

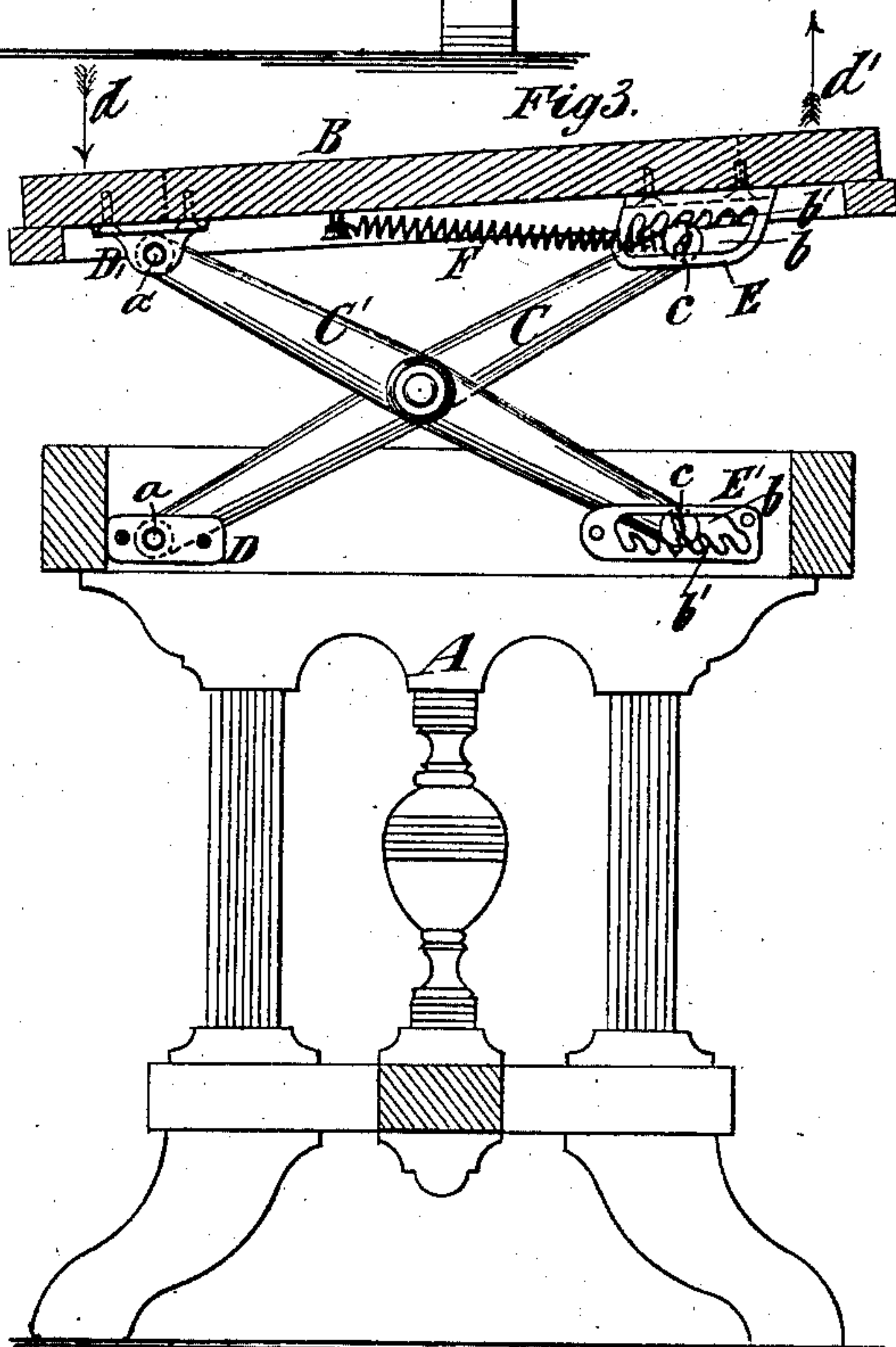
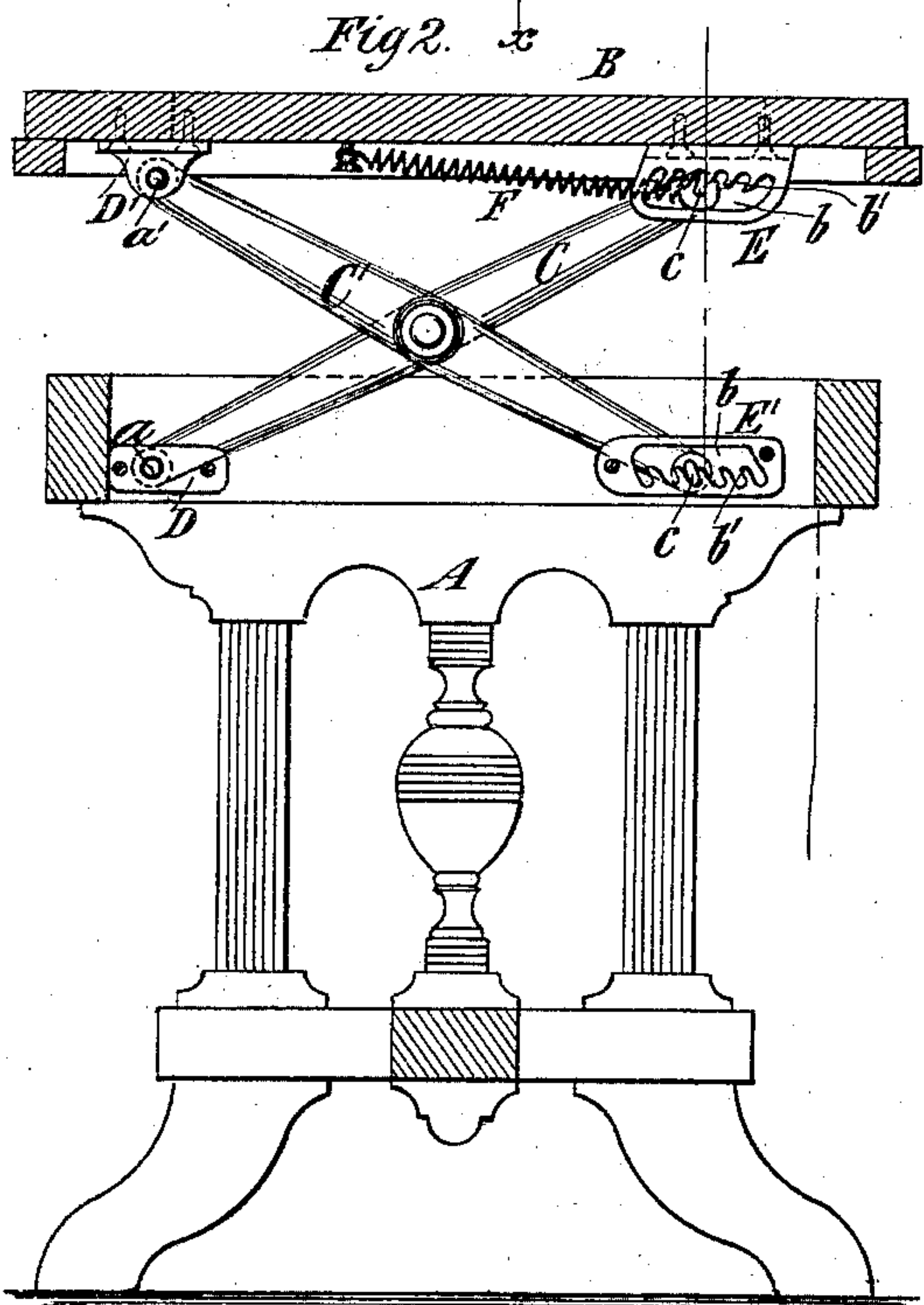
