

(No Model.)

2 Sheets—Sheet 1.

J. H. BUTLER.
PIANO SOUNDING BOARD.

No. 570,153.

Patented Oct. 27, 1896.

Fig. 1.

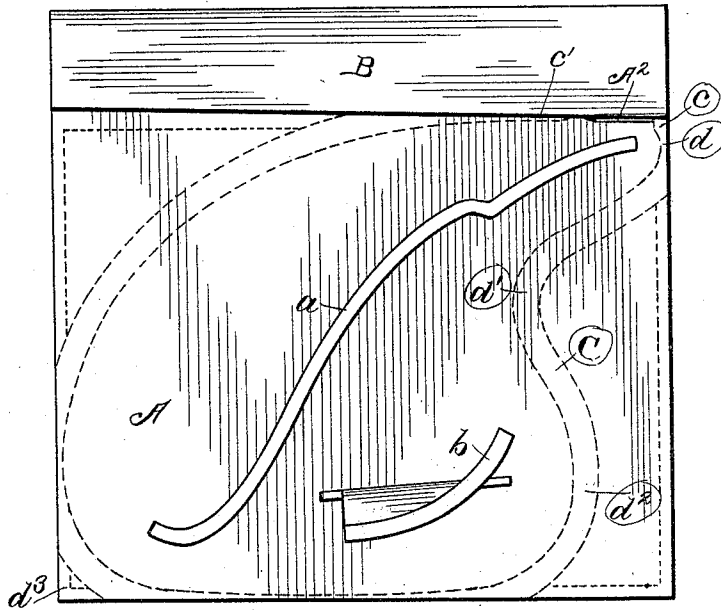
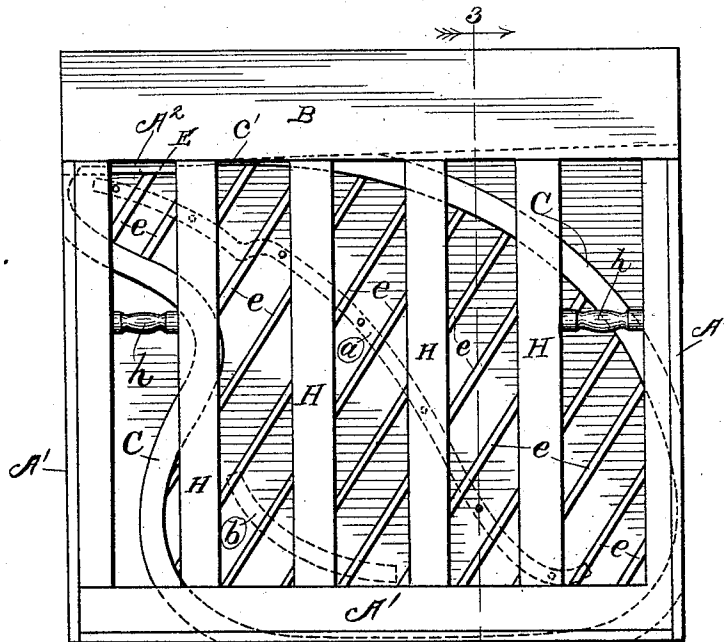


Fig. 2.



Witnesses:

R. J. Jackson.
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Inventor:

James H. Butler
By Chas. C. Tillman
Atty.

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2 Sheets—Sheet 2.

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Fig. 4.

