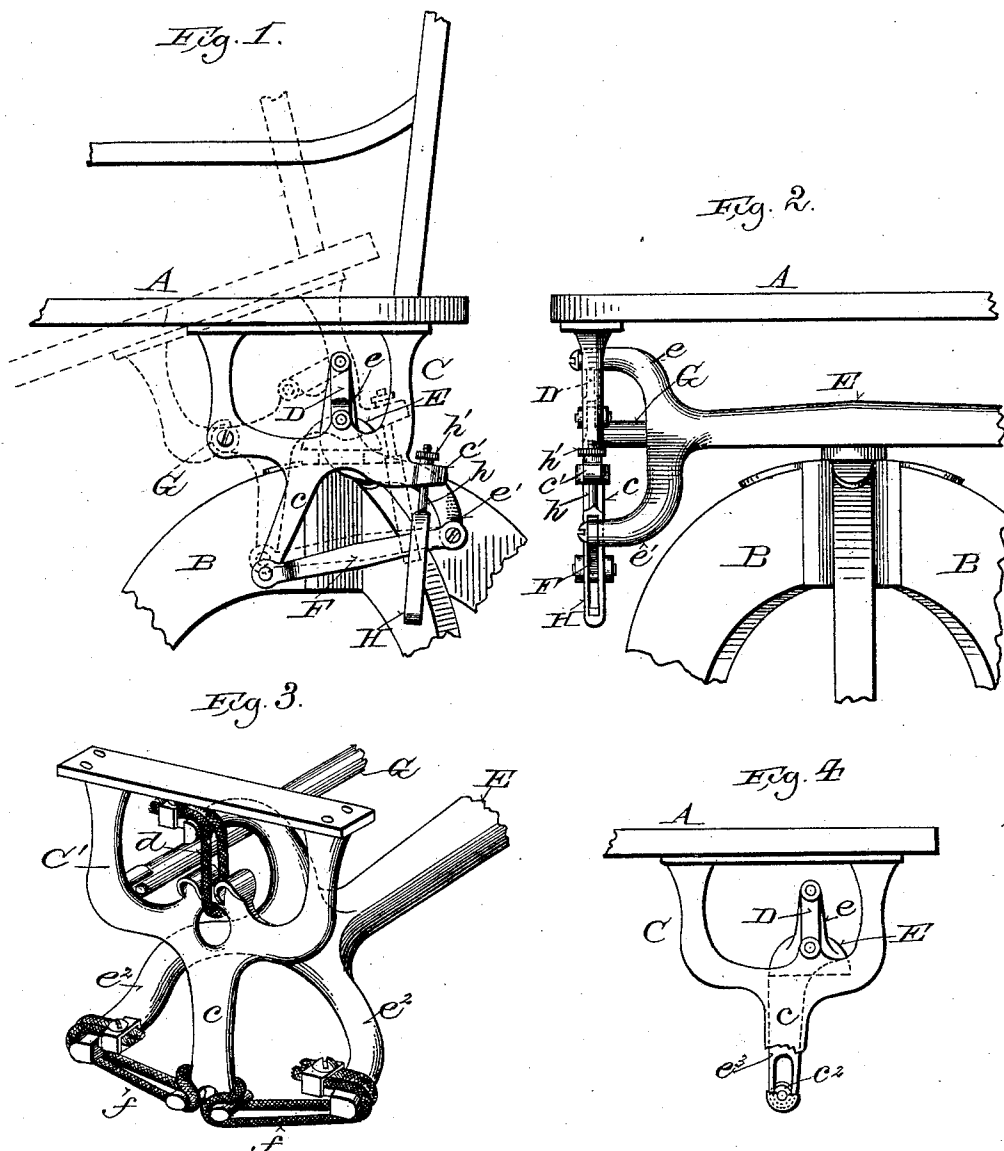


(No Model.)

W. M. BOENNING.
ROCKER.

No. 472,330.

Patented Apr. 5, 1892.



Witnesses:

E. C. Amur
Chas. L. Goss.

Inventor:

William M. Boenning
By *Windle Henderson Smith* *Porter & Co.*
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM M. BOENNING, OF PORT WASHINGTON, WISCONSIN.

ROCKER.

SPECIFICATION forming part of Letters Patent No. 472,330, dated April 5, 1892.

Application filed October 26, 1891. Serial No. 409,783. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. BOENNING, of Port Washington, in the county of Ozaukee and State of Wisconsin, have invented certain new and useful Improvements in Rockers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it pertains 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.

The main object of my invention is to provide a simple easy-working rocker for chairs, cradles, &c., and in the construction of the same to dispense with springs.

It consists, essentially, of depending arms or frames attached to the rocking part, suspended by links, cords, or chains from a relatively-fixed support or supports and having vertically-adjustable connections with said support or supports below, and of certain other novel features hereinafter particularly described, and pointed out in the claims.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 is a side elevation of a portion of a chair provided with my improved rocker. Fig. 2 is a rear elevation of the same. Fig. 3 is a detail view in perspective of a modified form of the rocker, and Fig. 4 is a side elevation showing a still further modification of the rocker.

A represents the seat of a chair, and B the base upon which it is supported, each of the ordinary or any suitable construction for use with my improved rocker.

