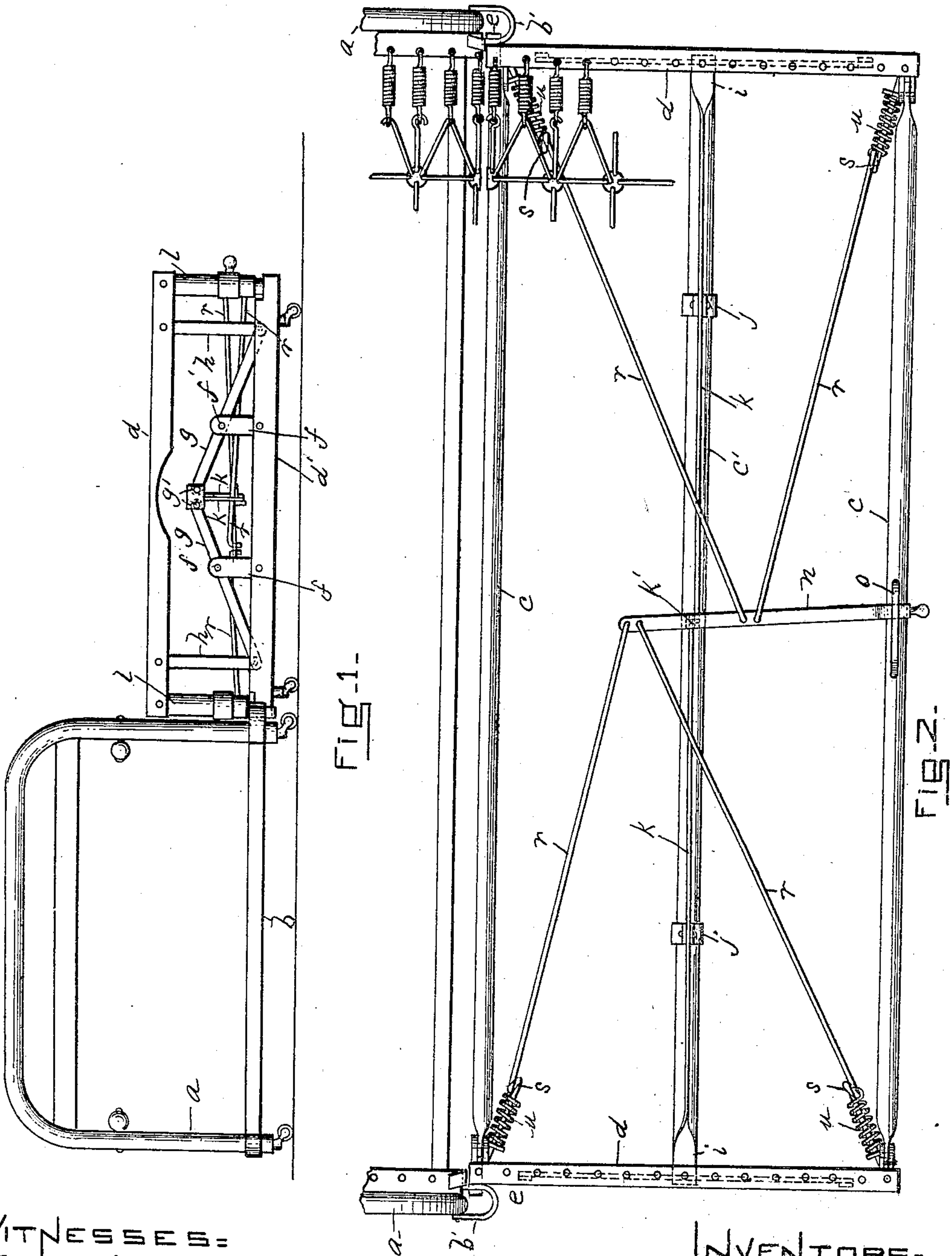
PATENTED NOV. 6, 1906.

F. S. SPRAGUE & L. R. ROBBINS.

COUCH BED.

