(No Model.) 2 Sheets—Sheet 1.

A. F. CALDWELL.

HYGIENIC CHAIR.

No. 416,564. Patented Dec. 3, 1889.

Fig. 1.

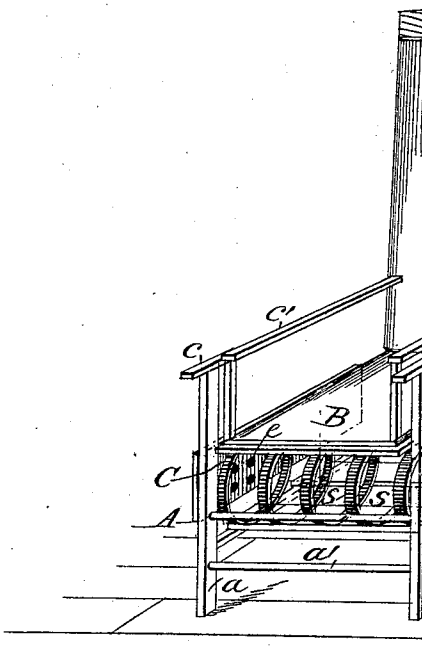


Fig. 2.

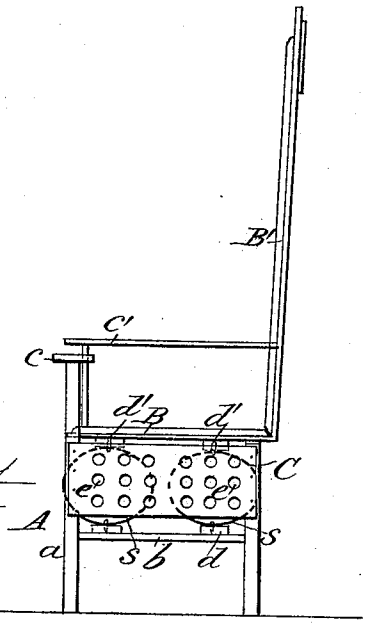


Fig. 3.

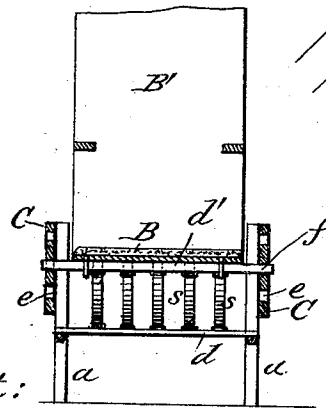
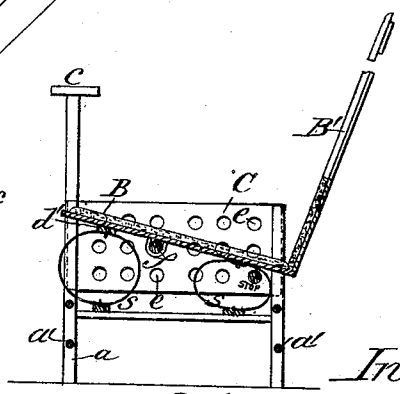


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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HYGIENIC CHAIR.

No. 416,564. Patented Dec. 3, 1889.

Fig. 5.

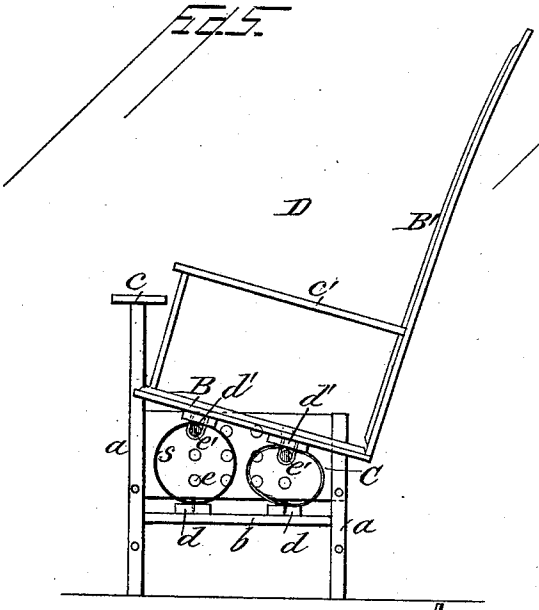


Fig. 6.