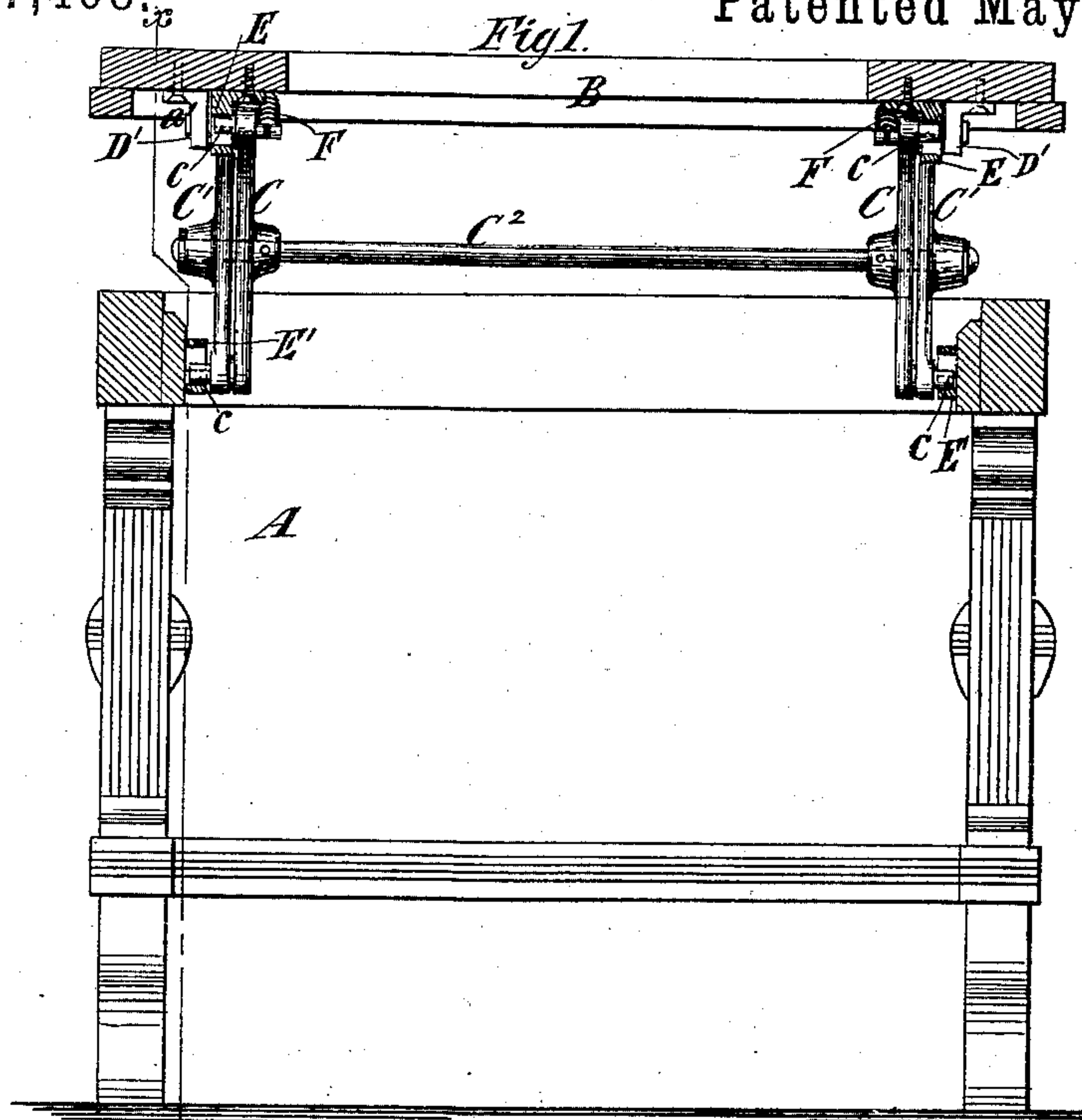
(No Model.)