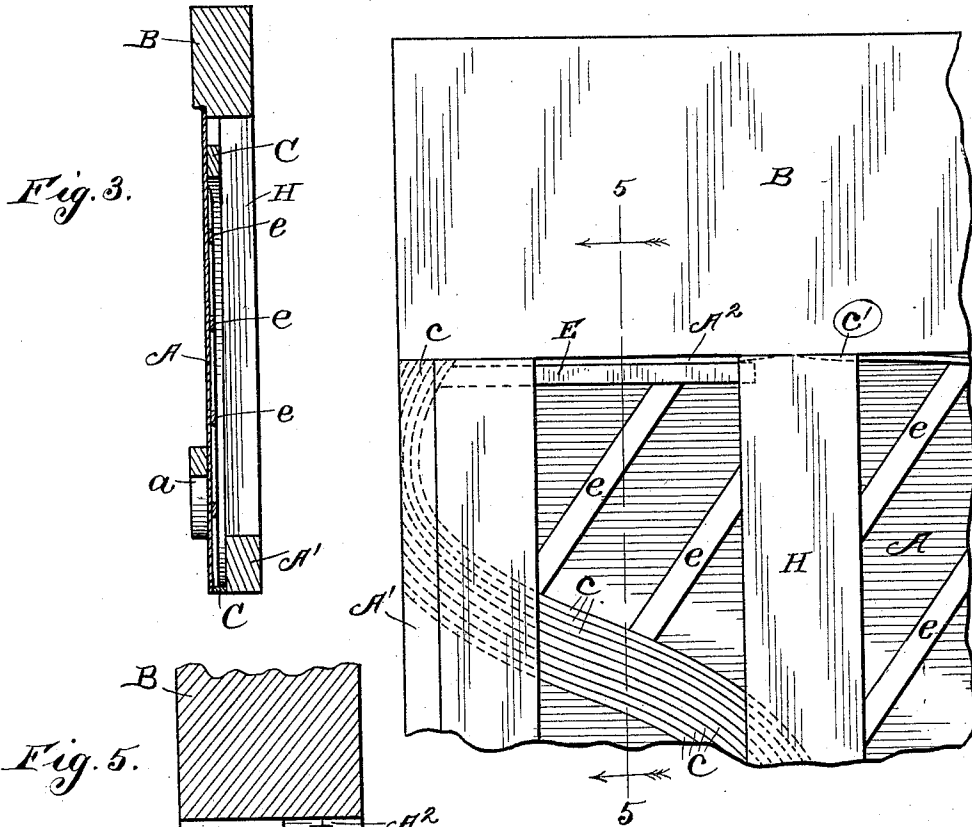


Fig. 5.

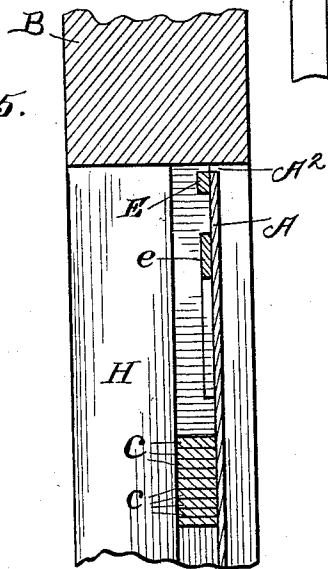
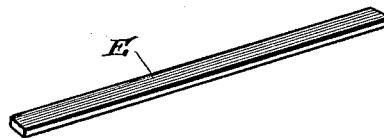


Fig. 6.



Witnesses:

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B. A. Duggan.

Inventor:

James H. Butler
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UNITED STATES PATENT OFFICE.

JAMES H. BUTLER, OF COLUMBIA HEIGHTS, ILLINOIS.

PIANO SOUNDING-BOARD.

SPECIFICATION forming part of Letters Patent No. 570,153, dated October 27, 1896.

Application filed February 20, 1896. Serial No. 579,983. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BUTLER, a citizen of the United States, residing at Columbia Heights, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Piano Sounding-Boards, of which the following is a specification.

This invention relates to improvements in piano sounding-boards, and while it is more especially adapted to upright pianos, yet the improvements may, with slight modifications and construction, be applied with benefit to other styles of instruments; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are, first, to provide a sounding-board which shall be simple and inexpensive in construction, strong and durable, and effective and satisfactory in operation; second, such a sounding-board which by reason of the peculiar construction and novel arrangement of its parts will enhance the sonorous quality, volume, and durability of the tone, and by the employment of which the volume of sound will be uniformly equalized over the frame of the piano, and, third, a sounding-board which shall conform with the scale of the instrument.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a view in front elevation of the piano-frame removed from the casing, showing the bridges on the face of the sounding-board and the sounding-strip at the rear thereof in dotted lines. Fig. 2 is a rear view in elevation thereof. Fig. 3 is a vertical sectional view taken on line 3 3 of Fig. 2. Fig. 4 is an enlarged rear view in elevation of a portion of the treble part of the sounding-board and piano-frame. Fig. 5 is a vertical sectional view taken on line 5 5 of Fig. 4, looking in the direction indicated by the arrows; and Fig. 6 is a perspective view in detail of a cleat or piece used on the rear up-

per treble portion of the sounding-board to regulate or adjust the same to the scale of the instrument.

