UNITED STATES PATENT OFFICE.

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CLAMP FOR BOOK-SUPPORTS.


To all whom it may concern:

Be it known that I, FORREST E. RUGER, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented new and useful Improvements in Clamps for Book-Supports, of which the following is a specification.

This invention has for its object the provision of contrivances attachable to and adjustable from a garden, conservatory, or other easy or reclining chair, and made inter-changeable and adjustable with means for the support of paper, music, books, and articles of different kinds, and also providing chairs of the kind mentioned, as well as other chairs, with a standard to which may be secured brackets and devices for the attachment and support of trays and other devices of a cognate nature that may be adjusted to various positions to suit circumstances.

The nature and character of my improved chairs will appear from the following specification and drawings, in Figure 1 of which the chair and its attachments are fully disclosed and the principal bracket is shown in perspective as applied in position. Fig. 2 is a view somewhat similar to Fig. 1, but showing the brackets as supporting a single tray and its equipments. Fig. 3 is a perspective view of the bracket-supporting standard alone. Fig. 4 is a perspective view of means for supporting a tray, the latter being represented partially in section, the better to portray its construction and the means for supporting it.

In the drawings, A designates the clamp for fastening the invention to the arm and seat of a chair. The said clamp is composed of two members 1 and 2. The member 1 consists of a vertical bar a, having an angular projection b at its lower end, which is adapted to extend under the seat c of the chair, and is provided on its upper side with a pad or piece of felt d, so as not to mar the furniture. Extending outwardly from the lower end of the clamping member 1 is a boss or heel-piece e, having a hole formed therethrough through which a screw f extends. A knob g is pinned on the lower end of the screw f, and a stud h extends laterally therefrom just above the heel-piece, so that the screw may be turned by the knob.

The member 2 consists of a vertical bar i, the inner face of which is flat, so that the bar a may slide easily up and down thereon, and the upper end of the bar i is provided with a laterally-projecting arms j k l, each of which is provided with a pad m on its under side, so as not to injure the arm of the chair to which it is attached. The arm j extends over the arm of the chair, while the arms k l project along the side of the same.

The lower end of the member 2 is provided with a combined nut and slide B, the nut being an enlargement m' on the extreme lower end of said member and bored and threaded for the reception therethrough of the screw f. The slide B comprises pieces of metal integral with the enlargement m", engaging the flanges o on each side of the member 1, so that the two members may be kept together as one is adjusted upon another by the action of the screw f, all as will be clearly understood.

In applying or clamping the improvement to a chair which is presupposed to have an arm the member 2 will have its lateral arm j at the top caught over the arm of the chair with the other two arms k l projecting along the side thereof, and the projection b at the lower end of the member 1 will be arranged so as to extend under the seat of the chair. With the parts in this position the knob g of the screw f will be manipulated so as to bring the projecting parts 6 and 1 of the members 1 and 2, really constituting clamps, together on the arm and seat of the chair, clamping it securely in position thereon. It may be released by turning the screw in the opposite direction.

The two arms k l, extending in opposite directions from the clamping-arm j, operate horizontally against the edge of the arm and keep the entire device between the arm and chair bottom and its connections from having a tendency to swing around, as though on a vertical axis, when unbalanced weight was placed upon the book-trays. The broadening of the surfaces of the clamps j b, the clamping force of which is extended vertically, will not answer the purpose of said arms k l, as will be readily understood by those skilled in the arts. For the reasons stated, the arms k l become important features of my improvements.

The foregoing devices form a clamp that may be readily attached to a chair for supporting a bracket and other means for holding a tray and book, paper, and music sup-
port in position. The several parts may be easily operated, and the clamp may be made entirely secure without causing the clamp to chafe the chair. This construction is important, particularly where the occupant is an invalid.

The seat of the chair and arm of the latter have been chosen as the means for attaching my improvements thereto, for reasons inter alia, that they are of the most substantial structural features of the chair and they bring the book-support up to a relatively high point, two matters of obvious importance. The arm and chair-seat therefore become very important factors in the improvements which any other two members of the chair will not answer, unless they possess like properties or qualities of position or place, and firmness and rigidity, among other things, as well.

At the top of the member 1 there is an enlargement 2, through which is formed a hole vertically for the passage of the main rod 3, which may be clamped or fixed in any position in which it may be placed, by a set-screw 4. The upper portion of the main rod 3 may be bent at right angles to the lower or main portion, and the angular part of the main rod may be provided on its end with a coupling 5, through which a rod 6, similar to the main rod, may be passed and fixed in place by a set-screw 7.