G. W. MORSTATT.

CHAIR.

No. 317,468.

Patented May 5, 1885.



Witnesses

Frederick Haynes  
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# UNITED STATES PATENT OFFICE.

GEORGE WM. MORSTATT, OF NEW YORK, N. Y.

## CHAIR.

SPECIFICATION forming part of Letters Patent No. 317,468, dated May 5, 1885.

Application filed August 10, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. MORSTATT, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Chairs and other articles of Furniture, of which the following is a specification.

My invention relates more particularly to chairs and music-stools which have their seats or top portions connected with their bases or lower portions by pairs of crossed levers, so that said seats or top portions may be adjusted at different heights; but the invention is also applicable to drawing and other tables to enable their tops to be readily raised and lowered.

My invention consists in novel combinations of parts, hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of a music-stool embodying my invention, the plane of the section passing through the guides for the free ends of the crossed levers, and Figs. 2 and 3 are transverse vertical sections on the plane of the dotted line *x x*, Fig. 1, looking toward the right, Fig. 2 showing the free ends of the cross-levers locked to sustain the upper portion, and Fig. 3 showing the said upper portion tilted to unlock the free ends of the levers and permit the said upper portion to be lowered.

Similar letters of reference designate corresponding parts in all the figures.

A designates the lower or base portion of the stool, and B designates the movable upper portion thereof, both of which may be of any suitable construction.

