

No. 795,783.

PATENTED JULY 25, 1905.

S. A. WALKER & F. BENNETT.
COMBINED CHAIR AND COUCH.

APPLICATION FILED SEPT. 19, 1903.

3 SHEETS—SHEET 1.

Fig. 1

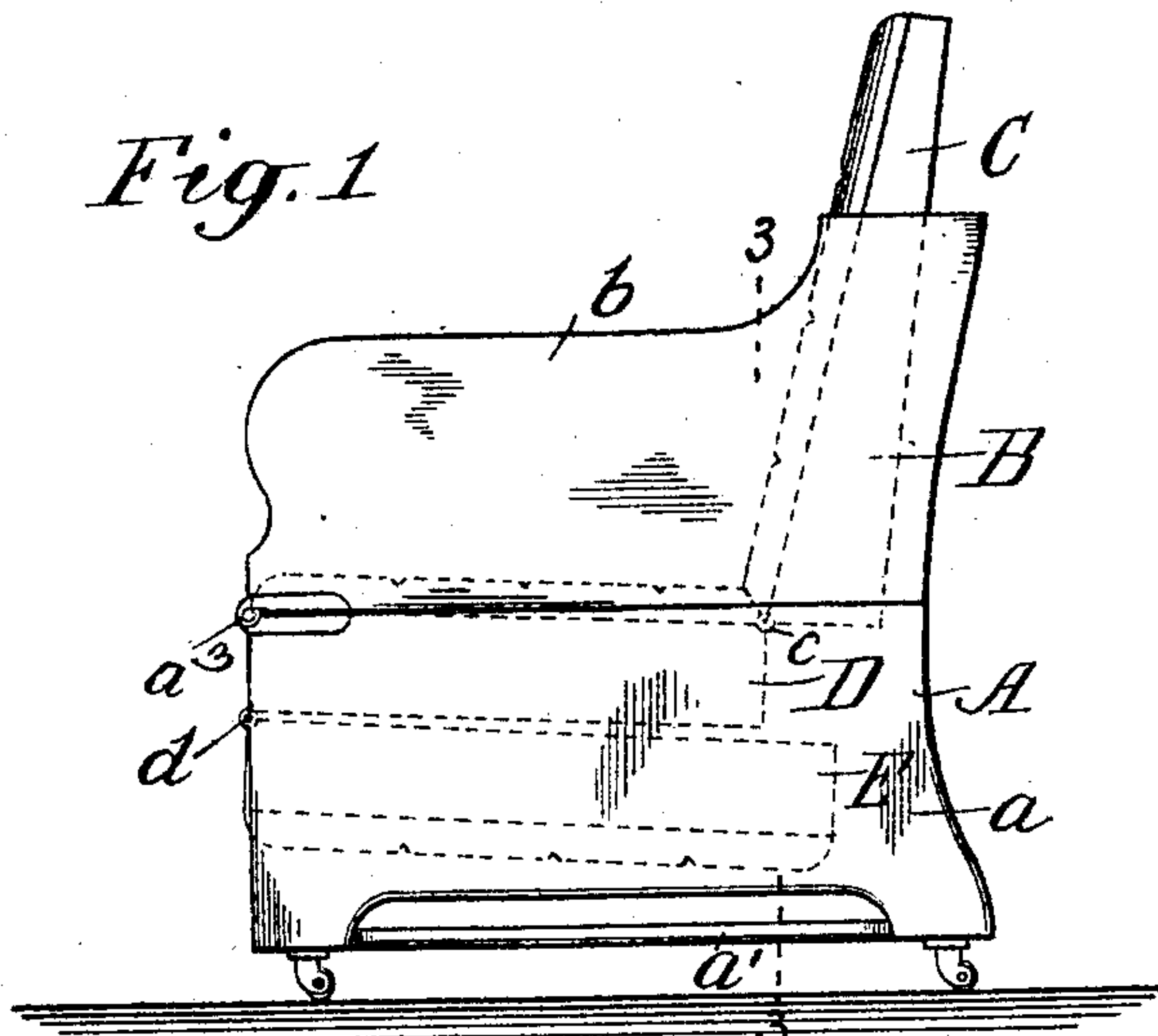


Fig. 2

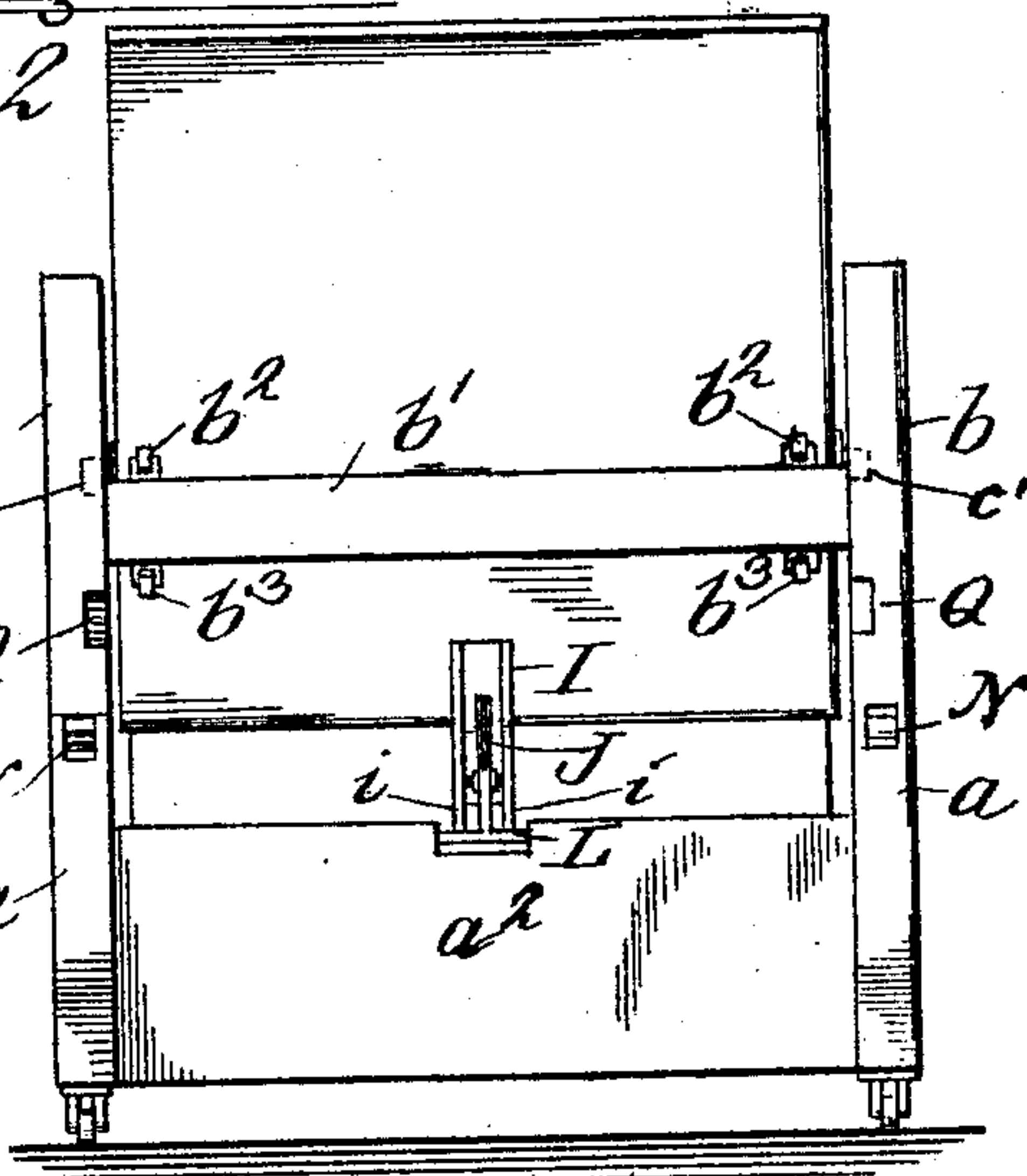


