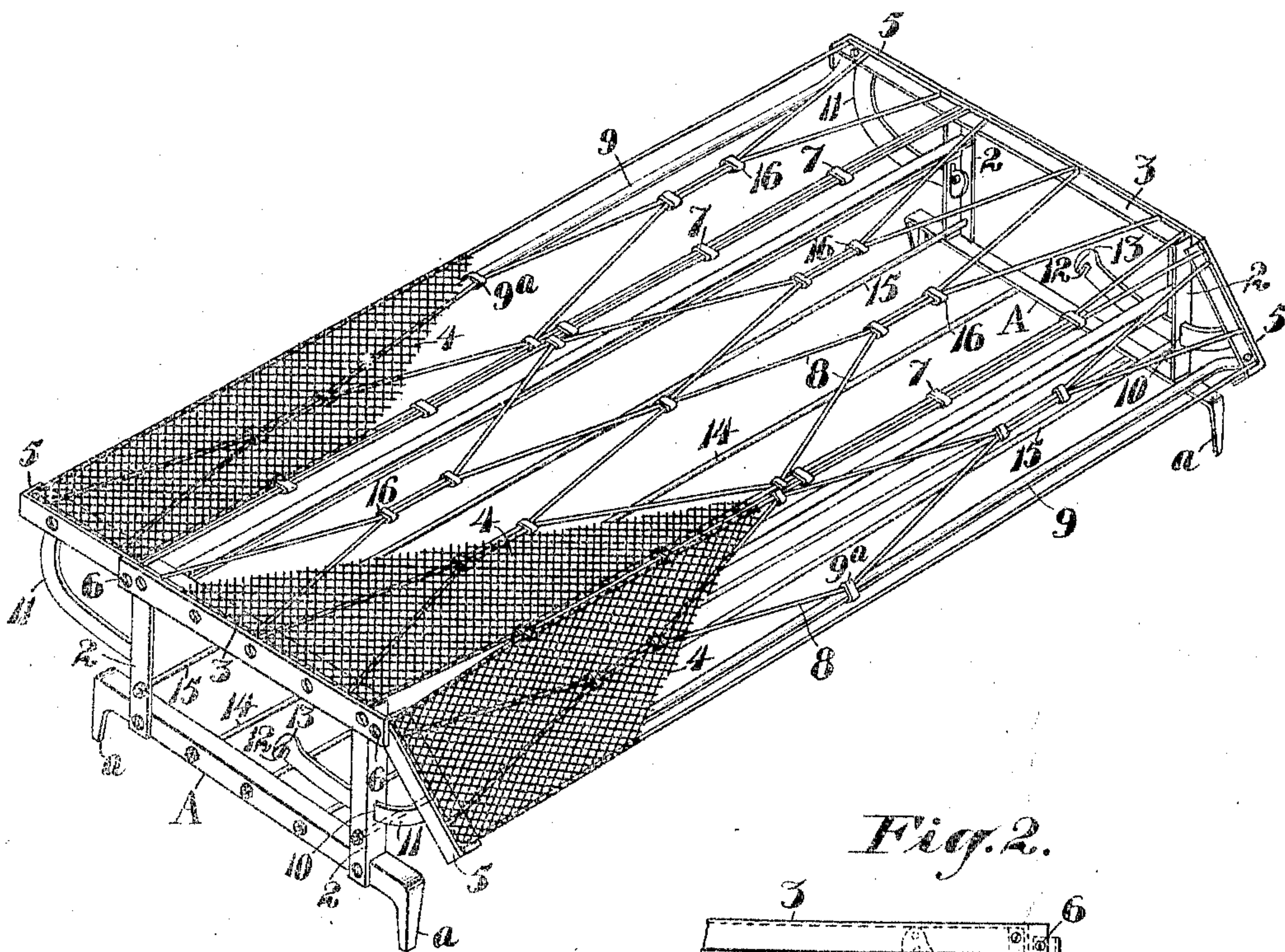


No. 811,921.

