(No Model.)

W. C. TAIT.

CHAIR.

No. 362,796. Patented May 10, 1887.

Fig. 1

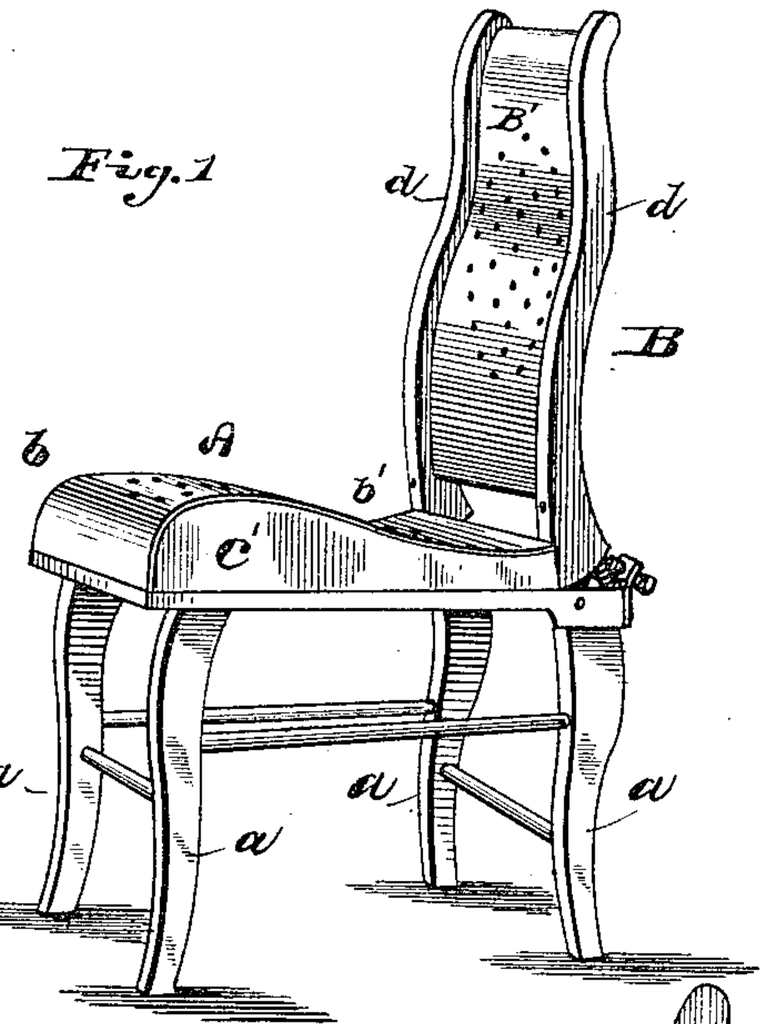


Fig. 3

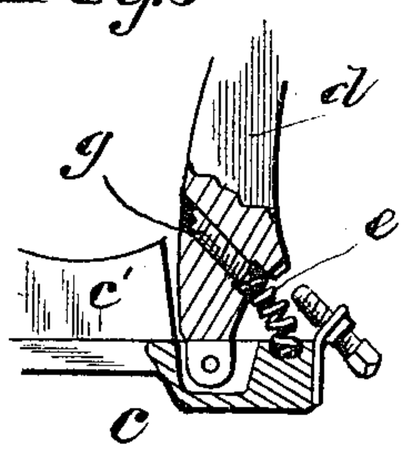


Fig. 4

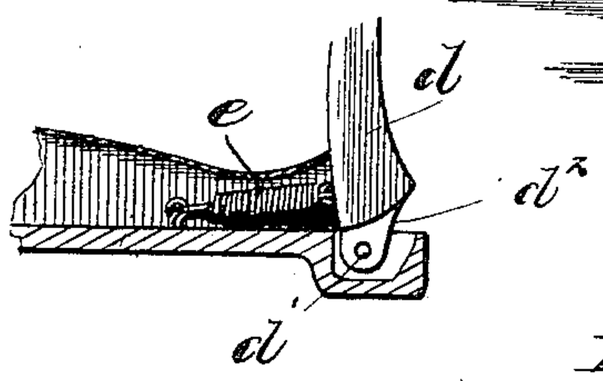


Fig. 5

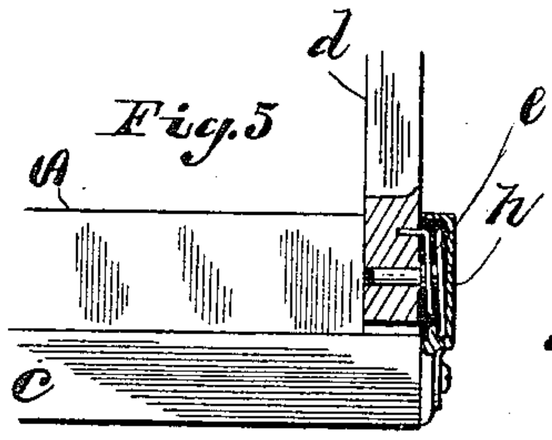
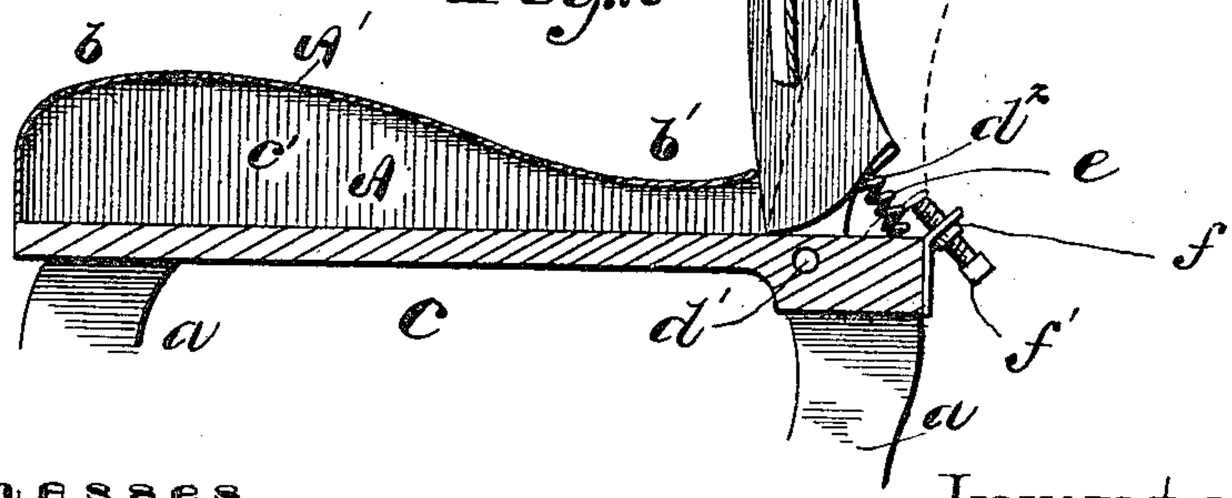


Fig. 2



Witnesses
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Chas. Stewart

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UNITED STATES PATENT OFFICE.

WILLIAM C. TAIT, OF MECHANICSBURG, OHIO, ASSIGNOR OF ONE-FOURTH TO HORACE M. SCEVA, OF SAME PLACE.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 362,796, dated May 10, 1887.

Application filed October 12, 1886. Serial No. 215,960. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. TAIT, a citizen of the United States, residing at Mechanicsburg, in the county of Champaign and State of Ohio, have invented certain new and useful Improvements in Chairs, of which the following is a specification.

My invention relates to an improvement in chairs. The object of my invention is, first, to provide a chair having a flexible back which is so constructed as to form a continual support for the back or spine when seated in any position or inclination which the body may assume.

The further object of my invention is to provide a seat of a peculiar shape or form, whereby the weight of the body is distributed over the largest possible amount of space.

My invention consists in the various constructions and combinations of parts hereinafter described, and set forth in the claims.

In my improved chair described herein I construct the seat with a raised front which curves backwardly and downwardly, so as to conform to the posterior portion of the body. The back is curved to conform as far as possible to the spinal column, and made flexible and provided with suitable springs, so that it presses up to the back and accommodates itself to any position of the sitter.

I preferably construct the chair of thin perforated wood commonly used for the seats and backs of chairs, which may be readily bent to the required shape. It is obvious, however, that it may be constructed of any suitable material, and, if desired, may be upholstered in various ways and styles.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of a chair embodying my invention. Fig. 2 is an enlarged sectional elevation of the same. Fig. 3 is a detailed view, partly in section, showing the manner of hinging the back. Figs. 4 and 5 are detailed views showing modifications in the manner of hinging the back and applying the springs.

Like parts are indicated by similar letters of reference throughout the several views.

In the said drawings, A represents the seat, and B the back. The seat A is preferably supported in the ordinary manner on legs *a a*. Instead of making the seat flat, I provide a raised portion, *b*, at the front thereof, and curve the seat backwardly and downwardly to a point, *b'*, which curvature conforms as nearly as possible to the posterior portion of the body.