Similar letters refer to like parts throughout the different views of the drawings. 55

A represents the sounding-board proper, which is made of any suitable dimensions and material and usually rectangular in shape, as illustrated in the drawings, and is secured in any suitable manner to the frame A' of the piano. On the upper portion of the frame A' is located the pin-block B, of the ordinary or any preferred construction. On the front or face surface of the sounding-board A are secured by means of glue or otherwise bridges 65 a and b, the former of which extends diagonally across the sounding-board in an irregular manner, and the latter is located at a suitable point beneath it. These bridges may be of any suitable construction and shape, or 70 such as are generally employed in pianos.

On the rear surface of the sounding-board A is placed and secured a sounding-strip C, which is one of the essential parts or features of my invention, and upon its shape or configuration depend to a great extent the volume, durability, and other desired qualities of the tone. This sounding-strip C is preferably composed of a series of thin pieces c, placed side by side and secured together in any suitable manner, as is shown in detail in Fig. 4 of the drawings. I may, however, form the sounding-strip C of one piece of material and form it into the shape illustrated in Figs. 1 and 2 of the drawings in any desired 85 manner, but by using a series of strips, as shown in Fig. 4 of the drawings, to compose the sounding-strip C it is obvious that the thin strips may be more readily bent, and it is for this reason that I prefer to make the 90 sounding-strip of a plurality of continuous pieces.

As is apparent by reference to Figs. 1 and 2 of the drawings, the sounding-strip C circumscribes a palette-shaped figure on the rear 95 surface of the sounding-board A, that is to say, it is secured near one of its ends c to the sounding-board near the treble corner d thereof and extends slightly down the edge of said board, and then inwardly toward the 100

center thereof, forming an inward bend or curve d' , from whence it extends downward, forming an outward curve d^2 below and to one side of the bridge b , and then extends along the bottom of the sounding-board and in a curvilinear line across the corner d^3 , diagonally opposite the treble corner, and thence in a curvilinear line to the upper middle portion of the board A , and thence toward the treble corner thereof, but not quite meeting the end c , thus leaving a portion of the board between the ends of the continuous sounding-strip uncovered thereby, in which portion is formed an opening or recess A^2 , which may be enlarged or diminished in size, as required by the scale of the instrument, thus affording freer vibration of the short or treble strings, making the tone more liquid in quality.

Between the ends c and c' of the sounding-strip, and just below the recess A^2 and on the rear surface of the sounding-board, is placed and secured a strip or cleat E , which should be increased or diminished in dimensions as the opening or recess may be increased or diminished for the purpose of regulating the scale. On the rear surface of the board A , and within the space bounded by the sounding-strip C , and extending diagonally across said space, are a series of ribs e , employed for the purpose of strengthening the board over which they extend. To the rear of these ribs and extending vertically from the pin-block B to the base of the frame A' are a number of standards or braces II , which rest against the sounding-strip C , but do not contact with the ribs e , as is clearly shown in Figs. 3 and 5 of the drawings. Between the standards II , near the sides of the frame, are secured handles h , to be used when it is desired to remove the frame and sounding-board from the piano-casing.

Having thus fully described my invention,

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

1. The combination with a sounding-board, of a strip made to form substantially a palette-shaped figure, secured on one surface of the board, and having its ends approximated on the treble part of the board, substantially as described.

2. The combination with a sounding-board, of a strip made to form substantially a palette-shaped figure, secured on one surface of the board, and having its ends approximated on the treble part of the board, said portion of the board being formed with a recess or opening between the ends of the strip, substantially as described.

3. The combination with a sounding-board provided in its treble portion, with an opening or slot, of a piece E , secured on the surface of the board along said opening, and a strip made to form substantially a palette-shaped figure, secured on one surface of the board, and having its ends approximated on the treble part of the board, substantially as described.

4. The combination with the sounding-board A , having the opening or slot A^2 , in its treble portion, of the piece E , secured on the rear surface of the board along said opening, the bridges a , and b , located on the front surface of the board, the strip C , made to form substantially a palette-shaped figure, secured on the rear surface of the board, and having its ends approximated on the treble part thereof, so as to interpose the slot A^2 , between its ends, and a series of ribs e , placed across the board within the figure formed by the strip C , substantially as described.

JAMES H. BUTLER.

Witnesses:

CHAS. C. TILLMAN,
W. G. WOODMANSEE.