

(No Model.)

R. E. HAMMER.  
ADJUSTABLE STOOL.

No. 358,660.

Patented Mar. 1, 1887.

FIG. 1.

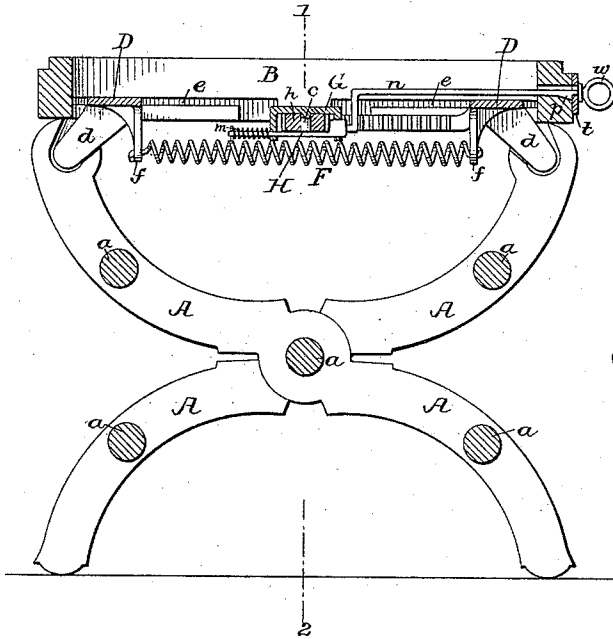


FIG. 2.

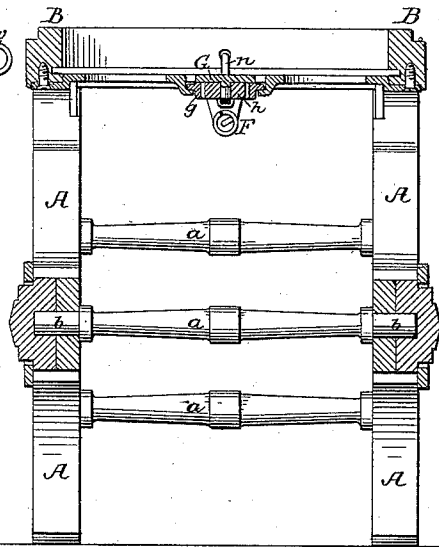


FIG. 3.

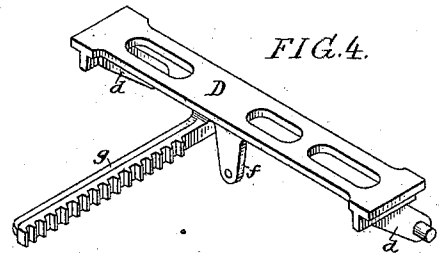
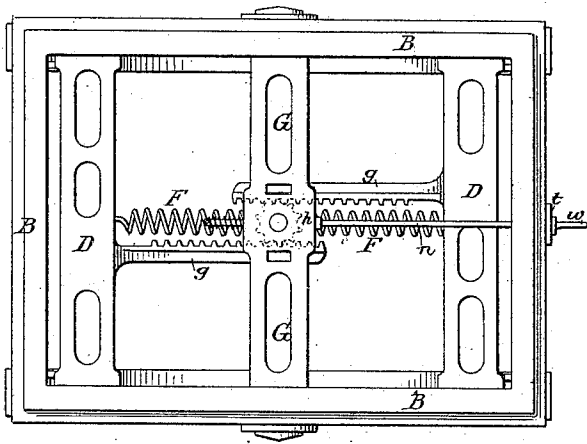


FIG. 4.

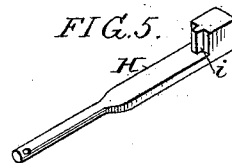


FIG. 5.

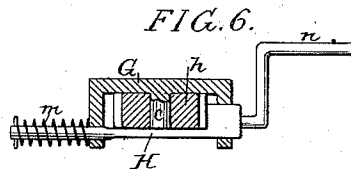


FIG. 6.

Witnesses  
John E. Parker  
Hamilton D. Turner

Inventor:  
Robert E. Hammer  
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Horsen and Co.

# UNITED STATES PATENT OFFICE.

ROBERT E. HAMMER, OF PHILADELPHIA, PENNSYLVANIA.

## ADJUSTABLE STOOL.

SPECIFICATION forming part of Letters Patent No. 358,660, dated March 1, 1887.

Application filed February 8, 1886. Serial No. 191,191. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT E. HAMMER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in Adjustable Stools, of which the following is a specification.

My invention relates to that class of adjustable stools or seats in which the top of the stool is supported upon opposite frames, each consisting of two bars pivoted together at a point midway, or thereabout, between their opposite ends, so that when said bars are caused to turn upon their pivots the frame is expanded or contracted and the top of the seat raised or lowered.

My invention consists of certain improvements in the construction of adjustable stools of this class and in the devices for adjusting the stool and locking it in any desired position.

