

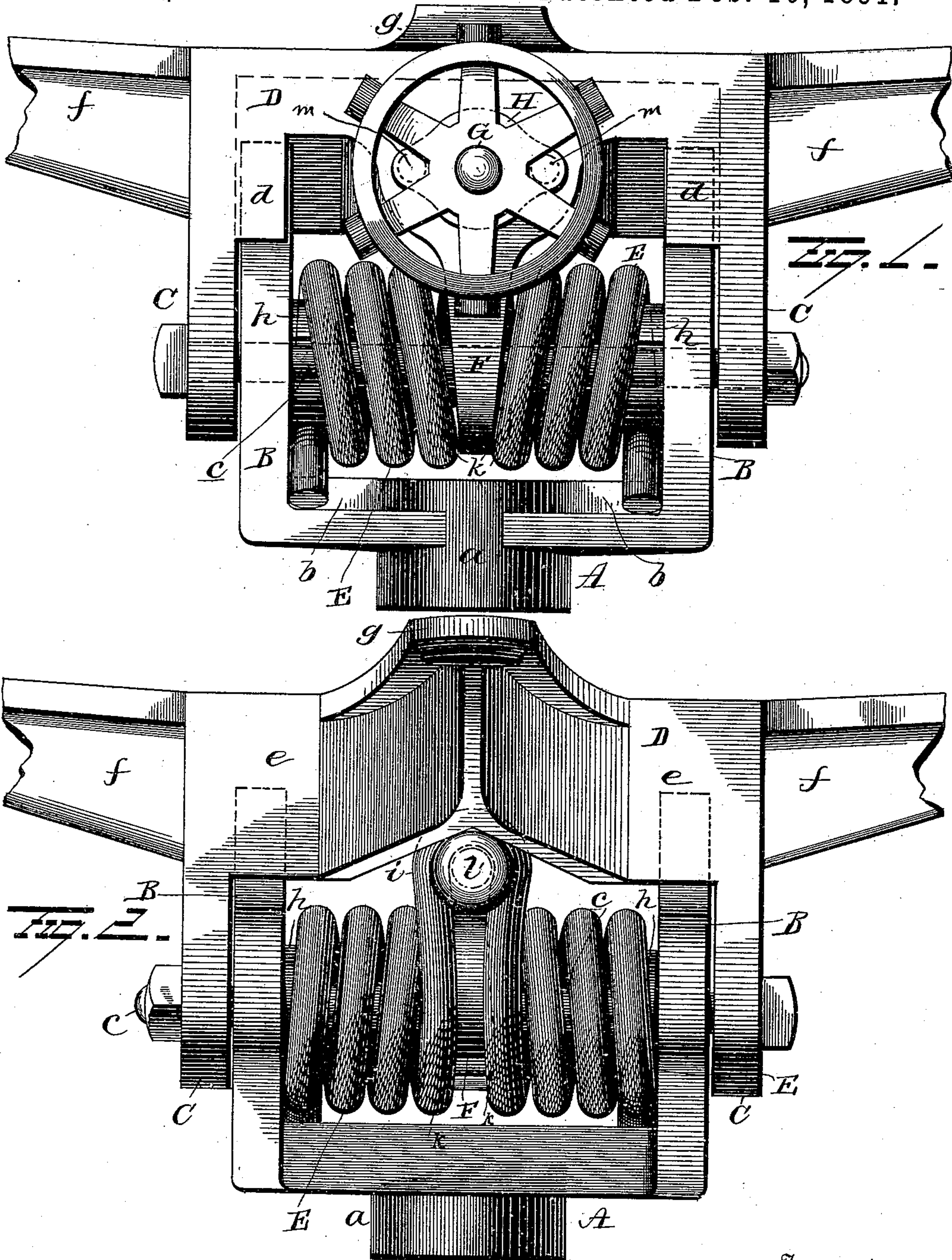
(No Model.)

2 Sheets—Sheet 1.

W. SCHRAGE.
TILTING CHAIR.

No. 446,080.

Patented Feb. 10, 1891.



Witnesses
E. M. Thigman
C. F. Downing

Inventor.
Wm Schrage.
By his Attorney
H. A. Seymour.

