

984,720.

Patented Feb. 21, 1911.
2 SHEETS—SHEET 1.

FIG. 1.

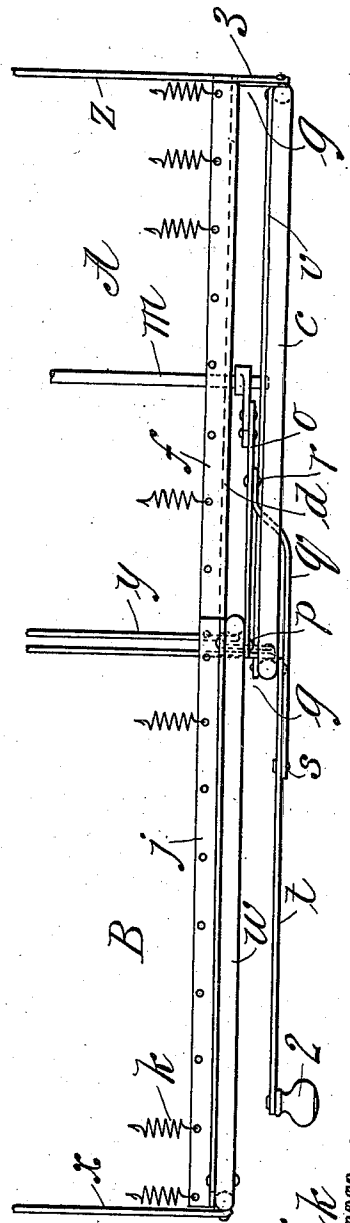


FIG. 2.

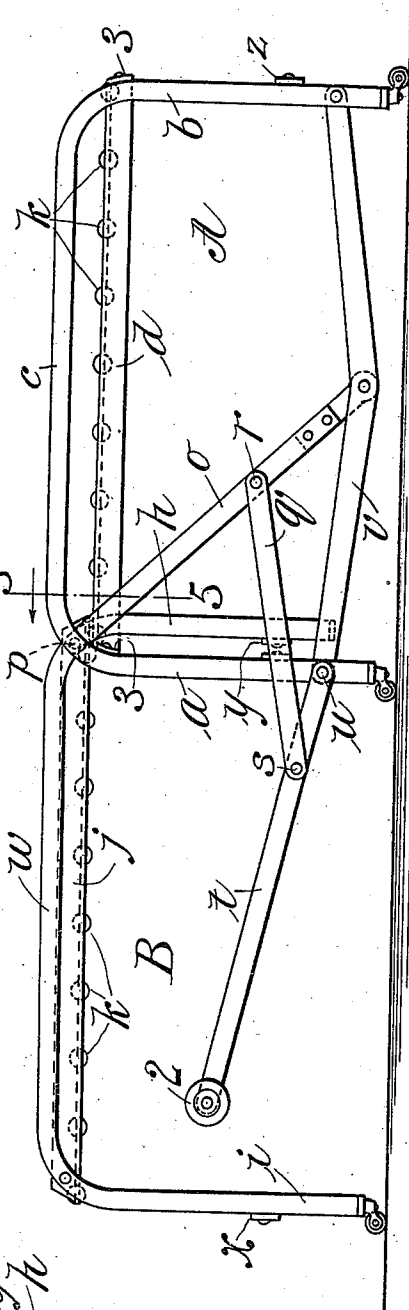
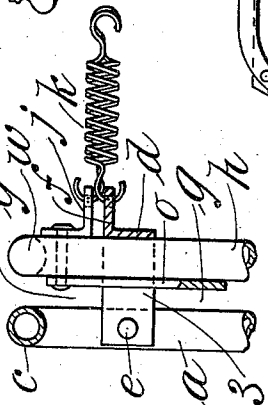


FIG. 3.



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EXTENSIBLE COUCH.
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2 SHEETS—SHEET 2.

Fig. 3.

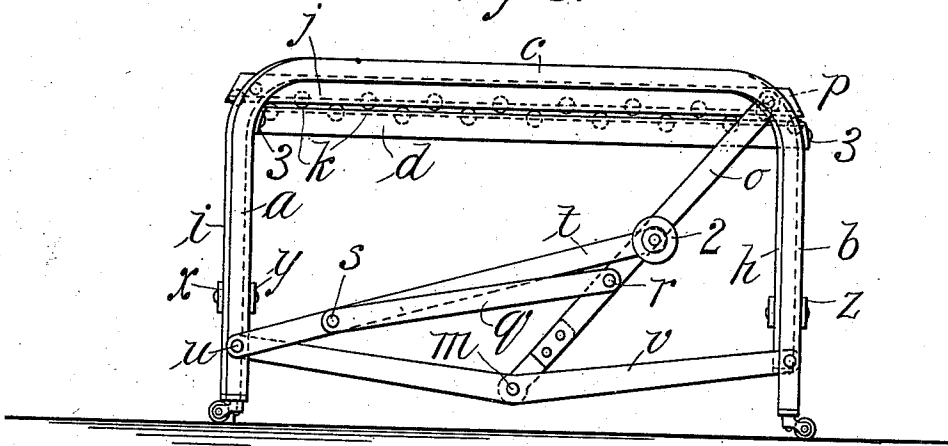


Fig. 4.

