

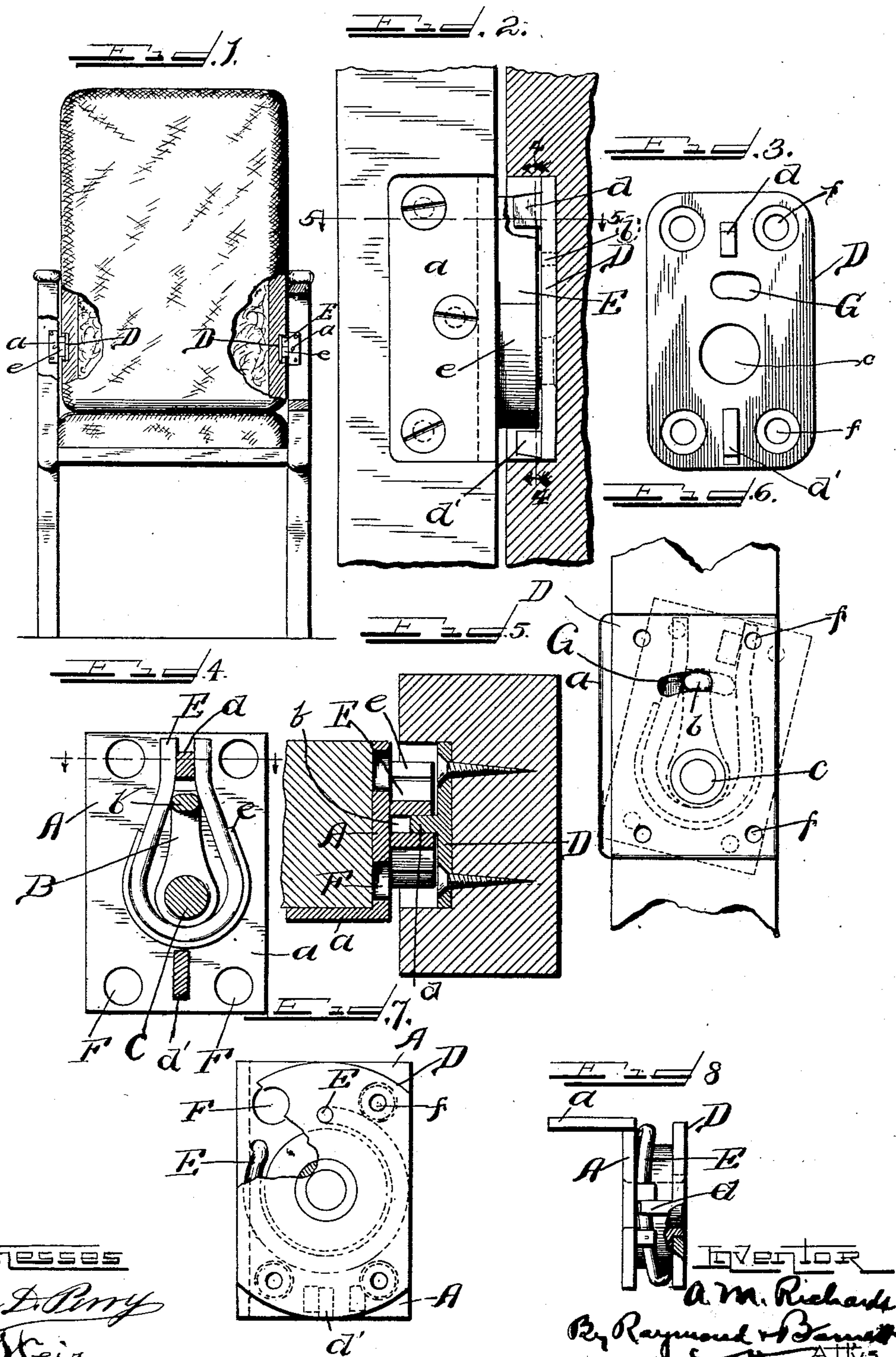
No. 704,109.

Patented July 8, 1902.

A. M. RICHARDS.
ATTACHMENT FOR CHAIRS.

(Application filed Feb. 11, 1901.)

(No Model.)



Wireless

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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR CHAIRS.

SPECIFICATION forming part of Letters Patent No. 704,109, dated July 8, 1902.

