

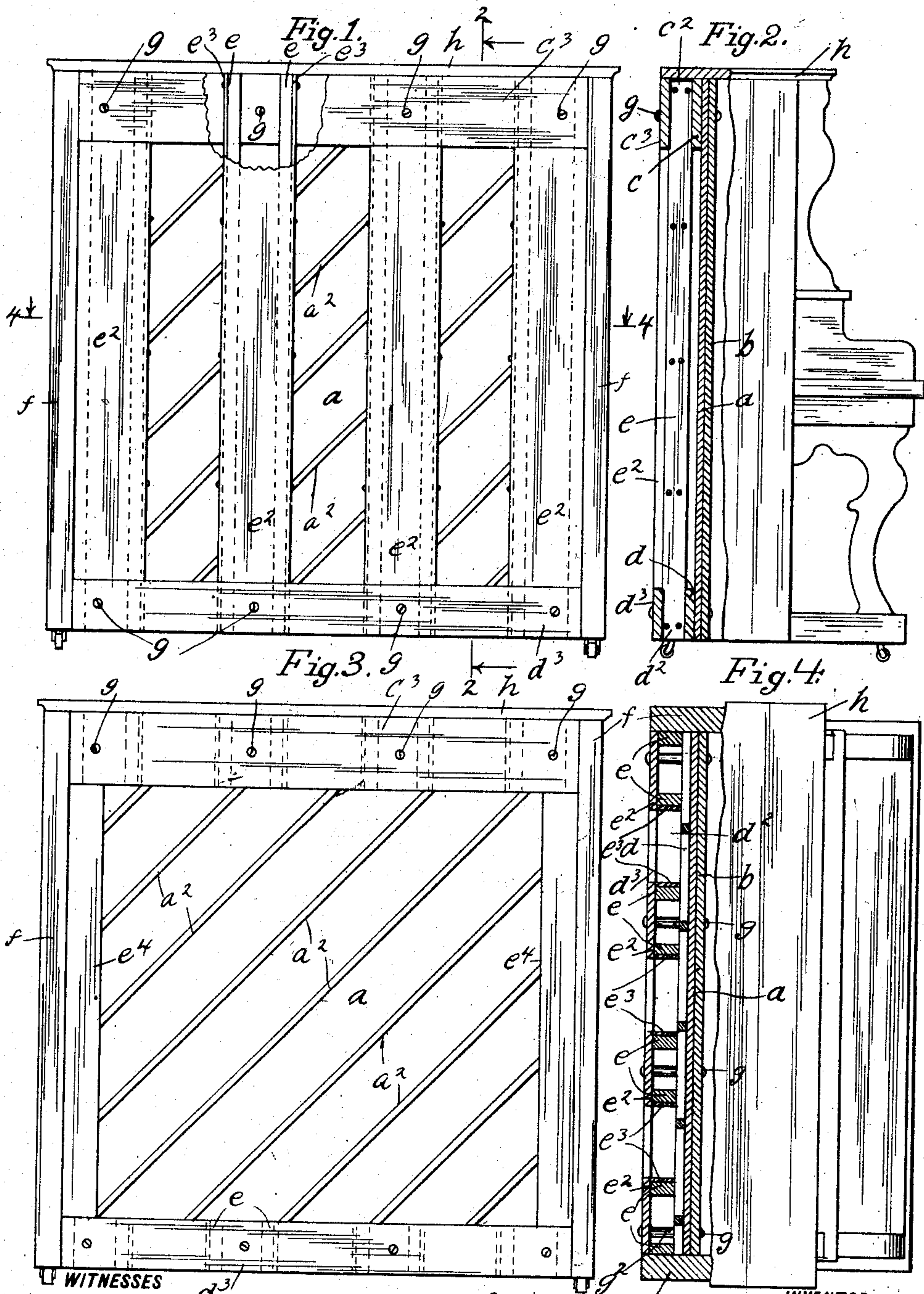
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G. G. HASBROUCK.