APPLICATION FILED APR. 30, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

A. F. Hood

Frank S. Parker

INVENTORS:

Franklin S. Sprague
By their Atty Leon R. Robbins

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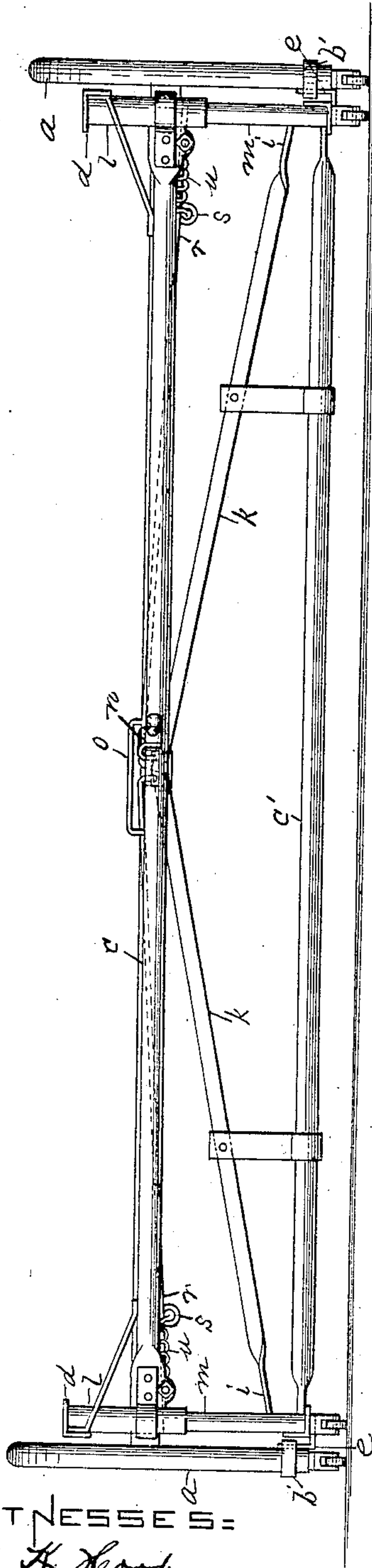
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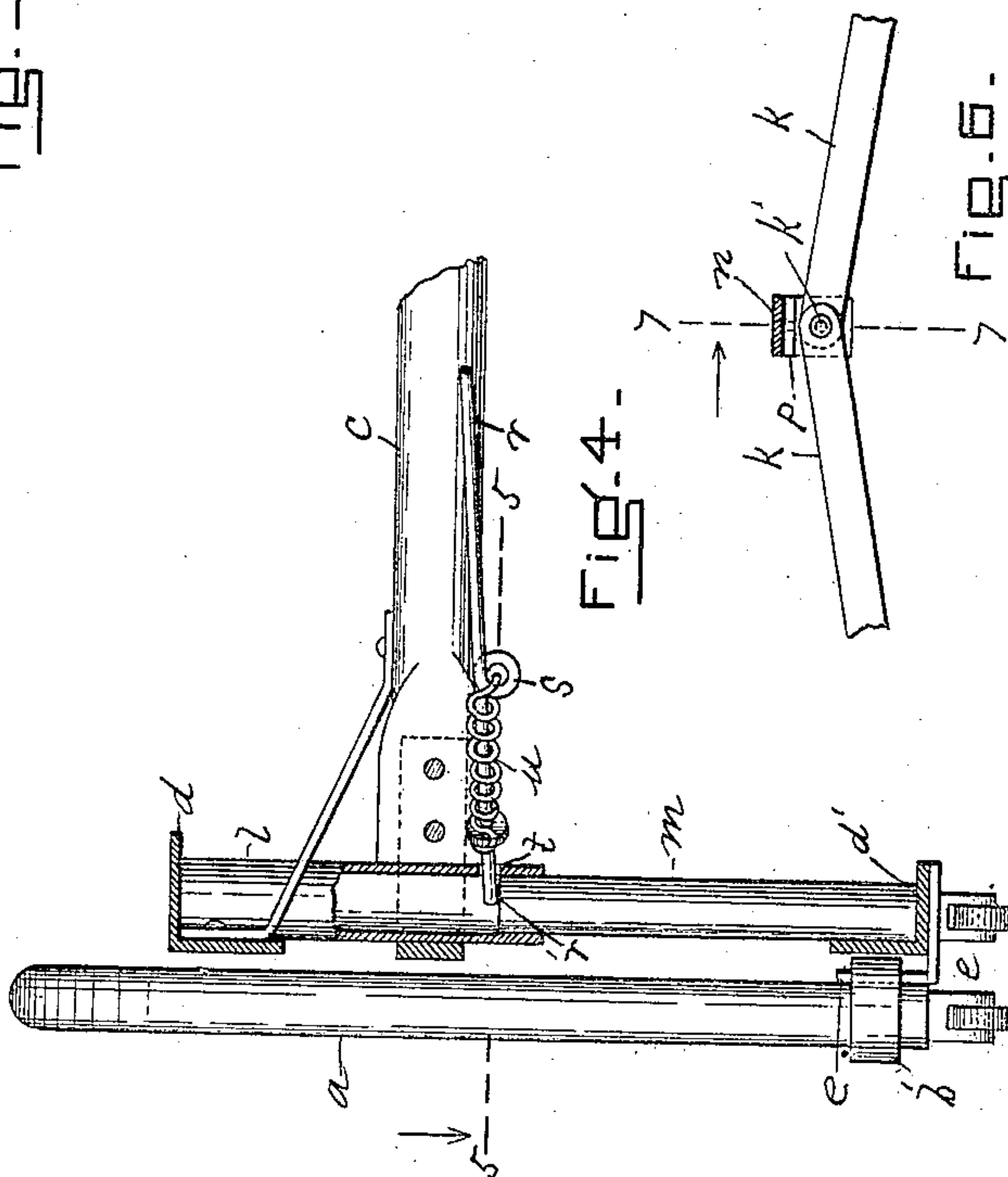