Fig. 3

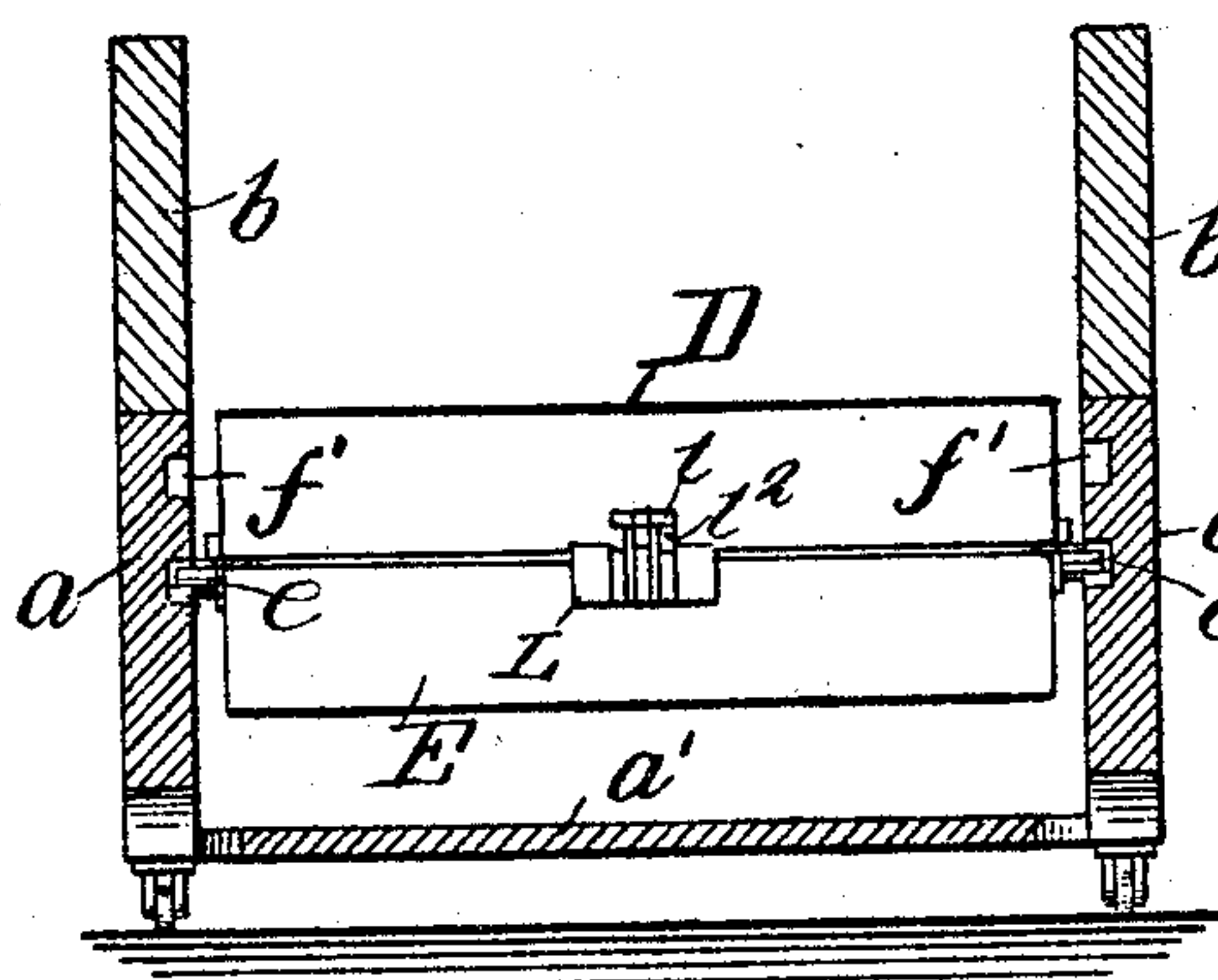
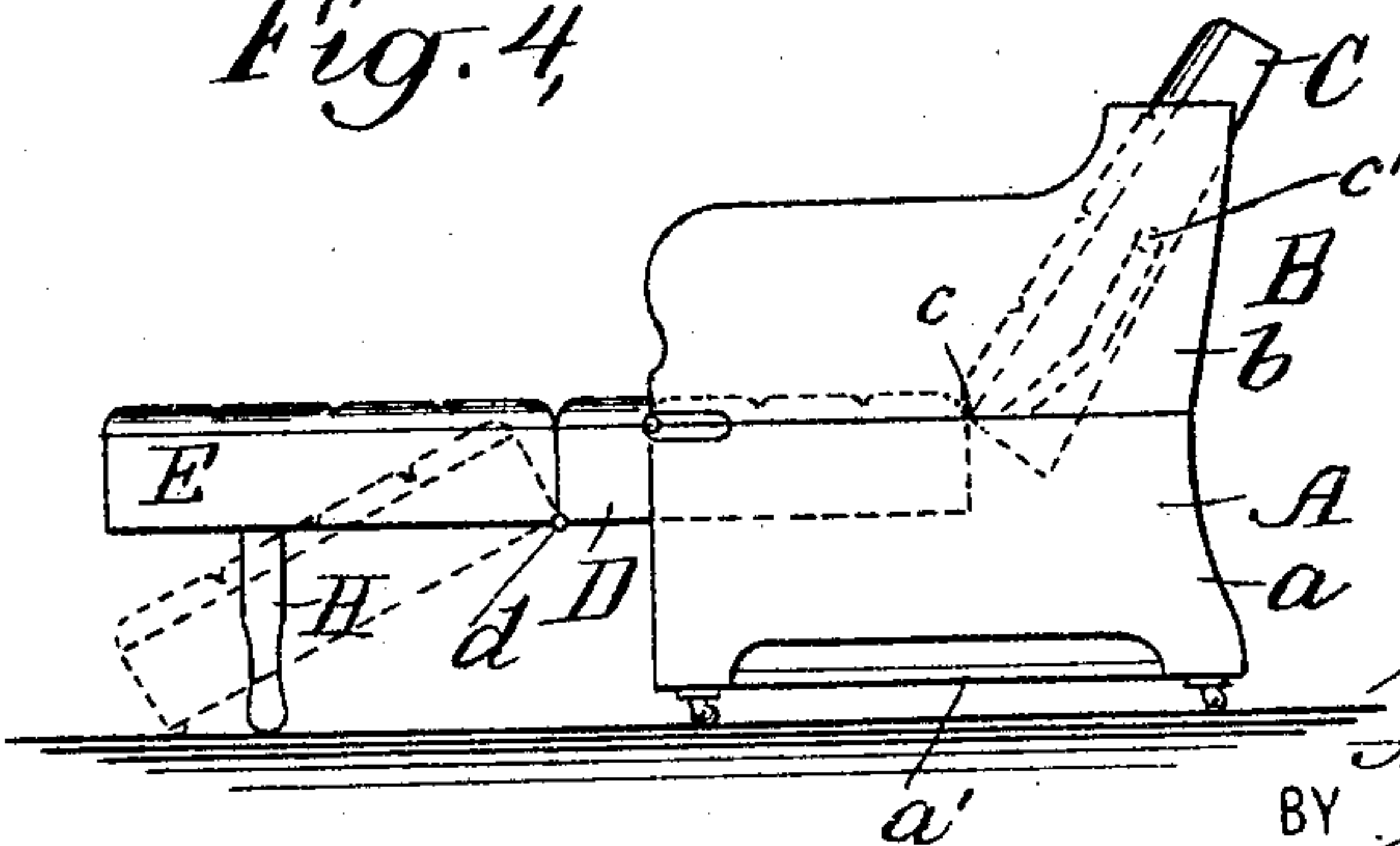


