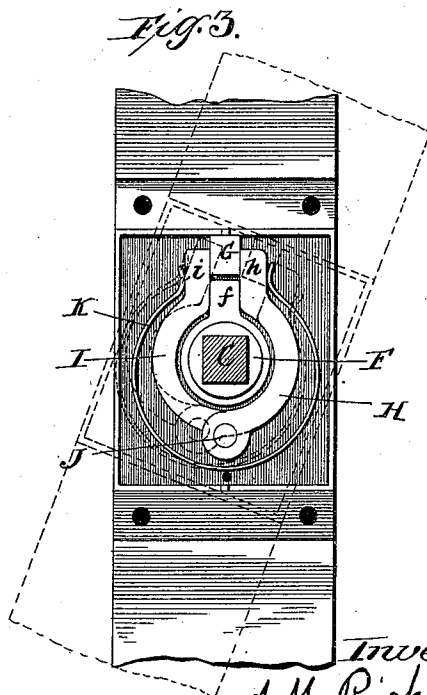
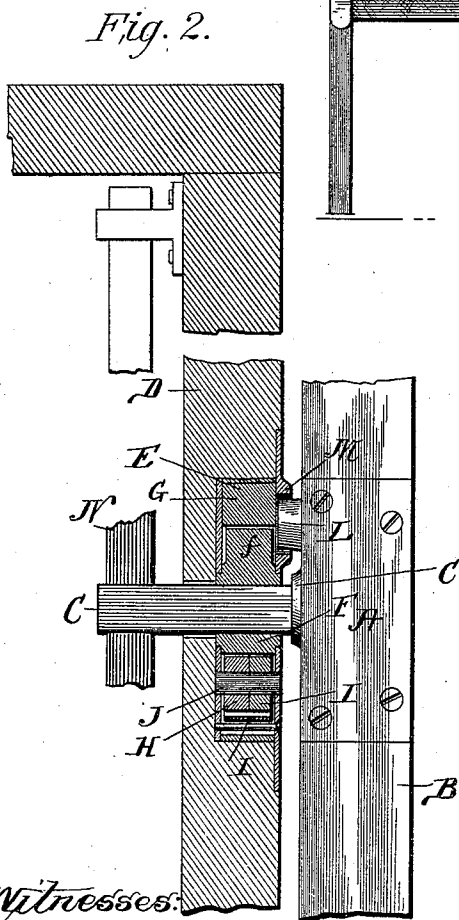
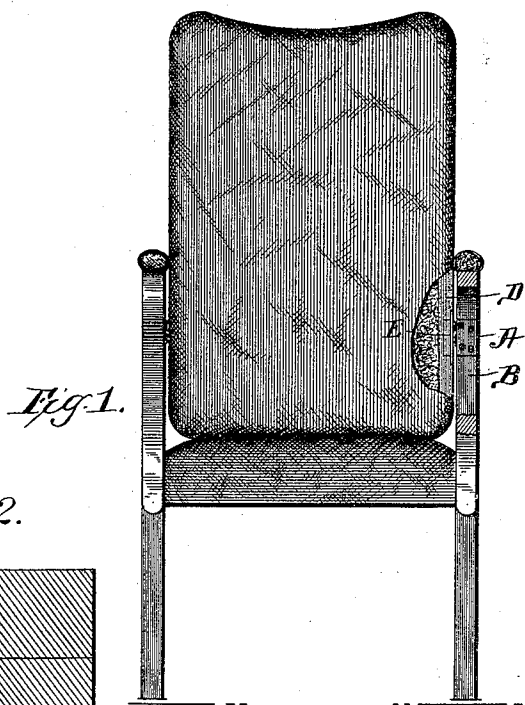


(No Model.)

A. M. RICHARDS & J. A. GIESE.
CHAIR.

No. 478,130.

Patented July 5, 1892.



Witnesses:

Wm. M. Rheims
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Inventors

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UNITED STATES PATENT OFFICE.

ARTHUR M. RICHARDS, OF BLOOMINGTON, AND JAMES A. GIESE, OF CHICAGO,
ILLINOIS; SAID GIESE ASSIGNOR TO SAID RICHARDS.

CHAIR.

SPECIFICATION forming part of Letters Patent No. 478,130, dated July 5, 1892.

Application filed June 20, 1891. Serial No. 396,911. (No model.)

To all whom it may concern:

Be it known that we, ARTHUR M. RICHARDS residing in Bloomington, McLean county, and JAMES A. GIESE, residing at Chicago, Cook
5 county, Illinois, have invented certain new and useful Improvements in Chairs, of which the following is a specification.

Our invention relates more especially to
10 chairs or seats having the back pivoted so as to yield to the pressure of the occupant; and the purpose of our invention is to provide a spring-actuated device which will readily yield in either direction and which on being released from pressure will restore the back
15 exactly to its original position.

In the accompanying drawings, Figure 1 is a front view of a chair employing our invention, a part being broken away to show the attachment. Fig. 2 is a view, on a larger
20 scale, of a portion of the chair-frame to which our improved attachment is affixed, the attachment being shown partly in section; and Fig. 3 is a side view of the same, partly in section.

