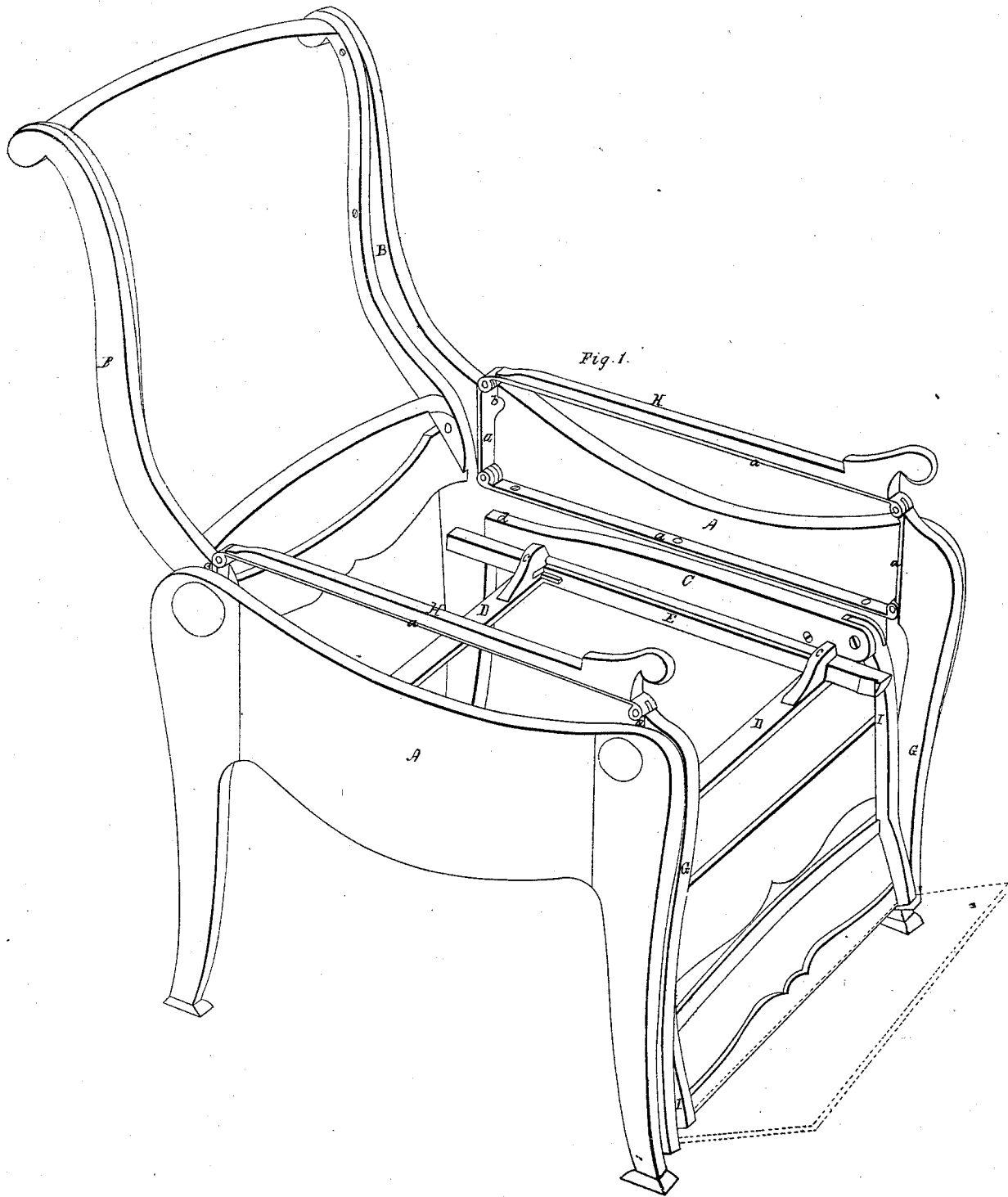


J. G. Holmes,
Chair for Invalids,
No 17,567, Patented June 16, 1857.



J.G. Holmes,
Chair for Invalids,
No 17,567, Patented June 16, 1857.

Fig. 3.

