S. BRAMBACH.

UPRIGHT PIANO.

APPLICATION FILED APR. 6, 1915.

1,210,593.

Patented Jan. 2, 1917.

2 SHEETS—SHEET 1.

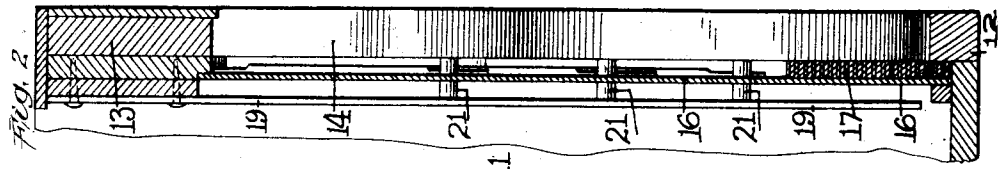


Fig. 2

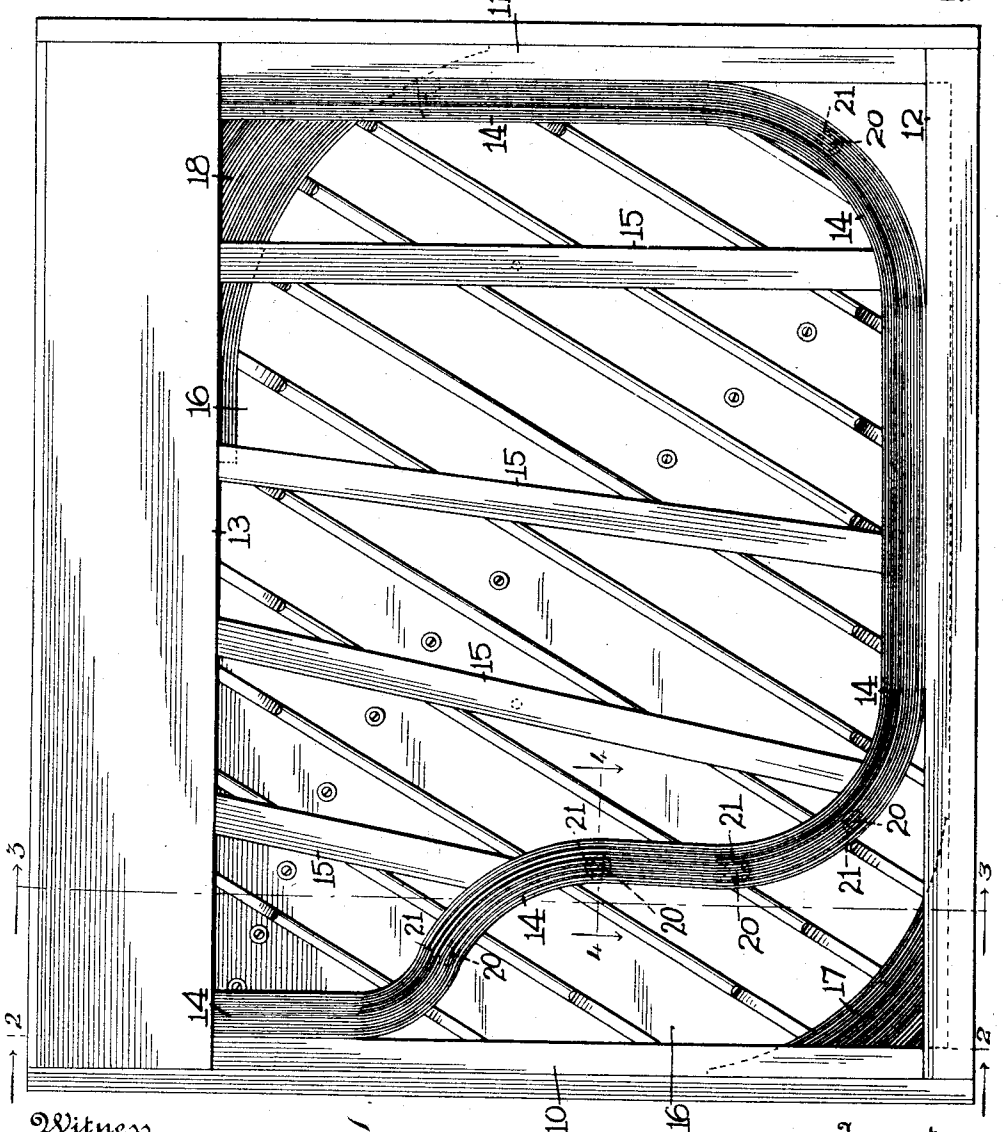


Fig. 1

Witness

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2 SHEETS—SHEET 2.