In the accompanying drawings, Figure 1 is a longitudinal section of a stool constructed in accordance with my invention, the upholstered top of the stool being removed; Fig. 2, a transverse section of Fig. 1 on the line 1 2; Fig. 3, a plan view of Fig. 1; Figs. 4 and 5, detached perspective views of parts of the structure, and Fig. 6 an enlarged section of part of the locking device.

Each of the opposite supporting-frames of the stool consists of two curved or inclined bars, A A, suitably connected and braced by transverse rods *a*, and pivoted together at or about the center, the pivot-pins being formed in the present instance by the ends *b* of the central bar, *a*, of the frame.

The top frame, B, of the stool rests upon the rounded upper ends of the bars A A of the side frames, and said frame B is vertically confined to the bars A by means of links *d*, secured to or forming part of transverse plates D, the opposite ends of which are adapted to grooves *e* in the side bars of the frame B. On each plate D, at or about the center of the same, is a depending lug, *f*, the lugs of the two plates being connected together by a spring, F, the tendency of which is to draw the plates D D toward each other, this movement being transmitted by the links *d* to the upper ends of the bars A A of the supporting-frames, so that in the absence of any retaining device

the spring would draw the upper ends of the bars A A together, and thus elevate the seat to the full height, while pressure upon the seat would overcome the tension of the spring and separate the upper ends of the bars A A of each supporting-frame, so as to lower the seat to the full extent. In order, however, to lock the seat at any desired elevation, I provide each of the plates D with a projecting rack, *g*, a pinion, *h*, engaging with the opposite racks, and being hung to a stud, *c*, on a central transverse plate, G, secured to the top frame, B, of the stool. To suitable bearings on this plate G is adapted a locking-bolt, H, which has a tooth, *i*, adapted to engage with the teeth of the pinion *h* and prevent the rotation of the same, a spring, *m*, acting upon the bolt and tending to cause the same to engage with the pinion, from which the bolt may be withdrawn, however, by means of an operating-rod, *n*, which projects through an opening in the frame B of the stool, and has a catch, *p*, for engagement with a retaining-plate, *t*, on said frame, the outer end of the rod having a ring or other suitable handle, *w*, by which it may be readily manipulated.

The pinion *h* is held in position vertically on the stud *c* by means of the locking-bolt, which passes transversely beneath the pinion and supports the same, the use of a screw bolt or pin as a pivot for the pinion being thus rendered unnecessary and the fitting together of the parts somewhat simplified.

When it is desired to depress the stool, the rod *n* is first lifted so as to free its catch from the control of the plate *t*, and is then drawn outward, thereby withdrawing the bolt H from engagement with the pinion *h*, the racks *g* being thereupon free to move in opposite directions when pressure is exerted upon the seat sufficient to cause the forcing apart of the upper ends of the bars A A of each supporting-frame. When the stool has been depressed to the proper extent, the rod *n* is released, so that the bolt H, under the influence of the spring *m*, again engages with and locks the pinion *h*, the rod *n* being at the same time retained by engagement of its catch *p* with the plate *t*.

When it is desired to raise the stool, the locking-bolt is withdrawn in the same manner

as before, and, pressure being removed from the seat, the upper ends of the bars A A of the side frames will be drawn together by the spring F, so as to cause the desired elevation of the seat, the pinion *h* being locked, as before, when the proper position has been reached.

The pivotal connection between the racks *g* and the bars A of the supporting-frame is necessary in order that the said racks may retain a position parallel with the frame B, whatever the angle assumed by the bars A, and in the present instance the plates D and links *d* providesuch a pivotal connection for the racks, in addition to their function of confining the frame B to the bars A, and this construction is preferred, although not absolutely essential to the proper carrying out of my invention. The plates D also serve as means whereby the pull of the spring F is always exerted in a line directly parallel with the line of thrust of the racks *g*.

Although I have shown and described my invention as applied to a stool or seat, it will be evident that it can be applied as well to tables or desks, the frame B in this case being secured to or forming part of the top of said table or desk.

I claim as my invention—

1. The combination, in an adjustable stool or like article of furniture, of a supporting-frame consisting of pivoted bars, with the frame B, carried by said bars, rack-and-pinion mechanism receiving movement from said bars, a locking bolt or catch movable into or out of

engagement with said pinion, and a spring acting upon the upper ends of said bars of the supporting-frame, and serving as a means for drawing said upper ends of the bars together and thus elevating the frame B, all substantially as specified.

2. The combination of the pivoted bars A, the frame B, carried thereby, the plates D, having racks *g g* and connected to the bars A, a pinion gearing into said racks, a locking-bolt for said pinion, an operating-rod connected to the bolt, and a retainer for said rod, all substantially as specified.

3. The combination of the pivoted bars A, the frame B, supported thereon, the plates D, having racks *g g* and connected to the bars A, a pinion engaging with the racks, a locking-bolt for said pinion, a spring tending to move the locking-bolt in one direction, and a rod whereby it can be moved in the opposite direction, all substantially as specified.

4. The combination of the plate G, having a stud, *c*, the pinion *h*, and the locking-bolt adapted to bearings on the plate G, and serving to support the pinion *h*, all substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT E. HAMMER.

Witnesses:

WILLIAM D. CONNER,  
HARRY SMITH.