(No Model.) 2 Sheets—Sheet 1.

P. SERGE-KISSLOW.

AUTOMATIC FAN DEVICE AND ROCKING CHAIR.

No. 573,167. Patented Dec. 15, 1896.

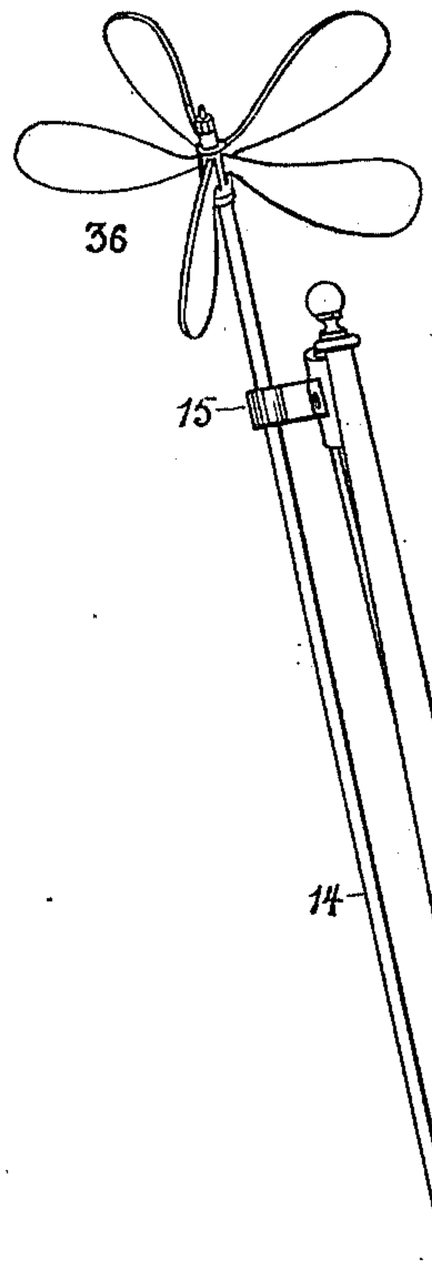

Fig. 2.

