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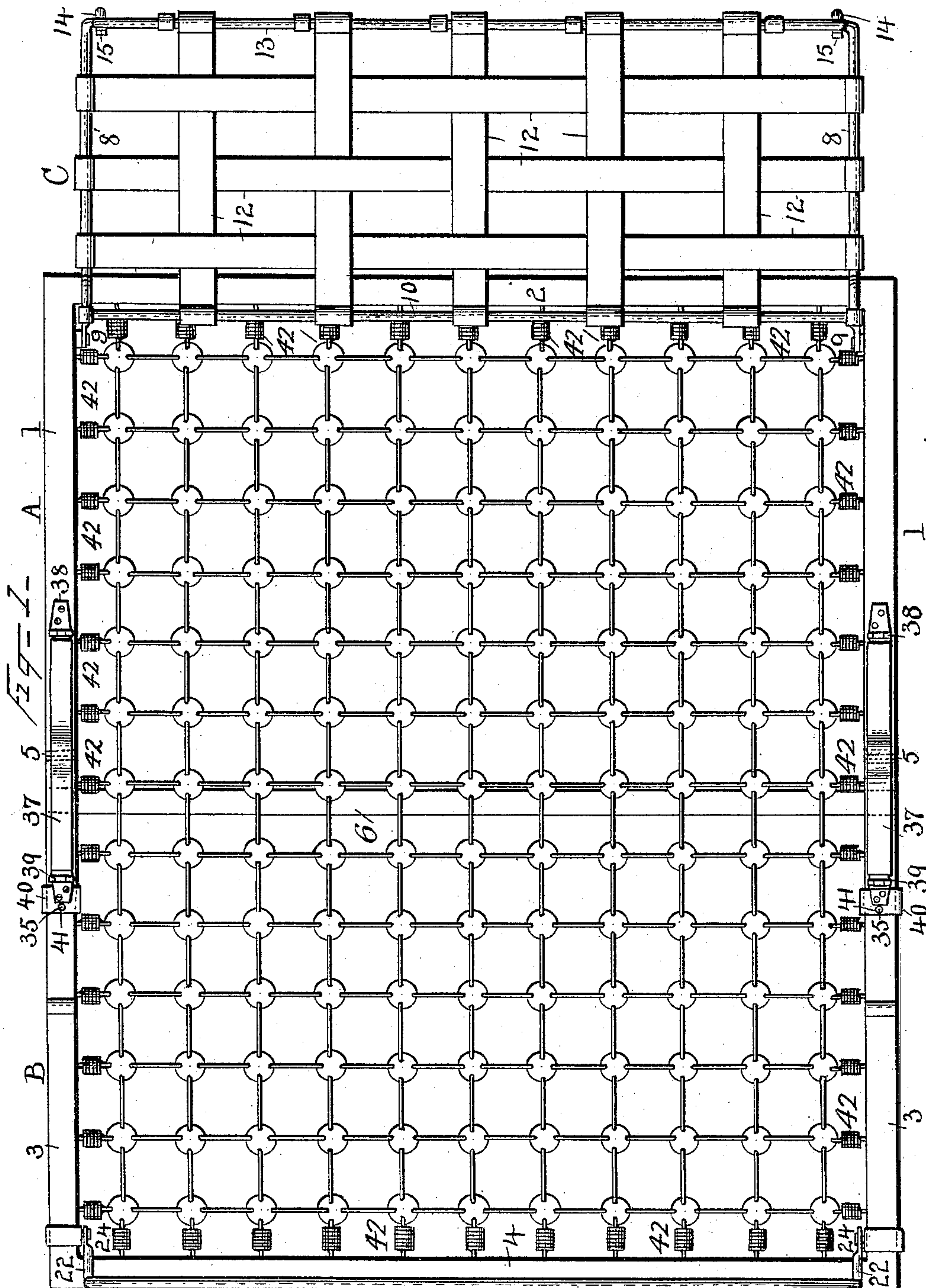
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CONVERTIBLE COUCH.

(Application filed July 11, 1899.)

(No Model.)