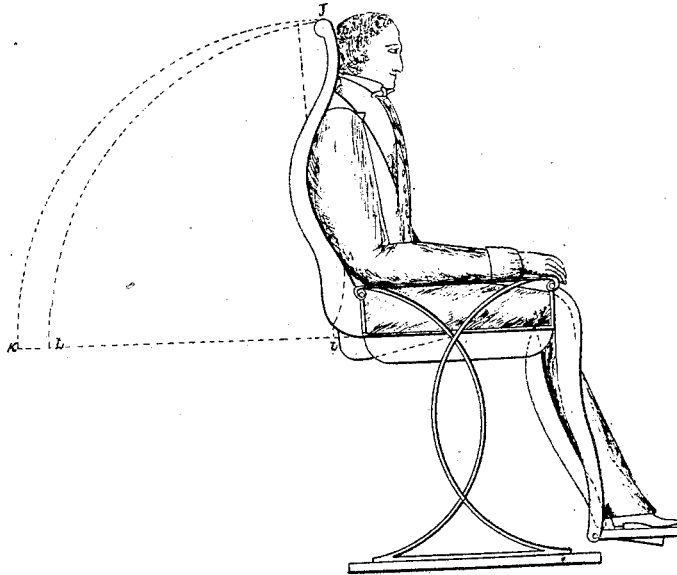
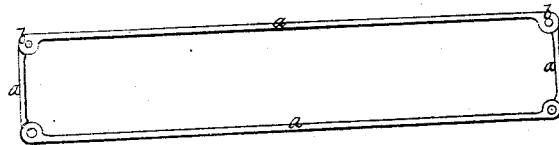
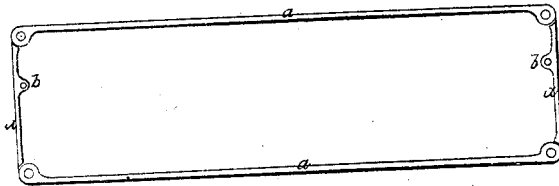


Fig. 2.



UNITED STATES PATENT OFFICE.

JAMES G. HOLMES, OF CHARLESTON, SOUTH CAROLINA.

CHAIR FOR INVALIDS.

Specification of Letters Patent No. 17,567, dated June 16, 1857.

To all whom it may concern:

Be it known that I, JAMES G. HOLMES, of Charleston, in the district of Charleston and State of South Carolina, have invented certain new and useful Improvements in Self-Adjustable Seats, Chairs, or Couches; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, in which—

Figure 1, represents a perspective view of a chair without its furniture. Fig. 2, represents detached portions of the chair, and Fig. 3, represents the principle upon which the chair or seat operates.

Similar letters where they occur referring to like parts.

Letters Patent of the United States were granted to me on the 24th of September, 1844, for "improvements in chairs for invalids."

The object of my present invention is to cure some of the defects of that chair which have presented themselves in its practical use.

The nature of my invention consists in so arranging the joint, by which the seat and back are attached, and on which they move, as that it shall correspond with the hip joint of the human frame, being above the seat and in advance of the back. Also that the knee joint, of the seat, couch, or chair, shall correspond in position as nearly as may be, with the knee joint of the human frame. Also to the frame work of metal or other material, by which all the joints and pivots, excepting that of the separate apron which moves with and supports the leg from the knee down, are combined either with or without the arm rest, as may be found desirable.

My invention is not strictly confined to household furniture, as it may be and is, equally applicable to couches or lounges for hospitals, or for seats in railroad cars, to which latter purpose I intend to apply it. Its special use for the time being by no means restricting the invention, so long as it is used either as a seat, a bed, a lounge or a couch.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same, with reference to the drawings.

A, represents the stand of the seat or chair,

which may be of wood, iron, or any other material, and to which the movable parts are pivoted as will be described.

a, a, a, a, represent the four sides of a parallel frame, which are hinged together at the corners. This frame may be of metal, or of wood and metal combined, and is pivoted to the stand A, at *b, b*, (Fig. 2) on each side of the seat or chair. The opposite sides of the frame always maintain their relative parallelism in whatever position the back and seat may be placed, and there being two of these frames, one on each side or end of the seat, said back and seat has a free and easy motion, accommodating themselves to the position of the occupant whether sitting or reclining. The back B, is secured to the rear sides of these parallel frames, and should have a profile or contour like that of the back of the human body; and it may be covered with canvas, leather, or other material, and "furnished" or upholstered, to suit the fancy, taste, or convenience of the user. The upholstering or covering of the back should be in one and the same piece with that of the seat, and should be slightly bagged or slacked at the point where the line of the back and seat would meet, so as to give freely to the play of the hinge which unites, and upon which the seat and back move. The hinge, as will be seen in the figures, is above the line of the seat, and in front of the line of the back of the chair for the purpose of placing it in a position to correspond with that of the hip joint of the person occupying it—or in other words so that the body of the occupant and the back of the seat or chair shall move upon centers that are in the same plane or nearly so, and move together, and not slide one upon the other as would be the case where one hinge or joint was below or behind the other.

