

F. MATHUSHEK.
PIANO.

No. 113,073.

Patented Mar. 28, 1871.

Fig. 1.

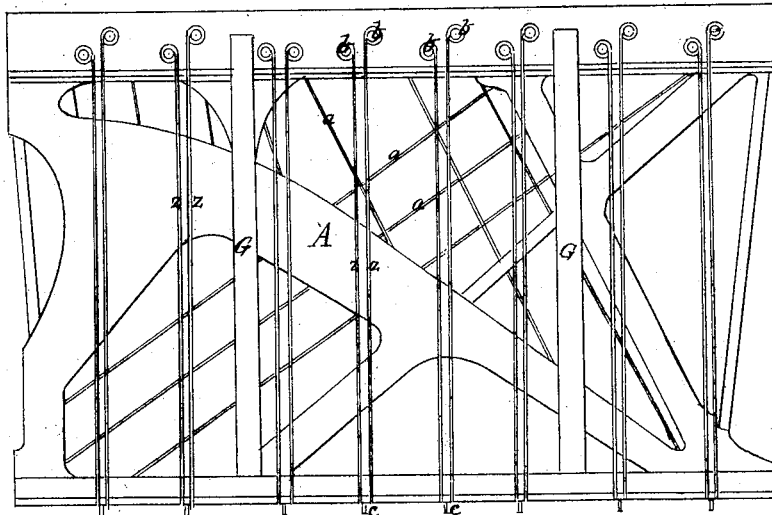


Fig. 2.

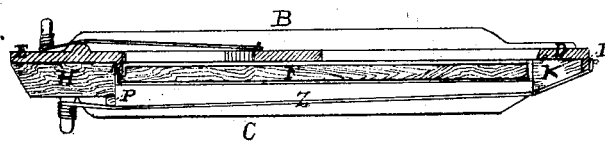
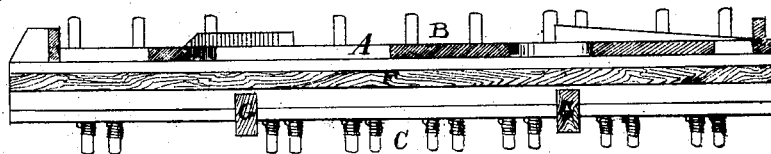


Fig. 3.



Witnesses
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FREDERICK MATHUSHEK, OF NEW YORK, N. Y.

Letters Patent No. 113,073, dated March 28, 1871.

IMPROVEMENT IN PIANOS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, FREDERICK MATHUSHEK, of New York, in the county of New York and State of New York, have invented a new and valuable Improvement in "Piano-Fortes;" 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 annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a bottom view of the frame, showing the binding-wires *z z*, the sounding-board being removed.

Figure 2 is a transverse vertical section.

Figure 3 is a vertical longitudinal section.

My invention has relation to an improvement in piano-forte frames; and

It consists in binding the longitudinal bars of the frame together by transverse strings of brass extending across the bottom of the frame, on the opposite side of the sounding-board from the scale.

The object of this construction is to obviate the warping effect of the tension of the scale on the upper side of the frame, and at the same time to provide a means for obviating, in a great degree, the tendency of the instrument to get out of tune.

The letter A of the drawing designates the metallic frame, which may be of any form or style, horizontal, upright, or inclined.

B designates the scale side of the frame, and C, the reverse side.

The strings of the scale are secured in the usual manner by means of the wrist-pins and hitch-pins to the side B of the frame.

D represents the hitch-pin plate.

E designates the wrist-plank.

F represents the sounding-board.

G G are transverse braces, which are abutted on one side against the wrist-plank block H, and on the other against the bar K, which, in turn, is abutted against the flanch L of the hitch-pin plate.

N represents the flanch of the wrist-plank, which is turned down on the inner side of the wrist-plank block.

The braces *U U* serve to keep apart the longitudinal bars of the frame, and they are placed on the opposite side of the sounding-board from the scale.

The bar K is beveled on its under side downward and inward.

The wrist-plank block H is provided on the inner edge of its under side with the bridge P.

a a designate the strings of the scale, and

z z, the brass binding-strings or wires, secured to the tightening-pins *b* in the wrist-plank block and to the hitch-pins *c* on the flanch L of the hitch-pin plate.

These wires are of double length. They pass around the hitch-pins and are secured at each end to the tightening-pins *b b*, by which they are brought into proper tension.

They are designed to extend transversely across the frame in the shortest lines, and are parallel with each other, all passing over the bridge P.

From this construction it is apparent that the tendency of the tensile force of the wires of the scale to draw or warp up the face B, is counterbalanced by the binding force of the brass wires *z z* on the opposite side of the frame.

The wires *z z* are made of brass, in order that they may have a compensating effect during changes of temperature, the object being to prevent a change of tension at such times in the strings of the scale, which are thereby designed to be kept in tune.

Having thus fully described my invention,

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

The brass compensating-wires *z z*, strained across the under side of the piano-frame, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

FR. MATHUSHEK.

Witnesses:

FRANK B. CURTIS,
JOHN M. HYNE.