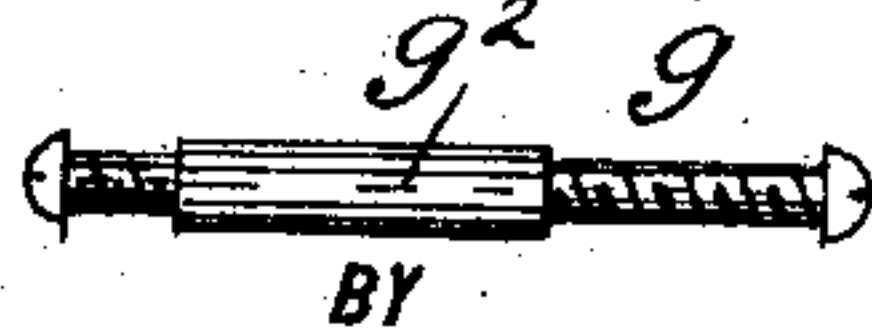
PIANO FRAME.

APPLICATION FILED MAY 8, 1907.



WITNESSES
Attest
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Fig. 5.

BY  g² g

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PIANO-FRAME.

No. 885,247.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE G. HASBROUCK, a citizen of the United States, and residing at Nyack, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Piano-Frames, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to piano frames, and particularly to the back portions of such frames and the parts connected therewith, and the object of the invention is to provide an improvement in the back portions of piano frames whereby an economy of space, together with greater strength and a better tone are secured.

My invention relates particularly to upright pianos, and is fully disclosed in the following specification, of which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which;—

Figure 1 is a back view of an upright piano, the frame of which is constructed according to my invention; Fig. 2 a sectional side view, the section being on the line 2—2 of Fig. 1; Fig. 3 a view similar to Fig. 1 but showing a modification; Fig. 4 a sectional plan view of the construction as shown in Figs. 1 and 2, the section being on the line 4—4 of Fig. 1; and, Fig. 5 a view of a binding screw or bolt which I employ.

In the drawing forming part of this specification, reference being made to Figs. 1, 2, 4 and 5, I have shown an upright piano the back frame of which involves the preferred form of my invention, and in these figures, the ordinary sounding board is shown at *a* and to the front of this sounding board is secured the usual string plate *b* with which, in practice, the strings of the piano are connected in the usual manner, but the plate *b* and the attachment of the strings form no part of my invention and said strings and their attachments are not shown.

The back frame proper of the piano is of the following construction. Ranging transversely of the sounding board *a* at the top of the piano is the usual wrest plank *c* rearwardly of which and separated therefrom by a space *c*² is a transverse plate *c*³, and at the bottom of the piano is a transverse plate *d* which corresponds with the wrest plank *c* and ranges transversely of the bottom part of the

piano and is also secured to the sounding board *a*, and rearwardly of the plate *d* and separated therefrom by a space *d*² which corresponds with the space *c*² is a transverse plate *d*³ which corresponds with the plate *c*³ at the top of the piano. Placed at regular intervals between the wrest plank *c* at the top of the piano, the plate *d* at the bottom of the piano and the plates *c*³ and *d*³, and in the spaces *c*² and *d*² are vertically arranged studdings *e*, and these studdings are arranged in pairs as clearly shown in Figs. 1 and 4. Each pair of studdings *e* is covered by a vertically arranged plate *e*² and, in the form of construction shown, four of the pairs of studdings *e* and four of the plates *e*² are employed and the vertically arranged plates *e*² rest on the bottom plate *d*³ and the top plate *c*³ rests on the vertically arranged plates *e*², and the back surfaces of the plates *c*³, *d*³ and *e*² and the sides *f* of the piano frame are flush and even. The wrest plank *c* and the plate *c*³ are connected by screws or bolts *g* composed of two parts screwed into a sleeve *g*², and in this way the parts *a*, *c*, *c*³ and *e* are rigidly connected at the top of the piano frame, and similar screws or bolts *g* are also employed at the bottom of the back of the piano frame, and in this way the sounding board *a*, the plates *d* and *d*³ at the bottom of the back of the frame and the parts *e* are also rigidly connected and the screws or bolts *g* may also be passed through the front plate *b*, if desired, and this method of construction is shown in Figs. 2 and 4.