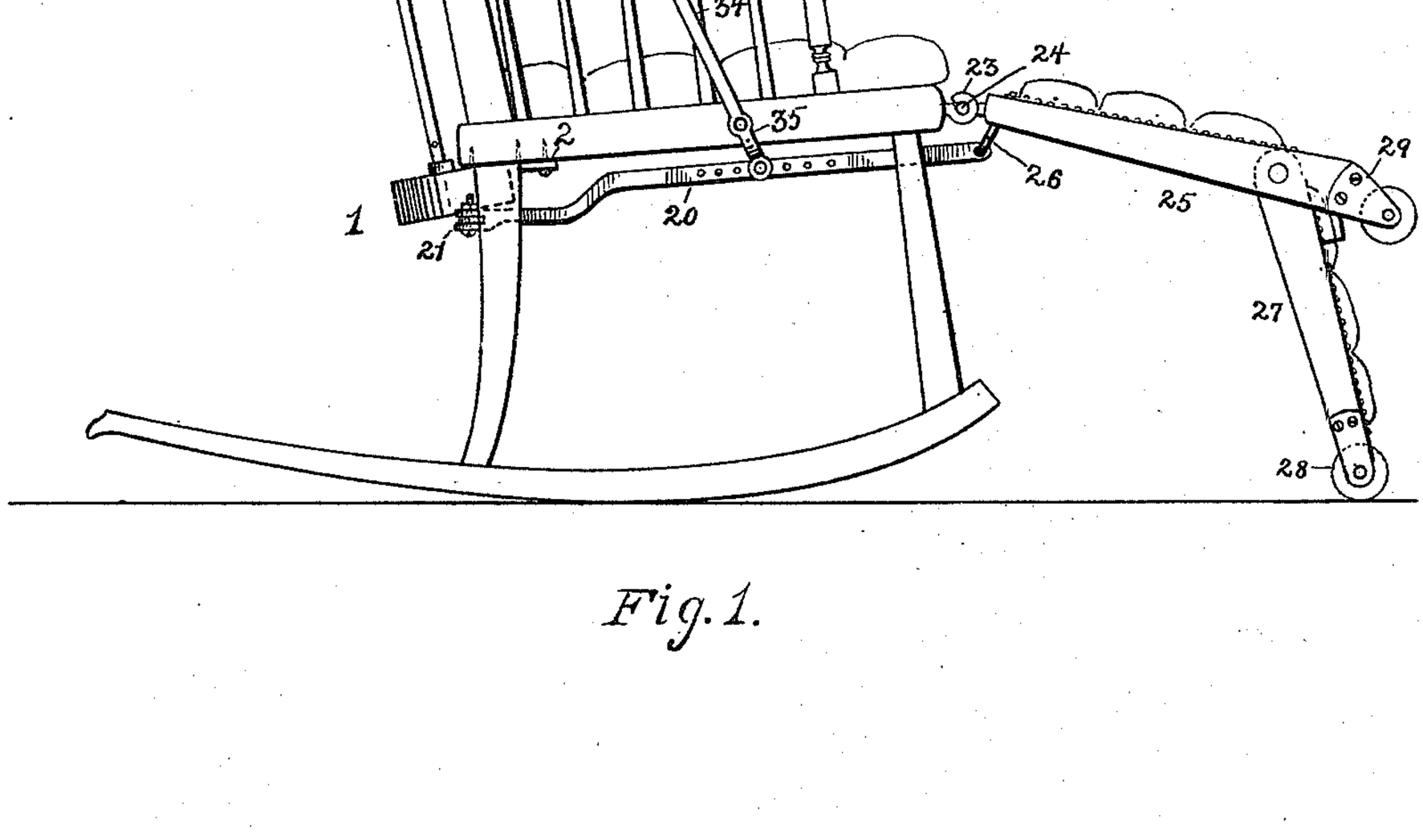

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

P. SERGE-KISSLOW.

AUTOMATIC FAN DEVICE AND ROCKING CHAIR.

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Fig. 3.

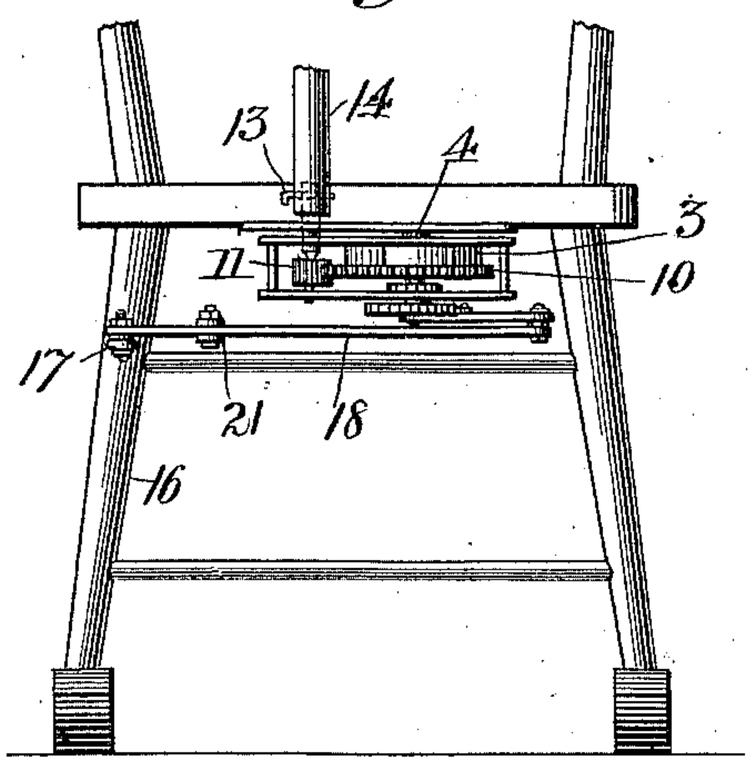


Fig. 4.