The seat frame C, is secured to the under sides of the frames and preserves its horizontal position while it moves forward and back by the falling or rising motion of the back. On the cross pieces D of the seat frame, in suitable guides or supports *e, e*, are arranged the extension pieces E (one on each side) which may, when the independent apron F is raised up, be drawn forward, so as to support said apron, and the limbs of the occupant, in a horizontal position, or as nearly so, as may be comfortable or agreeable. The rear part of the seat frame at *d*,

is rounded off to conform to the outline of the part of the human figure which rests on that part of the seat, and to admit of the hinge being so placed as to correspond to the hip joint as before described. The seat can be covered and upholstered like the back or as the user may fancy.

G, G, are two supports, to which the foot rest when used may be connected. These supports are fastened to the front sides of the frames before mentioned, while the arm rest H is or may be secured to the upper sides of said frames, and thus by connecting the arm rests, the back, the seat, and the foot rest respectively to the four sides of this parallel pivoted frame the motions of the several portions of the body resting upon these parts, are all in unison, and assume their most natural position for resting the body. I have said that the arm rests H are or may be secured to the upper sides of the parallel frames—this is not actually necessary, for, as may be seen in Fig. 2, the arm rest is arranged on the parallel frame by elongating the ends of said frame above the pivoting point b, and when thus arranged the arm rests will move with the other moving parts of the chair. But the top part of the parallel frame may be at the pivoting points b, and the arm rests be fixtures on the stand A. In this latter case they would not have any connection with the adjustability of the other parts. The joint upon which the supports G mainly move are so arranged as to conform to the knee joint of the human frame, so that the person need not slip on the seat when the hip and knee joints are bent or straightened out.

I, I, are the supporting pieces of what I term the independent apron for supporting the legs from the knee joints down. These pieces, as well as the seat and back, are shaped to conform to the profile of the back of the person, and may be furnished or upholstered to correspond with said seat and back or otherwise. The whole chair being designed to fit the shape of the body of the person occupying it as near as may be, and to bend with the natural joints of the body, while the person is free to sit or recline as he may choose.

In Fig. 3 is an illustration of what is meant by arranging the joints in the seat to correspond with those of the human body,

and by explaining the principle in connection with the seat and back, the same arrangement at the knee joint will be readily understood, as well as the difference between the present and the chair patented to me as aforesaid. If, as in my former chair, the back and seat were hinged at the point where their lines would meet, as at z, Fig. 3, then the back would in falling describe the arc of a circle J, K, while the body of the person occupying the seat would move in the arc of a circle J, L, and consequently the body of the person must slip on the back of the seat, a distance equal to that between the points K, L. This is owing to the two moving on different centers. But by my present method where the joints of the chair are made to correspond with the joints of the human body, they both turn or bend as it were on the same centers, and there is consequently no slipping. To thus arrange the chair may seem the most natural and simple, but it has been by the almost innumerable experiments only, which I have made, fully attained by my present method, involving too a general and almost universal change in the proportions and configuration of the seat, chair, or lounge.

Having thus fully described the nature of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The arrangement of the joint, by which the seat and back are attached and move, so that it shall correspond with the hip joint of the human frame—that is, placing it above the seat and in advance of the back, substantially in the manner and for the purpose set forth.

2. I also claim arranging the knee joint in the chair or seat to correspond with that of the human knee joint of the person occupying it, substantially as described.

3. I also claim the frame work of metal or other material, by which all the joints and pivots, excepting that of the separate apron which moves with and supports the leg from the knee down, are combined either with or without the arm rest as may be desired, as herein set forth.

JAMES G. HOLMES.

Witnesses:

A. B. STOUGHTON,
THOMAS H. UPPERMAN.