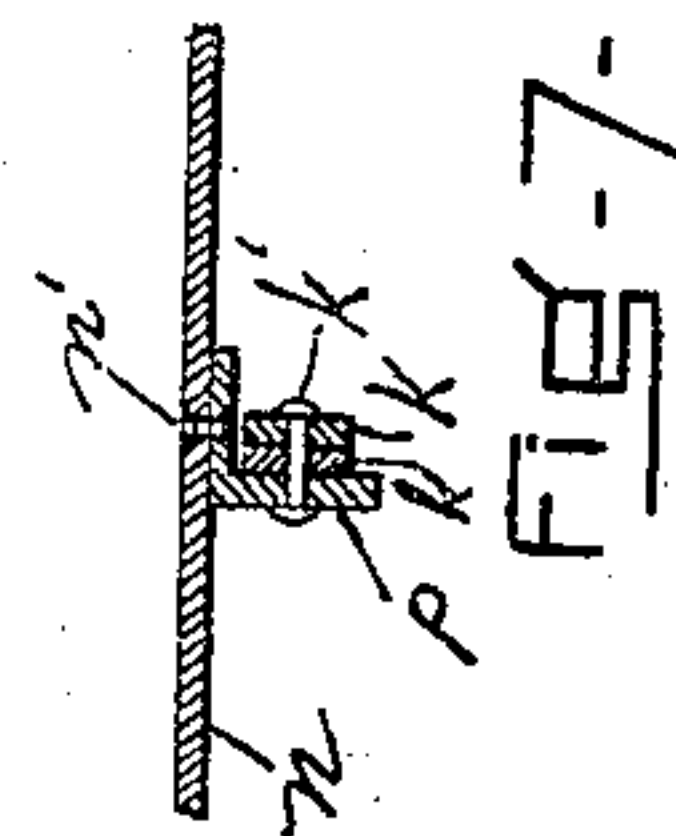
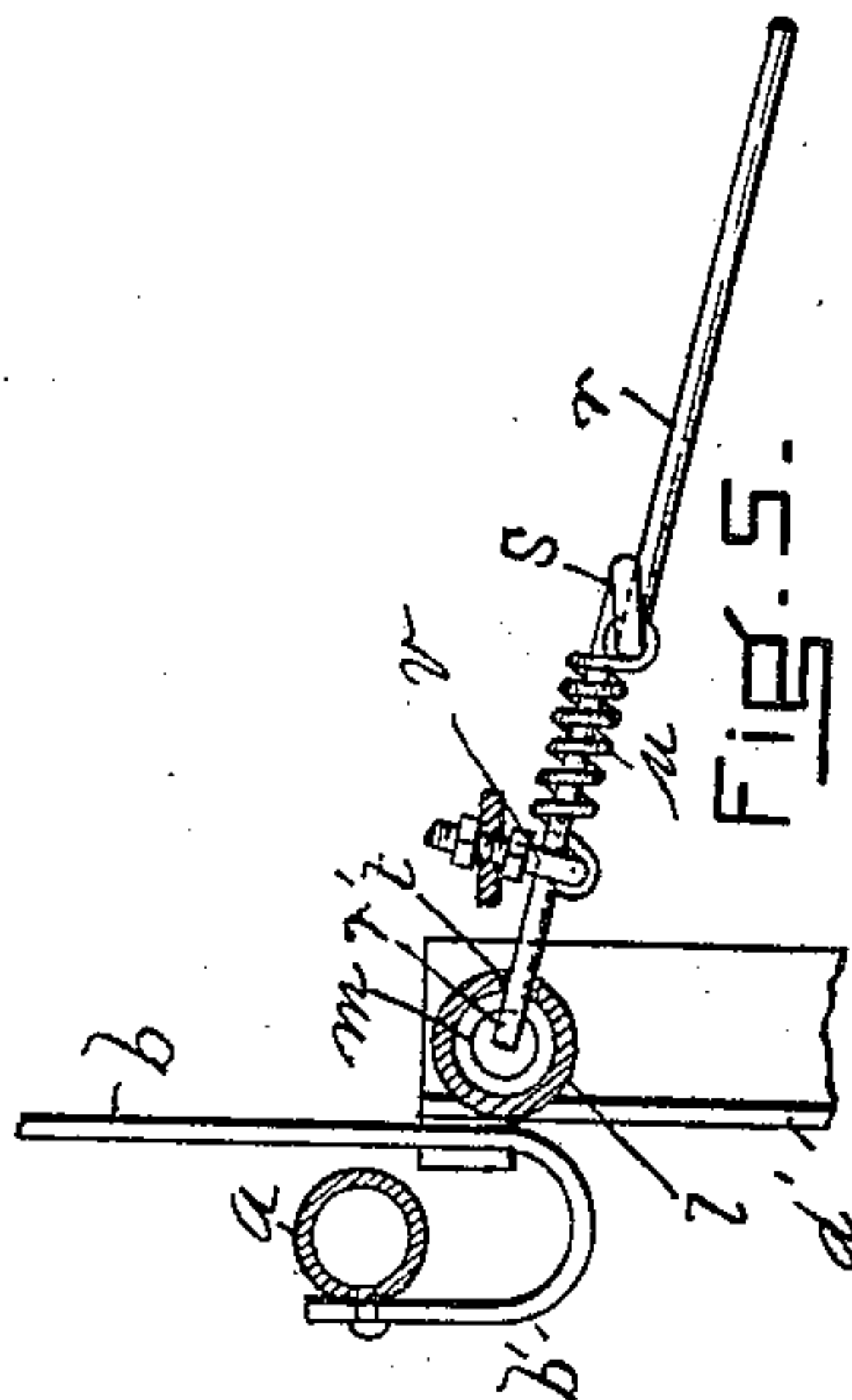
2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FRANKLIN S. SPRAGUE AND LEON R. ROBBINS, OF BOSTON, MASSACHUSETTS.