Fig. 4



WITNESSES:

J. M. Intosh

Edward L. DeBrow

INVENTORS

Meridian A. Walker
Frederick Bennett

BY

J. C. Edwards
ATTORNEY.

UNITED STATES PATENT OFFICE.

SHERIDAN A. WALKER, OF NEW YORK, AND FREDERICK BENNETT, OF LONG ISLAND CITY, NEW YORK, ASSIGNORS TO THE HALE AND KILBURN MANUFACTURING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

COMBINED CHAIR AND COUCH.

No. 795,783.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed September 19, 1903. Serial No. 173,839.

To all whom it may concern:

Be it known that we, SHERIDAN A. WALKER, residing in the borough of Manhattan, city of New York, and FREDERICK BENNETT, residing at Long Island City, in the State of New York, citizens of the United States, have invented a certain new and useful Improvement in a Combined Chair and Couch, of which the following is a description.

The object of the present invention is to provide an article of furniture which shall be capable of any one of a plurality of positions, including one or more positions in which it may be employed as a chair and one or more additional positions in which it may be employed as a couch.

The object of the invention is to provide an article of furniture of the character stated in which the movements necessary to convert it from one condition to another shall be smooth and continuous and require the expenditure of minimum power.

A further object is to construct an article of furniture of the character described which shall be simple and durable and in which the liability to disarrangement shall be minimized.

A further object is to provide a combined chair and couch which shall occupy minimum space and which may within that space be converted from one condition of the various members to another.

In carrying out the invention we employ a main frame and an auxiliary frame hinged thereto, said auxiliary frame overlying the main frame and being adjustable relatively thereto in order to change the various elements of the construction from one condition to another. Mounted in the main and auxiliary frames is a flexible bearing-surface formed, preferably, in sections, each comprising, preferably, a frame and upholstery. Of these sections we prefer to employ three, which in certain positions of the device are employed, respectively, as a back-section, a seat-section, and an extension-section.

Normally and when used as a chair the device is very similar in general characteristics to the well-known Morris chair. This may, therefore, be regarded as the normal position of the parts. In another position, in which the article may be utilized as a chair, the seat-section remains the same, the back-section,

however, being somewhat more rearwardly inclined for greater ease to the occupant. In another position the extension-section (therefore folded beneath the seat-section) may be brought out to operative position and either arranged in a horizontal position—*i. e.*, in the same horizontal plane as the seat-section—or its free end permitted to rest on the floor. In this position the back may occupy the Morris-chair position or the more rearwardly-inclined position above referred to. There are thus six positions in which the device may be utilized as a chair.

In order to convert the device into a couch, the auxiliary frame above referred to may be swung bodily upon the hinge which connects it with the main frame to a position where it will act as a support for the seat-section and the extension-section. The back may then be moved rearwardly until it is supported in either the same horizontal plane as the seat-section or in a plane slightly inclined relatively to the seat-section. The extension-section is in this position arranged so as to lie in the same plane as the seat-section, thereby converting the article into a couch having either a perfectly-horizontal bearing-surface or such a surface lying in a horizontal plane save as to the back, then forming a head-rest, which may, as above stated, be slightly inclined.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view showing the parts in what has been above referred to as the "Morris-chair position." Fig. 2 is a rear elevation of the same. Fig. 3 is a section on the line 3 3 of Fig. 1, the back-cushion being omitted. Fig. 4 is a side elevation, on a reduced scale, illustrating the device with the extension-section in position and showing in dotted lines an alternative position of such extension-section. Fig. 5 is a central vertical section of the device as shown in Figs. 1, 2, and 4, the back-section, seat-section, and extension-section being, however, shown in full lines. Fig. 6 is a sectional view, similar to Fig. 5, but illustrating the parts in intermediate stage between one of the chair positions and one of the couch positions. In this view the auxiliary frame has been swung but a portion of the way over the main frame. Fig. 7 is a