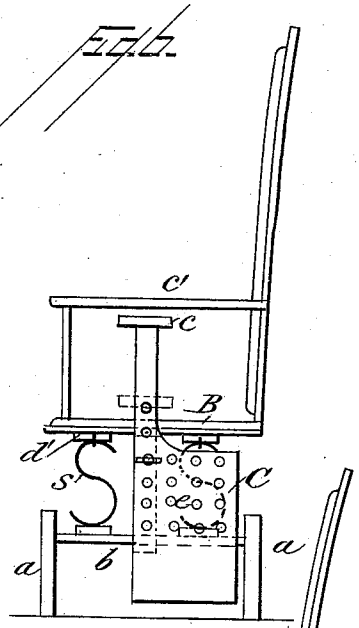


Fig. 7.

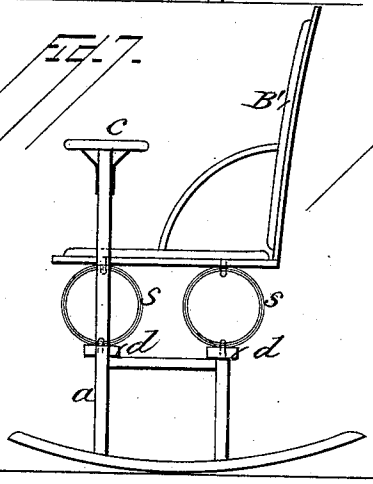


Fig. 8.

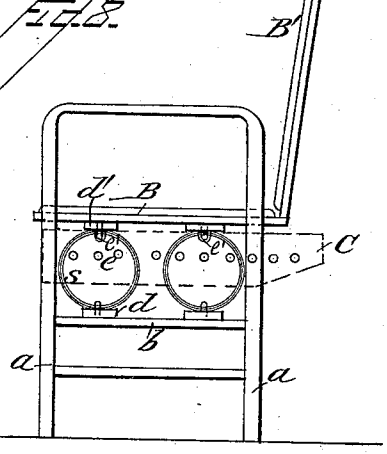


Fig. 9.

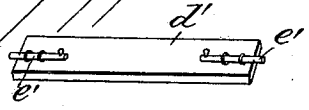
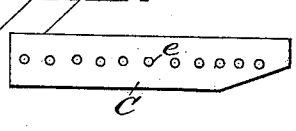


Fig. 10.



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UNITED STATES PATENT OFFICE.

ALFRED F. CALDWELL, OF NEW YORK, N. Y.

HYGIENIC CHAIR.

SPECIFICATION forming part of Letters Patent No. 416,564, dated December 3, 1889.

Application filed February 19, 1889. Serial No. 300,455. (No model.)

To all whom it may concern:

Be it known that I, ALFRED F. CALDWELL, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Hygienic Chairs; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in chairs especially designed for hygienic purposes. Many people are compelled to pass a large portion of their time in a sitting posture. Especially is this true of book-keepers and others following a sedentary profession, as well as ladies employed in sewing and similar industries. The lack of muscular movement in these cases induces sluggishness of the digestive organs generally, resulting in dyspepsia or other troublesome complaints. To obviate these difficulties and at the same time afford a pleasant seat for all is the object of my invention; and the invention consists in the construction and arrangement of parts, as hereinafter set forth, and specifically pointed out in the claims.

In constructing this chair a frame is used for the lower part of the same resembling in many respects that in common use, but without an attached seat, the seat, arms, and back being connected and supported upon a series of peculiarly-constructed springs, having a large vertical movement, and carried upon cross-bars attached to the chair-frame, is allowed not only a vertical movement on the springs, but also an oscillating one as the weight of the occupant is thrown on either the front or rear series of springs, and this see-saw motion may be augmented by placing across the frame, beneath the seat, a bar upon which it oscillates, as upon a fulcrum, this bar being supported by two side boards attached to the frame-legs and pierced with a series of holes, so that the position of the fulcrum-bar with relation to the seat may be changed to produce the movement desired by the occupant of the chair.