C C' designate the crossed levers, arranged in pairs. Two pairs of levers only are here shown; but if the invention is applied to a long seat, bench, or table, three or more pairs may be used. The pairs of levers are connected by a rod, C<sup>2</sup>, which forms their fulcrum, and, as here shown, the inner levers, C, are pinned or keyed fast to the rod, while the outer levers, C', are free to turn on said rod. On one side of the lower and upper portions, A B, are attached plates D D', to which the corresponding ends of the levers C C' are pivoted by pivots *a a'* at their corresponding ends, while the other ends of all the levers

are free to move laterally as the upper portion, B, is raised or lowered.

To the sides of the lower and upper portions, A B, opposite the pivot-plates D D', are attached other plates, E E', each of which comprises a slot or elongated opening, *b*, having teeth *b'* in its upper or lower edge. On the free ends of the levers C C' are projections or pins, *c*, which are shaped so as to engage positively with the teeth *b'*.

It will be readily understood that when the projections *c* on the levers are engaged with the teeth *b'* the free ends of the levers cannot move laterally, as they must do when the upper portion, B, is raised or lowered, and the levers are thereby locked, so that they will securely sustain and support the said upper portion. The slots *b* are sufficiently wide to enable the projections *c* to move freely laterally in them when raised out of engagement with the teeth *b'*, and constitute guides for the free ends of the levers, the said projections *c* being considered as a part of the levers.

As shown in Fig. 2, the free ends of the levers C C' are engaged with the teeth *b'* of the guide-plates E E', and the levers being locked the upper portion, B, is supported.

When it is desired to lower the upper portion, said upper portion is pressed down on the side at which the levers are pivoted, as indicated by the arrow *d*, Fig. 3, and is raised slightly at the opposite side, as indicated by the arrow *d'*. By this tilting or canting of the upper portion, B, the free ends of both the levers of each pair are disengaged from the teeth *b'*, and the upper portion can be raised or lowered as may be desired. The upper portion can, of course, be raised without so canting it, but by canting it the disagreeable noise produced by the projections *c* riding over the teeth *b'* is obviated. Although I prefer to employ the toothed guides for both levers of each pair, such a guide for the free end of one lever of each pair would be sufficient, the free end of the other lever of each pair sliding in a plain guide having straight edges. F designates springs connected at one end to the upper portion, B, and connected at the other end with the lever C. In lowering the upper portion, these springs are extended, and their resistance to such extension serves to counterbalance the upper portion. Springs other-



wise applied might be employed for a like purpose.

I do not claim herein a chair, stool, or table the upper and lower portions of which are connected by pairs of crossed levers, and in which the upper portion is held in an elevated position by rack-bars connected with the levers and engaging with pawls or stops on the lower portion of the chair, stool, or table. Neither do I claim as of my invention a chair, stool, or table wherein the upper and lower portions are connected by pairs of crossed levers, one lever of each pair having both ends pivoted at fixed points to the upper and lower portions at opposite sides thereof, and the other lever of each pair having a sliding connection at each end with said upper and lower portions. In this latter construction the upper portion can be lowered by simply pressing downward on one side thereof, and hence if a person should sit upon the chair or stool at that side the upper portion would be liable to fall and break the chair or stool, and would, in falling, greatly shock the person sitting upon it.

My present invention differs from that first disclaimed in having teeth in the guides with which the free ends of the levers engage, and thus dispensing with the rack-bars and pawls or stops; and differs from that last described in that each lever has a fixed pivotal connection at one end and a sliding connection at the other end. This combination renders it necessary, in lowering the upper portion, to lift up on one side thereof, as well as to push

down on the other side, and hence there is much less liability of the upper portion accidentally falling.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the lower portion, A, and movable upper portion, B, of a chair, stool, or table, said portions being provided at one side of the chair, stool, or table with guides *b* and teeth *b'*, of crossed levers *C C'*, provided at one end with projections *c*, which are adapted to slide in said guides *b*, and to engage with said teeth *b'*, and at the other end pivoted at fixed points *a a'* to said portions A B, at the other side of the chair, stool, or table, substantially as and for the purpose herein described.

2. The combination, with the lower portion, A, and movable upper portion, B, of a chair, stool, or table, said portions being provided at one side of the chair, stool, or table with guides *b* and teeth *b'*, of crossed levers *C C'*, provided at one end with projections *c*, adapted to slide in said guides *b* and to engage with said teeth *b'*, and at the other end pivoted at fixed points *a a'* to said portions A B at the other side of the chair, stool, or table, and the springs *F*, serving to counterbalance the weight of the movable upper portion, B, substantially as and for the purpose herein described.

GEO. WM. MORSTATT.

Witnesses:

FREDK. HAYNES,  
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