Fig. 4.

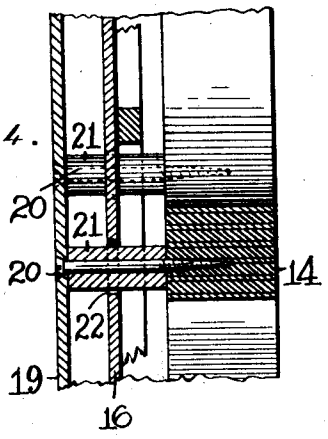
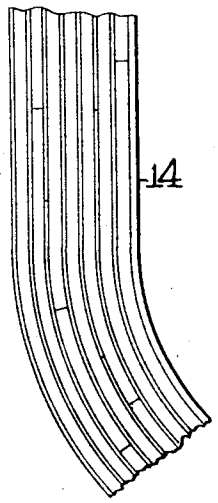


Fig. 5.



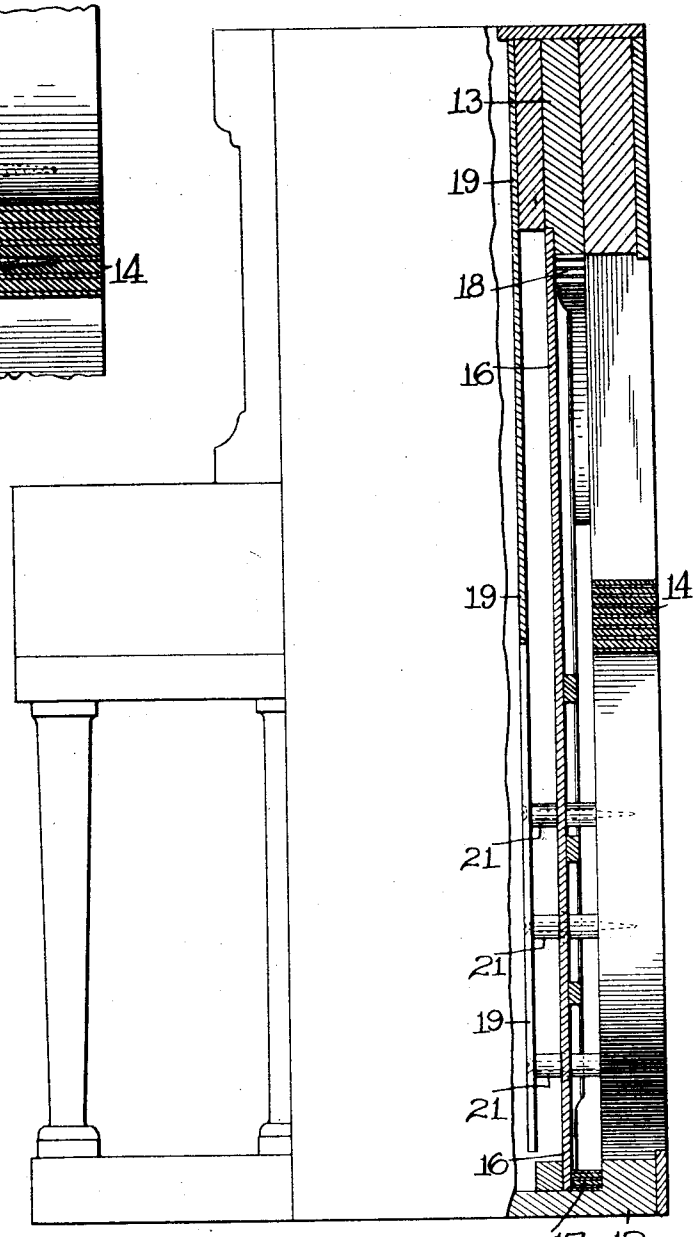


Fig. 3.

Witness

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UNITED STATES PATENT OFFICE.

