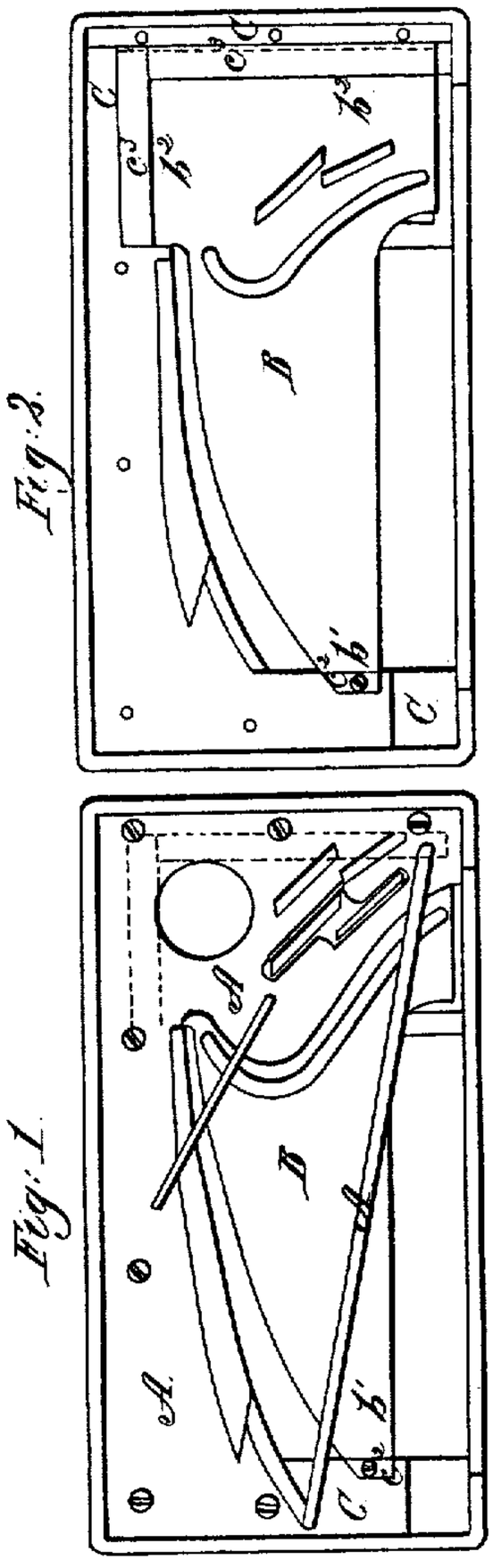
P. Schuler,

Piano Sounding Board,

No. 58,896. Patented Oct. 16, 1866.



Witnesses:

Benj. Morrison

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UNITED STATES PATENT OFFICE.

PETER SCHULER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PIANO-FORTES.

Specification forming part of Letters Patent No. **58,896,** dated October 16, 1866.

To all whom it may concern:

Be it known that I, PETER SCHULER, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and useful Improvement in the Piano-Forte; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a plan view of an open piano without its strings and keys; Fig. 2, a like view of the same, having its iron brace-plate removed; and Fig. 3, an enlarged longitudinal section of Fig. 1, like letters of reference indicating the same parts when in the different figures.

The sound-board of a piano has heretofore been glued fast at each end to the solid frame-blocks of the case, and consequently the hygrometric changes in the atmosphere produce variations in its dimensions across the grain of the wood of the board, and therefore an end pressure, which causes it to buckle or bend downward, so as to impair its requisite elasticity, and from the same cause—the rigidly-fixed condition of both ends of the sound-board—a permanently-buckled or downward-bent condition of the same is, in a year or two, produced by the strain of the strings, notwithstanding the resisting support of the usual iron brace-plate, and the warped or counter-arched construction of the frame in the line of the said strain.

The object of my improvement is to entirely obviate this very injurious effect upon the sound-board of a piano; and my invention consists, substantially as hereinafter described, in securing the said board in such a manner in its bearings that it will, under the circumstances just recited, always retain its original straight elastic condition.

In the drawings, A is the usual metallic brace-plate; B, the usual sound-board, and C C C the usual solid frame-blocks of the case.

Instead of gluing the ends of the sound-board B down fast upon the blocks C, as heretofore, I glue a narrow strip of woolen cloth, felt, or other similar material, c^1 c^1, along on the bottom of each of the rabbets made in the blocks C, and then lay the sound-board down upon the said cloth or felt, and secure the smaller end, b^1, of the same in its rabbet by screwing down upon it a block of wood, c^2, having a layer of the said cloth or felt glued to its under side, thus fixing the said smaller end of the board B directly between two layers of the said cloth or felt. (See Fig. 3.) The broader end, b^2 b^2, of the said sound-board B, I then adjust in place, giving it a little end-play, and lay over it two narrow strips, c^3 c^3, of vulcanized gum-elastic or other suitably solid and elastic material, having their under sides covered with the said cloth or felt, the said strips c^3 being of such a thickness as will, with the layer of cloth or felt attached, cause them, when so laid, to reach a little above the upper surface of the supporting-blocks C. I then lay down upon them the iron brace-plate A, and secure it by means of screws, so as to cause it to press down firmly upon the elastic strips c^3 c^3, and thus clamp the board B directly between the upper and lower layers of the cloth or felt, so as to secure it firmly down in place. (See Fig. 3.)

Operation: The larger end b^2 of the sound-board having a little end-play in its rabbets, or being made so as to be a little short, and being fixed at its smaller end, b^1, the larger end, b^2, will slide between the upper and lower layers of cloth or felt, when any change is produced in the said board B, either by hygrometric changes in the atmosphere or by a yielding of the frame of the piano from the strain of the strings, and consequently the said sound-board will coustantly maintain its original straight and elastic condition, as required.

This is a very important and desirable improvement in the piano, as it will effectually preserve the original straight, and therefore elastic, condition of the said board, and thus prevent the tone of the instrument from degenerating to the nasal sound consequent upon the buckling of the said board.

Having thus fully described my improvement, what I claim as new and of my invention, and desire to secure by Letters Patent, is—

Securing the sound-board of a piano between elastic or compressible bearings c^1 c^3, so that one end of the same may slide between its bearings, substantially in the manner described and set forth, for the purpose specified.

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Witnesses:
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