



# UNITED STATES PATENT OFFICE.

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## LOUNGE.

SPECIFICATION forming part of Letters Patent No. 514,830, dated February 13, 1894.

Application filed August 26, 1892. Serial No. 444,147. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY KERN, a citizen of the United States, and a resident of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Lounges, Chairs, &c., of which the following, taken in connection with the accompanying drawings, is a specification.

This invention relates to improvements in lounges, chairs, &c., and has for its object to provide them with simple, convenient and novel means whereby their arms or backs may be easily, noiselessly and quickly adjusted to different inclinations in relation to the seats according to the desire of the person who is occupying the same, without necessitating his moving therefrom: to provide means to automatically raise the arm to its highest position when released by an arm releasing mechanism, and means to increase or diminish the power of the spring for raising the arm.

The invention is carried out as follows, reference being had to the accompanying drawings, forming a part of this specification and illustrating my invention as applied to a lounge.

On the drawings, Figure 1 represents a front elevation of a lounge, provided with my improvements. Fig. 2 represents a bottom view of the same, partly in section. Fig. 3 represents a longitudinal section on the line A—B shown in Fig. 2. Figs. 4, 5, and 6 represent detail views of the spring which automatically raises the arm to its upper position, and showing the means employed to vary the tension or strength of said spring.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

$a$  represents the body, and  $a'$  the arm of a lounge. The arm is hinged at  $a^2$  to the body, so as to allow it to be turned on its hinges, to vary its inclination relative to the seat. To the arm are attached the segmental braces  $b$  which slide within the boxes  $c c$  attached to the inside of the frame of the body of the lounge, said braces being provided with a number of perforations  $b' b'$  to receive pins or bolts  $d d'$  which are moved within bearings in the boxes  $c c$ , and each enters one of these perforations in its respective brace to

lock the brace firmly in its proper position to retain the arm at the desired inclination.

The mechanism employed to operate the bolts  $d d'$  is preferably constructed as follows: A rod  $e$  is movable in and out within bearings  $e' e'$  in the framework of the lounge, and it projects through the front thereof where it is provided with a knob or button,  $e^2$ . The rod  $e$  is normally held in its outer position by means of a spring  $e^3$  attached thereto, and to the frame of the lounge as fully shown in Fig. 2. The bolt  $d$  being rigidly attached to or made in one piece with the rod  $e$  is therefore moved in its bearings by the movements of the rod. The bolt  $d'$  is pivotally attached to the end of the lever  $f$  which is fulcrumed at  $f'$  to the framework of the lounge, and is forked at the end as shown at  $f^2$  in Fig. 2. A pin or projection  $e^4$  on the rod  $e$  enters the fork in the end of the lever  $f$  and turns said lever on its fulcrum when the rod is moved in or out in its bearings in the frame of the lounge, in order to move the bolt  $d$  in its bearings to lock or unlock the brace  $b$  with which it engages. It will be seen that when the rod is pressed inward against the influence of the spring  $e^3$  the bolts  $d$  and  $d'$  will be withdrawn from the perforations  $b' b'$  in the braces  $b b$  within which they have rested, allowing the arm to be raised or lowered to suit the wishes of the person occupying the lounge, also that when the pressure is removed from the rod  $e$  the spring  $e^3$  will force the rod outward and tend to press the bolts into the perforations in the braces  $b b$ , which may be in a line with the movement of said bolts and again lock the arm. A shaft  $g$  is mounted in bearings  $g' g'$  attached to the frame of the lounge, which shaft is provided with means, preferably a square portion  $g^2$  substantially as shown, in order to turn said shaft in its bearings by means of a wrench for a purpose to be described hereinafter. A screw  $g^3$  is screwed into the shaft  $g$  and projects from the side of the same, forming a pin or projection to receive and hold the loop of the "rat-trap" spring  $h$  which spring is wound around the shaft and has its free ends projecting upward through the top of the lounge and pressing against the under side of the arm  $a'$  tending to raise the arm. The tendency of the spring

*h* is to turn the shaft in its bearings, but it is prevented from doing so by means of a pin *g*<sup>4</sup> inserted through a perforation in the bearing *g*<sup>1</sup> and one of the perforations *g*<sup>5</sup> *g*<sup>5</sup> in the shaft *g* as fully shown in Fig. 5. A number of perforations, *g*<sup>5</sup> *g*<sup>5</sup> are made at various angles through the shaft *g*, and it will be seen that the shaft is not only prevented from turning in its bearings, but that the tension or strength of the spring *h* may be varied by turning the shaft in its bearings with a wrench and inserting the pin *g*<sup>4</sup> through different perforations *g*<sup>5</sup> *g*<sup>5</sup> as may be required. Both bearings *g*<sup>1</sup> *g*<sup>1</sup> may be perforated to receive the pin *g*<sup>4</sup> and the shaft be provided with perforations to coincide with the perforations in both bearings, but no two perforations in the shaft to be at the same angle; thus the strength of the spring *h* may be more finely adjusted.

The use of perforations in the braces in combination with pins or bolts makes a more secure fastening for the arms than is made by means of ratchet teeth on the braces, and a pawl to engage said teeth, and it is less noisy in its operation.

The operation of my improved lounge is as follows: If a person occupying the lounge finds that the arm is too low to be comfortable to him, he presses the button *e*<sup>2</sup> inward without removing from the lounge, and raises his body to the inclination desired, and the arm is automatically raised with his body by means of the spring *h* to a corresponding incline. He then removes the pressure from the button and allows the spring *e*<sup>3</sup> to force the bolts *d* *d*<sup>1</sup> into the proper perforations in the braces to lock the arm at this inclination. Again, if he finds that the arm is too high he unlocks it as above described, allowing it to be pressed downward against the influence of the spring *h* by the weight of his body and again locked in that position by removing the pressure from the button *e*<sup>2</sup> as above described.

It will be obvious to any person that my invention is applicable to chairs and sofas if so desired, and I do not wish to confine my-

self to its use for any particular article of furniture.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim—

In a lounge, chair, &c., the combination with the body *a*, the arm or back *a*<sup>1</sup> hinged thereto, the perforated braces *b* attached to the arm or back, boxes attached to the body to guide the braces, of the rod *e* movable longitudinally within bearings on the body to unlock the arm or back by an inward pressure thereon, the pin or bolt *d* rigidly attached to the rod, movable within a bearing in one of the boxes and engaging one of the braces, the pin or bolt *d*<sup>1</sup> movable within a bearing in the other box and engaging the other brace, said pins or bolts locking the arm or back in its adjusted position in relation to the body, the intermediate lever *f* connecting the pin or bolt *d* with the rod *e*, the spring *e*<sup>3</sup> attached to the rod and the body, the influence of which is to force the rod outward and to hold the pins or bolts in engagement with the braces, the shaft *g*, bearings *g*<sup>1</sup>, *g*<sup>1</sup>, for the shaft on the body, the spring *h* coiled around the shaft, having its loop held by a projection on the shaft, and free ends resting against the arm or back to hold the same in its upper position, perforations in the bearings *g*<sup>1</sup>, *g*<sup>1</sup>, and in the shaft *g*, at various angles, those in the bearings to be brought to coincide with those in the shaft, and a pin *g*<sup>4</sup> to enter the perforations in the bearings and the shaft, whereby the tension of the spring may be increased or diminished according to the perforations in the shaft into which the pin is placed, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of August, A. D. 1892.

HENRY KERN.

Witnesses:

HENRY CHADBURN,  
 CORA J. CHADBURN.