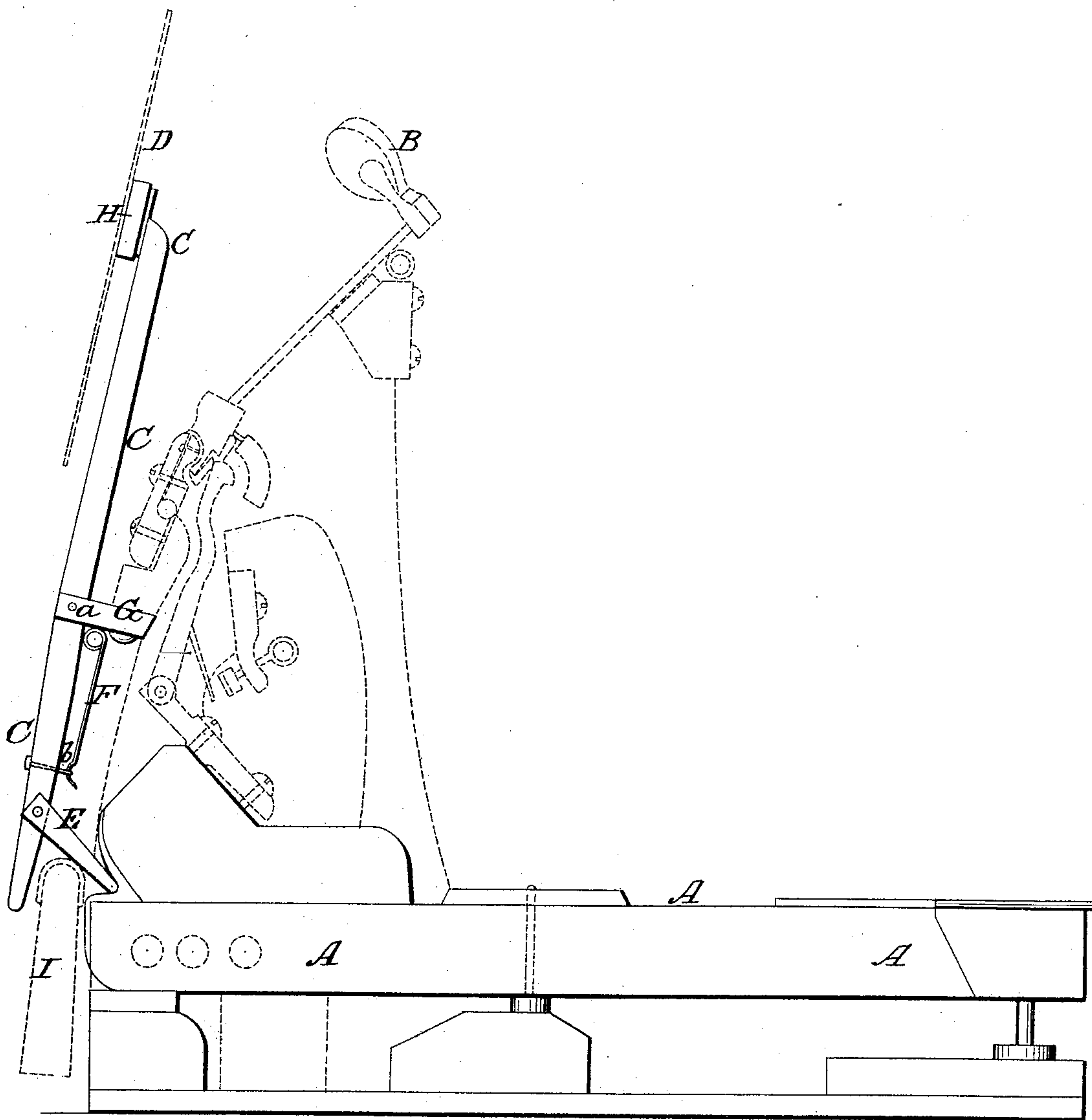


A. H. Hastings.

Piano Damper.

N^o 100,888.

Patented Mar. 15, 1870.



Witnesses.

Alex F. Roberts.

Jno F Brooks.

Inventor.

A. H. Hastings.

per Munn & Co.

Attys.

United States Patent Office.

A. H. HASTINGS, OF NEW YORK, N. Y.

Letters Patent No. 100,888, dated March 15, 1870; antedated March 5, 1870.

DAMPER FOR PIANO-FORTES.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, A. H. HASTINGS, of New York, in the county of New York, and State of New York, have invented a new and improved Damper-Action for Piano-Fortes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

The drawing represents a side view of my improved damper-action for piano-fortes.

This invention relates to a new manner of operating the dampers of upright piano-fortes directly by means of the keys, with an object of avoiding friction, and for producing more reliable action than could heretofore be obtained by the devices now in use.

The invention consists in the combination with the damper lever of a short arm pivoted to the lower end of the lever, and held with its free end in a notch of the key.

The invention also consists in the use of a flexible strap for connecting the lever with the spring by which the damper is applied.

A, in the drawing, represents one key of an upright piano-forte action connected with the hammer B in the ordinary, or in a suitable manner, and provided at its inner or back end with a cushioned notch or indentation, as shown.

C is the damper-lever pivoted to the instrument at *a*, and carrying at its upper end the cushion or damper H, which is to be applied to the chord D.

To the lower part of the lever C is pivoted a short arm, E, which projects forward, so that its front end fits into the notch of the key.

F is a spring fastened with its upper end to the frame G, while its lower part fits through the loop of a strap, *b*, that is with its two ends fitted through an

aperture of the lever C, said ends being tied into a knot on the back of the lever, so that thereby the strap is held in place. The strap is made of leather or fabric to be flexible.

The operation is as follows:

When the key is pressed down it will raise the front end of the arm E, and will thereby push the lower end of the lever back. The damper is thus withdrawn from the chord. As soon as the key is released the spring F will draw the lower end of the lever forward and apply the damper.

The pressure upon the back of the key occasioned by the spring diminishes as the key goes down, instead of being increased as heretofore. The desired effect in the touch can, therefore, be obtained, and much friction is avoided, as my apparatus is much simpler than those heretofore in use. The strap being flexible allows the space between the spring and lever to vary during the motion of the latter. The pedal acts against the front of the lower end of the lever C, as indicated at I.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The damper-lever C of an upright piano-forte action when combined with the pivoted arm E, and with the notched key A, to operate substantially as herein shown and described.

2. The spring F, flexible strap *b* and damper lever C, all combined to operate substantially as herein shown and described.

The above specification of my invention signed by me this 23d day of August, 1869.

A. H. HASTINGS.

Witnesses:

E. TATE,

ALEX. F. ROBERTS.