

J. Chickering,
Piano Frame,
No 3,238, Patented Sept. 1, 1843.

Fig. 1.

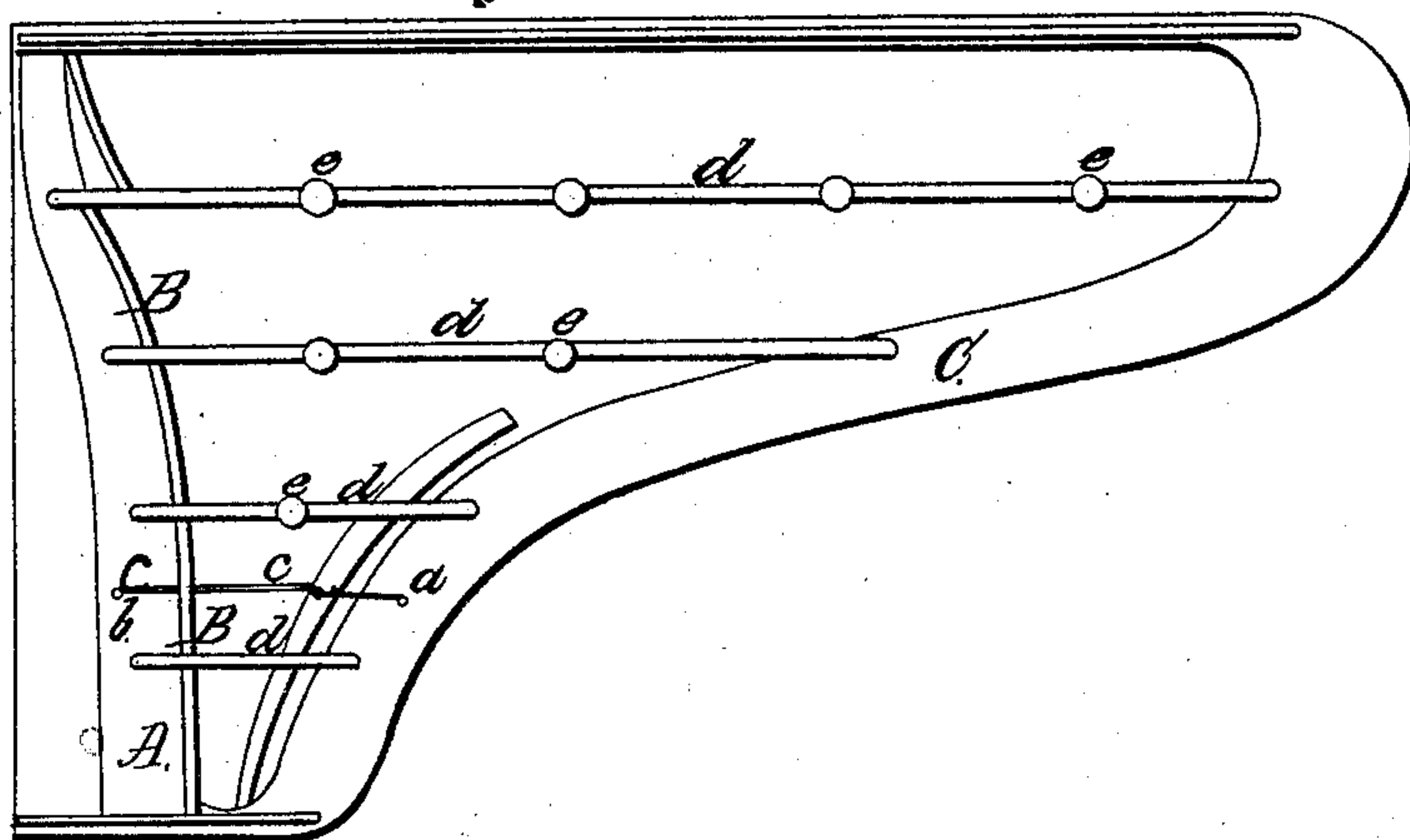
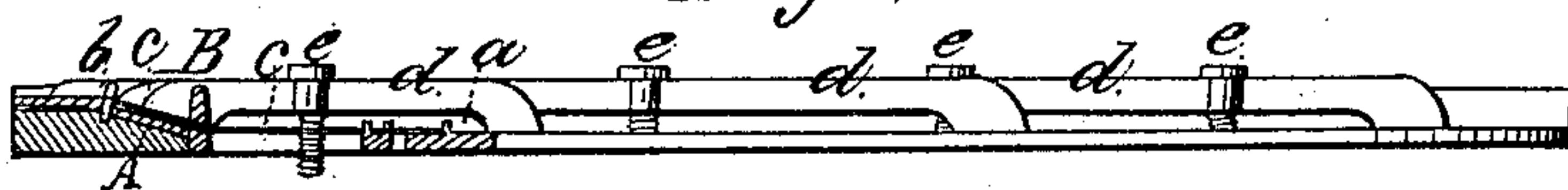