Application filed February 11, 1901. Serial No. 46,933. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR M. RICHARDS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Attachments for Chairs, of which the following is a specification.

My improvements relate to attachments for pivoted-back chairs, such as shown in Letters Patent No. 478,130, granted to myself and James A. Giese July 5, 1892, in which the chair is provided with a pivoted back, which is normally held yielding in an upright position by a spring-and-pivot attachment, whereby the upper portion of the panel will yield and swing backwardly when pressure, such as the weight of the body, is applied against the face thereof.

The object of my invention is to provide a simple and effective spring-pivot attachment for such a chair which shall be strong, durable, and cheap.

Another object of my invention is to provide such an attachment which shall be wholly self-contained and which may be furnished to the manufacturers completely assembled and ready for attachment to a chair.

These and such other objects as may hereinafter appear are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a front view of a chair embodying my invention, a part thereof being broken away to show the attachment. Fig. 2 is a detail view of a portion of an arm in elevation and a section of the panel of a chair with my device attached thereto. Fig. 3 is a plan view of the inner side of the panel-plate of my device on the line 4 4 of Fig. 2 looking in a direction opposite to that indicated by the arrows. Fig. 4 is a similar view of the chair-plate of my device on the line 4 4 of Fig. 2 looking in the direction indicated by the arrows. Fig. 5 is a horizontal section on the line 5 5 of Fig. 2 looking in the direction indicated by the arrows. Fig. 6 shows an elevation of the panel side of my device with the parts shown in dotted lines in deflected position. Fig. 7 is a similar view of a modified form of my device, but without showing the deflected position; and Fig. 8 is a

plan view of the modified form shown in Fig. 7, with a portion thereof broken away.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A is a plate, which I call the "arm-plate," (because it is the portion of my device which is preferably attached to the chair-arm,) which is provided with a wing *a*, which constitutes a face-plate and is screwed to the arm of a chair, as shown. The arm-plate A is provided with a lug B, preferably cast upon the central portion thereof, the outer surface of said lug being provided with a smaller lug *b* near the upper end thereof, which forms a stop in the manner hereinafter indicated. The outer surface of said lug B is also provided with another extension or boss C, upon which the panel-plate D is journaled.

In my preferred construction I mount a compound leaf-spring E, comprising the main spring E, which may be generally of a horse-shoe shape, which is partially surrounded by the smaller auxiliary spring *e*. This spring is of such dimensions and contour with reference to the lug B that it may be sprung thereon and be brought snugly in contact therewith at two or more points, so as to be held by said lug against lateral displacement. The width of the spring should be such as to bring it even with or slightly below the outer surface of said lug, from which the lug *b* and the boss C project.

I provide the arm-plate with perforations F, which are adapted to register with smaller perforations *f* in the panel-plate in such a manner that screws may be dropped through the perforations F and into the perforations *f*, the perforations *f* being of such a size, however, that the heads of the screws may not pass therethrough. The purpose of this construction will appear farther on.

The panel-plate D is provided on its inner face and near the upper and lower ends thereof with the lugs *d d'*. Said lug *d* is adapted to fit snugly between the upper ends of the spring E and to serve alternately as a stop for either of said ends of the spring E, according as power is applied to deflect the spring in one direction or the other. The

lower lug d' merely serves as an additional means for holding the spring E in place. The panel-plate D is also provided with a stop-slot G, adapted to receive the lug or stop b upon the arm of the lug B, thereby serving to limit the movement of the panel-plate D across said arm. The panel-plate D is also provided with the perforation c , which is adapted to loosely receive the boss or bearing C, upon which the panel-plate D is journaled.

I prefer to construct the boss or bearing C with a projecting rim formed by partially hollowing out the end of said boss or bearing, which rim when the parts are assembled may be upset into a surrounding annular depression in the outer surface of the panel-plate D in such a manner that the plates A and D will be securely but loosely riveted together thereby, so that the plate D shall be free to move upon the boss or bearing C.