In carrying out this invention I prefer to construct the several parts of the apparatus as shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a chair complete in its preferred form. Fig. 2 is a side elevation. Fig. 3 shows a vertical transverse section illustrating the relative arrangement of the springs to the seat and other parts of the chair. Fig. 4 is a vertical longitudinal section showing the parts of the chair as arranged for rocking. Fig. 5 illustrates the arrangement of parts when the chair is tipped back and secured in that position. Fig. 6 shows a modification in which **S**-springs are used in place of circular or elliptical, the side boards also being placed vertically, their upper ends forming a hand-rest. Fig. 7 shows a modification in which the chair is placed on ordinary rockers. Fig. 8 represents a modification in which the arms attached to the seats are dispensed with, the front and rear legs being extended upward and connected by a cross-bar, which forms the hand-rest and arm. Fig. 9 is a perspective view of a seat-support provided with sliding bolts. Fig. 10 shows a form of side board extending to the rear of the shaft.

In the several figures, A represents the base or frame which supports the springs and seat. This frame is composed of four posts *a a*, one being placed at each corner in the ordinary manner and connected in front and rear by the cross-bars *a' a'* and at the sides by the bars *b*. The front posts of the frame extend upward to some distance above the seat and terminate in hand-rests *c* nearly on a level with the arms of the chair. These hand-rests form a stationary point of support for the hands of the occupant of the chair, by means of which he is enabled to give a tetering movement to the seat.

Crossing the chair-frame and carried at each end on the cross-bars *b b* are the spring-supports *d d*. These supports carry and have firmly secured to them the springs *s*, which springs are preferably of an elliptical or **S** form, as shown in Figs. 5 and 6 of the drawings; but it will be readily comprehended that springs of any form having a sufficiently great range of vertical movement may be substituted. These springs are arranged along each

spring-support in sufficient numbers to give the desired resistance to the downward movement of the seat proportioned to the weight it is intended to carry. In a chair designed for children or light persons the springs should be less in number or reduced in stiffness from those used in a chair designed for the use of men or heavy persons. Secured to the top of each series of springs is a seat-bearer d', and upon these bearers rests the seat B, which is provided with an upwardly-extending back-support B′ and arms c', said back and arms being of any approved construction. It will be seen that by this method of constructing the several parts of the chair the seat, back, and arms are entirely independent of the base-frame, upon which they are carried, and that the occupant of the chair-seat may rock or give a vertical movement to said seat at will. In order to aid in these desired movements, side boards C are secured to the posts of the base upon each side of the chair. These side boards are pierced with rows of holes e, which may be at different elevations. It will be understood that when the springs are compressed by the weight of a person in the chair the seat is brought down beneath the upper edge of these side boards. When it is desired to rock or give a seesaw movement to the seat, a bar f may be placed beneath the seat, passing through staples in the same, with its ends supported in one of the holes of the side boards upon each side of the chair. This bar f thus forms a fulcrum upon which the seat may oscillate, partially supported by the springs on either side; and it will be observed that the position of this bar may be changed to bring it near the front or toward the rear of the chair, as well as higher or lower, thus changing the position of the fulcrum in relation to the occupant of the seat, and also the amount of resistance to oscillation by the springs, as the more they are compressed before the insertion of the bar the greater will be their resistance to the movements of the seat.

As it is desired sometimes to secure the seat in a fixed position, the seat-bearers d' are provided at each end with sliding bolts e', that may be slid into holes e in the side boards, thus preventing any movement of the springs. By changing the position of these bolts in the holes of the side boards the seat may be secured in a level position, or given an inclination to the front or rear, as may be desired.

In the several modifications of the chair shown in the drawings it will be observed that these principal features have been preserved, although the form of certain parts differs in the different figures.

Having thus described my invention, I claim as new and desire to secure by Letters Patent the following:

1. As an improvement in hygienic chairs, a chair-seat supported on springs, in combination with an adjustable bar adapted to be placed in position beneath said seat and act as a fulcrum upon which the seat may oscillate, substantially as set forth.

2. As an improvement in hygienic chairs, the stationary frame provided with perforated side boards, substantially as shown and described, in combination with springs mounted on said frame, a seat supported by the springs, and pins passing through the perforations of the side boards and adapted to temporarily secure the seat in any desired position, as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED F. CALDWELL.

Witnesses:

A. WRIGHT,

FRANK E. STUBBS.