25 A is an angle-plate affixed to the arm B of the chair, from which projects a stud C of polygonal section. To the frame D of the back is affixed a casing E, the frame being suitably recessed to receive it. Within said case is
30 fitted a sleeve F, so as to permit a partial rotation of one upon the other, shoulders on the sleeve fitting bearings in the case. Into the sleeve F is inserted the stud C, the polygonal section of which prevents the rotation of the
35 sleeve F thereon. Instead of making the stud C of polygonal section a feather or any well-known equivalent device may be used for preventing the rotation of the sleeve upon the stud. Opposite to the projecting tongue or
40 lug *f* of said sleeve F is a block G, secured to the casing. Jaws H I are pivoted at J within the casing, their faces *h i* making simultaneous contact with the opposite faces of the block G and tongue *f*. The pivotal point J
45 is located with reference to the block G and the center of the sleeve F, so that the center of the block G of the sleeve F and of the pivot J will lie in the same straight line. By this means the friction between the surfaces *h i*
50 of the jaws H I and of the tongue *f* is reduced to the smallest possible amount. A spring K,

curved like the letter C, bears at or near the outer ends of the jaws H I and serves to maintain their contact with the block G and the sleeve F.

The lug L projects from the plate A into a
55 slotted recess M in the casing E, the said lug and the slotted opening serving as a stop to limit the movement of the back upon its pivot.

The operation of the device is illustrated
60 by the dotted lines in Fig. 3. The movement of the back upon its pivot will change the relative position of the casing E and the sleeve F (the latter being prevented from revolving
65 by the stud C) and holds the outer end of one of the jaws, as I, while the other is moved out by the block G. The jaws are thus opened in opposition to the pressure exerted by the spring K. If the back be tipped in the op-
70 posite direction, the jaw H would remain in contact with the stationary tongue of sleeve F and the jaw I be moved by the block G. Upon the release of the back from pressure the spring will restore it to its original position,
75 in which both jaws are in contact with the block G and the tongue *f* of sleeve F, said block and sleeve being in fixed relation to the back and to the chair, respectively, and the making of contact with both block and tongue by
80 the jaws forming a stop, defining with precision the position of the seat-back. This is an important feature of the present invention and one which can be utilized in connection
85 with the device shown in the patent heretofore granted to Arthur M. Richards October 7, 1890, No. 437,938. The spring K may be made sufficiently strong to dispense with the use of the spring shown in the patent just
90 named, if desired, especially as the back has its center of gravity below the points of suspension, either by the insertion of weights, as described in the former patent, or by making the lower part of the frame itself of metal; but we deem it advisable in many instances
95 to use a spring identical with or similar to that shown in the former patent in conjunction with the device herein described and claimed. Such an arrangement is shown in Fig. 2, in which figure a spring N is shown
100 secured to the inwardly-projecting end *e* of the stud C. Said spring is to be fastened at one or both ends to the seat-back.

It is to be understood that the plate A may be fastened to the back, while the casing E may be fastened to the chair, without essentially altering the nature of our invention; or, to state the same thing in another way, the part B may be considered as belonging to the frame of the back, while the part D may be considered as a part of the chair-frame, the operation of the device being practically the same as in the construction illustrated in the drawings and hereinabove described. Where the spring N is used, however, the arrangement shown is preferable, because said spring is then concealed within the upholstery of the chair-back.

What we claim as new, and desire to secure by Letters Patent, is as follows:

1. The combination, with a chair and its back, of a pivot whereon the back may tilt, a tongue having a fixed relation to said pivot, a block having a fixed relation to said back, and spring-actuating jaws including said block and tongue between them, so as to bear simultaneously upon both said block and tongue, substantially as described.

2. The combination, with a chair and its back pivoted thereto, of a casing attached rigidly to one part and a stud attached to the other, a sleeve fitted to said stud and provided with journals for said case, a tongue on said sleeve, a block in said case, and spring-

actuated jaws whose faces are adapted to make simultaneous contact with the faces of said block and the tongue of said sleeve, substantially as described.

3. In a yielding pivotal attachment for chair-backs, the combination of the back, a casing secured thereto, a back-support, a stud secured to said support, a sleeve fitted to the stud and forming a journal-bearing for the casing, a tongue *f* on the sleeve, a block G, secured to the casing, jaws H I, pivoted in the casing and encircling the sleeve, and C-spring K, encircling the jaws and bearing at its ends against the ends of the jaws, substantially as described.

4. In a yielding pivotal attachment for chair-backs, the combination of the back, a casing secured thereto, a back-support, a stud attached to said support, a sleeve fitted to the stud and forming a journal-bearing for the casing, a tongue *f* on the sleeve, a block G, secured to the casing, and spring-actuated jaws pivoted in the casing and adapted to bear simultaneously on the tongue *f* and block G, substantially as described.

ARTHUR M. RICHARDS.
JAMES A. GIESE.

Witnesses:

TODD MASON,
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