5 Sheets—Sheet 1.



WITNESSES

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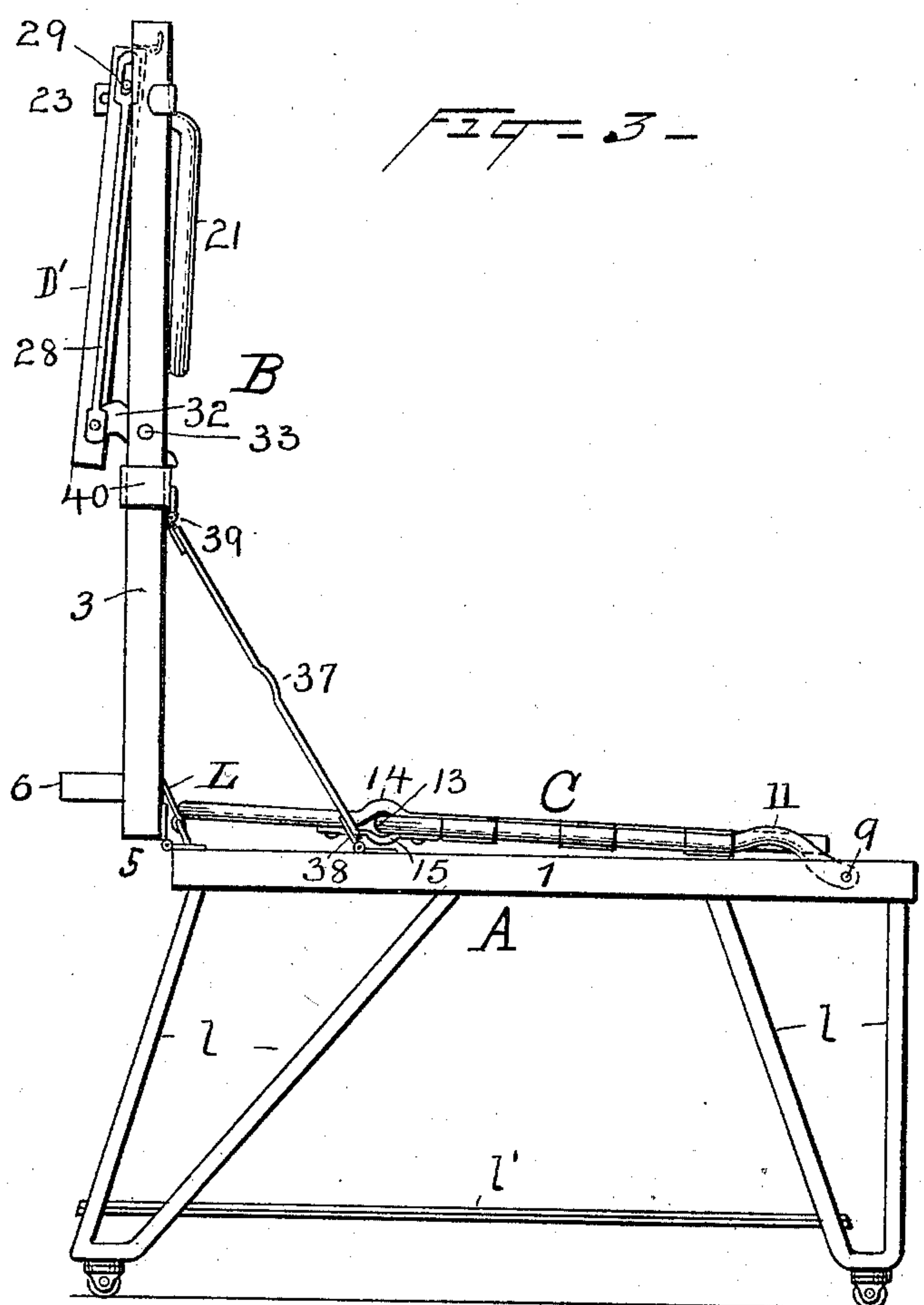
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5 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

JAMES MORAN, OF NEW YORK, N. Y.

CONVERTIBLE COUCH.

SPECIFICATION forming part of Letters Patent No. 638,978, dated December 12, 1899.

Application filed July 11, 1899. Serial No. 723,457. (No model.)

To all whom it may concern:

Be it known that I, JAMES MORAN, a citizen of the United States, residing at New York, in the borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Convertible Couches; and I do hereby 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.

