

(No Model.)

C. BRAMBACH.
SOUNDING BOARD FOR PIANO FORTES.

No. 480,488.

Patented Aug. 9, 1892.

Fig. 1.

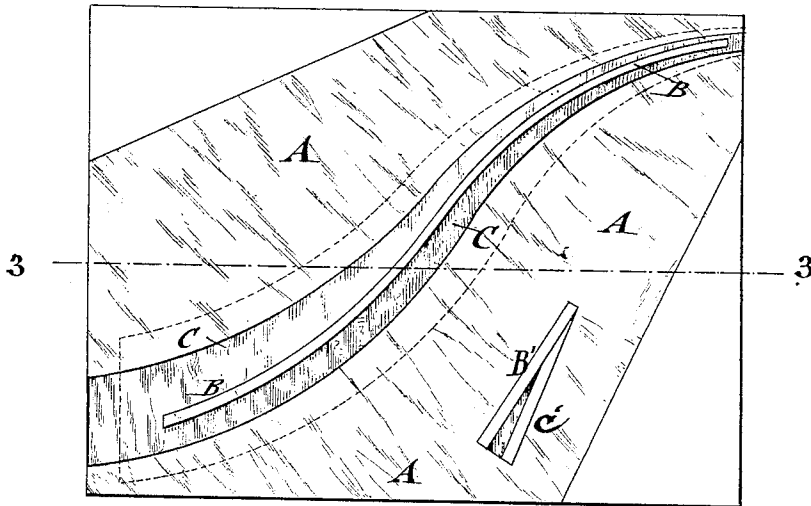


Fig. 3.

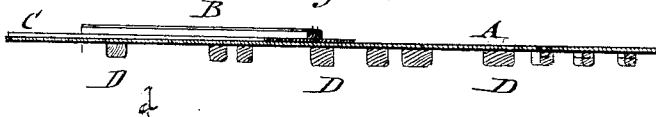
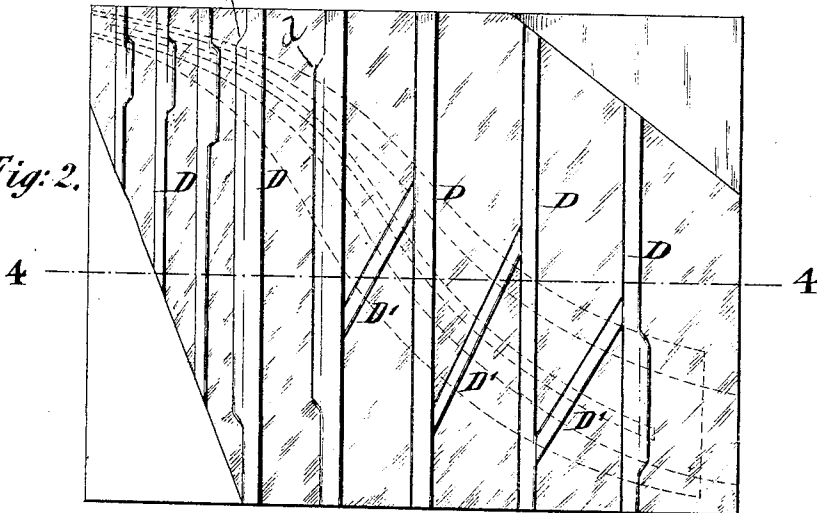


Fig. 2.



WITNESSES:

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Fig. 4.



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SOUNDING-BOARD FOR PIANO-FORTES.

SPECIFICATION forming part of Letters Patent No. 480,488, dated August 9, 1892.

Application filed April 13, 1892. Serial No. 429,014. (No model.)

To all whom it may concern:

Be it known that I, CARL BRAMBACH, a citizen of the German Empire, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Sounding-Boards for Piano-Fortes, of which the following is a specification.

This invention relates to an improved sounding-board for piano-fortes by which the sounding-board bridge is supported in a more effective manner and the vibrations produced by the strings transmitted in a superior manner; and the invention consists of a sounding-board for piano-fortes in which the sounding-board bridge is supported on a foundation of greater width than is extended from one end of the sounding-board to the other and the strengthening-ribs of which are reinforced by means of thickening-pieces and diagonal braces extending from some of the ribs to the other, said reinforces and braces being arranged with a view to balancing the sounding-board bridge and its foundation in a more effective manner.