Fig. 2.



UNITED STATES PATENT OFFICE.

JONAS CHICKERING, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN PIANO-FORTES.

Specification forming part of Letters Patent No. 3,238, dated September 1, 1843.

To all whom it may concern:

Be it known that I, JONAS CHICKERING, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Certain Parts of Piano-Fortes; and I do hereby declare that the following description of the same, taken in connection with the accompanying drawings thereof, forms a full and exact specification of my invention.

Figure 1 of the drawings above mentioned represents a top view of an iron frame for a "grand" piano-forte, while Fig. 2 is a longitudinal and vertical section thereof.

In the ordinary method of arranging the strings of a piano-forte they have been supported or stretched over the upper surface of a bridge, the hammers striking on the under sides of the wires. Thus at every blow of one of the hammers upon the string the vibration of the latter would cause it to rise more or less upon or above the bridge and thereby injure the tone of the instrument. In order to prevent this evil the strings were carried through holes of brass pins inserted or screwed into the frame. This did not wholly accomplish the desired effect, for it was found that the pins would soon become deranged or loose to such a degree as to produce more or less jar or more or less injury to the correct action of the strings. To overcome these and other difficulties, I construct the front plate A, Figs. 1 and 2, inclined or at an angle with the plane of the frame, and cast upon the lower edge of this front plate a solid and extended ledge B, which rises above the plate and continues from one part of it to the other, as seen in the drawings. The strings *c c*, proceeding from the hitch-pins *a a*, are passed through holes bored through the ledge B, and from thence they rise upward toward the straining-pins *b b*. The solid ledge through which the strings are carried by being cast directly upon the plate A is more perfectly sustained by such a union with the plate than if it were attached thereto by any other means. Besides, as the whole length of the ledge is presented to counteract any lateral vibration or jar which otherwise might interrupt the harmony of the string, the clear tone of the high notes, which heretofore has been so difficult of attainment and presentation, is completely produced and maintained.

Another improvement consists in a method of counteracting the great strain of the wires and the accidents to the tone, &c., liable in consequence of changes of temperature—viz., by casting the frame of the grand piano with long bars *d d d*, &c., extending from the inclined front plate and vertical ledge to the curved side plate C. These bars are elevated somewhat above the plane of the springs, and are secured to the wooden frame of the instrument at suitable points by screws *e e*, which pass through them and suitable apertures of the sounding-board, and are then screwed into the wood beneath the sounding-board.

Having thus set forth my improvements, I wish it understood that I am aware that the strings of a piano-forte in their passage from the hitch-pins to the straining-screws have been passed through holes formed through a pin screwed or otherwise inserted in a block, and from the said pin bent or inclined upward to the straining-screw, and therefore I do not claim such an arrangement; but

That which I do claim consists in my improvement thereon, viz:

1. In supporting the strings through a solid ledge cast directly upon the lower part of the inclined iron front plate, through suitable apertures of which ledge the strings are to be passed in the manner set forth, the tone of the high notes being thereby not only greatly improved but rendered more durable than by the mode first above mentioned.

2. The mode above set forth of counteracting the strain of the wires on certain parts of the iron frame and thereby preventing vibration of such parts and accidents to the tone; or, in other words, my peculiar method of constructing the metallic frame of a grand piano—viz., by casting the same with a series of bars, in combination with an inclined front plate and vertical ledge and curved side plate, the whole being arranged as above specified.

In testimony that the above is a correct specification of my improvements, I have hereto set my signature this 14th day of June, of the year 1843.

JONAS CHICKERING.

Witnesses:

R. H. EDDY,
JOHN NOBLE.