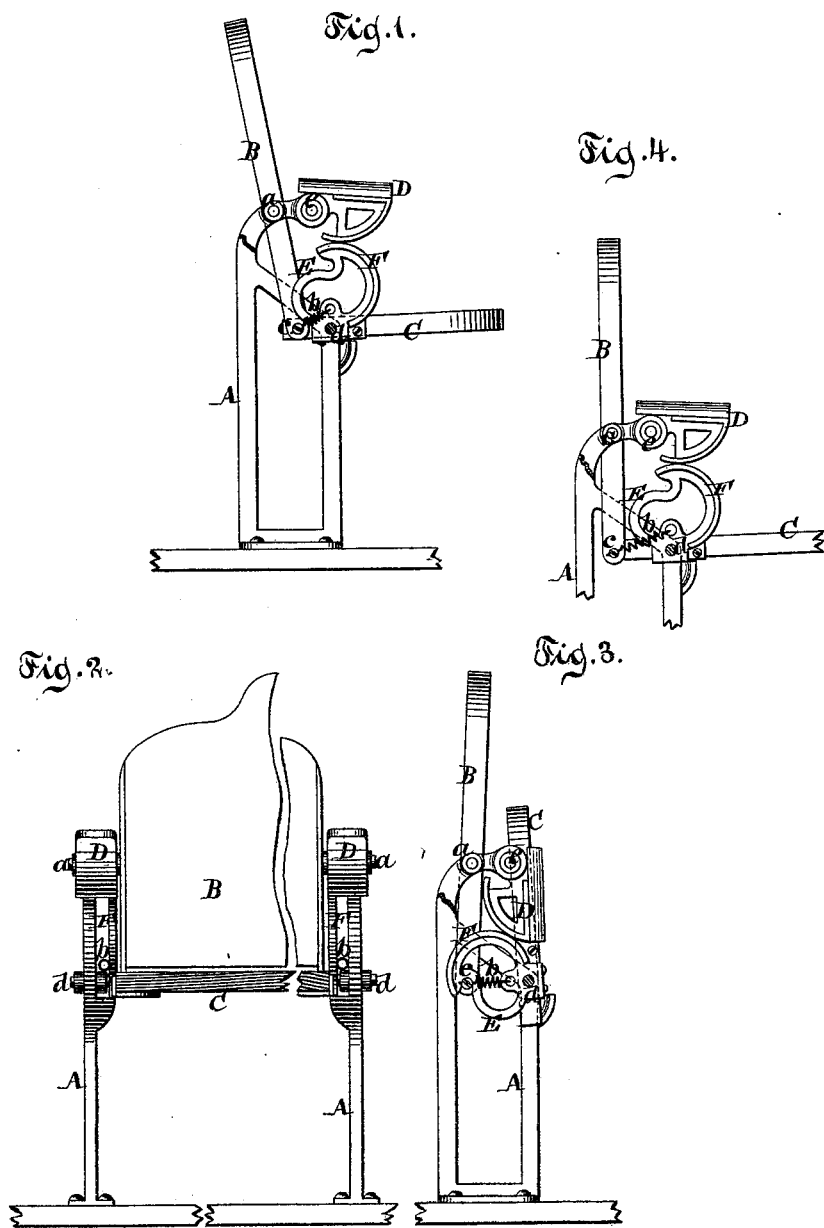


P. W. NOLAN.
Opera-Chair.

No. 196,036.

Patented Oct. 9, 1877.



Witnesses
Otto Stiefeland
Hugo Ruedemann.

Inventor
Patrick W. Nolan
by
Carl Santwood & Clauff
his attorneys.

UNITED STATES PATENT OFFICE.

PATRICK W. NOLAN, OF NEW YORK, N. Y., ASSIGNOR TO HERBERT F. PALMER, OF SAME PLACE.

IMPROVEMENT IN OPERA-CHAIRS.

Specification forming part of Letters Patent No. 196,036, dated October 9, 1877; application filed April 18, 1877.

To all whom it may concern:

Be it known that I, PATRICK W. NOLAN, of the city, county, and State of New York, have invented a new and useful Improvement in Opera-Chairs, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a sectional side elevation of a chair containing my improvement. Fig. 2 is a front view thereof. Fig. 3 is a side elevation of the same when folded. Fig. 4 is a side view thereof when the lower part of the back is moved to its rear position.

