

Piano-Fortes.

No. 142,194.

Patented August 26, 1873.

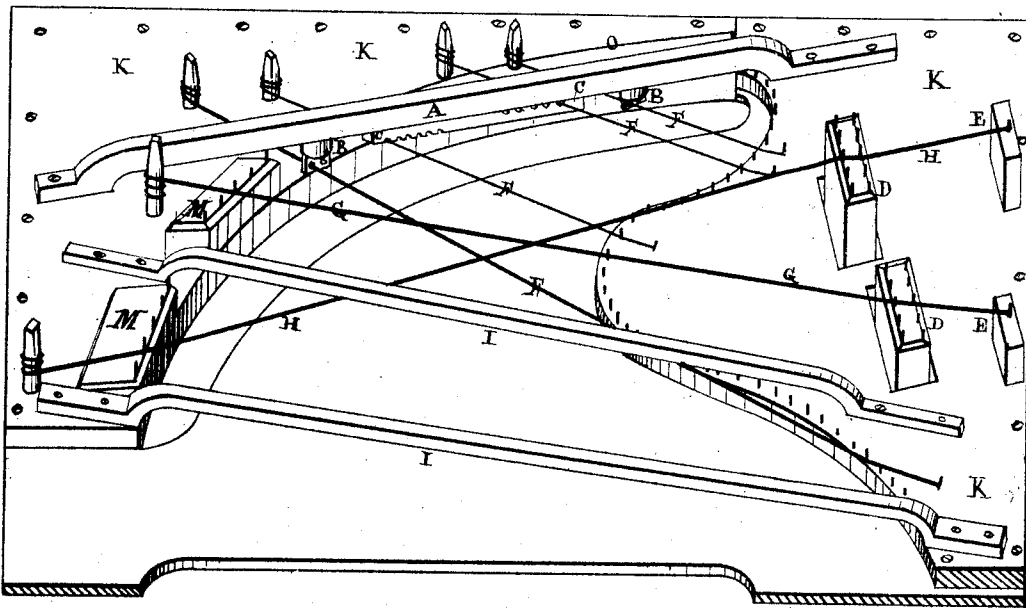


Fig. 1.

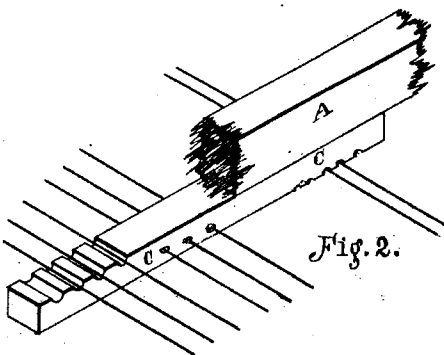


Fig. 2.

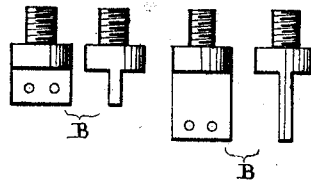


Fig. 3.

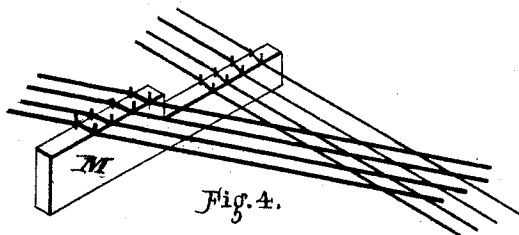


Fig. 4.

Wäneges.

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IMPROVEMENT IN PIANO-FORTES.

Specification forming part of Letters Patent No. **142,194**, dated August 26, 1873; application filed January 8, 1873.

To all whom it may concern:

Be it known that I, WILLIAM W. BENNETT, of Jersey City, in the county of Hudson and State of New Jersey, have invented certain Improvements in Piano-Fortes, of which the following is a specification:

This invention relates to certain improvements in the bridges of piano-fortes; and it consists in, first, the wrest-plank bass-bridge, the bass sounding-board bridge, and the hitching-block, each made in two or more separate pieces of different heights, whereby they may be placed in different positions with relation to each other, so as to admit of the use of longer bass-strings without increasing the dimensions of the piano, and allowing of the arrangement of the strings in different series or sets, each set being independent of the others in regard to its direction and its plane of elevation; second, the combination of the suspension-bridge and the agraffes, in the manner and for the purpose hereinafter particularly described; third, a grooved and perforated metallic plate, to be used as a substitute for the agraffes, as hereinafter particularly described.

