No. 662,521. Patented Nov. 27, 1900.

J. H. BUTLER

PIANO BRIDGE.

(Application filed July 12, 1900.)

(No Model.)

Fig. 1.

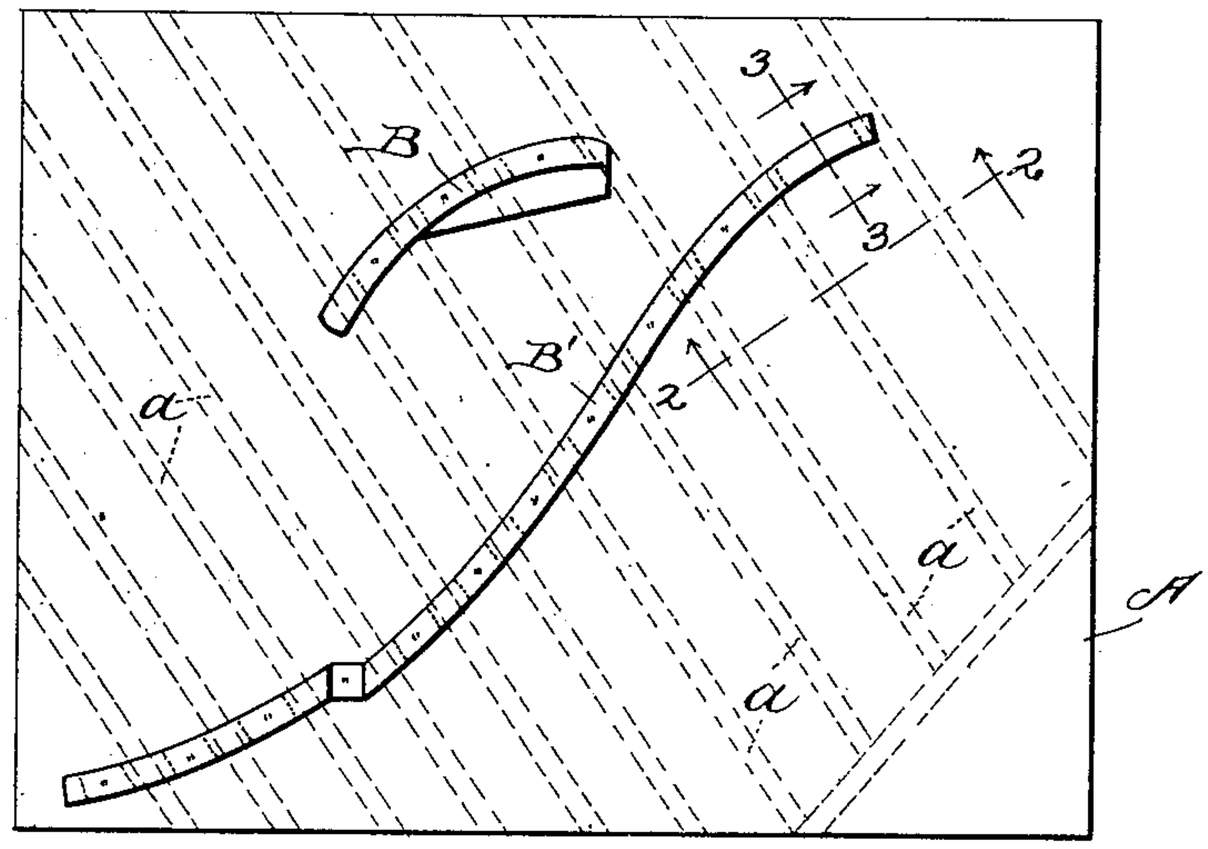


Fig. 2.