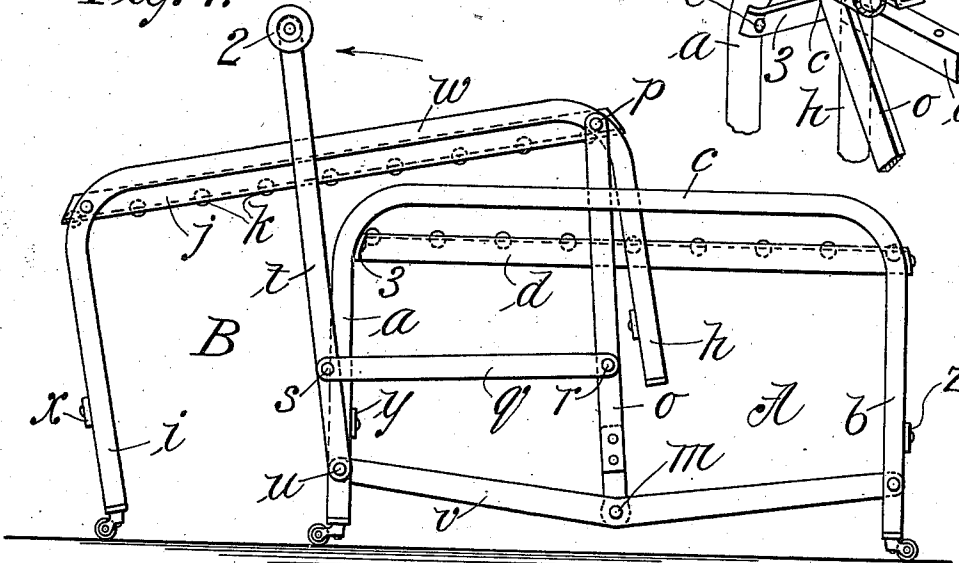
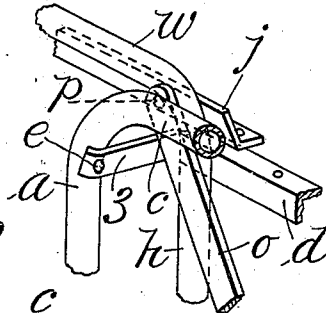


Fig. 6.



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EXTENSIBLE COUCH.

984,720.

Specification of Letters Patent. Patented Feb. 21, 1911.

Application filed May 12, 1910. Serial No. 560,881.

To all whom it may concern:

Be it known that I, FRANCIS M. TINKHAM, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Extensible Couches, of which the following is a specification.

This invention relates to improvements in extension or folding couches in which two frames, each provided with a suitable fabric, (preferably of woven or link wire,) are adapted to be nested one within the other, or opened so as to form a couch of double the surface and in which the woven wire fabrics are in horizontal alinement with each other.

The objects of the invention are, (1) to provide a lever mechanism that is adapted to be operated by a handle member for moving one frame relative to the other into either the open or folded position; (2) to provide the main frame with an angle-iron or web member to which the fabric of the main frame is attached so that a space is provided between the end of the main frame and the fabric supporting angle-iron in order to permit the moving of the auxiliary frame back and forth in this space during the opening and closing movements; (3) to provide the auxiliary frame with a pair of supporting legs which are adapted to engage the floor in the open or extension position and in the closed position, and the opposite side of the auxiliary frame with downwardly extending members that are adapted to engage the vertical web of the angle-iron which supports the fabric of the main frame; (4) to provide both the main and auxiliary frames with head and foot frames or members of equal height from the floor.

In the drawings forming part of this application,—Figure 1 is a plan view of the extension or foldable couch in opened position. Fig. 2 is an end view of Fig. 1 clearly illustrating the lever and link mechanism for moving the auxiliary frame relative to the main frame. Fig. 3 shows the two frames in folded position, the operating handle occupying a position at the right of the main frame, and Fig. 4 illustrates the position of the frame during the initial movement of the operating lever, whereby the auxiliary frame is moved relative or in a lateral direction to the main frame. Fig.

5 is a detail, sectional view on the line 5—5 of Fig. 2 showing the space between the inside of the main frame and the vertical web of the angle-iron to which the fabric of the main frame is attached, and the downwardly projecting members of the auxiliary frame located in this space. Fig. 6 is a perspective view showing the manner of supporting the fabric supporting member on the main frame.