It will be seen that the studdings *e* are separated from the sounding board *a* at all points by a space equal to the thickness of the wrest plank *c* and the plate *d*, and the studdings of the central pairs of studdings are provided on their outer sides with metal plates *e*³, and the inner studdings of each of the side pairs of studdings are also provided with similar metal plates *e*³, in the form of construction shown, the object of this construction being to secure greater strength and also a better tone quality. The studdings *e* which are shown in the drawing as being provided with metal plates *e*³ on one side may be provided with metal plates on both sides, if desired, or if found advisable, and the studdings *e* which abut against the sides *f* of the piano frame may also be provided on their inner sides with metal plates, if desired.

In practice the studdings *e* are first se-

cured to the vertically arranged plates e^2 and this may be done by gluing or in any desired manner, and said vertically arranged plates e^2 with the studdings e connected therewith are then placed in position, after which the plates c^3 , d^3 and the string plate b are placed in position, and the screws or bolts g applied, and the parts e^2 , c^3 and d^3 together with the sounding board a , the wrest plank c and the plate d may also be connected by gluing.

The sounding board a is provided with the usual diagonally arranged ribs a^2 , in the form of construction shown, but neither the sounding board, in itself, nor the ribs a^2 , their shape or connection, form any part of my invention. The piano is provided with the usual cover h which may be hinged to the back frame in the usual or any desired manner, and it will be understood that the side portions f of the piano case are secured in position and to the back portion of said case in the usual or any desired way.

It will be understood that the separate pairs of studdings e form, in effect, conduits or passages through which the air is free to pass, and the air is also free to pass around said studdings or between the same and the sounding board a and between the separate pairs of studdings when the cover is raised.

By means of my improvement, I provide a back frame for pianos which is stronger and more durable than frames of this class as are usually constructed, and which occupies comparatively small space, and by means of which the tone of the piano is improved.

In Fig. 3 of the drawing, I have shown a modification which is of the same construction as that shown in Figs. 1, 2 and 4, except that, that portion of the studdings e between the top plates c and c^3 and the bottom plates d and d^3 is omitted. The said studdings are employed to separate the plates c and c^3 , and d and d^3 as clearly indicated at e in said Fig. 3 of the drawing. In this form of construction, I also employ vertically arranged side plates e^4 which join the sides f of the piano case and which extend vertically from the plate c^3 to the plate d^3 , and which are secured to the sides f and to the said plates c^3 and d^3 by gluing or in any desired manner. The said plates e^4 cover the opposite sides of the sounding board a , while the top and bottom portions of said sounding board are covered by the transversely arranged plates c^3 and d^3 , and d and c , the latter forming the wrest plank, and this form of construction involves many of the advantages of that shown in Figs. 1, 2 and 4.

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

1. A back frame for pianos composed of transversely arranged top plates and trans-

versely arranged bottom plates, said top and bottom plates being separated by equal spaces, and vertically arranged studdings placed between said top plates and bottom plates.

2. A back frame for pianos composed of transversely arranged top plates and transversely arranged bottom plates, said top and bottom plates being separated by equal spaces, and vertically arranged studdings placed between said top plates and bottom plates, said studdings extending from the top to the bottom of the frame.

3. A back frame for pianos composed of transversely arranged top plates and transversely arranged bottom plates, said top and bottom plates being separated by equal spaces, and vertically arranged studdings placed between said top plates and bottom plates, said studdings extending from the top to the bottom of the frame and said studdings between the transversely arranged top plates and bottom plates being covered by vertically arranged plates secured thereto.

4. A back frame for pianos composed of transversely arranged top plates and transversely arranged bottom plates, said top and bottom plates being separated by equal spaces, and vertically arranged studdings placed between said top plates and bottom plates, said studdings extending from the top to the bottom of the frame and said studdings between the transversely arranged top plates and bottom plates being covered by vertically arranged plates secured thereto, and the said studdings being provided with metal plates which are secured to the side or sides thereof.

5. A back frame for pianos composed of transversely arranged top plates and transversely arranged bottom plates, said top and bottom plates being separated by equal spaces, and vertically arranged studdings placed between said top plates and bottom plates, said studdings extending from the top to the bottom of the frame, said studdings between the transversely-arranged top plates and bottom plates being covered by vertically arranged plates secured thereto, and a sounding board connected with said back frame, the said studdings being provided with metal plates which are secured to the side or sides thereof and separated from the sounding board.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 4th day of May, 1907.

GEORGE G. HASBROUCK.

Witnesses:

C. E. MULREANY,
A. WORDEN GIBBS.