(No Model.)

G. M. GUILD.

SOUNDING BOARD BRIDGE FOR PIANOS.

No. 440,251. Patented Nov. 11, 1890.

Fig. 1.

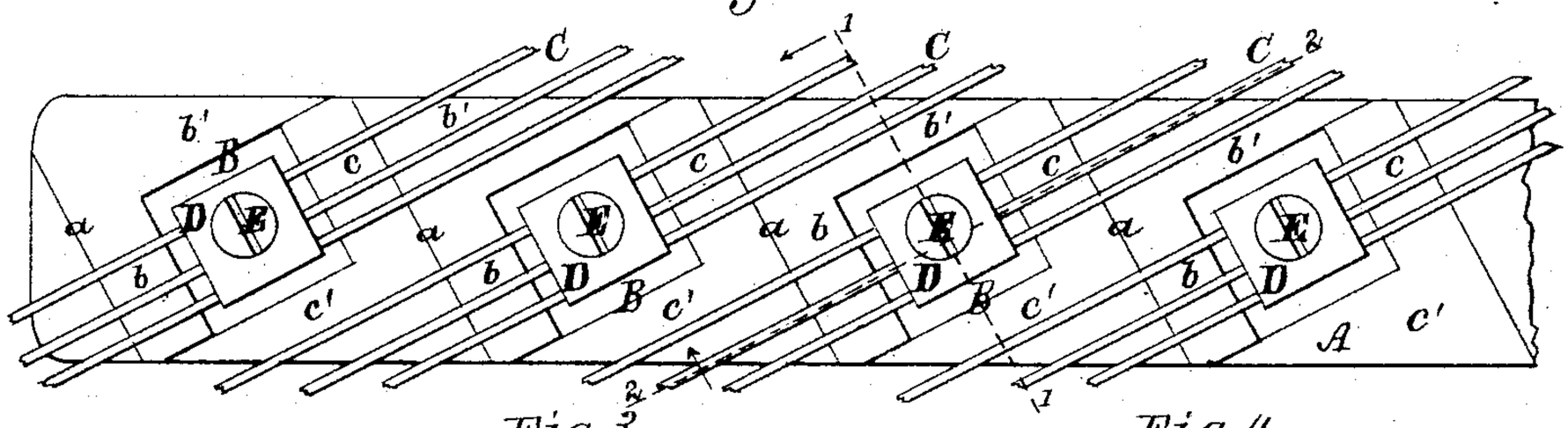

Fig. 3.

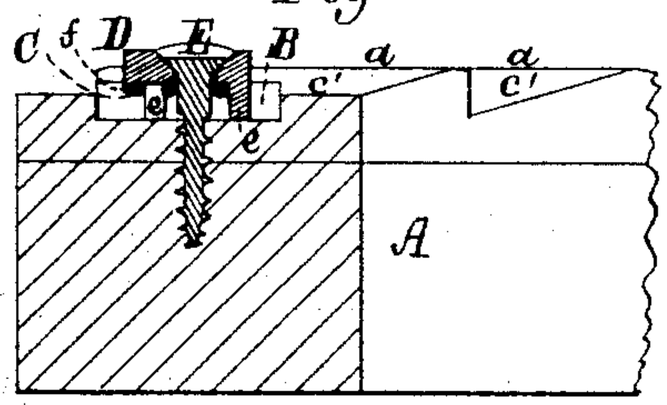

Fig. 4.

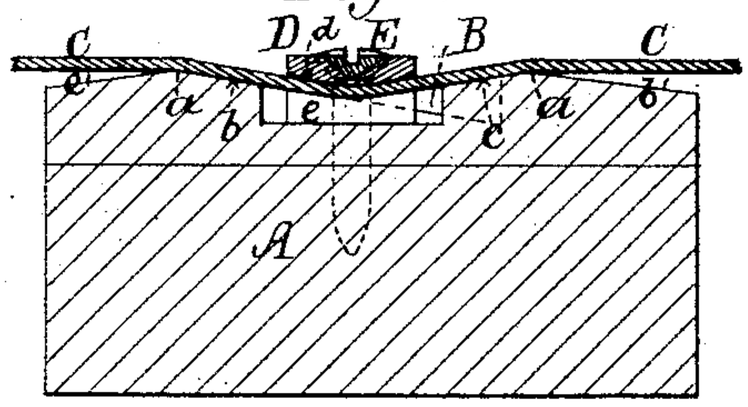

Fig. 2.

