

M. V. LUNGER.
TILTING-CHAIR.

No. 176,654.

Patented April 25, 1876.

Fig. 1.

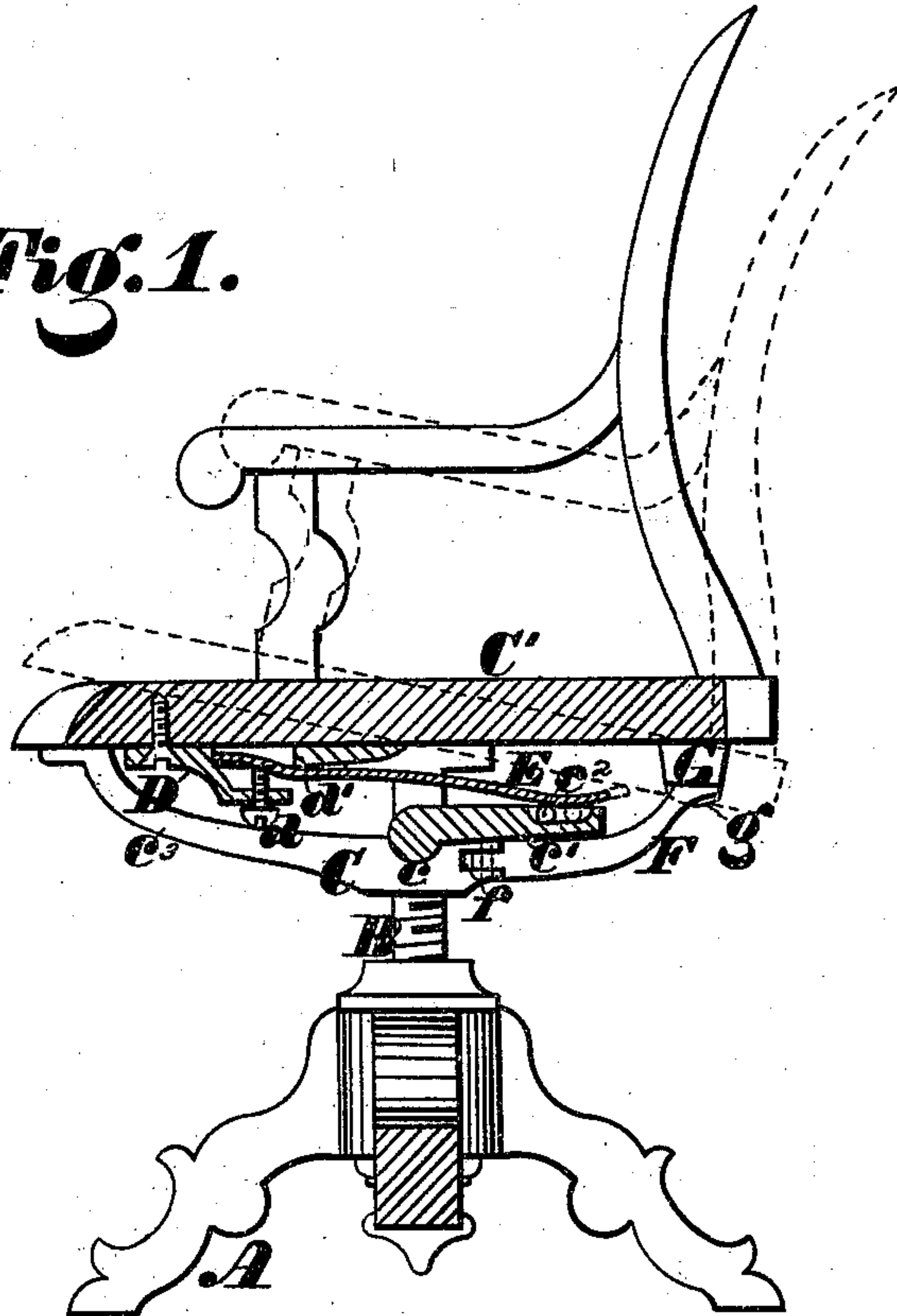
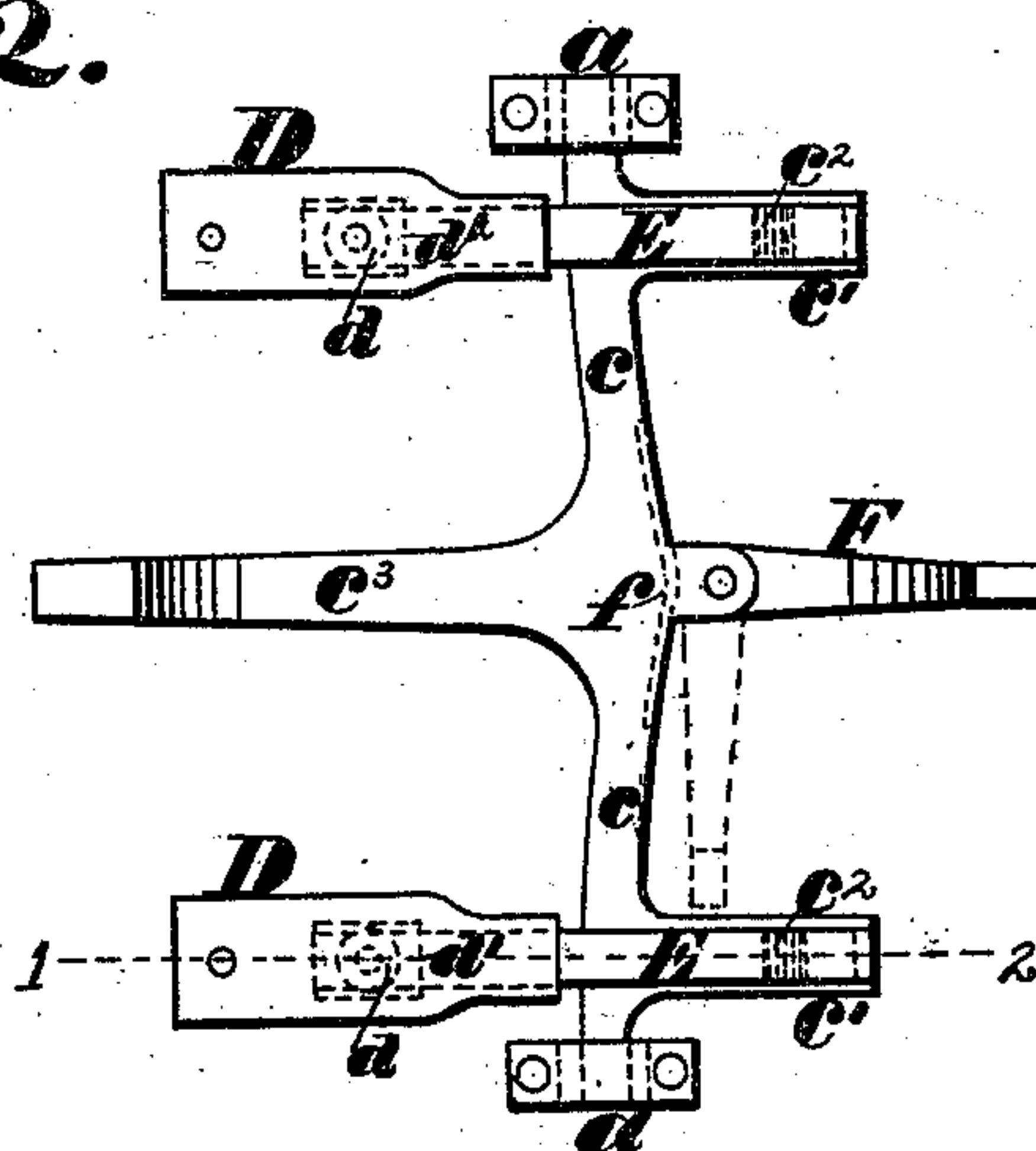


