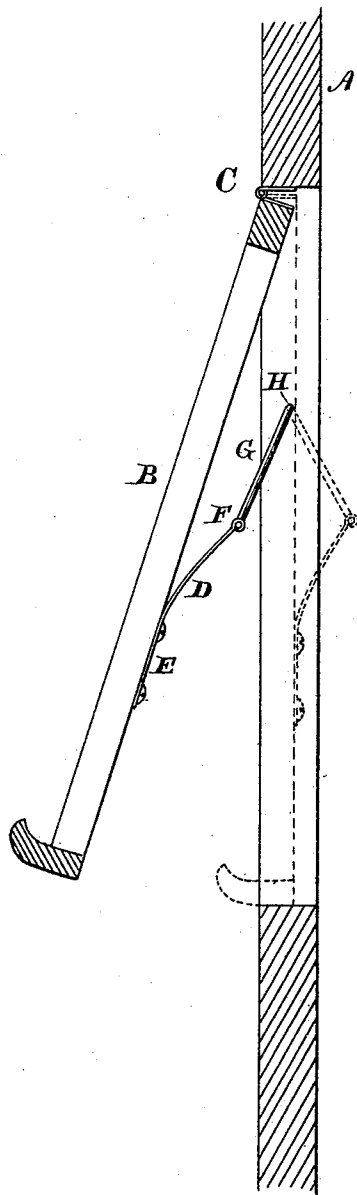


(No Model.)

E. PETERSON.
MUSIC DESK FOR PIANOS.

No. 468,027.

Patented Feb. 2, 1892.



WITNESSES:

all Oye
C. L. Haynes

INVENTOR:

Emanuel Peterson
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ATTYS.

UNITED STATES PATENT OFFICE.

EMANUEL PETERSON, OF BOSTON, MASSACHUSETTS.

MUSIC-DESK FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 468,027, dated February 2, 1892.

Application filed August 21, 1890. Serial No. 362,695. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL PETERSON, a subject of the King of Sweden, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Music-Desks for Pianos, of which the following is a specification.

The object of my invention is to provide a piano music-desk with a spring-actuated support for holding it either in its closed or open position, allowing at the same time perfect facility in shifting the desk from one position to the other.

The accompanying drawing represents a section of the front board of an upright piano, showing the music-desk with my improved attachment applied thereto. The desk is shown in its pulled-out position in full lines and in its closed-up position in dotted lines.

A represents the front board of a piano, and B the music-desk hinged thereto at C, so that it can swing freely in and out. A plate-spring D is secured to the music-desk at E, and is pivoted at F to a swinging arm G, which is pivoted in the piano-frame at H in such a position that it will hold the piano-desk in its outer position when pulled out and in its inner position when pushed in, the spring yielding sufficiently to pass over the dead-center when the proper amount of force is applied, it being also sufficiently stiff to hold the desk open in spite of the weight of the music sheet or book tending to close the same.

It is evident that the spring D forms a spring-brace, which not only holds the music-desk in its outward and inward positions, but tends to throw the same into such positions, so that it cannot remain at any intermediate angle. In other words, the spring in passing from its inner to its outer position is moved over a dead-center.

With the construction described the spring-brace acts to snap the desk into its open or closed position, and also to hold it in such position. This action is secured because the construction is such that when movement of the desk from one position to another is commenced the moving pivot F at the free end of the spring must travel in an arc struck from the pivot H as a center, whereas its connection to the desk itself by the brace would naturally cause it to move in an arc struck

from the pivotal point of the desk as a center. It will be observed that arcs struck from these two points, respectively, do not coincide, but intersect substantially at the points occupied by the pivot F, as shown in full and in dotted lines. From these considerations it will be evident that when the desk is moved inward the spring must be compressed, and after it passes a certain intermediate point its tension will throw the desk quickly into the dotted-line position, when the tension of the spring is again relieved. In moving the desk from open to closed position the operation is the same. In this movement of the desk the pivot F travels back and forth across the plane of the piano-front, assuming in the one case a position in advance of said plane and in the other case one in the rear of the plane. When the desk is closed, it fits an aperture or seat in the frame, and to permit this the pivots connecting arm G with the frame and the brace are offset, so that the brace may be attached to the desk, but the arm connected to the frame at a point to one side of the desk.

Having thus described my invention, what I claim as new is—

1. The combination, with a piano-frame and music-desk pivoted thereon and adapted to swing from an inner to an outer position, of a brace of spring metal connected to both frame and desk, and a moving pivot forming one of the points of attachment of the spring, which is behind the plane of the piano-front when the desk is closed, but is moved to a position in front of said plane when the desk is open.

2. The combination of a piano-frame and desk pivoted thereto and adapted to spring from an inner to an outer position with a brace of springy material acting to positively throw the said desk into either one of its extreme positions and connected at offset points at one end with the frame to one side of the desk and at the other end to the desk itself, substantially as set forth.

3. The combination, with the piano-frame, of the music-desk pivoted thereto and adapted to swing from an inner to an outer position, a spring-brace connected at one end to the music-desk, and a swinging arm connecting the other end of the brace to the piano-frame, so as to hold the desk in either of its extreme

positions and throw it into one of its said positions when placed at an intermediate angle.

4. The combination, with a piano-frame and desk pivoted thereto, of a spring-brace having
5 one end attached to one of the above-named parts and a moving pivot connecting its other end to the second part, which pivot is connected, first, with the desk, and so tends to move in the arc of a circle having the pivot

of the desk for a center, and, second, with the frame, so that it tends, also, to move in a second intersecting arc around this latter point, as set forth.

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Witnesses:

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E. M. BENTLEY.