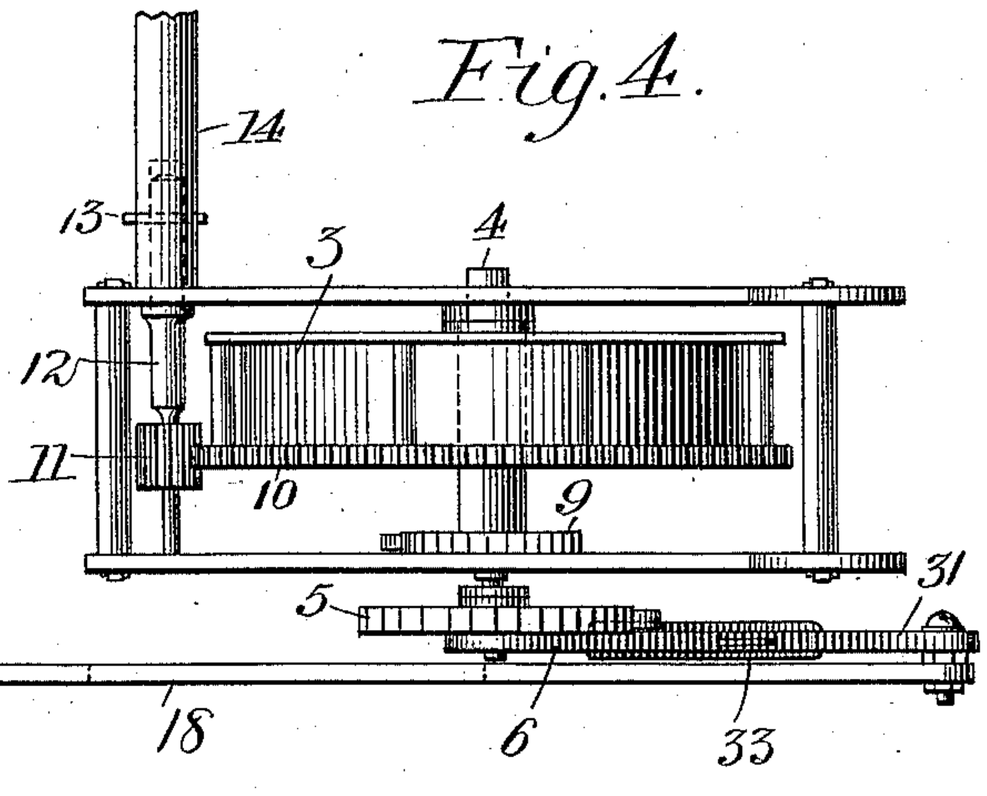
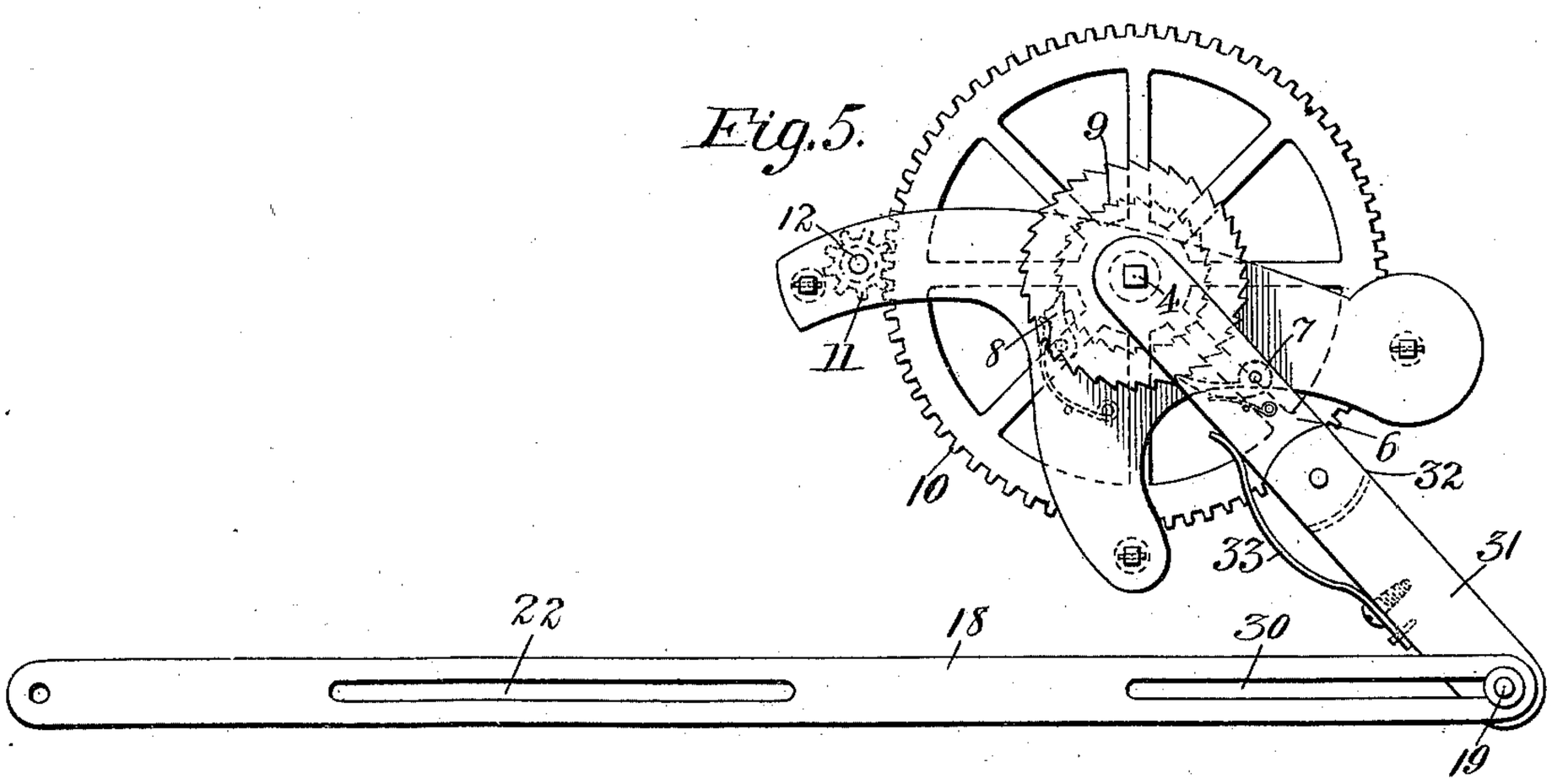