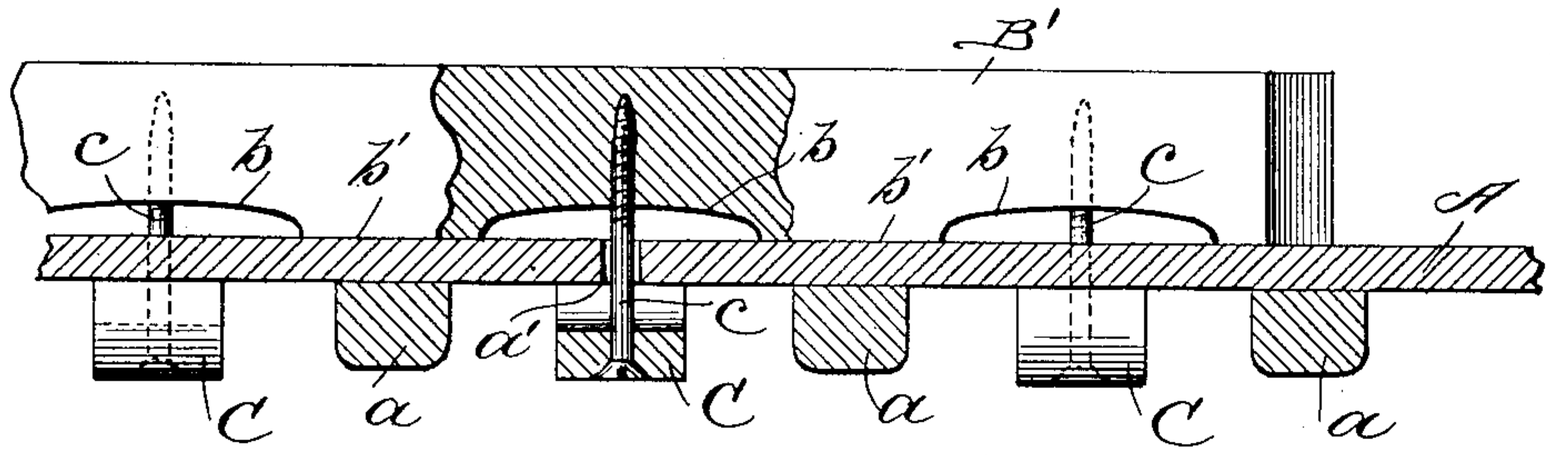
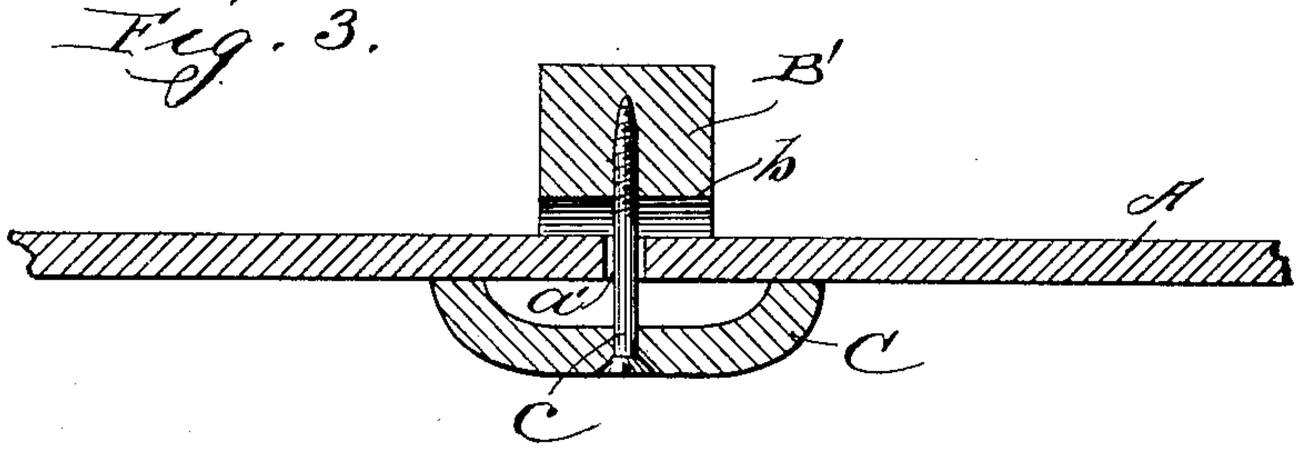


Fig. 3.