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN V. LUNGER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN TILTING-CHAIRS.

Specification forming part of Letters Patent No. **176,654**, dated April 25, 1876; application filed September 18, 1875.

To all whom it may concern:

Be it known that I, MARTIN V. LUNGER, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a vertical tranverse section on the line 1 and 2. Fig. 2 is a plan of the spider and springs, with their appropriate bearings.

The object of my invention is to provide a simple and effective arrangement of springs for tilting-chairs, which may be manufactured at slight cost, and be very effective in operation. A further object of my invention is to provide a novel arrangement of stops or devices for limiting the tilt of the chair-seat. A still further object of my invention is to provide a locking device by which the seat may be rendered perfectly rigid, and prevented from tilting.

Referring to the accompanying drawing, A shows the base or legs, B the screw, and C' the seat, of a tilting-chair, these several parts being made in the usual or any suitable manner. C is the spider, having lateral arms *c c*, on which the seat rocks, said arms having bearings in brackets or boxes *a a*, made fast to the under side of said seat. *c¹ c¹* are short stops or studs projecting rearwardly from the arms *c c*, and located in the same horizontal plane with the latter. D D are lugs screwed or otherwise secured on the under side of the front part of the seat. E E are curved springs, one end of each of which is secured within the lugs D D by set-screws *d d*, the opposite ends of said springs resting on the stops *c¹ c¹*, or on anti-friction rollers *c² c²*, contained therein.

It will be observed that the springs E have their bearings in the lugs D, on shoulders or ridges *d' d'*, so that their tension or stiffness may be varied by means of the set-screws *d*.

When the seat is tilted backwardly, the

springs E E are nearly flattened, the extent of the tilt being limited by the studs *c¹ c¹*, which thus operate both as stops and bearings for the springs. The forward limitation of the tilt is controlled by the usual curved arm *c³*. F represents a curved arm or lever pivoted to the spider C, and arranged so that it can be swung parallel with the arms *c c*, or in line with the arm *c³*, when in the latter position its outer extremity resting in a step, *g*, in a button, G, on the under side of the seat, and serving to lock the latter and prevent its being tilted. A holding-spring, *f*, fitted in the back of the spider, may be employed to prevent the lever G from swinging involuntarily when adjusted in any desired position.

It is obvious that a single spring in the middle of the chair may be substituted for the two springs E E, the latter, however, affording greater steadiness.

In cases where a base or stool is employed instead of a spider, the outer or free ends of the springs E E may be made to rest upon the roller of a caster or equivalent device screwed into said base.

What I claim as my invention is—

1. In combination with the seat C', and spring E, the bracket D, secured to said seat, set-screw *d*, and shoulder or fulcrum *d'*, substantially as shown and described.

2. The combination of the spider C, having the rearwardly-extending-studs *c¹ c¹*, the lugs D, having set-screws *d*, and the curved springs E secured at one end in said lugs, and having the other end free to work on said studs, substantially as set forth.

3. The swinging lever or curved arm F, arranged to operate as a lock for the seat and prevent the tilting of the latter, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of September, 1875.

MARTIN V. LUNGER.

Witnesses:

M. DANIEL CONNOLLY,
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