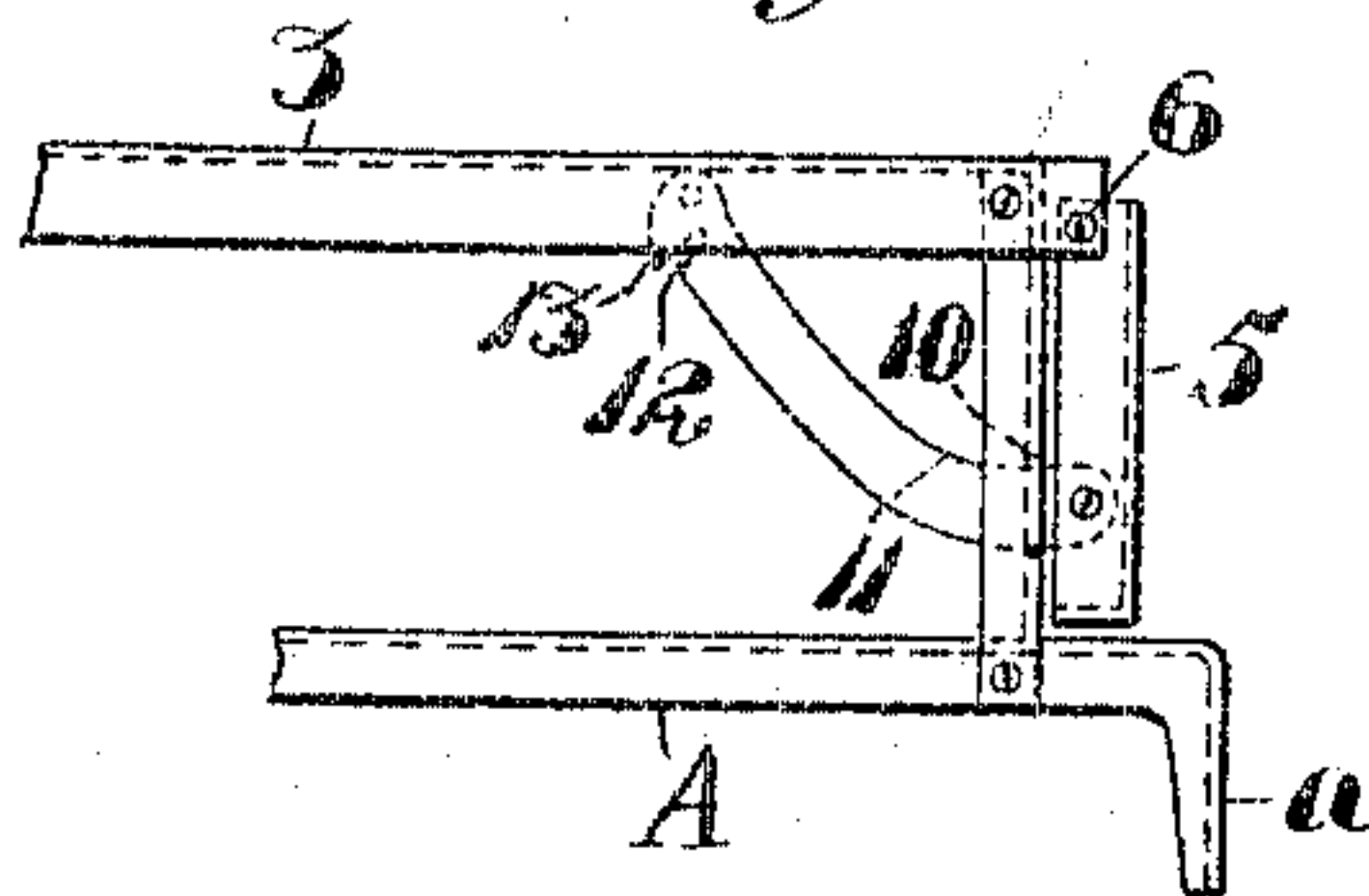
PATENTED FEB. 6, 1906.