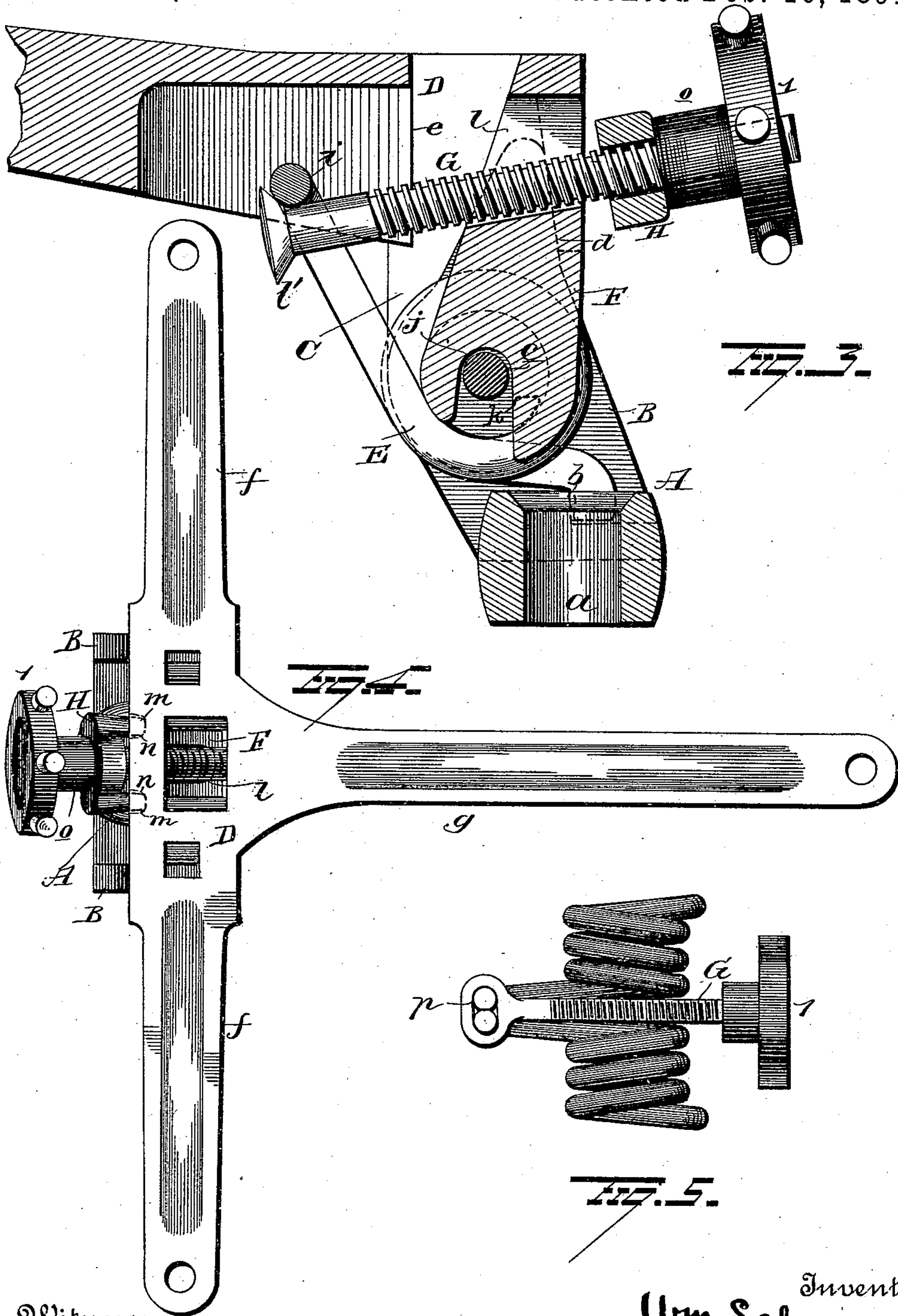
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2 Sheets—Sheet 2.

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Witnesses
G. F. Downing
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Inventor
Wm Schrage

By his Attorney
H. A. Symmon

UNITED STATES PATENT OFFICE.

WILLIAM SCHRAGE, OF SHEBOYGAN, WISCONSIN.

TILTING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 446,080, dated February 10, 1891.

Application filed July 28, 1890. Serial No. 360,155. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHRAGE, a citizen of the United States, residing at Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented certain new and useful Improvements in Tilting-Chairs; 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.

