R. OTTO.
Oscillating-Chair.

No. 202,576. Patented April 16, 1878.

Fig. 1.

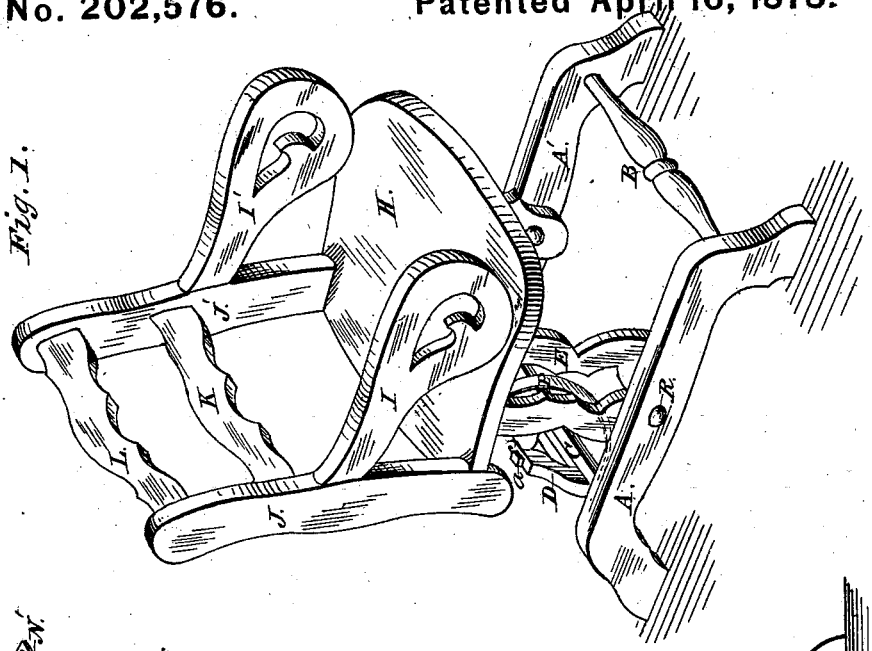


Fig. 4.

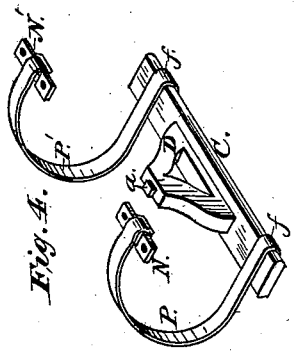


Fig. 2.

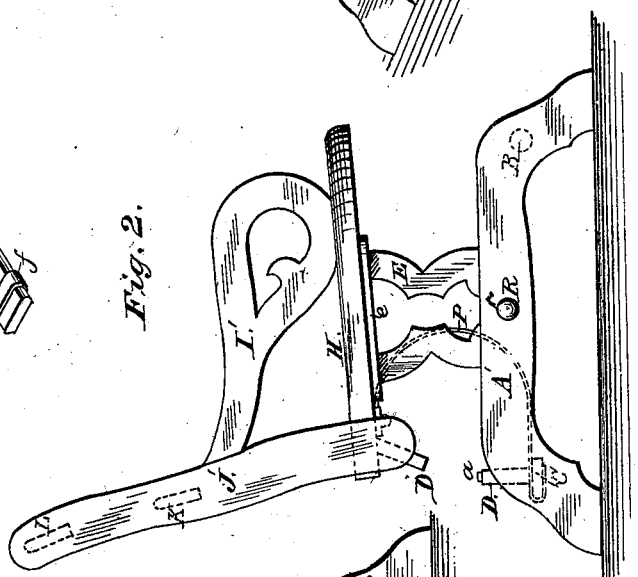


Fig. 5.

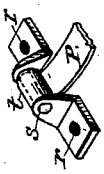
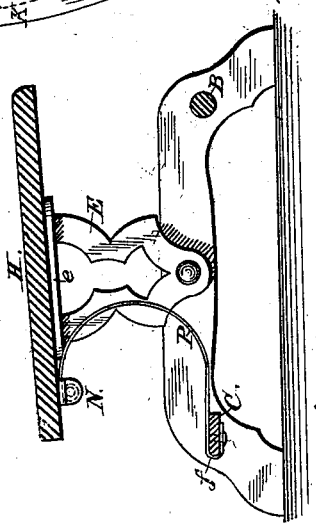


Fig. 3.