Upon the rod 6, which need not be of angular form, but of any shape needed or fancied, a book-support, tray, or other means C may be secured. In Fig. 4 I have shown a book-support C, provided on its back with a rounded plate t, adapted to be secured to the back by screws 8, with which plate there is integrally connected a rod-support v, having a hole a little larger than the rod formed through it for the reception of the latter and a thumb set-screw w tapped therein to fix the rod in place. In this case a short angular rod z is secured to the back of the book-support, and to this short angular rod another short rod y, curved in form, is connected by means of a coupling 9, and this latter rod y is attached to the main book-supporting rod z at any point turned to any position desired. To enable the hole formed through the rod-support v to be made a little larger than the rod z passing through it, I form a boss, as it were, on the extension 10 and provide thimble-like parts to extend in line with said hole on opposite sides of the rod-support, as shown.

Each book-support, tray, or other means to be carried or supported by the invention will have a plate and rod-supporting means like that described attached to its back. Furthermore, each book-support, tray, &c., will be attached either immediately to the rod p or mediatly by means of short rods, straight or bent.

As shown in the drawings, the book-support, tray, or other means is readily adjustable to any position—forward, back, to the left or right, or high or low. All operative parts are easily accessible to the occupant of the chair, and all are sufficiently strong to withstand the weight or strain required of them.

It is obvious that in use I am not confined to a book-support and tray, since any other means of a similar nature may be supported on the rods.

The chair may be of the reclining or other type, the only necessary structural characteristic being that it shall have an arm or other means which will permit of the application of a clamp, as stated—that is, to both the arm and seat, so as to secure a firm connection with the chair and obviate the liability of the clamp swinging around out of place when more than nominal force is applied to the book-supporting means. In securing these ends the length of the slides 1 and 2, which is long, and the lateral extensions k and l along the side of the arm of the chair contribute an important part.

I claim

1. A clamp for a book-support, consisting of two members, one being provided with a padded extension to project over the arm of the chair and two similar extensions to project along the sides of the arm, and the other member being provided at its lower end with a padded extension to project under the seat of the chair, an adjusting-screw connected with one member, and a slide operatively connected with the screw, whereby, through the medium of the latter the two members may be clamped upon a chair.

2. A clamp for a book-support to a chair consisting of two relatively long members, each provided with a bar to slide one upon the other and provided with clamps, one engaging the arm and the other the seat of a chair, the bar of one member having flanges upon its sides, and the other member being provided with a combined nut and slide, the sides of the latter slide extending beyond the side edges of the said flanges, in combination with a screw tapped through the said nut and being prevented from moving longitudinally with the slide with which it is connected.

3. A clamp for a book-support to a chair consisting of two relatively long members, one provided with a padded extension to extend under the chair-seat, and the other having padded extensions to engage and extend over the arm of the chair and padded lateral extensions projecting in opposite directions from the first-named padded extension along the side of the arm, a screw extending longitudinally with the connections of the clamps and operatively connected therewith to secure the clamps to the chair and to release them therefrom, and a knob on the lower end of the screw to operate the same.
4. The combination, with a clamp for a book-support to a chair, said clamp consisting of two members—a lower member adapted to engage the seat of the chair, and an upper member provided with a clamp to extend over the arm of the chair, and having lateral extensions projecting in opposite directions along the side of the arm, an enlargement on the upper clamp, a hole extended through the said enlargement, a rod passed through said hole, a set-screw tapped into said enlargement and adapted to engage said rod, of a coupling on said rod, a rod passed transversely through the said coupling and a set-screw in said coupling to engage the said last-mentioned rod, and a book-support attached to the latter rod.

5. A clamp for securing a book-support to a chair, consisting of a clamping member to engage the seat of a chair, a second clamping member to engage the arm of the chair, having a part adapted to extend over and upon the arm and lateral extensions projecting in opposite directions along the side or edge of the arm, each of the said lateral extensions being equal or more than equal in length to the horizontal clamping extension projecting over and upon the upper surface of the arm, combined with book-trays and means connecting with the top clamp on the chair-arm extending substantially horizontally therefrom for supporting the trays.

6. A clamp for securing a book-support to a chair, consisting of a clamping member to engage the seat of a chair, a second clamping member to engage the arm of the chair, having a part adapted to extend over and upon the arm and lateral extensions projecting in opposite directions along the side or edge of the arm, each to an extent equal or more than equal to the horizontal clamping extension on the upper surface of the arm, combined with a plurality of book-supporting trays and branching arms connected with the top clamp on the arm and extending substantially horizontally therefrom for supporting the said trays.

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

FORREST E. RUGER.

Witnesses:

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JOHN J. HENNESSEY.