sectional view, similar to Figs. 5 and 6, but illustrating the final position of the auxiliary member of the frame when it is desired to convert the article from a chair to a couch. Fig. 8 is a sectional view, similar to Figs. 5, 6, and 7, but showing the flexible bearing-surface extended to full operative position, the alternative (inclined) position of the back-section of such surface being indicated in dotted lines. Figs. 9 to 13, inclusive, illustrate, on enlarged scale, a locking device intermediate of the back-section and the extension-section, whereby these may be mechanically locked together when the device is in one of its chair positions, but in such manner as to be readily released when it is desired to convert the article from that position to another chair position or to one of the couch positions. Of these figures, Fig. 9 is a side view, partly in section. Fig. 10 is an end elevation of the upper portion of the locking mechanism. Figs. 11, 12, and 13 are detail views illustrating that portion of the locking mechanism carried by the extension-section above referred to. Figs. 14 and 15 are enlarged sectional views illustrating a locking device for the main and auxiliary members of the supporting-frame. Fig. 16 is an enlarged elevation, partly in section, of the extension member of the supporting-surface; and Fig. 17 is a view of the under side thereof on a reduced scale.

Referring to the drawings, in which similar letters denote corresponding parts, A indicates the main frame. This is here shown as comprising the side members a , the bottom a' , and a cross-bar a^2 at the rear. The under side of this main supporting-frame is preferably provided with casters, as shown. Hinged to the main frame A at a^3 is the auxiliary frame B, here shown as comprising side members b (corresponding with the side members a of the main frame) and cross-bar b' , provided on its upper edge with sheaves b^2 and on its lower edge with sheaves b^3 .

Within the main and auxiliary supporting-frames is supported and guided the flexible bearing-surface, here shown as made in three upholstered sections and comprising the back-section C, the seat-section D, and the extension-section E, normally lying immediately below the seat-section D. All three of these sections are hinged together, the back and seat sections at c and the seat and extension sections at d . Each of these sections comprises, preferably, a rectangular frame in which are supported the springs or other upholstery.

The back-section C is provided on each side and at points intermediate of its horizontal edges with sheaves c' . These coact with guide-grooves in each side member of the main and auxiliary frames A B. The guide-grooves in the auxiliary frame are here shown as comprising the slightly inclined portion c^2 and the

more sharply inclined portion c^3 . When the chair is in normal position, (and by this is meant its Morris-chair position,) the sheaves c' are located in the extreme upper ends of the guide-grooves c^2 . The back-section C is also provided on each side with a depending arm c^4 , carrying at its lower end a sheave c^5 , which engages with the guide-groove F in the corresponding member of the main supporting-frame. This guide-groove comprises, first, a vertical portion f and a slightly-inclined portion f' , extending on either side of the vertical portion f and having an inclined forward end. The sheaves c^5 enter this guide-groove at the vertical portion f and thereafter operate in the inclined portion f' in the adjustment of the device to one or another of its several positions.

The seat-section D is supported at its rear end chiefly by the back-section C and its appurtenances. Its forward end is supported upon sheaves d' , carried by each of the side members a of the main supporting-frame A.

The extension-section E is provided on either side edge with a sheave e . Each of these coacts with a guide-groove formed in the inner surface of the side members a of the frame A and which comprises the slightly-inclined portion e' , the sharply-inclined portion e^2 , and the approximately vertical (slightly-curved) portion e^3 , the purpose whereof will presently appear. This extension-section, hinged, as above stated, at d to the seat-section D, is also provided with a spring connection with said seat-section, as clearly illustrated in Figs. 16 and 17. Here are shown coil-springs G, secured to the under side of both the extension-section and the seat-section and exerting a tendency to fold the former beneath the latter. The extension-section E is also provided with supports. (Shown in operative position in Fig. 4.) These comprise legs H, pivoted at h near the forward end of the extension-section. Normally these legs are in inoperative position, as shown.

h' designates a latch hinged at h^2 and provided with a jaw h^3 , coacting with an appurtenance of the legs H and held in coaction therewith by the leaf-spring h^4 . This latch h' may be operated by a finger-piece h^5 , near the forward end of the extension-section, and therefore readily accessible. Obviously upon pressing inwardly the finger-piece h^5 the jaw h^3 is released from coaction with the supporting-legs. There may be but one of these locking devices, if desired. We may, however, employ one at each side of the extension-section and operate both either at one side or simultaneously at both sides. If the former, it will only be necessary to connect the movable parts for synchronous movement.