Referring to the drawings, A designates the main frame and B the auxiliary frame.

a and *b* designate the supporting legs of the main frame A, which are made integral with the horizontal member *c* and are preferably of tubular material. Attached to these supporting legs and extending transversely thereof is an angle-iron member *d*, the vertical web of which is shown attached to the legs at *e*, and it will be noticed on reference to Figs. 5 and 6 and at the right of Fig. 1, the horizontal web *f* is cut away so as to afford a space *g* in which the downwardly extending members *h* of the auxiliary frame B extend.

i designates one of the supporting legs of the auxiliary frame that engages the floor both in the opened and closed position. This auxiliary frame is provided with an angle-iron *j*, the vertical web of which is oppositely located to the vertical web of the main frame (see Fig. 5) and to which the fabric, indicated at *k*, is attached.

Referring now to the construction by means of which the auxiliary frame B is moved into opened and closed position with relation to the main frame: *m* designates a rotatable rod that extends longitudinally of the main frame and to the opposite ends of which is attached a lever *o*, the upper end of which is pivotally connected to the auxiliary frame at the point *p*. Pivotally attached to the lever *o* is a link *q* at the point *r*, the opposite end of the link being attached to a hand-operated lever at the point *s*. This lever is designated by the letter *t*, and its lower end is pivotally connected to the leg *a* of the main frame at the point *u*. Extending transversely of the main frame A is a bar *v* which is secured to the legs *a* and *b*, as shown clearly in Figs. 2, 3, and 4, and this bar serves to pivotally support the rotatable rod *m*, whereby the mechanism at both ends of the couch is simultaneously operated during the operation of opening and closing the auxiliary frame B.

It will be observed that the main and auxiliary frames, as shown in Fig. 2 in open position, are of the same height, that is to say, the horizontal bar *c* of the main frame lies in the same horizontal plane as the horizontal bar *w* of the auxiliary frame, which feature produces a couch with a head-board or foot-member across the entire width of the couch when in open position, and that the bar *w* nests with and slides within the bar *c*, as shown in Fig. 3.

x, *y*, and *z* designate the usual side-rails or brace-bars that extend longitudinally of the main and auxiliary frames.

2 designates a handle which is attached to the operating lever *t*.

In Fig. 5 it will be noticed that the horizontal end portion of the angle-bar *d* is cut away so as to afford a suitable means of attaching the bar to the legs *a* and *b*, and for producing the space *g* in which the members *h* of the auxiliary frame extend, and also for providing a bearing for the part *h* of the auxiliary member to rest on, when the auxiliary frame is in open position. This part 3 supports the inner side of the auxiliary frame while the leg *i* supports the outer side of the auxiliary frame. The part 3 also acts as a stop to limit the outward movement of the auxiliary frame B.

Referring now to the manner in which the auxiliary frame is moved to the open position from its nested or closed position, as shown in Fig. 3: When the operator lifts on the handle 2 of the lever *t*, the link member *o*, which is attached to the inner edge of the auxiliary frame B, lifts this frame into the position shown in Fig. 4 and at the same time causes the leg *i* to slide on the floor laterally until the part *h* rests on the part 3 which, as stated above, is the vertical web of the angle-iron *d* (see Fig. 5), as clearly indicated in Figs. 1 and 2. The auxiliary frame B is nested with the main frame A by moving the operating lever *t* in the opposite direction. An important feature of my invention is in providing the space *g* for the members *h* of the frame B to move in, and in having the members *c* and *w* of the same height.

It should be observed that the wire fabrics

on both the main and auxiliary frames lie in substantially the same horizontal plane when in open position which is brought about, as shown in Fig. 5, by placing the members to which the fabrics are attached very close together. This feature is important since it permits the use of mattresses of the same thickness on both frames, which may be interchanged, if desired.

It should be understood that I do not limit myself to the use of angle-irons for attaching the fabrics, as any equivalent structure may be employed. It will therefore be seen that I have produced an extensible couch in which the auxiliary frame is moved from its nested position in the main frame to open position, and in which position the fabrics lie in substantially the same horizontal plane.

What I claim, is:—

1. In an extension couch, the combination with the main and auxiliary frames, of means for moving the auxiliary frame relative to the main frame and comprising a one-piece link member pivoted to the main frame at one end and to the auxiliary frame at the opposite end, an operating bar pivoted to the main frame at one of its ends and its other end having the operating handle mounted therein, and a link connected to the operating bar and said link member for moving the auxiliary frame into and out of nested position in a vertical plane.

2. In an extension couch, the combination with the main and auxiliary frames, of means for moving the auxiliary frame relative to the main frame and comprising a link member pivoted to the main frame at one end and to the auxiliary frame at the opposite end, an operating bar pivoted to the main frame at one of its ends and its other end having the operating handle mounted therein, and a link connected to the operating bar and said link member for moving the auxiliary frame into and out of nested position in a vertical plane.

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Witnesses:

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