Referring to the drawing, Figure 1 is a perspective view of my invention. Fig. 2 is a detached view representing a portion of the suspension-bridge with a plate attached in lieu of the ordinary agraffes. Fig. 3 represents agraffes of different lengths. Fig. 4 represents one of the wrest-plank bridges having one portion higher than the adjoining portion.

The metal plate or frame K is made in the usual form and attached in the usual manner. The suspension-bridge A is cast or made separate from the plate K and attached afterward. The agraffes B are secured to the under side of the suspension-bridge by screwing them into holes provided for the purpose. Instead of the agraffes I sometimes substitute a metallic plate, C, one portion of which has transverse grooves on the upper side, another portion has grooves on the under side, and still another portion has transverse perforations about midway between its upper and lower sides, as shown in Fig. 2. When the agraffes are used, they are made of different lengths, as shown in Fig. 3, to serve the same

purpose as the grooves and perforations in the plate C, which purpose is to allow the height of the strings at those points to correspond with the height of the bridges and hitching-blocks with which they engage. The sounding-board bridges D and the hitching-blocks E are made of different heights, to correspond with the lengths of the agraffes or the grooved or perforated portions of the plates C to which they are opposite; and this is also the case with the wrest-plank bridges M. Each bridge and each hitching-block may be made in one continuous piece, with one portion higher or thicker than the adjoining portion, or they may be made in separate pieces for the different heights, which latter form will be found preferable in some cases. When made in one continuous piece, as shown in Fig. 4, it is necessary for the different portions to lie in the same direction; but when made in separate pieces for the different heights, as shown in Fig. 1, they may be placed in different positions with relation to each other, which arrangement admits of the use of longer bass-strings without increasing the length or size of the piano, as it allows of their being extended in the direction of the left-hand front and right-hand rear corners of the piano, and also admits of the use of a heavier bass-hammer and greater length of the "jacks" or "flies," and gives the extreme bass-strings the advantage of resting upon what may be considered the best vibratory point for the uniform increase of the volume and quality of the bass-strings. The steel strings F are attached and arranged in the ordinary manner. The single overstrings G are attached to the lower series of bridges and hitching-blocks or the lower portions thereof, and the double overstrings H are attached to the higher or thicker portions or series of bridges and hitching-blocks. Sustaining-bars I have their ends attached to the metal plate or frame K, as shown in Fig. 1, and may lie in a direction parallel with each series of the overstrung bass-strings.

By the construction and arrangement of parts shown in my invention, the strings may be arranged in different series or sets, each set lying over or under or parallel with, but upon, a higher plane than the other sets; and,

by passing the strings through the agraffes or the grooves or perforations in the plate C, I obtain greater solidity of the strings at their points of rest nearest the wrest-plank, thus avoiding the splitting of the wrest-plank bridges or the tearing up or shifting thereof, and securing a solid upward bearing, resisting the upward blow of the hammer in a natural direction, giving greater clearness, volume, and uniformity of tone, and preventing lateral vibration of the strings. Furthermore, I produce a double overstrung bass upon the ordinary single sounding-board.

What I claim as new, and desire to secure by Letters Patent, is—

1. The wrest-plank bridges M, the sound-

board bridges D, and the hitching-blocks or points E, made in separate pieces of different heights, and combined and arranged substantially as and for the purpose shown and described.

2. The combination of the suspension-bridge A with the agraffes B, made of different lengths, or the plates C used in lieu thereof, when constructed and arranged with respect to the metal frame, substantially as and for the purpose shown and described.

WILLIAM W. BENNETT.

Witnesses:

GEORGE H. BENNETT,
ROGER W. BENNETT.