Turning now to Figs. 9 to 13, inclusive, in which we have illustrated the locking mechanism intermediate of the back and seat sections of the seat, it will be seen generally

that this mechanism is divisible, broadly, into two parts, one part being carried by the back member and the other at the end of the extension member of the supporting-surface. The former comprises an angular depending arm I, the upper portion whereof is secured to the lower end of the back-section in any suitable manner. The lower portion extends forward and downward, being bifurcated, as clearly shown in Fig. 10, and provided at the ends of the bifurcate extension i with lugs i' . J designates a releasing-lever pivoted at j upon a pintle extending between the bifurcated arms i' and provided with a cam j' . j^2 designates a spring coiled on the pintle j and exerting a tendency to press the upper end of the releasing-lever J upwardly.

That member of the locking device carried at the end of the extension-section E comprises a casting L, secured by screws or other suitable means in the position illustrated in Fig. 9. Preferably formed integral with this casting is an angular bifurcate extension l , having forwardly-projecting cam-arms l' and recesses l^2 . A shaft or pintle l^3 is carried by the casting L and spring-actuated by means of the spring l^4 . On said shaft or pintle is a lock M, provided with the cross-bar m and rearwardly-projecting finger m' , adapted to contact with the cam j' of the releasing-lever J. The normal (engaging) position of the lock is shown in Fig. 12. The release thereof is effected by the movement of the lever J and cam j' , as above stated. The relation between the rearward surface of the bar m' and the forward surface of the extension l is such as to permit the lugs i' of the locking-arm I to be received therein, as shown in Fig. 9. As will be seen, upon the depression of the releasing-lever J the rear end of the lock M will be correspondingly depressed, thereby removing the bar m' of the lock M from the position shown in Fig. 9, where it opposes the forward movement of the lug i' , whereby said lugs will be permitted to pass forward and out of coaction with the lock mechanism. It will also be seen that the recesses l^2 , formed in the extension l below the cam-arms l' , are of such size as to permit the lugs i' to pass out of engagement with the lower member of the locking device upon the upward movement of the end of the extension-section E—*i. e.*, a movement toward the seat and back section D and C.

The locking device for the main and auxiliary members of the supporting-frame is shown on a large scale in Figs. 14 and 15, the former illustrating the position of the device after it has been released in order to permit the two members of the frame to be separated and the latter showing the position of the device when the two members of the frame have been brought together—as shown, for instance, in Fig. 5. There is preferably one of these locking devices on each side of the main and

auxiliary frames, both being the same in construction, but one will be described in detail.

N designates a locking-plate provided with a finger-piece n and on its under side with a leaf-spring n' .

n^2 designates a spring coacting with a lug n^3 , also formed on the under side of the locking-plate N and exerting a tendency to press the plate forwardly—*i. e.*, to the position in which it is shown in Fig. 15.

n^4 designates a slot formed in the locking-plate N and with which coacts the latch P, pivoted at p in a recess p^5 in the auxiliary frame B. Said latch P carries the projecting cam p' , so arranged that when the auxiliary frame B is brought to the position in which it is illustrated in Figs. 1, 2, 4, 5, and 15 it will enter the slot n^4 of the lock-plate N and press the same rearwardly against the tension of the spring n^2 . After the cam has passed said locking-plate and leaf-spring n' the latter are by said spring n^2 brought in engaging position with the latch, as shown in Fig. 15. The latch P is mounted upon an approximately circular ear p^2 , having peripheral notches, with which coacts a spring p^3 , the purpose whereof is to hold the latch in any position to which it may be moved during the operation of the device.

The auxiliary member B of the frame is provided with guide-grooves Q, with which coact the sheaves e of the extension-section E when it is desired to bring the parts to one or another of the several couch positions. A portion p^4 of each of the latches P projects into each of these guide-grooves. Upon the passage of the sheaves e through said guide-grooves Q the latches P are thrown (by the contact of said sheaves e with the portions p^4 of said latches) from the full-line position, in which they are illustrated in Fig. 14, to the dotted-line position, thereby removing them from sight when the device is in one or another couch position and in addition precluding the catching of the clothing thereon. (Obviously the reverse movement of said sheaves will restore the latches to operative position.)