COUCH-BED.

No. 835,263.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed April 30, 1906. Serial No. 314,329.

To all whom it may concern:

Be it known that we, FRANKLIN S. SPRAGUE and LEON R. ROBBINS, citizens of the United States, residing in Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Couch-Beds, of which the following is a specification.

This invention relates to that class of couch-beds or couch-bed bottoms in which the bed-bottom is constructed in two parts or sections one sliding under the other, whereby when the bed-bottom is extended horizontally it is adapted for use as a double bed and when it is not extended it is adapted for use as a single bed or couch; and the invention relates particularly to that class of extensible spring bed-bottoms or bedsteads which are constructed of metal.

The invention consists in certain novel constructions and arrangements of parts, whereby after the bed-bottom has been extended the movable or sliding section can be raised to the level of the stationary section, whereby the movable section is locked in said raised position, whereby the movable section may be dropped for the purpose of sliding it under the stationary section, and whereby the general operation and efficiency of the bed-bottom are improved.

The nature of the invention is fully described below, and illustrated in the accompanying drawings, in which—

Figure 1 is an end view of a bed-bottom embodying our invention in extended position before the sliding section has been raised to the level of the stationary section. Fig. 2 is a plan view of the same, the greater portion of the stationary section having been removed and a portion of the spring-bed being illustrated. Fig. 3 is a front view of the bed-bottom in an extended position and with the sliding section raised to the level of the stationary section ready for use. Fig. 4 is an enlarged sectional detail with the parts in the same position as in Fig. 3. Fig. 5 is a section taken on line 5 5, Fig. 4. Fig. 6 is an enlarged detail in section and elevation, taken at the central pivotal point in the sliding section. Fig. 7 is a section taken on line 7 7, Fig. 6.

Similar letters of reference indicate corresponding parts.

a represents the frame of the stationary section of the bed-bottom.

b represents the lower end bars or cross-bars at the opposite ends of the stationary frame, said end bars being extended at their front ends into loops *b'*.

c represents the two upper side rails of the sliding section. *d d'* represent, respectively, the upper and lower end bars thereof, and *c'* is a central longitudinal lower rail secured at its opposite ends to the lower end bars *d'*. Secured to the inner ends of the lower end bars *d'*—that is, the ends next the stationary section when the bed-bottom is extended—are upturned brackets or fingers *e*, which extend into the looped portions *b'* of the end bars *b* and constitute a sliding connection between the two sections, said fingers *e* extending outside the two end bars and sliding back and forth with the movable section.

The looped or U-shaped portion *b'* extends somewhat in front of the extreme front edge of the stationary section of the bed-bottom in order to allow the sliding section to be drawn forward far enough to clear the stationary section when the upper portion of said sliding section is raised while in its extended position.

Pivotally secured at *f'* to each of the lower end bars *d'*, on opposite sides of the center of said bar, are a pair of substantially vertical supports *f*, to which are pivotally secured a pair of levers *g*, whose outer ends are pivotally connected with link *h*, said links being pivotally connected at their upper ends with the end bars *d*. The inner adjacent ends of the levers *g* are pivotally connected at *g'*, to the outer ends of longitudinal levers *k*, supported by uprights *j*, which are sustained by the central lower bar *c'*, extending from one to the other of the end bars *d'*. The inner ends of the levers *k* are pivotally connected at *k'*, Figs. 2, 6, and 7, at the center of the sliding section. The outer ends of the levers *k* are flattened at *i*, and thereby adapted to receive the pressure of the foot of the operator of the bed. When the bed is extended, the outer ends of these levers *k* are in the raised position indicated in Fig. 1, and by pressing on the portions *i* said ends are lowered, swinging down the inner ends of the levers *g*, while the supports *f* swing slightly outward until the inner ends of the