In the accompanying drawings, Figure 1 represents a front elevation of my improved sounding-board bridge. Fig. 2 is a rear elevation of the same. Figs. 3 and 4 are horizontal sections, respectively, on lines 3 3, Fig. 1, and 4 4, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a sounding-board, B a sounding-board bridge, and C a foundation which is interposed between the sounding-board and the bridge or applied to the rear part of the sounding-board below the bridge and which follows the curve of the bridge and extends diagonally from one end of the sounding-board to the other. The bass-bridge B' is also provided with a foundation C', said bass-bridge serving for supporting the overstrung bass-strings of the piano. The foundation C' is either made of hard wood, in which case it is made of the width shown in full lines in Fig. 1, or of soft wood, in which case the width of the foundation has to be increased, as shown in dotted lines in Fig. 1. The sounding-board is supported at the rear side by ribs D, which are reinforced by thicken-

ing-pieces d, that are either made in separate pieces and are attached to the ribs D or made in one piece with the same, as shown in Fig. 2, in which the smaller reinforcing-pieces are shown as being made separate from the ribs, while the ribs having longer reinforcing-pieces which are preferably made in one piece with the same. Between some of the main ribs D are arranged diagonal braces D', said reinforcing-pieces and braces being so arranged that a continuous support for the foundation of the sounding-board bridge is obtained. The ribs, with their reinforcing-pieces, serve for increasing the strength of the bridge-foundation and for balancing to some extent the vibrations that are set up in the sounding-board by the sounds. The enlarged foundation for the sounding-board bridge serves for strengthening the support of the bridge and render the same better adapted for transmitting the vibrations of the strings to the sounding-board.

In the sounding-boards heretofore in use the sounding-board was not fully and completely called into vibrating action, owing to the small size of the bridge and the comparative smallness of the contact-surface with the sounding-board, from which the vibrations emanated, so that consequently short undulating vibrations were engendered in place of long regular undulations, which extended over the entire sounding-board. The short abrupt vibrations set up near the bridge were not transmitted over the entire surface of the sounding-board, but caused interfering and unfavorable vibrations, while the long undulating vibrations that are produced by the foundation call the entire surface of the sounding-board into action and produce more favorable vibrations of the same. Without the foundation the vibrations are not sufficiently defined and abrupt, so as to impair the vibrating capacity of the sounding-board, while the interposition of the bridge foundation produces a regular vibrating action of the entire sounding-board, as the foundation is better adapted in shape and proportion to the size of the sounding-board. As the overstringing of the bass-strings require the arrangement of two sounding-board bridges on one sounding-board, the two vibratory por-

tions of the sounding-board are not sufficiently separated, while by the use of foundations for the main and bass bridge the foundations serve to separate that portion of the sounding-board which responds to the vibrations of one set of strings from that portion of the sounding-board which responds to the vibrations of the bass-strings. Consequently the foundation serves to utilize to a greater extent than heretofore the entire sounding-board surface, and improves thereby the tone character of the sounds emitted by the strings. The increased vibrating action the sounding-board requires, however, also a corresponding strengthening of the ribs by means of reinforcing-pieces and braces, so that the parts below the bridge-foundation are rendered stronger and stiffer and better balanced. The sounding-board receives thereby a stronger and yet more elastic vibrating surface, which transmits the vibrations of the strings in a better and more effective manner, and improves thereby the sonorous-tone quality of the piano.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A sounding-board for piano-fortes, the bridge of which is supported by a foundation of greater width arranged below the bridge and the ribs of which are strengthened below said foundation by means of reinforcing-pieces, substantially as set forth.

2. A sounding-board for piano-fortes, the bridge of which is supported by a foundation of greater width arranged below the bridge and the ribs of which are strengthened below said foundation by means of reinforcing-pieces and by diagonal braces connecting said ribs at the back of the sounding-board, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CARL BRAMBACH.

Witnesses:

AUGUST J. PAPENBAUM,
CHRISTOPHER HILLEBRECHT.