Fig. 5.



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UNITED STATES PATENT OFFICE.

PAUL SERGE-KISSLOW, OF EAST ORANGE, NEW JERSEY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ELEAKIM SMITH STRETCH, OF SAME PLACE.

AUTOMATIC FAN DEVICE AND ROCKING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 573,167, dated December 15, 1896.

Application filed January 22, 1896. Serial No. 576,373. (No model.)

To all whom it may concern:

Be it known that I, PAUL SERGE-KISSLOW, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in an Automatic Fan Device and Rocking-Chair; and I do hereby 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.

My invention consists in improved mechanism for working a fan on a chair, whether the latter be a rocker or otherwise, and one of the principal objects of the within-described improvements is to equip the chair with a simple and compactly-arranged spring-motor and winding connections, whereby the occupant can conveniently restore or renew the energy of the motor without necessarily vacating the chair.

The construction of the fan and its actuating devices are such as to be readily adaptable for most of the existing lines of chairs.

Novel provision for storing the spring-power through the rocker movement, for varying the rapidity in which the spring is wound, and means for relieving the parts from strain or injury, due to continuous working of the winding devices after the spring is completely wound, constitute important features of my invention.

In the drawings accompanying this specification, Figure 1 is a side view of a rocking-chair provided with a fan and operating means embodying my improvements. Fig. 2 is a sectional plan view of the construction shown in Fig. 1, the view being taken in a plane below the arm-rests of the chair to more clearly disclose the position and relative arrangement of the fan-shaft spring-motor and winding means for the latter. Fig. 3 is a rear elevation of the parts shown in Fig. 2. Fig. 4 is an edge view showing most of the essential portions of the spring-motor and immediate winding connections. Fig. 5 is an inverted plan view of the essential portions of the spring-motor and immediate winding connections.

The fan, spring-motor, and winding devices are in the form of a chair attachment, as shown in Figs. 1, 2, and 3, the motor being contained in a suitable frame or housing 1, having a bracket extension 2, perforated to admit of attachment to the under side of a chair-seat to support said motor at the rear of the latter. The motor comprises the familiar barrel 3, containing a convolute spring having one end internally secured therein, while the other is connected to the central arbor 4, bearing in the frame or housing, and on the lower projecting part of which is keyed a ratchet-wheel 5.

Loosely journaled on the lower extremity of the arbor 4 is an arm 6, carrying at its upper side a spring-pawl 7 in engagement with the teeth of the wheel 5. As will be generally understood, the throw of the arm 6 in one direction will occasion the positive rotation of the ratchet 5 and arbor 4 to the extent of such throw of the arm, the reverse movement of the latter resulting in the pawl riding over the ratchet-teeth. All tendency of the arbor to reverse rotation is prevented by a spring locking-pawl 8, located on the inner face of one of the sides of the frame or housing and which engages a ratchet-wheel 9, positively connected to the arbor and the teeth of which are disposed similar to those of the wheel 5. Under such conditions the action of the motor-spring is to rotate the barrel 3, which is of relatively great diameter and is peripherally provided with an annular series of gear-teeth 10, which mesh with a pinion 11, secured on a spindle 12, bearing in the frame or housing, as shown most clearly in Figs. 4 and 5, and which has its upper projecting end transversely perforated and of such shape as to adapt it to enter and be secured by a cotter-pin 13 to the lower end of the vertically-extended fan-shaft 14, supported near its top in a bearing-bracket 15, attached at the upper rear part of the chair-back.

Secured to the rear leg 16 of the chair farthest from the motor is a bearing-loop 17, located in the required horizontal plane and pivotally attached to which is the outer end of a transverse link 18, the other end of which is pivotally connected, as indicated at 19, to the face portion of the ratchet-carrying arm 6.