The operation of the invention is as follows: The normal (chair) position is illustrated in Fig. 1. Here the seat-sections and the coacting locking device are in the correlation shown in said figure and in Fig. 9. If now it be desired to move the parts to another chair position, the upper end of the releasing-lever J is depressed, (as, for instance, by means of the foot,) thereby permitting the upper end of the back-section C to be moved rearwardly, the lugs i' consequently moving forwardly and out from under the cam-arms l' . If desired, both the seat-section D and extension-section E may also be moved forwardly, their sheaves riding in the coacting slots heretofore described. If it be desired to move the extension-section E to operative position while the other parts are in one or another of the sev-

eral chair positions, all three sections may be moved forwardly in the same manner as when it is desired to convert the article of furniture from a chair position to a couch position. The auxiliary frame is released (by drawing the locking-plates N rearwardly) and moved upwardly, as shown in Fig. 6. This movement will, due to the coaction of the sheaves c' and guide-grooves c^2 c^3 , press all three of the sections forward until said sheaves pass out of engagement with said guide-grooves. At this time the sheaves b^2 upon the cross-bar b' come into coaction with the rear face of the back-section C, pressing all three sections farther forward, and the auxiliary frame B may then be swung bodily upon its hinge to the position shown in Figs. 7 and 8. At this time the sheaves e , carried by the extension-section E, will lie at about those points in their coacting guide-grooves at which they are illustrated in Fig. 7. The three sections C, D, and E may then be readily canted, the studs or sheaves c^5 on the depending arms c^4 acting as the pivotal points and all three seat-sections moving simultaneously. If the lock mechanism M, &c., shall have been previously released, there will now be nothing to retain the seat-section D and extension-section E in close relation. The continued upward movement of the forward ends of the seat and extension sections will therefore permit said sections to separate, the sheaves e on the extension-section riding down the inclined portion e^2 of their coacting guide-grooves, after which said extension-section may be moved to either the full-line or dotted-line position in which it is illustrated in Fig. 4. Simultaneously the seat and back sections may be canted back to their original position. The auxiliary frame B may now be returned to the position in which it is illustrated in Fig. 1, whereupon, due to the coaction of the sheaves c' and guide-grooves c^2 and c^3 , all three of the sections will be drawn again rearwardly to the position in which they are shown in Fig. 4. In this position the back may have the inclination shown in Fig. 1 or the greater inclination shown in Fig. 4.

If it be desired to convert the device from a chair to a couch, this may readily be done, whether the extension-section E has been moved out to the position in which it is shown in Fig. 4 or not. Assuming the parts to be in the position illustrated in Figs. 1, 5, and 9, the procedure is as follows: The frame-lock is released by pressing rearwardly the locking-plates N and the auxiliary frame moved, as above described, to the position in which it is shown in Figs. 7 and 8, the coaction of the sheaves c' with their guide-grooves c^2 and c^3 and of the sheaves b^2 with the back-section moving all three sections forwardly, as before. The position of the parts at this point is illustrated in Fig. 7. If now the forward edge of the seat and extension sec-

tions be elevated or the upper end of the back-section depressed, all three will move together upon the sheaves c^5 as the pivotal point, the sheaves e passing upwardly through the approximately vertical portions e^3 of their coacting guide-grooves. (If the locking device between the back and extension sections has been previously released, it will be necessary to lift the seat and extension sections when performing this operation. If, however, such mechanism has not been released, the seat and extension sections will move as described upon the application of power.)

It will be seen that the guide-grooves e' in the main frame are highest at their forward ends. Therefore as the three sections are moved forward by the reversal of the auxiliary frame the seat and extension sections are brought closer together, and in consequence the distant end of the extension-section is brought nearer to the lower end of the back-section. Due to this, the sections being in this position, operation of the releasing-lever J is unnecessary, for the lugs l' will then be in alinement with the recesses l^2 , and slight forward movement of the back-section relatively to the seat and extension sections will cause the disengagement of said lugs. The sheaves e after passing upwardly through the approximately vertical portions e^3 of their guide-groove rest upon the upper edge of the main frame A. The extension-section is then moved forward until said sheaves meet the guide-grooves Q, through which they pass, the movement ending when the under face of the extension-section rests upon the sheaves b^3 , carried by the bars b' , extending between the side members of the auxiliary frame B. During this operation, and because of the connection between the seat-section and extension-section, the former will have correspondingly straightened out, its under face resting upon the sheaves d' , carried by the inner faces of the side members a of the main frame A. The back-section may be arranged in the same plane as the seat or extension section, being supported by the coaction of its sheaves c' c^5 with the guide-grooves f' , the former having entered those guide-grooves upon the depression of the back through the vertical portions f . In the other position, (see dotted lines, Fig. 8,) the parts being in the position just described, the back-section C may be raised so as to permit the sheaves c' to free themselves from the guide-grooves f and all three sections pressed rearwardly so as to bring said sheaves c' into coaction with notches or depressions c^6 formed in the upper edges of the side members of the frame A, whereupon the back-section will be supported in its dotted-line position to form a head-rest.