The device is assembled by springing the spring E into place around the lug B, by then mounting the plate D upon its bearing C and in such a manner that the lug d shall come between the ends of the spring E, the lug d' shall fit below the lower end of the spring E, and the lug or stop b shall fit within the stop-slot G. The end of the boss C is then upset in the manner before described, and the device is then completely assembled and is self-contained, ready for attachment to the arm and panel of the pivoted panel-chair. A suitable recess having been prepared in the edge of the framework of the panel of a chair of sufficient size and depth to receive the panel-plate D and the parts between the plates A and D, the panel-plate side of my device is inserted in such recess. The necessary attaching-screws are passed through the perforations F in the plate A, the heads thereof fitting into countersunk depressions surrounding the perforations f in the panel-plate, and by means of a screw-driver, which may be inserted through the opening F in the plate A, the panel-plate is securely screwed to place. The corresponding attachment having been similarly attached to the opposite side of the panel, the panel is now placed in position in such a manner as to bring the wings or face-plates a of the plates A against the faces of the respective rear uprights of the arms of the chair, and the plates A being then attached to such uprights in the usual manner by means of screws driven through the face-plates a the panel is securely attached in position. As so assembled and attached to a chair and its panel it will be observed that the plate A is held rigidly in position. The plate D is pivoted thereto by means of the boss or bearing C. Pressure being now applied against the end of the panel will tend to deflect the plate D upon its pivot C and across the face of the plate A. This tendency is resisted by the pressure of one end of the spring E against the lug d , which resistance is overcome as the pressure becomes

greater than the opposing pressure exerted by the end of the spring, and one end of the spring is pressed or forced open in the manner shown in the dotted lines in Fig. 6, the opposite end of the spring being held stationary by the upper end or arm of the lug B. At the same time the movement of the plate G against such spring-pressure is limited by the cooperation between the stop b and the stop-slot G, so that all excessive deflection of the spring is rendered impossible.

In Figs. 7 and 8 I have shown a modification of my device in which the boss B is circular in form and is surrounded by a coil-spring instead of the leaf-spring E, one end of said coil-spring being attached to the plate A and the other end of said spring being attached to the plate D in such a manner that any deflection of either plate with reference to the other will tighten said coil-spring, the amount of said deflection being limited by a stop d upon the plate D operating between opposing stops on the plate A.

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

1. An attachment for chairs, comprising a panel-plate and a chair-plate pivotally attached to each other, spring-engaging means upon said plates, a leaf-spring surrounding the connecting-pivot and adjacent to said spring-engaging means so as to yieldingly resist the pivotal movement of either plate across the face of the other plate, substantially as described.

2. An attachment for chairs, comprising a plate provided with a boss upon one face thereof, a reduced extension upon said boss, a second plate pivotally mounted upon said extension of said boss, spring-engaging means upon said plates, and a leaf-spring interposed between said plates and adjacent to said spring-engaging means so as to yieldingly oppose the pivotal movement of either of said plates across the face of the other of said plates, substantially as described.

3. An attachment for chairs, comprising a plate, a boss upon one face of said plate, means upon said plate for engaging a spring, a second plate pivotally mounted upon said first plate, means upon said second plate for engaging a spring, a leaf-spring interposed between said plates and around said boss and adapted to coact with said spring-engaging means upon each of said plates, so as to yieldingly resist the pivotal movement of either plate across the face of the other plate, substantially as described.

4. In an attachment for panel-back chairs, the combination of a plate provided with an angular portion constituting a face-plate for attachment to one part of a chair, a boss upon one face of said first-named plate, a spring-engaging lug upon the same face of said plate, a second plate pivotally mounted upon said boss, a spring interposed between said plates mounted upon said boss

and adapted to engage said spring-engaging
lug, a lug upon said second plate also adapted
to engage said spring, screw-holes in said sec-
ond plate for receiving attaching-screws and
5 larger holes in said first plate registering
with said screw-holes in such a manner that
screws may be passed entirely through said
first plate into the screw-holes in said second
plate so that said second plate may be at-
10 tached thereby to the chair, substantially as
described.

5. An attachment for chairs comprising a
pair of plates pivotally attached to each other,

a spring interposed therebetween, surround-
ing the connecting-pivot, means upon each 15
of said plates for engaging said spring, per-
forations through one of said plates for the
passage of attaching devices, and smaller
perforations in the other of said plates for
receiving and engaging said attaching de- 20
vices, substantially as described.

ARTHUR M. RICHARDS.

Witnesses:

O. R. BARNETT,

M. E. SHIELDS.