My invention relates to convertible furniture—that is, to furniture constructed so that the form of its frame can be changed by altering the position of its several parts, and thereby producing an article which can be used for different purposes by simply changing the relative positions of the principal parts of the frame. In this class of furniture my invention has reference specifically to a couch that can be converted into a divan or seat, and vice versa, and form a comfortable, useful, and attractive article of household furniture for either purpose.

One object of my invention is to produce a convertible couch made entirely of metal and provided with a spring-bottom connected directly with the frame of the couch, so that the latter can be converted into a divan or seat without disconnecting the spring-bottom or changing its relation to the frame in any manner.

A further object of my invention is to protect that part of the spring-bottom that is stretched over the section of the couch-frame that becomes the seat from injury and undue strain when the couch is converted into a divan.

A further object of my invention is to brace the spring-bottom at the point where it bends when the couch is converted into a divan and prevent it from becoming slack when the part of the frame with which it is connected is swung up to form the back of the divan.

A further object of my invention is to adapt the support for the head-section of the couch to operate the contrivance that locks the head-section in position to form the back of the divan and to cause the said contrivance to automatically lock the head-section when it is swung up into position to form the back and to unlock the same when returned to the

position where it forms the head-section of the couch.

The invention will be first described in connection with the drawings, and then specifically pointed out in the claims.

In the accompanying drawings, Figure 1 represents a plan of the frame of the convertible couch open and in condition to receive the mattress and covering, which are omitted for clearness of representation; Fig. 2, a side elevation of the same. Fig. 3 represents a side elevation of the divan, which is formed by changing the position of parts of the frame of the couch; Fig. 4, a plan of the divan. Fig. 5 is a detail view in elevation of the mechanism for locking the part of the frame that forms the back of the divan. Fig. 6 is a longitudinal section of the same.

Referring to the drawings, the frame of the couch consists of three principal parts—viz., the main or middle section A, which is supported by legs *l l*, strengthened by a brace *l'* and fitted with casters to facilitate moving the article about, head-section B, and a foot-section C. The middle section is made of side rails 1 1 and an end rail 2, and the head-section is made up of side rails 3 3 and an end rail 4. The extremities of the side rails 1 1 of the main section and side rails 3 3 of the head-section are hinged together at 5 5, so that when the head-section is turned down to a horizontal position, as in Figs. 1 and 2, they form continuous side rails for the couch. There being no end piece where the two sections meet and are hinged together to prevent the side rails from spreading and from drawing together under the weight on the couch when in use, a transverse bar 6 is connected with the under side of the side rails of the head-section, near where it is hinged to the middle section, to brace the side rails.

At the upper end of the head-section B is a folding support D for supporting the section when extended to form the couch. This support consists of two legs *D' D'*, the upper ends of which are hinged in the grooves in the under or outer sides of the side rails 3 3, at the extremities thereof, where the end rails join the side rails, as shown more in detail in Figs. 5 and 6. The legs are connected together by a brace *D²*. This support can be swung out at right angles to the side rails 3 3

or turned down about parallel thereto when the head-section is swung up to form the back of the divan, as shown in Fig. 3. The said support is also used to operate the locking mechanism by which the head-section is locked and
5 braced in position to form the back of the divan, as will be described presently.

The foot-section C is made of round or bar metal bent to form a rectangular frame having one side 7 and two ends 8 8, and the extremities of the ends are pivoted to the side rails 1 1 of the main section just inside of the end rail 2, as represented at 9 9, Figs. 1, 2, and 4. The inner side of the foot-section is
15 formed by a bar 10. The ends 8 8 are curved upward at 11, so that the extremities can be brought down into position to be pivoted to the side rails without destroying the general alinement of the sides of the foot extension
20 with the side rails. Strips of metal 12 are laid across the foot-section from side to side and interwoven, the ends of the strips being bent around the sides and ends of the section to secure them in place. These strips are intended to form the bottom of the divan or
25 seat, as will be shown presently.

