

(No Model.)

W. H. IVERS.

ATTACHMENT FOR PIANO SOUNDING BOARDS.

No. 554,878.

Patented Feb. 18, 1896.

Fig. 1.

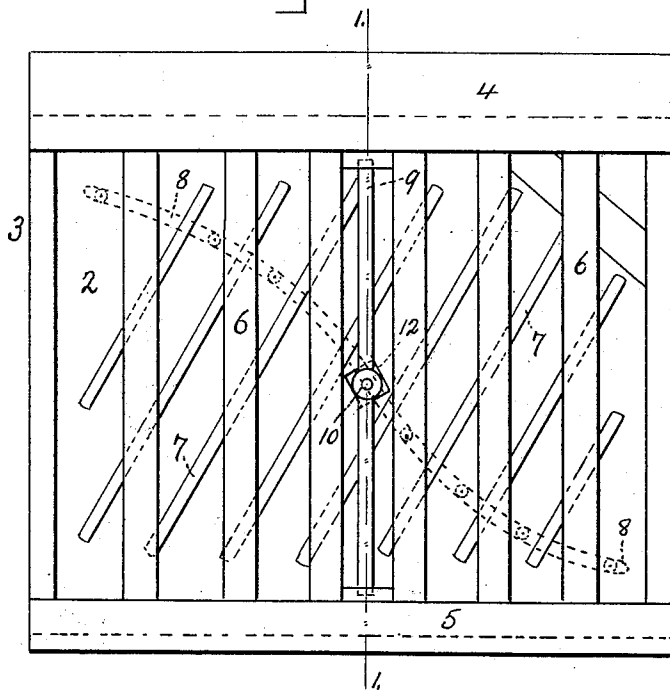


Fig. 2.

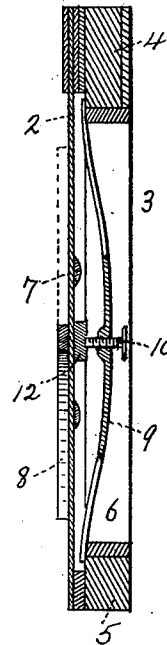
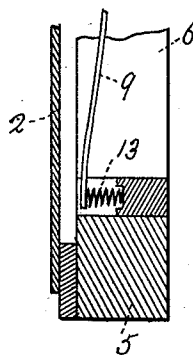


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM H. IVERS, OF DEDHAM, MASSACHUSETTS.

ATTACHMENT FOR PIANO SOUNDING-BOARDS.

SPECIFICATION forming part of Letters Patent No. 554,878, dated February 18, 1896.

Application filed January 24, 1895. Serial No. 536,017. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. IVERS, a citizen of the United States, residing at Dedham, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Attachments for Sounding-Boards; and I do hereby 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 figures of reference marked thereon, which form a part of this specification.

This invention relates to attachments adapted for use on the sounding-boards of musical instruments, particularly pianos, and is intended to overcome in part the crushing effect of the strings produced upon the bridge, and which tends to disturb the normal shape of the sounding-board intended to be a plane surface.

This invention may be considered as relating to a similar invention filed in my name in the Patent Office on March 2, 1894, under Serial No. 502,079.

The drawings represent in Figure 1 a rear elevation of a sounding-board for an upright piano with my attachment applied thereto. Fig. 2 is a transverse vertical section on line 1 1 in Fig. 1, while Fig. 3 is a transverse section in part enlarged and illustrating the mode of spring-mounting the compensating bar.

In said drawings I have illustrated the rear side of a sounding-board at 2 as adapted for an upright piano. This board is mounted in a skeleton frame 3 composed of two horizontal or transverse beams 4 5, while a series of posts 6 unite said beams, the whole to form a strong and rigid structure. Upon the rear surface of the sounding-board are affixed the usual diagonal strips 7, while the bridge is designated at 8.

In the usual arrangements of the several parts and the relation of the strings upon the bridge, when said strings are under proper tension and the instrument in use, a compression or load is brought to bear upon the surface of the sounding-board with a tendency

to deflect and depress the latter from its normal condition, which is a plane flat surface.

The purpose and object of my invention are to provide an attachment the function of which is to offset wholly or in part the crushing effect of the strings upon the sounding-board—in other words, to have the attachment act as a counterbalance. In connection with this device, which is to oppose the crushing effect of the load created by the strings, it must be understood that the primary action of the board must not be impaired and the vibrations must not be impeded nor must the board be rendered too stiff and rigid.

To carry out my invention I propose to employ one or more elastic mediums or spring-bars 9, which I term "compensating bars." Said bars or rods composed of metal or preferably of some light springy wood, as spruce, are arranged at intervals upon the rear of the sounding-board, as shown in Fig. 1, or in parallelism with and between the posts 6, which form part of the skeleton frame. The ends of these bars are to be supported upon the skeleton frame without any positive mechanical attachment, in order that the said ends may come and go according to the pressure exerted upon them. In this way the vibrations of the sounding-board are not impeded, as would occur should the ends of the bars be rigidly fastened. To determine the tension or the amount of load to be borne by each bar, adjusting-screws 10 are entered transversely through said bars at points where the bridge intersects or crosses the bar. A bearing-block 12 is interposed between the end of the screw and the sounding-board in order to prevent injury to said board and to distribute the pressure.

As shown in Fig. 2, the ends of the compensating bars rest upon shoulders formed on the skeleton frame, while the effect to counteract the opposing thrust of the strings is controlled by means of said screws. In some instances in lieu of having the free ends of the bars rest upon an unyielding support, as the skeleton frame, said ends may be upheld by coiled springs 13. Thus the greatest support is afforded the sounding-board with the least im-

pediment to the exercise of its special function as a vibrating member.

What I claim is—

5 The combination with the sounding-board of a musical instrument, and a bridge therefor adapted to support a group of strings, of a compensating bar the ends of which are free to move dependent upon the tension on the bar, springs interposed beneath the free ends

of the bar, and means to control the tension 10 of said bar against the board, substantially as and for the purposes explained.

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

WILLIAM H. IVERS.

Witnesses:

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