Witnesses:
Joseph C. Wildman
E. C. Grant

Inventor:
Robt. Otto
per. J. W. Suggett
atty.

UNITED STATES PATENT OFFICE.

ROBERT OTTO, OF CORTLAND, NEW YORK.

IMPROVEMENT IN OSCILLATING CHAIRS.

Specification forming part of Letters Patent No. **202,576**, dated April 16, 1878; application filed February 12, 1878.

To all whom it may concern:

Be it known that I, ROBERT OTTO, of the village of Cortland, in the county of Cortland and State of New York, have invented new and useful Improvements in Chairs, which said improvements are fully set forth in the following specification and accompanying drawings, reference being had to the figures and letters of reference marked thereon.

The invention consists in certain peculiarities of construction, which will hereinafter be more specifically pointed out in the claim.

In the drawings, Figure 1 is a perspective view of my improved chair. Fig. 2 is a plain side view of the said chair. Fig. 3 is a side view of the inside of one of the sides of the lower part of my said chair, showing the riser and the manner of the application of one of the steel springs. Fig. 4 is a perspective view of the two springs, with one of the lower spindles or rails. Fig. 5 is a perspective view of the hinge-fastening used to fasten the said springs to the under side of the seat of the chair.

In the drawings the same letters on the different figures denote the same parts.

In Fig. 1, H is the seat of the chair; I and I′, the arms of the same; K and L, the back-rails. A and A′ are the side pieces of the bottom frame-work, and B and C cross-rails or spindles. E is one of the two similar risers, made usually of metal, and in the ornamental form shown, the upper ends of the said risers being fastened rigidly by screws passing through the flange *e* to H, and being pivoted at the lower ends to A and A′ by means of bolts passing through them, one being shown at R. This allows the seat of the chair to oscillate backward and forward with the said bolts as centers. On the under side of the back part of H and the upper side of the rail C are fastened two projecting pieces, D and D′, as shown in Fig. 2. On D is placed the buffer of rubber, *a*. The object of these two projecting pieces is to keep the chair from tipping back too far.

To the under side of H, and to the rail or spindle C, are fastened two C-shaped springs, P and P′, these springs being usually made of steel, one and one-half inch wide by one-eighth of an inch thick. The manner of fastening the springs P and P′ to the seat H is shown in Fig. 5. The end of the spring is curved at *t*, so as to pass around *s*, the whole hinge-joint N being fastened to H by screws being used in brackets *r* and *r′*. The other ends of the said springs P and P′ are bent around the rail C, as shown at *f* and *f′*, Fig. 4, and are fastened thereto by screws, one being shown at *d*, Fig. 3.

In case a very strong spring to a chair is desired, one more spring like P and P′ can be used, thus making three springs.

The risers E, I usually make of metal, and have the same all cast in one piece with the flange *e* thereon.

In the construction of the several parts of my improvements, I make use of materials of such dimensions and quality as will stand the strain to which they will be subjected.

Having thus described the construction of my improvement in chairs, I will now proceed to describe their use and operation. The chair being in the position shown in Fig. 1, it will readily be seen that the springs P and P′ keep it in its right position, and when the operator sits on H it can easily oscillate or rock backward and forward, the springs P and P′ closing and opening so as to permit this action.

It is also evident that when either a backward or a forward motion is given to the seat of the chair, the operation of the springs P and P′ tends to make the said seat assume its normal position.

It will thus be seen that this chair is easier and more pleasant to operate than the ordinary rocking-chair, because the said springs greatly assist the operator.

It will be noticed, further, there there is no motion of the bottom of the chair resting on the floor. Thus the motion produced in operating the chair is uniform and gentle.

I am aware that the frame-work A, A′, B, and C is old; also, the seat H, and other parts, I and I′, J and J′, and L and K, are old, and I make no claim thereto.

I am also aware that rocking-chairs have been made with a frame-work similar to A,

A′, B, and C, with ordinary curved rockers resting on the pieces A and A′, so as to rock thereon.

What I claim as my invention, and desire to secure by Letters Patent, is—

In a chair, the combination and arrangement of the springs P and P′, risers, as described, frame-work A, A′, B, and C, projecting pieces D and D′, with rubber buffer *a* on D, hinge-joint N, and seat H, all made, combined, arranged, and used substantially in the manner and for the purposes shown and specified.

ROBERT OTTO.

Witnesses:
FREDERICK HATCH,
W. Z. BOYNTON.