J. HOEY.  
EXTENSION COUCH.  
APPLICATION FILED JULY 27, 1904.

*Fig. 1.*



*Fig. 2.*



Witnesses:-

F. B. Fiedner  
J. A. Fiedner

Inventor

John Hoey  
By Geo. H. Strong. atty



# UNITED STATES PATENT OFFICE.

JOHN HOEY, OF SAN FRANCISCO, CALIFORNIA.

## EXTENSION-COUCH.

No. 811,921:

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed July 27, 1904. Serial No. 218,368.

*To all whom it may concern:*

Be it known that I, JOHN HOEY, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Extension-Couches; of which the following is a specification.

My invention relates to improvements in couches which are capable of being extended so as to form beds when required.

It consists in a combination of parts and in details of construction, which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved couch. Fig. 2 is a view showing latch thrown out of the way when extension is at vertical position.

It is the object of my invention to provide a structure which normally forms a couch for ordinary use, said structure having one or more hinged sides capable of being dropped into an approximately vertical position when the device is used for a couch and which may be extended into a horizontal position for use as a bed.

An elastic metallic mattress, which forms the top of the main structure and extensions, is made in separate sections, and means are provided for stretching and extending it, so as to maintain the surface at proper tension whether folded or extended.

As shown in the drawings, A represents bases which are formed of angle-iron, the central portion substantially horizontal and having downwardly-bent ends, as shown at *a*, which form feet to rest upon the floor and slightly raise this portion of the structure.

2 represents vertical angle-iron posts having the lower ends bolted to the transverse portions A of the base, and 3 represents the end bars of the main portion of the couch, these bars being also made of angle-iron. These end frames of the couch are rigidly united together by longitudinal bars, to which they are bolted, and the structure is suitably braced for rigidity. The top of the main portion of the couch is covered with a mattress, preferably formed of woven wire, as at 4, in conjunction with the elastic cables extending beneath the woven wire and upon which the latter rests. This elastic structure is secured at the ends in the usual manner by bending over the frames, and plates or cleats are clamped over these ends to form a finish.

The ends of the extensions 5, of which two are here shown, one upon each side of the main body of the couch, are formed of angle-iron pivoted to the ends 3 by pins, as shown at 6. The outer ends of these angle-iron end pieces are connected by bars 9 riveted thereto, and these bars are curved downwardly between the ends, so that when the extensions are in a horizontal position the edges of the elastic mattress will not come in contact with these connecting-bars. Each of these extension structures is covered with elastic metallic fabric similar to that I describe for the main structure and independent thereof.

The contiguous edges of the main and supplemental fabric are united by clamps 7 at intervals from end to end, so that when the extensions are both opened into horizontal position a continuous elastic surface is formed from the extreme outer edges of the extensions.

In order to further increase the transverse tension of the mattress structure, I have shown links or hooks 9<sup>a</sup>, by which the cables 8 may be extended transversely and connected with the bars 9 which form the outer edges of the extensions. The outer cables of the extensions being thus connected with these exterior bars and the contiguous edges of the main and supplemental mattress being united by clips 7, as previously described, it will be seen that the tension thus produced will be transmitted across the main and supplemental structures, and thus produce a very even body-surface without undue variation in tension of the different parts.

It will be noted that the pivoting of the extension end sections 5 to the central end section 3 is at points below the top of these sections. When the extensions are raised and standing in line with the central section, the edges of the fabric being substantially in line above the pivot-pins will be close together at the ends; but when the extensions are turned downwardly to form a couch these edges where they are attached to the end sections will be separated, as shown in the drawings, and this separation taking place at the ends and outside of the end clip 7 will produce a corresponding tension of the edges, which are united by the clip 7, and this serves to maintain this edge much more rigid when the extensions are folded down to form a couch. The edge of the couch is thus prevented from being unduly depressed when it is used as a seat.