The seat is preferably constructed with a plain base, *c*, on which are supported the side pieces *c'*, on either side of the chair.

The seat proper, A', is formed of thin perforated wood bent to the proper shape and supported on the side pieces *c' c'*.

The back B is preferably constructed with the side pieces *d*, the back proper, B', being formed of perforated wood bent to the proper shape to conform to the natural curvature of the back or spinal column.

The side pieces *d d* are each provided at its lower end with a tenon adapted to fit in a mortise in the base *c* of the seat A, and be secured therein by a pin, *d'*, on which it is adapted to turn. The lower rear corners of the side pieces *d* are each preferably cut away, as shown at *d²*, and a small coiled spring, *e*, inserted between the said side pieces and the base *c*, the said spring being adapted to extend at either end into the side pieces *d d* and the base *c*, respectively, as shown in Fig. 3. It will be seen now that the back will be held firmly against the sitter in any ordinary position which he may occupy in the chair. The seat being constructed to conform to the posterior portions, the weight is distributed evenly throughout, and the inclination to slip out of the chair, when leaning back slightly therein, is obviated.

By the peculiar construction and form of the seat the body, instead of slipping forward, as is the tendency in chairs of the ordinary type, presses backwardly against the back, which always accommodates itself to the body of the sitter, thus forming a support therefor.

In order to prevent the back from moving too far, and to regulate the same to the amount of movement desired, I provide adjusting means for limiting the motion thereof. This is preferably accomplished by securing to the rear of the base *c* of the seat a small spring-clip, *f*, through which is projected an adjustable set-screw, *f'*, adapted as the back is moved

rearwardly to strike against the side pieces *d d*, and thus limit the motion thereof. The stop thus formed may be adjusted to any desired point by turning the set-screw *f'* inwardly or outwardly.

It may be desirable that means be provided for adjusting the tension of the springs which support the back. This I preferably accomplish by inserting through each of the side pieces *d d* an adjustable screw, *g*, adapted to bear at its inner end against the end of the spring *e*.

The screw *g* is preferably sunk in the side piece *d*, so as not to interfere with the efficiency of the chair. By turning the said screw *g* backwardly or forwardly it will be seen that the tension of the spring may be varied as desired.

In Fig. 4 I have shown a modification of the spring. In this case the spring is inserted in the seat A below the seat proper, A', the spring being adapted to be extended as the pressure is released against the back, instead of compressed, as in the former case.

In Fig. 5 another modification is shown, in which a spiral spring is used, the side pieces *d d* being hinged on a trunnion on a spring-case, *h*, which incloses the springs and is adapted to be secured to the base *c*. By this construction the tenon and pin are dispensed with, and the back and its springs may be readily removed by removing the spring-case *h*.

It is obvious that various other modifications may be employed without departing from the spirit of my invention, and I do not wish to be limited to the particular forms shown and described.

A seat or chair thus constructed may be used for general seating purposes for vehicles, railway-cars, and for all purposes for which it is adapted.

Having thus described my invention, I claim—

1. The combination, with a seat having a raised portion at the front which curves backwardly and downwardly, of a yielding back pivoted thereto, means for varying the tension of said yielding back, and an adjustable stop to limit the motion thereof, substantially as set forth.

2. The combination, with the base *c*, of the yielding back pivoted thereto, springs *e*, adjustable spring-screws *g*, and adjustable stop-screws *f'*, substantially as and for the purpose set forth.

3. The combination, with a seat formed with a raised portion in front and curved backwardly and downwardly to conform to the posterior portion of the body, of a flexible back curved to conform to the natural curvature of the spinal column, springs for connecting said back and seat, an adjustable stop for limiting the motion of the said back, and means for adjusting the tension of said springs, substantially as set forth.

4. The combination, with a seat composed of a lower base, side pieces supported thereon, the seat proper composed of thin perforated wood bent to conform to the posterior portion of the body and supported on said side pieces, of the back having side pieces pivoted to said base, and a back proper formed of thin perforated wood curved to conform to the natural curvature of the back, springs connecting said side pieces and seat, an adjustable stop for limiting the motion of the said back, and means for adjusting the tension of said springs, substantially as set forth.

In testimony whereof I have hereunto set my hand this 8th day of October, A. D. 1886.

WILLIAM C. TAIT.

Witnesses:
W. C. PANGBORN,
O. C. HUPP.