levers *g* move down beyond the points of their pivotal support, when the upper ends of the supports *f* swing inward and prevent the connected ends of the levers *g* from rising. Thus the links *h* are moved upward, carrying with them the end bars *d* and upper side bars *c*. The opposite ends of the side bars *c* and end bars *d* are rigidly secured to tubular corner-posts *l*, which telescope with posts *m*, supported at their lower ends by the lower end bars *d'* of the sliding section, said sliding section including, as above described, the upper side rails *c*, the upper end bars *d*, the central lower rail *c'*, and the lower end bars *d'*, said sliding section being provided with suitable casters, which bear upon the floor. The telescopic arrangement of these corner-posts enables their upper portions to be raised and lowered together with said bars *c* and *d*. Thus the sliding section comprises two horizontal portions or frames—namely, an upper frame comprising the end bars *d* and side rails *c*, and a lower frame comprising the end bars *d'* and the longitudinal central bar *c'*—said upper and lower frames being connected by a telescopically-arranged vertical corner-post.

n represents a horizontal lever, Figs. 2, 6, and 7, pivotally secured at *n'*, Fig. 7, to an angle-shaped plate *p*, which is sustained by the same pivot *k'* which connects the inner ends of the levers *k*. The outer end of this actuating lever or handle *n* is provided with a suitable knob and is confined in a guide *o*, mounted on the outer of the two side bars *c*. Pivotally connected at their inner ends to this lever *n* on opposite sides of the pivot *n'* are two pairs of rods or links *r*, the rods of each pair spreading and extending to the corners of the sliding section. Each rod *r* is coiled at *s*, and its end portion constitutes a bolt *r'*, which is adapted to extend into a hole *t* in the inner side of the tubular post *l* at that corner. A spiral spring *u* at each corner has its opposite ends secured in the loop *s* and to a hook or projection *v*, Fig. 5, extending from the frame. When the sliding section is extended outward and is in the position indicated in Figs. 1 and 2, the end portions or bolts *r'* extend into said holes *t* and bear against the inner telescopic portions *m* of the posts, being held in such position by the springs *u*. When the sliding section is extended upward by pressing down on the portions *i*, as above mentioned, the bolts *r'*, as soon as the perforations *t* in the telescopic portions *l* rise above the upper ends of the portions *m* of the telescopic posts, are forced by the springs *u* into the telescopic posts *l* and over the upper ends of the posts *m*, as clearly shown in Fig. 4. Thus the upper portion of the sliding section is sustained and locked in a position which is on a level with the stationary section, the lower portions *m* of the telescopic parts, the lower end

bars *d'*, and the longitudinal bars *c'*, supported by said end bars, remaining stationary. To unlock the sliding section, a quick blow toward the left on the handle of the lever *n* causes the rods *r* to withdraw their bolts *r'*, and the entire upper portion or frame of the sliding section drops from the position indicated in Figs. 3 and 4 into that indicated in Figs. 1 and 2, and the sliding section can then be moved under the stationary section.

In practical operation, therefore, the sliding section is drawn out by simply pulling it out into the position indicated in Fig. 1. Its upper portion is raised to the level of the stationary section by pressing down at *i* at either end of the bed-bottom, thus causing the mechanism *f g h k* to lift the upper portion or frame and the bolts *r'* instantly lock it in its raised position. The sliding bed-bottom is unlocked and its upper portion is allowed to drop by swinging the handle of the lever *n* toward the left, and the extended sliding portion is moved back into its original position under the stationary portion in the same manner that it was withdrawn.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a couch-bed comprising a stationary section and a sliding section adapted to be drawn out from under the stationary section, the sliding section, comprising telescopic corner-posts, a frame supported by the upper sections of the telescopic posts, a frame rigidly connected with the lower sections of the telescopic posts, mechanism intermediate of the two said frames for raising the upper frame with relation to the lower frame, mechanism for automatically locking the upper frame in such raised position, and mechanism for releasing the upper frame and allowing it to drop into a position whereby the entire sliding section may be moved under the main or stationary section of the bed-bottom.