In order to hold the extensions 5 in their horizontal position when raised, I have shown braces having the outer ends fixed to the extensions 5 and slidable through slots 10 in the posts 2. These braces are curved in a sort of cam shape having its greatest curvature at the points nearest to extensions 5, as shown at 11, the curvature becoming less toward the inner and free ends of the braces, so that when the extensions are closed down to form the couch the inner ends of the braces will be thrown up inside of and beneath the angle-iron end pieces 3 and entirely out of the way of the bedclothes, this action being effected by the sliding of the curved portion 11 through the slots 10 in the posts 2 at the instant when the extensions are closed.

In order to hold the extensions in a horizontal position when raised and to provide an easy means for latching and disengaging the latches, I have shown the inner ends of the latches formed with transverse slots or channels 12, which when the extensions are raised into a substantially horizontal position will drop upon and engage with the lower edges of the slots 10 of the posts 2. There being one of these latch-arms at each end of either extension, the parts will thus be held firmly in place. In order to disengage these latches and allow the extensions to drop into a vertical position, I have shown the ends of cam-levers beyond the notches 12 made higher than the portion anterior to the notch, as shown at 13.

When it is desired to unlatch and depress the extensions, the outer edge of the extension is first lifted slightly. This causes the notch 12 to disengage from the slots 10 of the posts 2, and the further withdrawal of the brace will cause the elevated portion 13 to ride upon the lower edge of the slot 10. The outer end of the brace is also curved, as shown, and after the edge of the extension has been raised by suddenly dropping it the raised portion 13 of the brace will hold it so much above the bottom of the slot 10 that the sudden motion of dropping the extension will cause the brace to slide through the slot 10 and move so far before it drops in the slot that it will have passed the latch-slot 12, so that the latter will not engage. The extension being then dropped into its vertical position, the sharp curve or cam 11 will act as previously described and will serve to throw the inner end of the brace up into the angle of the bar 3 and out of the way. It will be seen by this construction that either one or both extensions may be employed. If only one be used, a three-quarter bed will be formed. If both are used, a double bed may be provided. The supplemental mattress which forms the body of the couch normally remains upon the couch for use. When the extensions have been raised to form a bed, this portion may be slipped over to one side,

and the supplementary mattress is laid beside it, thus forming the full width of the bed. As the sum of the width of the two extensions is usually not as great as the width of the main couch-surface, this supplementary mattress will be somewhat narrower than the main one, and the joint between the two will be at one side of the middle, but not coinciding with the joint of the elastic metallic mattress beneath. When the couch is in use, the supplementary mattress is placed beneath the couch and is concealed by the drapery which forms a portion of the couch and falls to the floor.

In order to conveniently introduce and remove this supplementary mattress, I have shown parallel longitudinally-disposed rods 14, extending from end to end between the bases A, and other rods 15, slightly elevated above the rods 14, extending between the vertical posts 2, which practically form sides to prevent the mattress from slipping out sidewise. These rods form smooth surfaces with very little frictional resistance, and the mattress can be pushed in from either end and rest securely upon the rods. Bedclothing may be folded and piled upon the mattress and the whole of the furniture necessary for the bed be conveniently concealed within the body of the couch.

The longitudinally-disposed cables 8, upon which the woven-wire portion of the mattress rests, are separated transversely and united by clips in the usual construction of such mattresses, and by thus separating the cables transversely the certain amount of tension is provided.

In my improvements I have provided for the increase and adjustment of this tension by means of supplementary slidable clips, as shown at 16. These clips are nearer to the ends of the mattress than the main uniting-clips, and as the cables diverge between these clips to the ends it will be manifest that by moving the clips toward the ends the angle of divergence will be increased and corresponding increase of tension will be effected.