C represents a depending arm or hanger attached to one side of the chair-bottom A. It is suspended by a link D from a laterally-projecting spur *e* on a cross-piece E, carried by the base B, which may be swiveled at the center in the base B or rigidly attached to the base, according to the purpose for which the chair is to be used. The hanger C is formed below its connection with the link D with an arm *c*, which is connected by a link F with a spur *e'* on cross-piece E.

It will be understood that the construction

of the rocker on the two sides of the chair is the same or similar.

The hangers are braced and firmly held at the proper distance apart below the chair-bottom by a cross-bar G, attached in any suitable manner at the ends to said hangers.

H represents a stop formed in the shape of an oblong loop with a threaded stem *h* at the upper end which passes through a perforated ear *c'* on the hanger C and is provided above the ear with a nut *h'*. The link F passes through the opening in the loop, the ends of which, engaging therewith, limit the movement of the chair in either direction. By means of the nut *h'* the stop H may be adjusted so as to limit the rocking movement of the chair at different points, as desired.

My improved rocker operates as follows: When the seat of the chair or the part to which the hanger C is attached is moved forward or back from its middle or normal position, (shown by full lines in Fig. 1,) the link D is swung from a perpendicular, as indicated by dotted lines in Fig. 1, thereby tilting the chair and at the same time slightly raising it. The weight of the chair with the load which it carries tending to return the link D to a perpendicular causes the hanger to swing in an opposite direction past its middle or normal position. The link F, allowing a slight vertical movement of the hanger due to the arc motion of the link D, holds the lower end of arm *c* in an approximately-vertical line, while the upper portion of the hanger is swung back and forth from its pivotal connection with said link F, and the farther the link D is swung from a perpendicular the more the hanger will be elevated and the greater will be the tendency of the weight which it supports to carry it in the opposite direction past its middle position. In this manner an easy rocking motion may be produced and maintained with little effort.

Referring to Fig. 3, illustrating a modification of the rocker, in place of the suspending-link D, I show a cord *d*, looped through an eye in the hanger C' and secured at the ends, above its connection with the hanger, to a spur on the cross-piece E. The downwardly-projecting arm *c* on the lower side of the hanger is connected on opposite sides by cords *f f*,

with spurs or branches e^2 e^2 on the cross-piece E, so as to restrain the lower end of said arm from lateral movement, and at the same time permit of the vertical movement of the hanger due to the arc which it describes in swinging upon the suspending-cord d .

Referring to Fig. 4, illustrating a still further modification of the device, in place of the link connection shown in Fig. 1 and the cord connection shown in Fig. 3 between the depending arm c of the hanger and the branches or spurs of the cross-piece carried by the base, I show the depending arm of the hanger provided with an inwardly-projecting pin carrying a friction-roller c^2 , which is inserted in a vertical slot or opening formed for its reception in an arm e^3 on the base of the chair. This device, like those shown in the other figures, permits of the vertical movement of the hanger as it swings upon the link D, and at the same time restrains the lower end of the arm c from moving forward and back with the upper portion of the hanger.

For convenience of illustration I have shown and described my improved rocker in connection with a chair; but it may be readily applied with equal advantage to cradles, rocking-horses, &c., and it is susceptible of various modifications in its details within the intended scope and spirit of my invention.

I claim—

1. In a rocker for chairs, &c., the combination of depending hangers, links suspending said hangers from a relatively fixed support, and vertically-movable connections between said hangers and support, substantially as and for the purposes set forth.

2. In a rocker, the combination, with a suitable base, of hangers attached to the rocking part, links suspending said hangers from said base, and links connecting said hangers below said suspending-links with said base, substantially as and for the purposes set forth.

3. In a rocker, the combination, with a suitable base, of hangers formed with downwardly-projecting arms, which are connected with said base by links, and links suspending said hangers from the base above the link connection

of said arms, substantially as and for the purposes set forth.

4. In a rocker, the combination, with a suitable base, of a cross-piece swiveled at the center in said base and forked at the ends, hangers attached to the rocking part and suspended by links from the upper forked arms of the said cross-piece and connected below by links with the other forked arms of said cross-piece, substantially as and for the purposes set forth.

5. In a rocker, the combination, with a suitable base, of hangers suspended therefrom by links, and having below said links vertically-movable connections with said base, and a stop arranged to limit the movement of said hangers, substantially as and for the purposes set forth.

6. In a rocker, the combination, with a suitable base, of hangers suspended therefrom by links and connected below said links with said base, and an adjustable stop arranged to limit the movement of said hangers at the desired points, substantially as and for the purposes set forth.

7. In a rocker, the combination, with a suitable base, of hangers attached to and depending from the rocking part, links suspending said hangers from said base, links connecting said hangers with said base below its suspending connections, a loop through which one of the last-mentioned links passes, adjustably secured to the adjacent hanger, so as to limit its rocking movement at the desired points, substantially as and for the purposes set forth.

8. In a rocker, the combination, with a suitable base and swinging part, of hangers attached to said swinging part and suspended from said base, with which they have vertically-shifting connections below, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM M. BOENNING.

Witnesses:

CHAS. L. GOSS,
E. G. ASMUS.