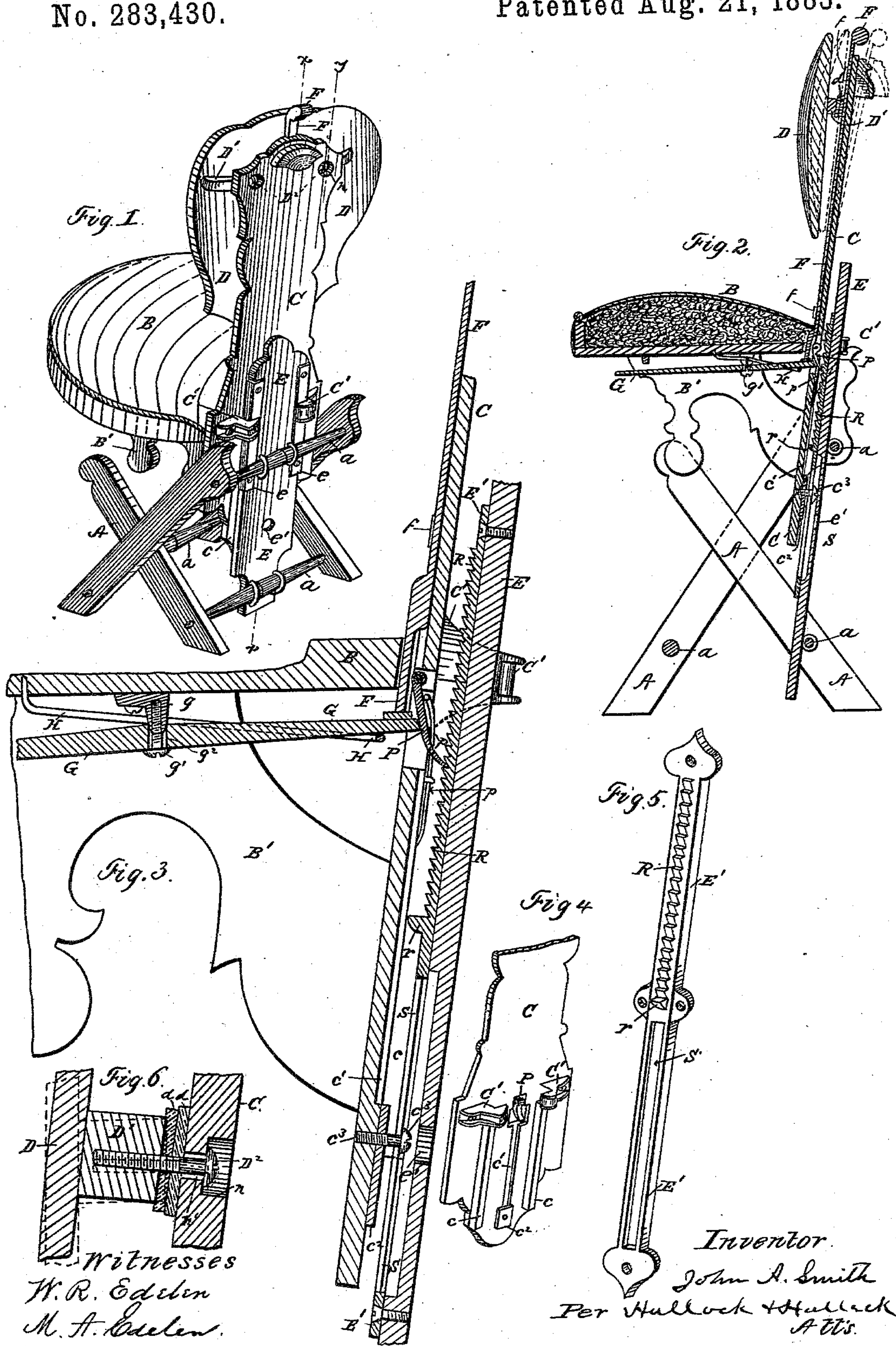


(No Model.)

J. A. SMITH.
ADJUSTABLE CHAIR, DESK, &c.

No. 283,430.

Patented Aug. 21, 1883.



UNITED STATES PATENT OFFICE.

JOHN A. SMITH, OF NORTH EAST, PENNSYLVANIA.