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

1. The combination with a frame bearing a stationary locking-shoulder, and a swinging leaf pivoted thereon, of a bar-form locking-link pivoted at one end on said leaf and provided at its lower edge near its inner end with a narrow notch, the lower edge of the inner end of said link riding on said locking-shoulder when the leaf is raised above the horizontal, thereby to elevate the notch so that the acquired momentum of the parts and inertia of the link will be sufficient to cause the notch to clear the locking-shoulder when the leaf is dropped, substantially as and for the purpose set forth.

2. The combination with a frame bearing



a stationary locking-shoulder, and a swinging leaf pivoted thereon, of a bar-form locking-link pivoted at one end on said leaf and having a straight lower edge provided with a notch near its inner end, the lower edge of said inner end riding on the locking-shoulder when the leaf is raised above the horizontal position, whereby the notch is elevated sufficiently to clear the locking-shoulder when the leaf is dropped from an abnormally high position, substantially as and for the purpose set forth.

3. An extension couch-frame comprising end base-pieces and vertical posts and top bars, extension-bars pivoted to the ends of the top bars capable of being opened or closed about the pivots, elastic cables extended between the ends of the main portion and of the extensions, and means connecting the exterior cables with the outer bars of the extensions to maintain a transverse tension of the cables.

4. An extension-couch comprising end base-pieces and vertical posts and top bars rigid therewith, extension-bars pivoted at the ends of the top bars, a bed-bottom extended between the ends of the main portion and of the extensions, and having the side edges of said bottom connected with the rigid outer bars of the extensions to maintain a transverse tension of said bottom.

5. An extension-couch comprising end base-pieces and vertical posts and top bars rigid therewith, extension-bars pivoted at the ends of the top bars, and having bars along their longitudinal edges, and a flexible bed-bottom extended between the ends of the main portion and of the extensions, and having the side edges connected with the said side bars of the extensions whereby a transverse tension of said bottom is maintained.

6. An extension-couch comprising end base-pieces and vertical posts and top bars rigid therewith, extension-bars pivoted at the ends of the top bars, and having rigid bars along their sides, a bed-bottom extended between the ends of the main portion and of the extensions, and having its side edges connected to the rigid bars of said extensions whereby a transverse tension of said bottom is maintained, and parallel rods extending from base-piece to base-piece and fixed

thereto and serving as a holder for a supplemental mattress.

7. A couch-frame comprising angle-iron base-pieces and angle-iron posts and top bars rigid therewith, angle-iron extensions pivoted to the ends of the top bars, said posts provided with slots, and braces pivoted to the extensions and slidable through the slots of the posts said braces having their inner ends provided with notches and the portion beyond said notches made higher than the portion anterior to the notch for the purpose herein described.

8. An extension-couch comprising main end frames, side extensions hinged to the top bars of said end frames, braces with locking-notches to engage with slots in the main frame and retain the extensions in a horizontal position, elastic cables and superposed woven-wire fabric extended between the ends of the main portion and of the extensions, and centrally-disposed hooks or links by which the exterior cables may be connected with the rigid outer bar of the extension to maintain a transverse tension of the cables.

9. An extension-couch consisting of main end frames and connecting bars and rods, extension-frames pivoted to the top bars of the main frame, notched braces by which the extensions may be retained in an elevated position, independent elastic wire-fabric sections by which the main body and the extensions are covered, and clips by which the contiguous and parallel edges of said sections are united.

10. An extension-couch consisting of main end frames, extension-frames pivoted to the end frames at points below the upper edges whereby said upper edges are separated when the extensions are closed and brought together when the extensions are raised to a horizontal position, independent woven-wire mattress fabric sections stretched upon the main top frame and extensions, and clips by which the contiguous parallel edges of said fabric are united.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOHN HOEY.

Witnesses:

M. A. CUTTEN,  
CHARLES F. HOEY.