2. In a couch-bed comprising a stationary section and a sliding section adapted to be drawn out from under the stationary section, the sliding section, comprising telescopic corner-posts, a frame supported by the upper sections of the telescopic posts, a frame rigidly connected with the lower sections of the telescopic posts, mechanism intermediate of the two said frames for raising the upper frame with relation to the lower frame, a series of rods terminating in bolts at their outer ends, mechanism for shooting said bolts between the upper ends of the lower sections of the telescopic posts and the upper sections of said posts and thereby locking the upper frame in such raised position, and mechanism for releasing the upper frame and allowing it to drop into a position whereby the entire sliding section may be moved under the main or stationary section of the bed-bottom.

3. In a couch-bed comprising a stationary section and a sliding section adapted to be drawn out from under the stationary section, the sliding section, comprising telescopic corner-posts, a frame supported by the upper sections of the telescopic posts, a frame rigidly connected with the lower sections of the telescopic posts, mechanism intermediate of the two said frames for raising the upper frame with relation to the lower frame, a series of rods terminating in bolts at their outer ends, mechanism for holding the bolts against the telescopic posts, mechanism for lifting the said rods vertically when the upper frame is raised whereby when the upper frame is lifted to the main or stationary section of the bed-bottom the bolts are forced between the upper ends of the lower sections of the telescopic posts and the upper telescopic posts, and mechanism for releasing the upper frame and allowing it to drop into a position whereby the entire sliding section may be moved under the main or stationary section of the bed-bottom.

4. In a couch-bed comprising a stationary section and a sliding section adapted to be drawn out from under the stationary section, the sliding section, comprising telescopic corner-posts, a frame supported by the upper sections of the telescopic posts, a frame rigidly connected with the lower sections of the telescopic posts, mechanism intermediate of the two said frames for raising the upper frame with relation to the lower frame, a horizontal lever pivotally supported by said mechanism for raising said upper frame, a pair of rods extending from said lever on one side of its pivot to the corner-posts at one end of the upper frame, a pair of rods extending from said lever on the other side of its pivot to the corner-posts at the other end of the upper frame, springs connected with said rods and the upper frame whereby the outer ends of the rods are held against the tubular corner-posts, and mechanism for raising said upper frame and thereby allowing said rods to be forced longitudinally outward by the springs until their outer ends overlap the upper ends of the lower sections of the telescopic posts.

5. In a couch-bed comprising a stationary

section and a sliding section adapted to be drawn out from under the stationary section, the sliding section comprising, corner-posts each consisting of a stationary section and a vertically-sliding section, a frame supported by the sliding upper sections of the corner-posts, a frame rigidly connected with the stationary lower sections of the corner-posts, a longitudinally-located lever centrally jointed and supported by the lower frame, and a series of levers intermediate of the end bars of the lower frame and the end bars of the upper frame for lifting said upper frame, the two said series of lifting-levers being pivotally connected with the opposite ends of the said longitudinal jointed lever, for the purpose set forth.

6. In a couch-bed comprising a stationary section and a sliding section adapted to be drawn out from under the stationary section, the sliding section comprising, corner-posts each consisting of a stationary section and a vertically-sliding section, a frame supported by the sliding upper sections of the corner-posts, a frame rigidly connected with the stationary lower sections of the corner-posts, the longitudinally-disposed centrally-jointed lever *k*, the pairs of supports *f* pivotally secured at their lower ends to the opposite ends of the lower frame, the pairs of levers *g* pivotally sustained by said supports and pivotally connected at their inner ends with the outer ends of the longitudinally-disposed jointed lever, and pairs of links *h* pivotally connected at their lower ends with the outer ends of the levers *g* and at their upper ends with the upper frame, provision being made at the opposite ends of said longitudinal jointed lever for receiving the downward pressure of the foot whereby the upper frame may be raised to the level of the stationary section of the bed-bottom, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRANKLIN S. SPRAGUE.
LEON R. ROBBINS.

Witnesses:

HENRY W. WILLIAMS,
A. K. HOOD.