(Model.)

# M. TONK & G. H. HOWE.

## CHAIR BACK.

No. 252,980. Patented Jan. 31, 1882.

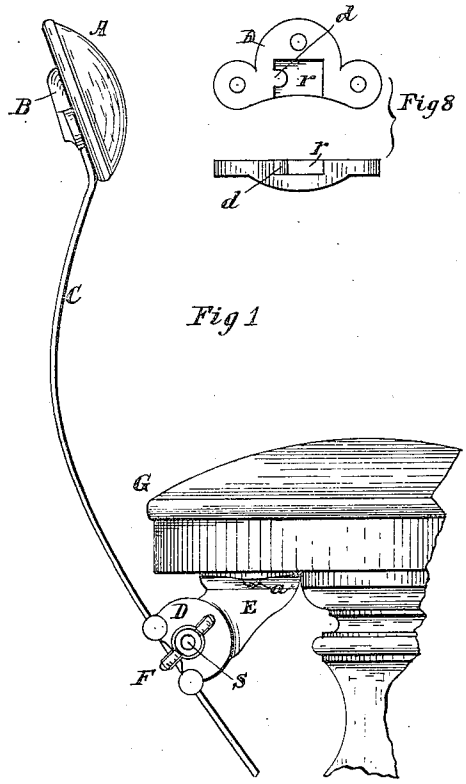


Fig 1




Fig 8

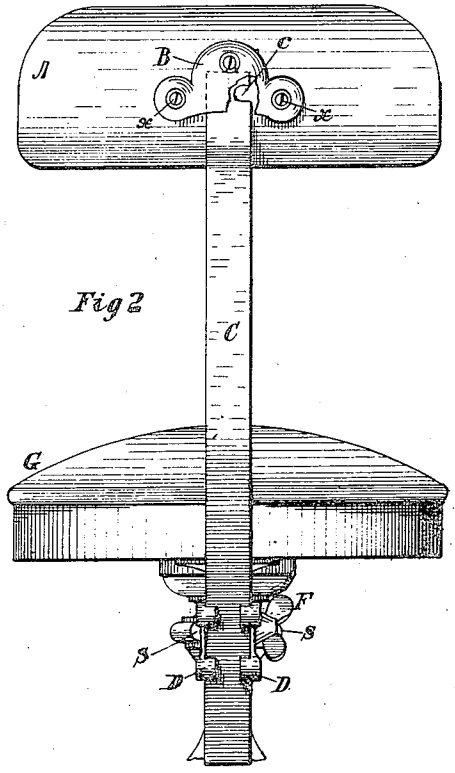


Fig 2

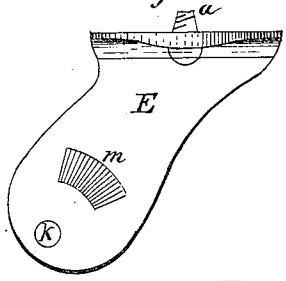


Fig 3

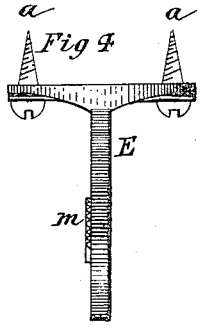


Fig 4

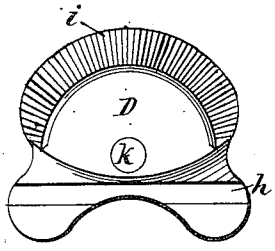


Fig 5

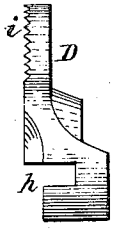


Fig 6

Fig 7

Witnesses
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# UNITED STATES PATENT OFFICE.

MAX TONK AND GEORGE H. HOWE, OF CHICAGO, ILLINOIS; SAID HOWE ASSIGNOR TO SAID TONK.

## CHAIR-BACK.

SPECIFICATION forming part of Letters Patent No. 252,980, dated January 31, 1882.

Application filed April 11, 1881. (Model.)

*To all whom it may concern:*

Be it known that we, MAX TONK and GEORGE H. HOWE, citizens of the United States, and residents of the city of Chicago, have invented jointly certain new and useful Improvements in Adjustable Spring Chair-Backs, of which the following is the specification, reference being had to the accompanying drawings.

Our invention relates to that class of adjustable spring chair-backs which are adjustable vertically and angularly, forward or backward, and which consists of a vertical, or nearly vertical, flat spring having a cushion attached to its upper end, which forms the back proper, and having its lower end attached by a suitable clamping device to the seat of the chair. It is obviously necessary in spring chair-backs of the construction just described that the flat spring, in order that it may act as a spring should present its flat side toward the person occupying the chair, and consequently toward the direction of the angular adjustment of the chair-back.

The object of our invention is to provide a method by which the flat spring in an adjustable spring chair-back can be attached to the chair-seat in such a manner that its flat side shall be presented toward the person occupying the chair, and at the same time admit of being raised or lowered and inclined forward or back, and then firmly secured at the desired adjustment.

We attain the objects of our invention by the following method, reference being had to the accompanying drawings, in which similar letters of reference indicate like parts in all the figures, and in which—

Figures 1 and 2 represent side and rear views of our invention as applied to a piano-stool. Figs. 3 and 4 represent respectively front and side views of the standard E. Figs. 5 and 6 represent respectively side and top views of one of the clamping-plates D D, the other being similar. Fig. 7 shows the bolt S, and Fig. 8 the plate B, which secures the spring C to the cushion A.

The standard E is attached by the screws *a a* to the under side of the chair-seat, near the rear, and has on one side the serrated sector or roughened part *m*, Figs. 3 and 4, the center of which is the center of the hole *k*.

There are placed, one on each side of the standard E, the clamping-plates D D. The one on the side of the standard E on which the roughened part *m* is is likewise provided with the serrated sector or roughened part *i*, Figs. 5 and 6, whose center is at the center of the hole *k*. These plates are so placed with reference to the standard E that the bolt S may be passed through the holes *k* in the three parts and the thumb-nut F screwed loosely on, Figs. 1 and 2.

In each of the clamping-plates D D on the side toward the other is the groove or channel *h*, the object of which is to receive the edge of the flat spring C. The spring C is placed between the clamping plates D D with its edges in the grooves *h*, and the proper adjustment is made by moving it up or down in the grooves and turning the clamping-plates on the bolt S. When in the desired position the thumb-nut F is tightened, which draws the clamping-plates toward each other and against the spring C and the standard E. The pressure against the spring will prevent its moving up or down, and the serrated segments *m* and *i* will engage with each other and prevent the clamping-plates from turning on the bolt S. By this arrangement we secure angular and vertical adjustment of the chair-back and utilize the elasticity of the spring C.

We claim—

1. In an adjustable spring chair-back, the construction hereinbefore shown, consisting of the arrangement, in combination, of the standard E, the bolt S, the clamping-plates D D, and the flat spring C, whereby the spring C is held by its edges and its flat side presented toward the direction of angular adjustment, substantially as shown, and for the purposes described.

2. In an adjustable chair-back, the combination of the spring C, the standard E, provided with the serrated sector *m*, the clamping-plates D D, provided with the grooves *h* and serrated sector *i*, the bolt S, and thumb-nut F, substantially as shown, and for the purposes described.

MAX TONK.
GEO. H. HOWE.

Witnesses:
WM. BUCKINGHAM,
ALBERT E. TONK.