It will be obvious that the operation of the article of furniture herein described is smooth and continuous and that minimum

power is required to convert said article from one position to another. It will also be seen that a large number of different arrangements or adjustments are possible, the specific construction, selected for the purpose of describing a practical embodiment of the invention, being capable of six operative positions, in which it may be utilized as a chair, and two further operative positions in which it may be utilized as a couch. Obviously many modifications may readily be made in the construction as described herein without departing from the invention materially.

What we claim, and desire to secure by Letters Patent, is—

1. An article of furniture comprising a frame having guide-grooves, a cushion supported in said frame and having a sheave, and a latch for said frame thrown to operative and inoperative positions by said sheave, substantially as described.

2. An article of furniture comprising a main frame, and an overlying auxiliary frame hinged thereto, a cushion supported in said frames and having sheaves, a guide-groove formed in each side member of said auxiliary frame, and two guide-grooves formed in each side member of said main frame, substantially as described.

3. An article of furniture comprising a main frame, and an overlying auxiliary frame hinged thereto, a cushion supported in said frames and having sheaves, and guide-grooves in the side members of each of said frames, substantially as described.

4. An article of furniture, comprising a main frame, and an auxiliary frame connected therewith, a cushion having two sheaves at each side, one of said sheaves on each side coacting with guide-grooves in both of said frames, and the other sheave on each side coacting only with the guide-groove formed in said main frame, substantially as described.

5. An article of furniture, comprising a main frame, and an auxiliary frame connected therewith, a cushion having sheaves, two oblique guide-grooves in said auxiliary frame, and two guide-grooves in said main frame at an angle to the guide-grooves in said auxiliary frame, substantially as described.

6. An article of furniture, comprising a main frame, and an auxiliary frame, a cushion supported therein and having sheaves and two guide-grooves formed in each side member of said main frame, and having approximately parallel portions, substantially as described.

7. An article of furniture comprising a main frame, and an auxiliary frame, a cushion supported therein and having sheaves, two guide-grooves, approximately parallel, formed in each of the side members of said auxiliary frame, and two guide-grooves formed in each of the side members of said main frame, and having approximately horizontal portions, substantially as described.

8. An article of furniture comprising a main frame, and an auxiliary frame, cushions positioned in said frames and having sheaves, an approximately horizontal guide-groove in each of the side members of said main frame, and communicating with the upper edges thereof, the sheaves carried by one of said cushions coacting with said guide-grooves, and another guide-groove formed in each of the side members of said main frame, said groove being forked, one portion communicating with the upper edges of said side members, and the other being inclined, the sheaves carried by another of said cushions coacting with the guide-grooves last named, substantially as described.

9. An article of furniture comprising a frame, a sectional cushion movably supported therein and including a substantially horizontal member and a substantially perpendicular member and a locking device intermediate of said members and independent of said frame said device including coacting engaging members and a releasing device, substantially as described.

10. An article of furniture comprising a frame, a sectional cushion movably supported therein and including a substantially horizontal member and a substantially perpendicular member and a locking device intermediate of said members and independent of said frame said device including an engaging member carried by one of said section members and a coacting engaging member, and a releasing device, carried by the other section member, substantially as described.

11. An article of furniture, comprising a frame and a sectional cushion movably supported therein, a locking mechanism for said sections, including a plate or block having an extension, and projecting cam-arms, a lock in juxtaposition thereto, and an engaging member coacting with said arms and lock, substantially as described.

12. An article of furniture comprising a frame and a sectional cushion movably supported therein, and a locking mechanism for said sections, including a plate or block having an extension and projecting cam-arms, a pivoted lock in juxtaposition thereto, and an engaging member coacting with said arms and lock, substantially as described.

13. An article of furniture, comprising a frame, a sectional cushion movably supported therein, a locking mechanism for said sections, including a plate or block having an extension and projecting cam-arms, a pivoted, spring-actuated lock in juxtaposition thereto, and an engaging member coacting with said arms and lock, substantially as described.

14. An article of furniture comprising a frame, a sectional cushion movably supported therein, a locking mechanism for said sections, including a plate or block having an extension and projecting cam-arms, a lock in juxtaposi-

tion thereto, and an engaging member having lugs coacting with said arms and lock, substantially as described.

15. An article of furniture, comprising a frame, a sectional cushion supported therein, a locking mechanism for said sections, including a plate or block having an extension, recesses and cam-arms, a lock in juxtaposition thereto, and an engaging member having lugs coacting with said cam-arms and lock, and with said recesses, substantially as described.

16. An article of furniture comprising a frame, a sectional cushion supported therein, a locking mechanism for said sections, includ-

ing a plate or block having an extension, recesses and cam-arms, a lock in juxtaposition thereto, and an engaging member having lugs coacting with said cam-arms, and lock, and with said recesses, and a releasing device, substantially as described.

This specification signed and witnessed this 9th day of September, 1903.

SHERIDAN A. WALKER.
FREDERICK BENNETT.

Witnesses:

GEO. F. BOSTWICK,
F. S. WILCOX.