Aug. 5, 1958 S. H. A. THOMPSON 2,845,994

ADJUSTABLE CLAMPING MEANS FOR THE BACK REST OF A CHAIR OR SEAT

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Fig. 1.

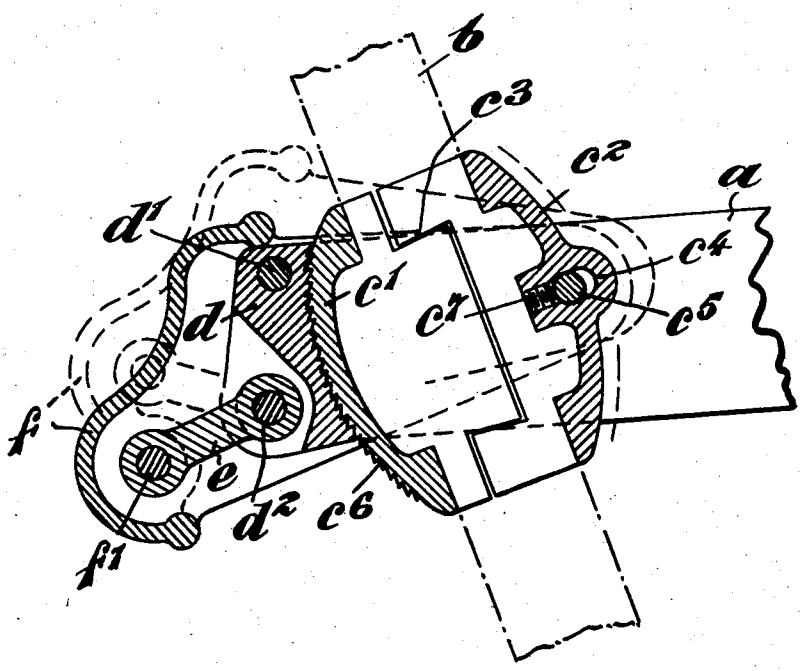
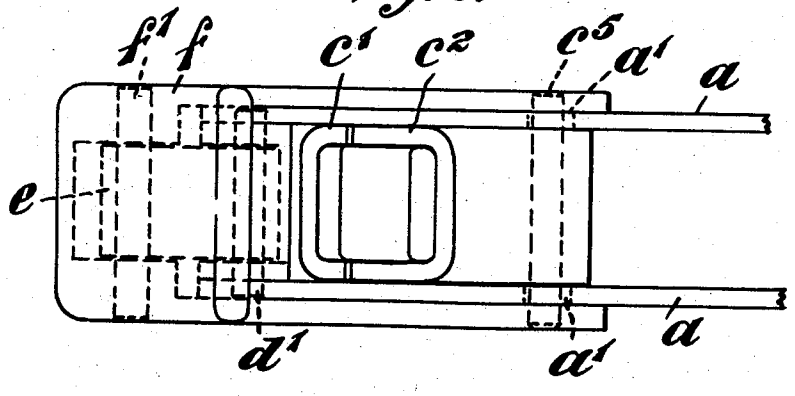


Fig. 2.



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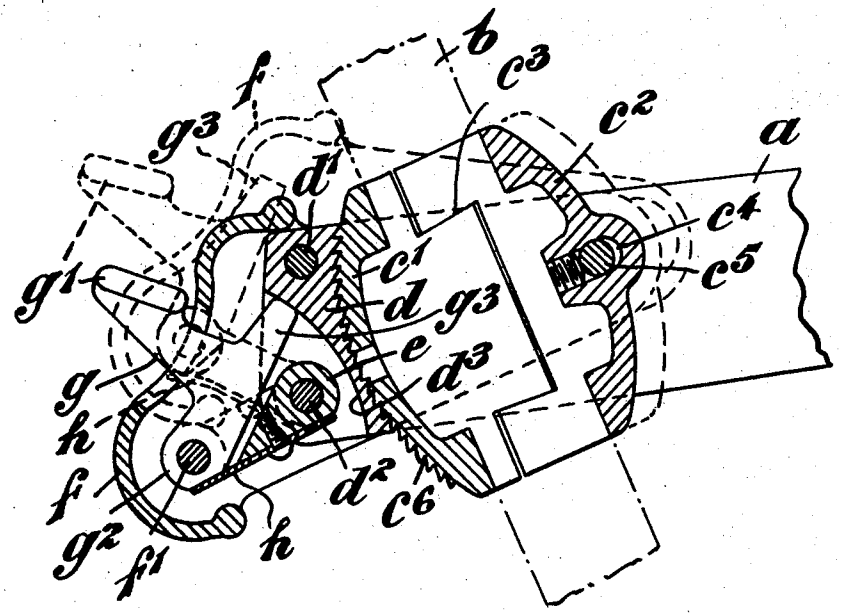
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Fig. 3.



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ADJUSTABLE CLAMPING MEANS FOR THE BACK REST OF A CHAIR OR SEAT

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Application January 25, 1957, Serial No. 636,373

7 Claims. (Cl. 155—160)

The present invention has relation to adjustable clamping means for the back rest of a chair or seat more particularly the type of means wherein a stem supporting the back rest is slidable and tiltable with respect to the seat and fixable in its position of adjustment by means of a clamp supported by the seat, the present invention having for its object to provide such a device of simple and efficient action, primarily providing facilities in adjustment and fixing by the user and also avoiding the usual hand operable screw fixing means.

According to the present invention there is provided clamping means for the back rest of a seat wherein a two part clamp for the sliding reception of the supporting stem is movably mounted upon a part or extension at the rear of the seat and is operatively fixed and released by means of a pivotal or rockable member having a toggle link connection with the clamp permitting of an over centre fixing.