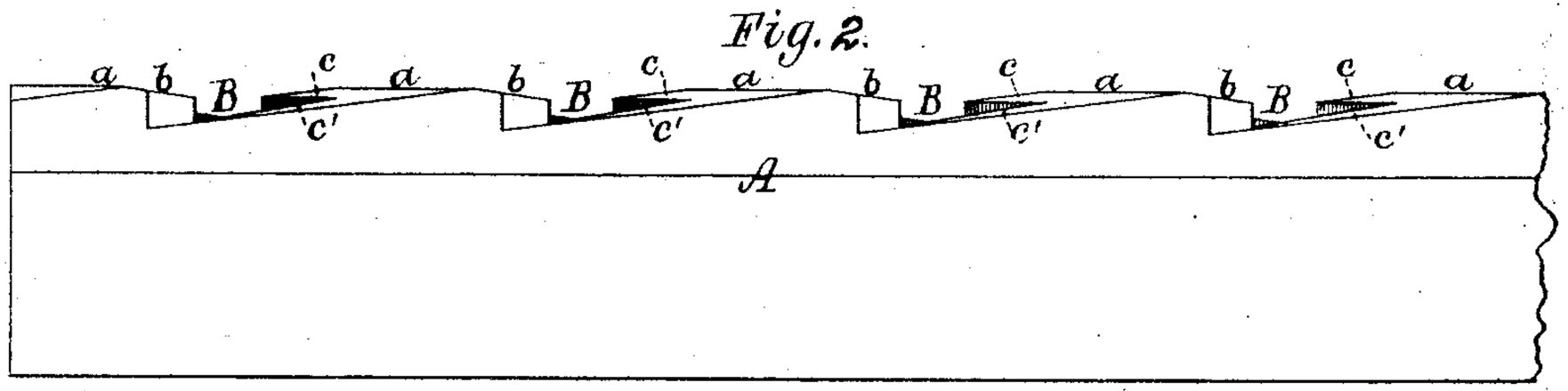

Fig. 5.

Fig. 6.

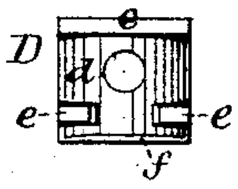

Fig. 7.

Fig. 8.

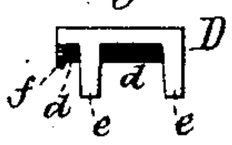

Fig. 10.

Fig. 9.

Witnesses.
J. H. Reid
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George M. Guild
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UNITED STATES PATENT OFFICE.

GEORGE MORSE GUILD, OF BOSTON, MASSACHUSETTS.

SOUNDING-BOARD BRIDGE FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 440,251, dated November 11, 1890.

Application filed October 21, 1889. Serial No. 327,613. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MORSE GUILD, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Sounding-Board Bridges for Pianos; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a plan view, and Fig. 2 a side elevation, of a portion of a sounding-board bridge for pianos constructed in accordance with my improvement. Fig. 3 is a transverse section of said bridge on line 1 1 of Fig. 1; and Fig. 4, a section of the same on line 2 2 of said Fig. 1, taken in a plane at right angles to that of Fig. 3, the strings and the devices for causing them to bear on the bridge being shown in Figs. 1, 3, and 4. Fig. 5 is a plan view, Fig. 6 a back view, Fig. 7 a side view, Fig. 8 an end view, Fig. 9 a transverse section, and Fig. 10 a longitudinal section, of one of the bearers as made for use with said bridge.