Similar letters indicate corresponding parts.

My improvement has reference to that class of chairs which are designed for use in opera-houses and other like places; and it consists in a swinging back, in combination with springs or equivalent devices, so arranged that the back will yield and swing outward away from the seat when pressed against below its horizontal supports, so that a person occupying the chair is enabled to throw his or her body backward when it is desirable—as, for instance, when a person passes through the row to which the chair may belong in a theater or other place, while, after the body of the person is again moved to a forward position, the chair-back resumes its normal position; also, in combining with the swinging back and the aforesaid springs a swinging seat and also cams, which are affixed to two opposite edges of said seat, and the faces of which bear against pins projecting from two opposite edges of the swinging back in such a manner that when the chair is folded up said cams automatically move the chair back from an inclined to a perpendicular position, or nearly so, so that the chair occupies the least possible space when folded; further, in combining with the swinging seat and back, and with the cams for actuating said back, folding arms and supplemental cams, which latter are formed in one piece with the said cams for actuating the swinging back, and which serve to elevate the chair-arms when the chair is unfolded, as hereinafter more fully described.

In the drawing, the letter A designates the frame of my chair. B is the back. C is the

seat, and D are its arms. The back B is hung near its middle part on pivots *a* in the frame A, in the usual manner. To two opposite edges, and below the pivots *a*, of said back B, are connected springs *b*, one of the ends of such springs being attached to pins *c*, projecting from said two edges of the back B, while the other or front end of said springs is attached to the chair-seat C. If desired, however, the front ends of the springs *b* can be attached to the frame A, instead of to the seat C, without changing the effect of the springs. Said springs *b* have a tendency to draw the lower part of the chair-back B forward, or in the direction of the seat C, and at the same time allow of pushing back said lower part of the back B to the position shown in Fig. 4 at all times. The rear edge of the seat C forms a stop to arrest the lower end of the back B, or, in other words, to determine the position of said back; and the back B is so arranged that it is inclined when in its normal position, as shown in Fig. 1. The seat C is hung, at or near its rear end, on pivots *d* in the frame A, in the usual manner, so that it can be folded up against the back B. To two opposite edges of the seat C are fastened cams E, the faces of which bear against the pins *c* of the chair-back B when the seat C is folded up against said back, and these cams are so shaped that by their means said back is swung round on the pivots *a* from its normal or inclined position to a perpendicular, or nearly perpendicular, position, and against the action of the springs *b*, as shown in Fig. 3, when the chair is folded up. Said cams E are, moreover, so shaped that when the seat C is in its highest position they catch over the pins *c*, (see Fig. 2,) and by this means the seat and back of the chair are held together. The chair-arms D are hung at their rear ends on pivots *e* in the frame A, in the usual manner, and they rest on supplemental cams F, which are formed in one piece with the cams E, and which, together with said cams E, are fastened to two opposite edges of the seat C. Now, the supplemental cams F, as well as the cams E, partake of the movement of the seat C, and said supplemental cams are so shaped that when the seat C is unfolded the chair-arms D are elevated by their means,

so as to adapt them for use, as shown in Fig. 1, and vice versa.

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

1. In an opera or other chair, the swinging back B, in combination with springs *b*, or equivalent devices, so arranged that the back will yield and swing outward away from the seat of the chair when pressed against below the horizontal supports of the back, substantially as set forth.

2. The combination, in a chair, of a swinging back, B, a swinging seat, C, and springs *b*, arranged so as to draw the lower part of the back in the direction of said seat, and allow of a rearward movement of said lower part of the back when desirable, substantially as described.

3. The combination, with the swinging back

B, the springs *b*, and with the swinging seat C, of cams E, which are affixed to the seat, and arranged to act on the swinging back and push its lower part outward against the action of said springs to a perpendicular position, or nearly so, when the chair is folded up, substantially as described.

4. The combination, with the cams E, of supplemental cams F, formed in one piece with said cams E, substantially as described, and for the object specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 12th day of April, 1877.

PATRICK W. NOLAN. [L. S.]

Witnesses:

J. VAN SANTVOORD,
E. F. KASTENHUBER.