ADJUSTABLE CHAIR, DESK, &c.

SPECIFICATION forming part of Letters Patent No. 283,430, dated August 21, 1883.

Application filed September 2, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. SMITH, a citizen of the United States, residing at North East, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Adjustable Chairs, Desks, Tables, &c.; 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.

This invention consists in providing new and improved devices for making the seat of a chair adjustable as to height, and also for making the back flexible and adjustable to the form and position of the occupant, as well as adjustable as to height with the seat, as will hereinafter be fully set forth.

The invention is shown in the accompanying drawings, as follows:

Figure 1 is a perspective view of the chair, observed from the rear. Fig. 2 is a vertical transverse section on the line *xx* in Fig. 1. Fig. 3 is a similar view to Fig. 2, showing only essential parts and considerably enlarged, being about one-fourth full size. Fig. 4 is a perspective view of the back piece, C, showing details of construction. Fig. 5 is a perspective view of the ratchet and guide-iron E'. Fig. 6 is a section on the line *yy* in Fig. 1, showing a detail of construction.

The construction is as follows:

A is the frame-work forming the legs of the chair. Its construction or form can be varied without affecting the construction of the remaining parts of the device.

E is a stationary or fixed back, which is attached firmly to the frame A in any way desirable, but is shown in the present instance attached to the rear rounds, *a*, of the frame-work.

B is the seat, which is attached by brackets B' to the back C. The manner of attaching the chair-bottom to the back C may be varied in accordance with the style of the chair.

D is a flexible pad attached to the back C, and is intended to rest against the small of the back of the occupant.

E' is a ratchet-bar fastened to the fixed back E, and has both a ratchet part, R, and a guide-slot, S, and is shown clearly in Fig. 5. On the

back of the fixed back E are plates *ee*, and on the back of the movable back C are blocks *cc* and guide-irons C' C', which extend out far enough to leave sufficient space between their hooks and the blocks *cc* to admit the back E between them, and when the back E is in place then the hooks lie upon the bearing-plates *ee*. (See Figs. 1 and 4.) After the parts C and E have been put in the position just named; a screw, *c'*, is put through a hole, *e'*, in the back E, back of the slot S in the iron E', and is screwed into a block, *c''*, in the back C. The head of this screw cannot pass through the slot S, and the screw and slot together form a guide, and also a stop, as they prevent the back being raised or lowered above a certain point. The ratchet R and the slot S are of equal length, and the last tooth of the ratchet is extended into a lug, *r*, which also serves as a stop, as the pawl cannot pass it. In the back C is a groove, *c'*, which at its upper end terminates in an opening, in which is hung a pawl, P. A spring, *p*, is attached to the back C, and pushes against the pawl P in such a manner as to throw it away from the ratchet. On the under side of the seat B is a lever, G, which is fulcrumed on a post, *g*, by a screw, *g'*, passing through a hole, *g''*, which is larger than the screw's body.

H is a spring attached to the seat and bearing against the lever G near the back of the seat. The end of the lever strikes against the pawl P, and the spring H acts to cause the lever to throw the pawl upon the ratchet. The spring H is made so strong as to overcome the spring *p* and keep the pawl upon the ratchet; but when the lever G is moved against its spring, away from the pawl, the spring *p* at once lifts the pawl P away from the ratchet. The lever G can be so moved by reaching the hand under the seat B and bearing down on the outer end of the lever, or by a plunger, F, which lies in a groove in the back C and extends above the top of the back. On the top of the back C, and on the back side of the same, is an ornament which serves as a finger-catch. By grasping the top of the back C, with the fingers under the said finger-catch and the thumb on top of the plunger F, and lifting slightly with the fingers and bearing down with the thumb, the lever G will be

thrown down by the plunger and the pawl P will leave the ratchet, and the seat and back can be raised or lowered at will, and when in proper position, by relieving the pressure of the thumb on the top of the plunger F, the pawl will be thrown into the ratchet and the hand can be removed from the finger-pull. The above-described action is the same as if picking up the chair by putting the fingers under the projecting ornament, only that the thumb pushes down on the plunger. If the thumb is not pressed down on the plunger, the chair can be lifted and carried by the hand under the projection, and the position of the seat will not be disturbed. When a person is sitting in the chair and does not want to get up in order to readjust the seat, the change can be made by rising up sufficiently to relieve the seat of the weight of the person and putting one hand under the seat and bearing down the outer end of the lever G.