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UNITED STATES PATENT OFFICE.

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PIANO-BRIDGE.

SPECIFICATION forming part of Letters Patent No. 662,521, dated November 27, 1900.

Application filed July 12, 1900. Serial No. 23,303. (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-Bridges, of which the following is a specification.

This invention relates to improvements in sounding-board bridges for pianofortes; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The object of my invention is to so construct and secure the bridge to the sounding-board as to strengthen and brace the former and at the same time to beneficially affect the vibrating qualities of the latter, so as to produce notes of more resonance and greater volume and purity than has heretofore been accomplished.

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 face view of a sounding-board of a pianoforte with my improved bridge secured thereto. Fig. 2 is an enlarged view, partly in section and partly in elevation, taken on line 2 2 of Fig. 1 looking in the direction indicated by the arrows; and Fig. 3 is an enlarged sectional view taken on line 3 3 of Fig. 1, also looking in the direction indicated by the arrows.

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

A represents the sounding-board, on the rear surface of which are diagonally located a slight distance apart a number of ribs *a*, which may be secured to the board by any suitable means. On the front surface of the sounding-board is located the bass-bridge B and the treble-bridge B′, both of which are shown as embodying my invention; but as the same principle is involved in each construction I will hereinafter refer to the treble-bridge only. This bridge is formed of suitable material, having an irregular shape, as shown in Fig. 1 of the drawings, and is provided on its surface adjacent to the sounding-board with a series of curved recesses *b*, thus producing legs or extensions *b′* for bearings against the sounding-board. As shown in Fig. 2 of the drawings, the extensions *b′* of the bridge-piece B′ are located so as to lie directly opposite the ribs *a* on the rear surface of the sounding-board. About midway between the ribs *a* the board A is provided with openings *a′*, through which are passed screws *c*, which engage the bridge-piece B′ at about the middle of each of the recesses *b* therein. These screws are passed through curved or arched pieces C, which are located transversely with respect to the bridge-piece and in parallelism with and between the ribs *a* on the sounding-board and have their ends bearing against the same at either side of the bridge-piece. By reference to the drawings it will be seen that the screws *c* pass freely through the board A and firmly secure the bridge on the board, so that it has a front and rear pressure.

By constructing and securing the bridge to the board as above described it is apparent that the board will have a very considerable part of its area alive or free underneath the bridge, which will permit of reciprocatory movements of the tones or sounds through the wood of the sounding-board, thereby producing notes of more resonance and greater volume.

It is apparent that by the use of my invention those portions of the board directly under the recesses *b* in the bridge-piece and between the ends of the curved or arched pieces C will have nothing to impede or prevent their vibration, as the screws pass through said portions without contacting therewith.

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 having a number of openings, of a bridge-piece located on one surface thereof and having a number of recesses in its portion adjacent to the said board, a number of curved or arched pieces located on the surface of the sounding-board opposite the bridge-piece, and screws connecting the curved pieces and the bridge-piece and passing freely through the said openings in the sounding-board, substantially as described.

2. The combination with a sounding-board

having a number of openings, of a bridge-piece located on one surface thereof and having segregate bearings thereon, a number of curved or arched pieces located transversely with respect to the bridge-piece on the opposite side of the sounding-board, and screws connecting the curved pieces and the bridge-piece and passing freely through the openings in the sounding-board, substantially as described.

3. The combination with a sounding-board of a series of ribs located a slight distance apart on one side thereof, a bridge-piece located on the opposite side of the sounding-board and having a series of recesses in its portion adjacent to said board, a number of curved or arched pieces located between the said ribs and transversely with respect to the bridge-piece, and screws connecting the curved pieces and the bridge-piece and passing freely through the sounding-board, substantially as described.

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