According to the present invention there is provided adjustable clamping means for the back rest of a seat wherein the said seat carries at its rear an extension having a hand rockable and slidable fixing member carrying a toggle link which connects with a serrated member cooperable with a corresponding serrated face on a two part interengaged clamp independently rockable and slidable on the extension whereby an initial rocking of the fixing member may free the two part clamp to permit vertical and oscillatory or angular adjustment of the back rest stem whereas a return rocking movement of the fixing member closes the clamp and secures it in its position of adjustment with the toggle link over dead centre.

A finger operable trigger may be carried by the rockable fixing member for locking and releasing same.

In order that the invention may be clearly understood and readily carried into practice reference may be had to the appended explanatory drawings in which:

Fig. 1 illustrates in sectional elevation an adjustable clamp constructed in accordance with the present invention.

Fig. 2 is a plan view of the clamp shown in Fig. 1, and

Fig. 3 corresponds to Fig. 2 but introduces the finger operable trigger.

In a convenient embodiment of the present invention the seat is provided at its rear with two substantially horizontally protruding parallel blades *a*. The back rest *b* is of square section tubing and the parts c^1, c^2 of the two part clamp have a dovetail interlocking engagement c^3 and both parts rock and slide by virtue of slot c^4 on a transverse pin c^5 and the part c^1 is provided with downwardly facing ratchet teeth c^6. A serrated member *d* is fixedly mounted between the rearwardly protruding blades *a* by means of pins d^1, d^2 and co-operates with the teeth or serrations c^6 on the clamp c^1, c^2. A toggle link *e* having a dead centre motion connects d^2 with the pin f^1 carried by a channel shaped rocking member *f* pivoted outside the parallel members *a* of the seat by virtue of the pivot pin c^5 which slides in slots a^1 (Figure 2) the arrangement being such that when the rocking member *f* is forced downwardly over a slight dead centre the parts c^1, c^2 of the clamp are forced together towards and onto the serrated member *d* to hold the seat stem *b* in its position of adjustment whereas when the rocking member *f* is raised (see dotted lines Fig. 1) the clamp c^1, c^2 is moved away from or free of the serrated member *d* so that not only is the seat stem *b* released for sliding adjustment but the two part clamp c^1, c^2 may be independently rocked on its pivot c^5 to give the desired inclination to the stem prior to the reclamping by passing the rocking member *f* over its dead centre position. c^7 is a set screw permitting a fine adjustment between c^2 and the pin c^5.

In the embodiment shown in Fig. 3 a trigger *g* is provided. This trigger has a finger operable part g^1 and is pivoted at d^2 and controlled by a flat spring *h* contacting a flat g^2 on the trigger *g*. g^3 is a nose on the trigger which coacts with a cam or curved face d^3 on the serrated member *d*. By pressing g^1, g^3 is brought away from d^3 and *f* may be rocked. When *f* is depressed trigger *g* automatically assumes the position shown in Figure 3.

I claim:

1. Clamping means for the backrest of a seat comprising two cooperating clamping parts formed for sliding reception of a backrest supporting stem, means for rockably mounting said clamping parts on the rear of the seat, and means for operatively fixing and releasing said clamping parts relative to said seat and in clamping engagement with said backrest stem, said fixing and releasing means including a clamping part engaging member and a rockable member having an over-centre toggle link connection with said clamping part engaging member providing for an over-centre fixing and releasing of the engagement of said clamping parts with said engaging member.

2. Clamping means for adjustably supporting the backrest of a seat, a two-part interengaged clamp formed for adjustably receiving and clamping said backrest, means for rockably and slidably mounting said two-part clamp on said seat providing for angular adjustment of said backrest relative to said seat, a fixing member rockably and slidably mounted on said seat and having a toggle link connected to said seat whereby an initial rocking of said fixing member to an over-centre position on one side of dead center of said toggle link frees said two-part clamp to permit vertical and angular adjustment of said backrest and whereby a return rocking movement of said fixing member closes said two-part clamp for securely holding said backrest and securing it in position with said toggle link over dead center.

3. Clamping means as set forth in claim 2 wherein said rockable member is provided with a trigger operably connected to said toggle link for latching said toggle link in its over dead center position and alternately movable away therefrom for releasing said toggle link.

4. Clamping means for adjustably supporting the backrest of a seat having an extension at its rear, a two-part interengaged clamp formed for adjustably receiving and clamping said backrest, means for independently rockably and slidably mounting said two-part clamp on said seat extension providing for angular adjustment of said backrest relative to said seat, a serrated face on said two-part clamp, a part of said seat having a serrated face adapted to engage said serrated face on said clamp, a hand-rockable and slidable fixing member rockably and slidably mounted on said seat and having a toggle link connected to said serrated part of said seat whereby an initial rocking of said fixing member to an over-center position on one side of dead center of said toggle link frees said two-part clamp from engagement of said serrated face thereof with said serrated face of said seat part

to permit vertical and angular adjustment of said backrest and whereby a return rocking movement of said fixing member closes said two-part clamp for securely holding said backrest and securing it in position with said toggle link over dead center.

5. Clamping means as set forth in claim 4 wherein said rockable member is provided with a trigger operably connected to said toggle link for latching said toggle link in its over dead center position and alternately movable away therefrom for releasing said toggle link.

6. Clamping means as set forth in claim 5 including

resilient means for biasing said trigger toward latched position.

7. Clamping means as set forth in claim 6 including a cam face on said serrated face seat part, and a cam follower on said trigger operable into engagement with said cam face for latching said trigger and toggle link and fixing said clamping parts and backrest in position.

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