C. H. De Vine,

Stringing Pianos.

No. 82,928. Patented Oct. 13, 1868.

Fig. 1.

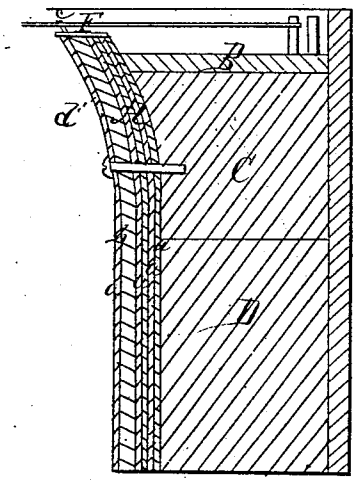
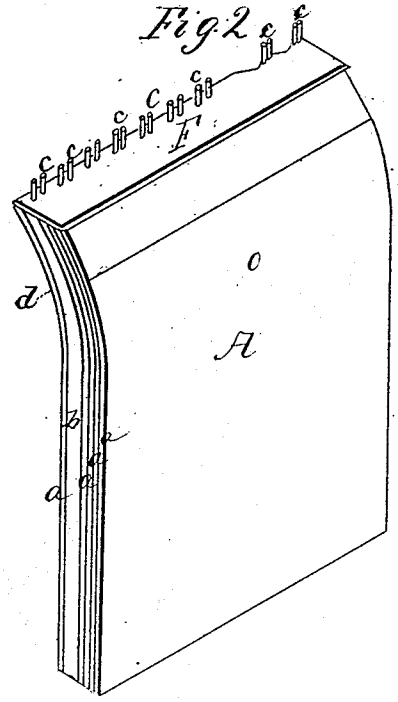


Fig. 2.



Witnesses:
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United States Patent Office.

CHARLES H. DE VINE, OF BUFFALO, NEW YORK, ASSIGNOR TO DE VINE BROTHERS.

Letters Patent No. 82,928, *dated October* 13, 1868.

IMPROVEMENT IN PIANO-FORTE BRIDGES.

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, CHARLES H. DEVINE, of Buffalo, in the county of Erie, and State of New York, have invented certain new and useful Improvements in Piano-Forte Bridges; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical cross-section of my combination-bridge attached to the pin-block, &c., of a piano-forte.

Figure 2 is a perspective view of a section or portion of my bridge, detached from a piano-forte.

Like letters of reference indicate corresponding parts in both figures.

My invention relates to that portion of a piano, known as the bridge, over which the wires pass, and consists in the special construction embodying a series of veneers of wood, fitted to the tuning-pin block in such a manner as to form the exact curve made by the hammer when striking the wires, and surmounted by a thin piece of ivory, bone, or hard rubber, on which the strings rest, the advantages of which will be hereinafter described.

In the drawings, A represents my combination-bridge, which is composed of a suitable number of strips of wood, *a a a*, sawed with the grain, with the exception of strip *b*, that receives the bridge-pins *c c c c*, which is made thicker, and is sawed crosswise with the grain of the wood.

These veneers are all glued together, then put into a "heated caul" and bent into a curve, (shown at *d*,) to correspond with a segment of a circle described by the hammer of the piano when about to strike the strings or wires.

I extend my bridge from the highest note in the instrument down as many notes or octaves as may be desirable, and vertically from above the top of the iron frame or plate B to the bottom of the piano.

This gives that strength and solidity which is of the utmost importance for the upper notes, as the strain on these strings is very great, and the blow of the hammer very violent.

This bridge is firmly screwed and glued to the rest-pin or tuning-pin block *c*, and pin-blocking D, which are respectively attached to the back, E, of the instrument, as shown in fig. 1.

By my method of placing these veneers endwise, with the grain of the wood running downward from the strings, (with the exception of the second, *b*,) and resting on the bottom of the piano, I claim that the wood is less liable to give or depress, and therefore, of necessity, a great aid in keeping the strings in tune, which is of course very desirable.

On the entire top of this bridge is glued a thin plate of ivory, F, (if preferred or desired, bone or hard rubber may be used,) and through which the usual bridge or cut-off pins, *c c c*, are inserted. This ivory plate not only serves to aid in holding the bridge-pins more firmly in the wood, and allows the strings in tuning to slip more readily, but it adds greatly to the beauty and brilliancy of the tone of the piano, giving to the strings passing over it a clearness of vibration, and producing a bell-like tone when these strings are struck by the hammer. In producing this combined brilliancy and beauty of tone, it is due not only to this ivory top, but also to the construction of the bridge with veneers, overlaid as described.

I also avoid the almost intolerable nuisance, which every piano-tuner will appreciate, of passing the wires or strings of the piano through the brass eyelets, or so-called "agraffes," which in a short time so affect said wires at the bearing-point that it becomes almost impossible to tune the piano, in consequence of their sticking in the eyelet-holes.

I am aware that a brass or metal plate has been used on the top of the ordinary bridge, but while it gives a certain degree of strength to the bridge, it greatly impairs the tone of the strings, imparting to them a metalic and wiry sound which it is my object to avoid.

It is well known that the use of iron bridges, cast with and forming part of the iron frame used in pianos, for the purpose of adding strength to the case, has proved so detrimental to the tone that the European makers have never adopted them, and all good makers in America have almost entirely discarded them.

To recapitulate the advantages of my improvements: The combined veneered bridge gives solidity and strength to an important part of the instrument, and the ivory plate gives an improved tone, does away with the disadvantages of the "agraffe," facilitates tuning, and makes a firm socket for the bridge-pins; the important advantages gained being strength and an improved tone for the upper strings. Therefore,

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

The curved bridge A, composed of veneers *a a a* and *b*, having the ivory or equivalent top plate F, attached as herein described.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

CHAS. H. DE VINE.

Witnesses:

J. R. DRAKE,

ALBERT HAIGHT.