A rod 20, of the configuration shown in Fig. 1, has a bifurcated rear end 21, receiving the link 18 and perforated to register with

a slot 22 in the said link to afford an adjustable pivotal connection therewith by means of a pivot-bolt and locking nut or nuts.

Screw-eyes 23 and a rod 24 constitute a readily-adjusted hinged connection for a supplementary limb-rest 25 with the chair proper. This rest is shown in Figs. 1 and 2, and has near its inner edge a lower depending loop 26, engaging the forward end of the rod 20. The rest 25 has a vertical section 27, located at an angle with the upper part of the rest and provided with end rollers 28, the projecting corners 29 of the rest proper likewise carrying rollers. Both the rest proper and its supporting-section 27 may be cushioned to augment the comfort of the chair-occupant.

From the foreging description it will be comprehended that as the chair proper is rocked the relative change of position between the same and the limb-rest 25 will occasion the longitudinal reciprocation of the rod 20, causing the lateral vibration of the link 18 on its pivot to effect the back-and-forth swing of the arm 6 and the intermittent rotation of the ratchet-wheel 5 and winding of the motor-spring.

The relative throw of the arm 6, and consequently the degree of speed with which the motor-spring is wound, may be easily regulated by changing the connection 19 of the arm with the link 18, which may be accomplished in a simple manner by providing the inner portion of the link with a series of perforations or an extended slot 30.

The presence of the central slot 22 in the link 18 permits the proper play of the connected parts irrespective of the changing angle of the link.

With the object of preventing the motor parts and winding devices from being subjected to strain and probable damage after the spring has been fully wound and the bar and link continue to work the pawl-carrying arm is made in two members, the outer, 31, of which is enlarged and horizontally recessed at its inner end 32 for the reception and pivoted connection of the outer extreme part of the other member. A stiff leaf-spring 33, (compound or otherwise,) secured to the side of the member 31 and bearing against the inner member, normally serves to hold both members in such relation that they practically constitute a rigid arm. Now whenever the ratchet-wheel 5 resists further movement the tension of the spring 33 will be overcome and the member 31 will break on its pivot-joint, and continue to do so as long as the link 18 vibrates or until the spring requires further winding.

The construction last described constitutes a simple and positive arrangement for automatically throwing the pawl-and-ratchet feed out of operation and for relieving the parts of undue strain, as well as to insure the automatic resumption of the winding operation whenever necessary.

By disconnecting the forward end of the rod 20 from the loop 26 of the rest 25 the motor-spring can be wound without resorting to the rocking motion of the chair, or the parts may be actuated while attached to an ordinary chair by means of a hand-lever 34, pivotally secured at the side of the chair-seat, convenient for working back and forth, and having its lower portion 35 curved under and having a bolt engaging one of a series of openings in the rod to present an adjustable connection capable of varying the reciprocation of the rod.

By movably attaching the limb-rest 25 with its section 27 and providing both with rollers, as explained, the section 27 may be adjusted substantially parallel with the floor to admit of the rest being lowered to a depending position at the front of the chair.

The fan 36, secured on the shaft 14, at its upper end, may be of any approved form of the revolving type, the form and pitch of the blades being varied to direct or disperse the air according to the requirements of the occupant.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fan attachment for chairs, the combination with a spring-motor attached at the rear of a chair-seat, a fan-shaft revoluble by said motor, ratchet-and-pawl mechanism for winding the motor-spring and actuated by devices extending and vibrated beneath the chair-seat, substantially as set forth.

2. In a fan attachment for chairs, the combination with a spring-motor attached at the rear of a chair-seat, a fan-shaft revoluble by said motor, ratchet-and-pawl mechanism for winding the motor-spring, the latter actuated by devices extending and vibrated beneath the chair through the medium of manually-operated means, substantially as set forth.

3. In a fan attachment for chairs, the combination with a spring-motor attached to the chair, a fan-shaft revoluble by said motor, ratchet-and-pawl mechanism for winding the motor-spring and operated by an arm comprising relatively-yielding spring-sections, together with connections for vibrating the arm and manually controlled from the chair, substantially as set forth.

4. In a fan attachment for rocking-chairs, the combination with the spring-motor attached to the chair and carrying the fan-shaft and spring-winding ratchet-and-pawl mechanism, operating connections extending to the front of the chair and secured to a limb-rest pivotally adjustable and having rollers, said rest also carrying a relatively-movable section 27, also provided with rollers, substantially as set forth.

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

PAUL SERGE-KISSLOW.

Witnesses:

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WM. H. GODWARD.