In the chair shown in the drawings the back C is made of good hard-wood board—maple, ash, or some equally firm and flexible wood—and is made quite thin—about seven-sixteenths of an inch—and it will yield to the pressure exerted against it, as shown by dotted lines in Fig. 2.

The chair shown in the drawings is designed especially for a music-stool or piano-stool, and the yielding back shown is very desirable.

The pad D, as before stated, is intended to sit against the small of the back, and it is made flexible by its attachment to the back C. This attachment consists of a strip, D', across the back of the pad, the yielding material *d d*, which is felt or rubber, and two screws, D², (see Fig. 1,) which pass through the back C and into the strip D', (see Fig. 6,) the head of the screw being in a recess, *n*, and the shank in a hole, *n'*, which is larger than the shank. The dotted lines in Figs. 2 and 6 show the flexible movement of the pad. By pivoting the pad to the flexible back, substantially in the manner shown, it will adjust itself to the back of any person who may be sitting in the chair. This means of securing the pad D and making it flexible is very cheap, and may be applied to any chair.

The lever G on the under side of the seat may be made with lateral arms, or with an arc-shaped piece at its outer end, so as to be easily accessible from the sides at various points, as well as in front, making it very convenient, as the hands can be used easier at the sides of the chair than in front while sitting upon it.

The devices here shown for adjusting the chair as to height can be applied to reading-desks, music-stands, tables, desks, and like objects.

What I claim as new is as follows:

1. The combination of a base, a standard projecting upwardly from said base and having a ratchet on one of its faces, a movable seat having a vertical standard adjustably attached to the standard in the base, a pawl piv-

oted to the movable seat, a spring for forcing the pawl away from the ratchet, a lever pivoted to the bottom of the seat and having one end against the pawl, and a spring attached to the under side of the seat, for holding the lever against said pawl, substantially as described.

2. The combination of frame A, stationary back E, fixed to said frame, and having a ratchet, R, and ways *e*, seat B, and back C, having a pawl, P, bearing-irons C' C', and blocks *c c*, for the purpose set forth.

3. In an adjustable chair, desk, or table, the combination, substantially as shown, of the following elements: a supporting-frame having a standard, E, a top having a vertical piece, C, sitting parallel with standard E, and adapted to slide upon it by means of the embracing-irons C', the ratchet R and pawl P, arranged as shown, the guide-slot S and guide-screw *c*³, the spring *p*, spring H, and lever G.

4. In an adjustable chair, desk, or table, the combination, with movable and stationary parts, of the ratchet E', attached to the stationary part, pawl P, pivoted to the movable part, spring *p*, for forcing the pawl away from the ratchet, lever G, fulcrumed to the stationary part, and having one end in contact with the pawl, and spring H, for holding the lever against the pawl, for the purpose set forth.

5. In an adjustable chair, desk, or table, the combination, with the movable and stationary part thereof, of the ratchet E', attached to the stationary part, pawl P, pivoted to the movable part, spring *p*, for forcing the pawl away from the ratchet, lever G, fulcrumed to the stationary part, and having one end in contact with the pawl, spring H, for holding the lever against the pawl, and a plunger, F, for forcing the end of the lever away from the pawl, substantially as described.

6. In an adjustable chair, desk, or table, the combination of a stationary part having thereon the standard E, iron E', with ratchet R and recessed slot S, and the bearing-plates *e e*, with a movable part, having thereon the embracing guide-irons C' C', guide-screw *c*³, bearing-blocks *c c*, pawl P, spring *p*, lever G, and spring H.

7. In a chair, the combination, with the back thereof, of the pad in front of the back D, block D', screws D², and elastic or yielding washers or packings *d d*, substantially as shown.

8. In a chair, the combination, with the back thereof, of a pivotally-movable pad, D, attached to and in front of the back by screws D², which pass through holes *n'* in said back, which are larger than the shanks of said screws, substantially as shown.

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

JOHN A. SMITH.

Witnesses:

JNO. K. HALLOCK,
W. T. BROWN.