(No Model.)

L. J. HOEFFNER, Dec'd.

M. T. HOEFFNER, Administratrix.

PIANO FORTE.

No. 350,248. Patented Oct. 5, 1886.

Fig. 1.
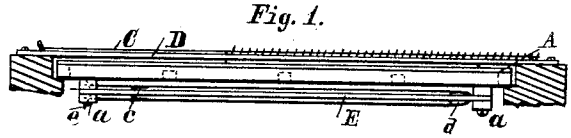


Fig. 2.

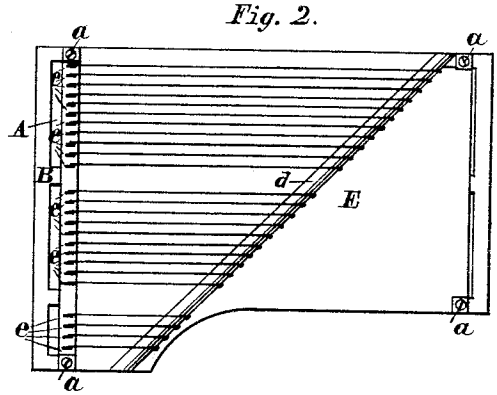


Fig. 3.

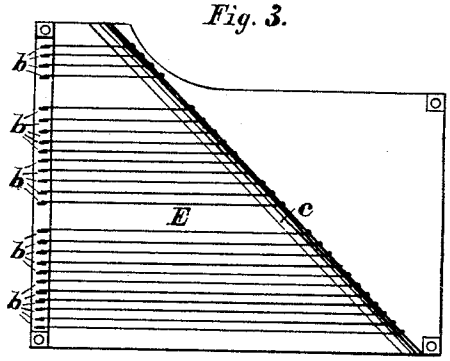
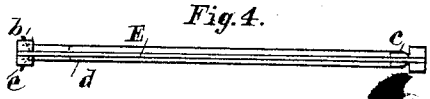


Fig. 4.



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UNITED STATES PATENT OFFICE.

LOUIS J. HOEFFNER, OF BOSTON, MASSACHUSETTS; MARY T. HOEFFNER ADMINISTRATRIX OF SAID LOUIS J. HOEFFNER, DECEASED.

PIANO-FORTE.

SPECIFICATION forming part of Letters Patent No. 350,248, dated October 5, 1886.

Application filed January 10, 1885. Serial No. 152,541. (No model.)

To all whom it may concern:

Be it known that I, LOUIS J. HOEFFNER, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Piano-Fortes, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in piano-fortes, being one which may be embodied in an attachment readily applied to piano-fortes as ordinarily constructed.

My invention consists in strings of any desired number on a sounding-board removably attached underneath or at the rear of the frame supporting the usual sounding-board of a piano-forte, which strings, being properly tuned, will vibrate through sympathetic action in harmony with the usual strings of the piano-forte, as hereinafter set forth.

In the drawings, Figure 1 is a side view of so much of a piano-forte embodying my invention as serves for illustration of the same. Fig. 2 is a viewof the under side of the sounding-boards, showing strings on the under side of the sounding-board of my attachment. Fig. 3 is a plan of the sounding-board of my attachment, showing the strings on the upper side of the same. Fig. 4 is a side view of my attachment.

Over the usual sounding-board, A, fixed on the frame B, are stretched the usual strings, C, there being the common frame, D, to which the strings are fastened. Under the frame B, I fix another sounding-board, E, by screws at *a*, or other suitable means. I prefer to have strings over both the upper and under sides of the sounding-board E, though if only on one side they would produce the desired effect in a degree. If the strings are over both the upper and under sides, each of the strings on the one side may be like a string on the other side, and each pair of like strings may be made of one wire extending from a pin, *b*, on the upper side, over a rib, *c*, through the board E, under a rib, *d*, to a pin, *e*, on the under side of the board. When the strings are on both sides of the board, the strain tending to warp the board on the one side thereof is counteracted by the strain on the other side. When the piano-forte is in action, the strings of my attachment will be vibrated, each of these strings vibrating through sympathetic action by means of a corresponding or consonant string of the piano-forte sounded in the usual manner. The general effect is pleasing, the quality of the musical sounds of the instrument being greatly improved, as well as their quantity increased.

As shown in the drawings, my improvement may be readily applied to piano-fortes already constructed, and the attachment may be easily removed for tuning or other purposes.

In an upright piano-forte, to which my invention is also adapted, the sounding-board of my attachment would be vertical and be located at the rear of the frame supporting the usual sounding-board.

I claim as my invention—

1. In combination with a piano-forte provided with a sounding-board, frame, and strings of the usual construction and arrangement, a sounding-board having strings thereon removably attached at the under side or at the rear of the frame supporting said usual sounding-board, substantially as specified, and for the purposes set forth.

2. A sounding-board provided with strings upon both sides thereof applied to and in combination with a piano-forte provided with a sounding-board, frame, and strings of the usual construction and arrangement, substantially as described, and for the purpose set forth.

LOUIS J. HOEFFNER.

Witnesses:
EDW. DUMMER,
WILLIAM H. SOLOMON.