The object of my improvement is to produce a solid bearing of the strings of the piano against the bridge without deflecting the said strings laterally from a straight course between the hitch-pins and straining-pins, and without the use of pins driven into the bridge in the usual and well-known way to effect said bearing of the strings on the bridge; also, to provide the bridge with bearings of uniform length on opposite sides of the bearers for the strings, as hereinafter set forth and represented, the nature of my invention being defined in the claims hereinafter presented.

In the drawings, A denotes the bridge of a piano constructed in accordance with my improvement, which, when in use, as is well known, bears on the sounding-board and is located between the hitch-pins and the straining-pins of the instrument, the strings C being connected to the bridge so as to bear firmly upon it, as will be herein explained.

In carrying out my improvement I provide the said bridge throughout its length with recesses B, which in shape are rectangular, as shown, and are each disposed therein so that two sides of each recess will range with the strings which cross it, said strings when viewed in front view all having a straight course from the hitch-pins to the straining-pins, and on the two opposite sides of each of the said recesses on which the said strings bear. The top of the bridge is sloped from the line *a* between each two next adjacent recesses downward in opposite directions, as shown at *b b' c c'*, the parts *b* and *c* of which constitute bearings of equal length for the strings. (See Figs. 1 and 4.)

For causing the strings C to bear firmly on the slopes *b c*, I make use of bearers D, one of which is located in each of the recesses, as shown, and is borne against the bottom thereof by a screw E. Each bearer is provided with a curved surface *d* for the strings, and has feet *e* to bear on the bottom of the recess, and also has a lip *f* at the end of it which projects beyond the feet *e*, as shown, to keep the string applied to that part of the said bearer in position.

By constructing the bridge with the recesses B throughout its entire length, as hereinbefore described, and as represented, and employing with it the bearers D, formed as shown, and disposed in said recesses, all the strings C in contact with said bridge have equal bearings thereon on two opposite sides of the bearers without being deflected laterally from a straight course, as heretofore in pianos wherein the bridge is formed in the ordinary manner, and the strings are connected to it by being drawn against pins fixed in the bridge and arranged so as to deflect said strings laterally from a straight course in order to cause them to bear solidly on the bridge. Furthermore, by my improvement I obtain the requisite solid bearing of the strings on the bridge without subjecting the bridge and sounding-board to the tremendous strain to which they are put under the old method, as by my plan the ridges *a* of the slopes *b c* of the bridge are in line or level with the bearings on the iron frame for the strings near the hitch-pins and the straining-pins, and I produce the solid contact of the strings on the bridge by depressing the portion of the said

strings between the ridges *a* down against the slopes *b c*, thus causing no undue downward strain of the bridge on the sounding-board.

I am aware that the upper surface of a bridge has been formed with a concave channel, and the strings held in contact with the upper corners of said bridge by T-headed pins, formed as shown in United States Patent No. 240,573, granted to Herbert P. Brown, and therefore do not claim such. By arranging the recesses B as shown longer bearings for the strings on the bridge are obtained than when the bridge is concaved along its upper surface, and the strings cannot cut into said slopes and produce the buzzing sound which occurs when the strings cut into the corners of the bridge, and which will take place when the bridge is unprovided with suitable bearings for the strings.

What I claim is—

1. In a piano, the bridge provided with the recesses, arranged therein as shown, the ridges *a* between said recesses, and the downward slopes in opposite directions from said ridges, in combination with the bearers D, and screws E for securing said bearers in the recesses of the bridge, as set forth.

2. In a piano, the bridge formed with the recesses B, disposed therein as shown, the ridges *a* between said recesses, and the downward slopes in opposite directions from said ridges, as shown and set forth.

3. In a piano, the bearer D, provided with the curved bearings for the strings, and the lip *f*, the feet *e* for supporting said bearer, and the hole to receive a screw to secure it to the bridge, as shown and set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE MORSE GUILD.

Witnesses:
S. N. PIPER,
C. F. DANIELS.