The foot-section is provided with a folding footboard E and with legs or supports G G, formed in a single piece from a bar of metal
30 13, that forms the top of the footboard, having its ends bent down at right angles to form the legs. This footboard is hung on the outer side bar of the foot-section C by inserting the said outer bar in the bends 14 14, formed in
35 the right-angular extension of the bar and confining it therein by means of straps 15 15, placed over the said bar and riveted to the extensions, the straps having a bend corresponding to the bends 14 14 to form eyes in
40 which the bar is hung and whereby the footboard and legs can be turned on the bar as a pivot. Between the top bar of the footboard and the outer side bar of the foot-section are a number of strips of metal 16, having their
45 ends bent around the two bars, the ends on the bar 7 being loose, so as to turn freely thereon. These strips cross the space between the two bars and thus form, with the top and side bars, an open footboard.

The legs or supports G G are connected with the side bars of the foot-section by means of the folding braces H, Fig. 2, (only one being shown,) which are made in two parts 17
50 18, jointed together and having their opposite ends pivoted, respectively, to the side bars of the foot extension and the legs or supports G. The jointed end of part 17 extends some distance beyond the pivot, which forms the joint, and has on its upper edge a flange
60 that forms a stop 19, that prevents the brace folding up when extended to hold the legs in position to support the foot-section, as shown in Fig. 2. To release the legs when it is desired to fold them, the brace is bent upward,
65 whereupon the legs can be folded up against the under side of the foot-section.

The top and sides of the headboard I of the

couch are formed in a single piece from a bar 20 of metal, having the ends bent down at right angle to form the sides 21 21, and the ends of
70 these sides are again bent to form right-angular extensions 22 22, the ends 23 of which are flattened and slotted, as shown. These slotted ends are connected with the side rails 3 3 inside of the end rail 4 by means of studs
75 24 24, connected with clips on the side rails and passed through the slots. By this construction the headboard can be slid down clear of the end rail 4 and then turned down nearly parallel to the side rails of the head-
80 section, as shown in Fig. 3.

The sides of the support D are connected with the side bars of the head-section by means of folding braces J, which are made in two parts 25 26, jointed together and having
85 their opposite ends pivoted to the side rails 3 3 of head-section B and to the sides of the support D, as shown in Fig. 2, only one being illustrated. The jointed end of part 25 extends beyond the pivot that forms the joint,
90 and it has on its upper edge a flange forming a stop 27, that prevents the brace from folding when extended, except in an upward direction.

The device for locking the head-section in
95 an upright position to form the back of the divan is connected with the support of the said section, and its construction is shown in detail in Figs. 5 and 6, which are drawn on a slightly-enlarged scale. It must be under-
100 stood that this locking mechanism is duplicated—that is, it is applied to both sides of the head-section; but on one side it is shown but partially. The frame of the head-section (also of the middle or main section) be-
105 ing made of channeled or grooved iron for lightness and stiffness combined, this locking mechanism is partly concealed in the channels or grooves in the back or under side of the sides 3 3 of the head-section. The
110 mechanism comprises a rod 28, the upper end of which is slotted and connected by a pin 29 with the sides of the support D, which have their upper ends hinged in the groove in the sides 3 3 at 31. The lower end of the rod is
115 pivoted to an ear on the lever 32, which has its fulcrum on a pivot 33, fixed in the sides of the groove. The lower end of the lever bears against a flat spring 34, having its lower end riveted to the bottom of the groove.
120 The spring has a pin 35 fixed to it, which is in line with a hole 36 in the bottom of the groove and which enters the said hole when the spring is in its normal position—that is, within the groove—and when the pin is forced
125 into the hole by the spring it is also caused to enter a hole in a slide forming part of a brace, which will now be described. This brace consists of a flat metal bar 37, having one end 38 hinged to the upper side of the side
130 frame 1 and the other end 39 connected with a box-slide 40 on the side bar 3, the bar thus extending across or over the hinged connection 5 between the side bars 1 3. The box-