My invention relates to an improvement in chairs, and more particularly to tilting-chairs; and it consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a rear view of the device. Fig. 2 is a front view. Fig. 3 is a sectional view with part of the upper casting broken away. Fig. 4 is a view of the upper casting. Fig. 5 is a view of a modification.

A represents the lower casting or bracket of the tilting device, provided at its center with a perforation *a* for the reception of the screw of the chair and at its ends with upwardly-projecting arms B B, said casting or bracket being provided at points between the arms B B and at opposite sides of its center with lugs *b*, for a purpose which will be explained farther on. The upwardly-extending arms B B are provided at or near their centers with perforations for the reception of a bolt *c*, which bolt also passes through perforations near the lower ends of two arms C C, which project downwardly from an upper casting D and embrace the arms B B of the lower casting, whereby said upper and lower castings are pivotally connected or hinged together, the movement of the upper casting upon the lower one being limited by the flanges *d* and *e*, respectively, which act as stops against which the ends of the projecting arms B B strike when the upper casting has swung its allotted distance in either direction. Three arms *f f g* project from the upper casting D and are provided at or near their free ends with perforations for the reception of fastening devices for securing the device to a chair-bottom, the arm *g* extending forwardly and adapted to be fastened to the front portion of the chair.

Encircling the bolt *c* is a heavy coiled spring

E, the free ends of which are bent downwardly and adapted to engage the lugs *b* on the lower casting A, this spring being so coiled that the separate coils thereof shall not lie in contact with each other, and being maintained in proper position by means of flanges *h* on the arms B B. At its center the spring E is extended forwardly to produce a loop *i* for the reception of an adjusting device presently to be described.

Projecting from the center of and within the casting D is a depending arm F, provided with a recess *j* for the accommodation of the bolt *c* and adapted to project between the central coils of the spring, the rear portion of said arm being provided with shoulders *k* for the accommodation of the central coils of the spring and to hold said coils in place. At or near its upper end the arm F is provided with a vertically-disposed elongated slot *l*, through which a screw-rod G passes, the free end of which screw-rod is provided with a head *l'*, by means of which said rod is loosely connected with the loop of the spring E. In rear of the arm F a collar H loosely encircles the screw-rod G and is provided with lugs or projections *m* at diametrically-opposite sides, adapted to loosely enter recesses *n* on the arm F. On the free end of the screw-rod G a wheel I is screwed, said wheel having an integral collar *o*, adapted to bear against the loose collar H. By this construction the tension of the spring E may be regulated at will, the screw-rod being loosely connected thereto at one end and loosely connected to the arm F at a point between its ends, whereby said rod will adapt itself to the varying positions of the loop *i* of the spring E.

Instead of employing one spring E, having a loop *i*, two springs may be employed, as shown in Fig. 5, one end of each spring bearing against one of the lugs *b* of the lower casting and the other ends terminating at points in proximity to the center of the upper casting. With this construction the forward end of the screw-rod G will be provided with a loop *p* for the reception of the forward ends of the springs, instead of a head, as previously explained. By thus constructing a tilting device for a chair a freedom of action will be had and there will be no friction of the spring with the parts of the device or with the parts of itself.

It is evident that slight changes might be made in the details of construction without departing from the spirit thereof or limiting its scope. Hence I do not wish to limit myself to the precise details of construction herein described; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. In a tilting-chair, the combination, with a pair of members hinged together and a bolt or rod connecting these members, one member provided with stops and the other with projecting arms adapted to engage the stops,
15 of a spring encircling the bolt or rod and provided with an elongated portion, a screw connected with the elongated portion of the spring and extending in the direction of the stops, and means for drawing the elongated portion
20 of the spring in the direction of the stops, whereby the tension of the spring is increased, substantially as set forth.

2. In a tilting device for a chair, the combination, with an upper and a lower casting hinged together, of a spring immovably connected with the lower casting and provided at its center with a forwardly-projecting loop, an arm projecting from the upper casting into the spring and provided with an elongated slot, a screw-rod passing through said slot and loosely connected with the loop of the spring, a collar loosely encircling the screw-rod and provided with lugs adapted to bear against the arm on the upper casting, and an adjusting-wheel on the screw-rod, substantially as set forth. 25 30 35

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

WILLIAM SCHIRAGE.

Witnesses:

FULTON RAAB,
OTTO FEESE.