slide has a hole 41 in its upper side, which receives the pin 35 when the slide is moved up the side bar 3 until the said hole is brought into alinement with the hole 36 and the pin, and when this occurs the slide and head-section are locked together, and the section is held in its upright position and forms the back of the divan. When the head section is raised up to a vertical position and it is desired to lock it in that position, the supports D are lowered by first bending the jointed brace J upward. Then the supports are turned down parallel to the section, as shown in Fig. 3. By this motion the rods 28 are thrown down, thereby turning the lower ends of the levers 32 away from the springs 34, which resume their normal positions within the grooves, and thereby drive the pins through the holes 36 and thence into the holes 41 in the box-slides, which by the raising of the head-section to the vertical position were caused to slide up the side bars until the holes 41 therein were in alinement with the holes 36. The head-section is thus locked in position and also made firm and steady by the braces 37. To unlock the head-section preparatory to dropping it to a horizontal position to form the couch, the supports D are lifted up until they are at right angles to the head-section. This raises the rods 28 and turns the levers against the springs, which, being bent backward, withdraw the pins from the slides, and these being now released the head-section can be turned down to a horizontal position, when its supports D rest on the floor and are held in an upright position by straightening the braces J, as shown in Fig. 2.

L is the spring-bottom of the couch, which consists of steel wires woven together and connected at the edges with helical springs 42, which in turn are attached to the side and end rails of the main section A and head-section B. Thus the main parts of the couch are provided with a spring-bottom and a comfortable support given to the greater part of the body.

It is to be understood that the construction and mode of operation of the locking mechanism for holding the head-section in an upright position to form the back of the divan may be changed without departing from my invention. For example, bolts or latches may be used in place of the spring-operated pins herein described.

I claim—

1. A convertible couch consisting in the combination of a middle section having suitable supports, a foldable foot-section hinged to one end of the middle section a head-section made in one part and hinged to the opposite end of the middle section and adjustable from an upright position to a horizontal position and vice versa, a folding support for the head-section, hinged to the back and upper end of said section and between the side rails thereof, locking mechanism connected

with the side rails of the head and middle sections, and devices interposed between the support and the locking mechanism, and connected with the said support that control the action of the locking mechanism, substantially as specified.

2. In a convertible couch the combination with the middle section of a head-section hinged thereto, suitable folding supports for the head-section when in a horizontal position and forming part of the couch, suitable locking devices, controlled by the folding support to lock the head-section when raised to a vertical position to form the back of the divan, slides on the side rails of the head-section, braces hinged to the said slides and the side rails of the middle section, the said slides adapted to be engaged by the locking devices to lock and brace the head-section in its upright position, substantially as specified.

3. In a convertible couch the combination of a middle section, a head-section hinged thereto, a continuous spring-bottom connected with the sides and end bars of the two sections, a foot-section hinged to the end section and having a folding support hung on its free end, an extension, pivoted to the said support adjustable to a position at right angles to the support or to a position parallel therewith, the support and extension adapted to be turned over on top of the middle section and the top bar of the extension laid against the spring-bottom in line with the hinged connection between the middle and head sections to keep the spring-bottom in tension when the head-section is turned to an upright position, substantially as specified.

4. In a convertible couch the combination with the head and middle sections and the continuous spring-bottom connected therewith, of a foot-section hinged to the middle section having rigid strips of metal woven across it to form an unyielding bottom, a support pivoted to the free end of the foot-section, having an extension that projects above the pivotal connections and forming a foot-board for the couch, and resting on top of the middle section when converted into a divan, its unyielding bottom protecting the part of the spring-bottom under it, while the extension bears against the bend in the spring-bottom and keeps the said bottom in tension, substantially as specified.

5. In a convertible couch, the combination with the middle section of a head-section hinged thereto, braces having one end hinged to the side frames of the middle section, box-slides on the side rails of the head-section to which the said braces are also hinged, the said side frames and box-slides being provided with holes, a spring provided with pins in line with the holes in the side frames, the relative positions of the holes in the slides and side frames being such that when the head-section is raised up to a vertical position the holes in the slides and frame are

brought into line and the pins on the springs can enter both and thus lock the slides and side frame together, levers connected with the side frames and bearing against the
5 springs, supports hinged to the side frames and rods that connect the said supports and the levers together, substantially as specified.

6. In a convertible couch, the combination with the head-section thereof adapted to be
10 raised to a vertical position to form the back of a divan of a folding headboard having the lower ends of the side bars bent at right an-

gles and the extremities provided with slots, and pins passed through the said slots that connect the said folding headboard with the
15 inside of the side rails of the section, substantially as specified.

In testimony that I claim the invention above set forth I affix my signature in presence of two witnesses.

JAMES MORAN.

Witnesses:

FREDK. HAYNES,
WILTON C. DONN.