STEPHEN BRAMBACH, OF NEW YORK, N. Y., ASSIGNOR TO BRAMBACH PIANO COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

UPRIGHT PIANO.

1,210,593. Specification of Letters Patent. Patented Jan. 2, 1917.

Application filed April 6, 1915. Serial No. 19,587.

To all whom it may concern:

Be it known that I, STEPHEN BRAMBACH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented a new and useful Upright Piano, of which the following is a specification.

This invention relates to an upright piano and particularly to certain improvements in the frame construction thereof.

It is the object of my invention to secure in an upright piano certain of the peculiar advantages in tone production heretofore found only in pianos of the grand type.

With this general object in view one feature of my invention relates to the provision in the back frame of an upright piano of a continuous curved frame member, said member being of great strength in itself and being commonly reinforced by a plurality of braces disposed in the plane of said member and upwardly converging. This angular disposition of the braces corresponds in a general way with the lines of string tension and enables them to resist the strain of the wires or strings to the best advantage.

In a piano of the grand type the sounding board is necessarily limited to the size of the back frame, as the outer casing of the piano conforms closely thereto. At certain points this limitation in the size of the sounding board is objectionable.

Accordingly it is another feature of my invention to provide a continuous curved frame member in combination with a sounding board which at certain points extends beyond the frame member. By this arrangement I secure additional sounding area in that portion in which the sounding board has been heretofore undesirably restricted. The sounding board thus extended beyond the continuous curved member is supported upon special curved blocks secured in the corners of the outer frame of the piano.

A still further feature of my invention relates to the manner in which I support the plate upon the continuous curved member. The plate is secured to the pin block at its upper edge in the usual manner but is otherwise supported only by a series of sounding posts passing freely through openings in the sounding board and secured in the continuous curved member. I thus construct a tone producing structure from which improved results are obtained. The tone produced thereby is found to be of a superior quality.

A preferred form of the invention is shown in the drawings, in which—

Figure 1 is a rear view of an upright piano; Fig. 2 is a partial sectional view taken along the line 2—2 in Fig. 1; Fig. 3 is an elevation of the treble end of the piano shown in Fig. 1, the view being partly in section along the line 3—3 in Fig. 1; Fig. 4 is a horizontal detail section taken along the line 4—4 in Fig. 1; and Fig. 5 is an enlarged detail view of a portion of the curved frame member.

Referring to the drawings, the piano is provided with the usual upright side frame members 10 and 11, bottom frame member 12 and upper frame member or pin block 13, the latter being formed of a plurality of layers, each of substantial thickness as clearly shown in Figs. 2 and 3.

Within the rectangle bounded by the frame members 10, 11, 12 and 13 I provide a continuous curved frame member 14, best shown in Fig. 1. The two ends of the curved member extend upwardly and are framed into the lower face of the pin block. The member itself has a laminated structure, being formed of a plurality of strips of thin wood firmly glued to each other. These strips are commonly continuous from end to end, but the frame may be made of shorter strip portions having the joints broken in such a way that they form substantially a single integral frame member, this form of construction being shown in Fig. 5.

For the purpose of additionally strengthening the frame member 14, I provide a plurality of braces 15 in the plane of the frame member, said braces being secured at their lower ends to the member itself and at their upper ends to the pin block 13. The braces 15 converge upwardly and are disposed at angles which correspond in general to the direction of strain of the piano wires.

The usual sounding board 16 is secured at its upper edge to a portion of the pin block 13 and along a portion of its lower edge to the bottom frame member 12. Reference to Fig. 1 will show that the sounding board 16 extends beyond the curved member 14 in the lower left hand portion of the back, the outer edge of this portion of the sounding board being secured to a curved lami-

nated block 17 supported by the frame members 10 and 12. At the opposite upper corner the edge of the sounding board is similarly secured to a curved block 18 supported by the frame members 11 and 13. I find that the tone quality is much improved by the provision of the blocks 17 and 18 which support the sounding board.

The string plate of the piano is indicated at 19, being secured along its upper edge to the pin block 13 in the usual manner. In the ordinary upright construction the plate extends to the bottom frame and is secured along its lower edge to the frame member 12. In my improved construction, however, I secure the plate to the curved member 14 by screws 20 passing through posts or bushings 21 and fixed in the frame member 14. I provide corresponding openings 22 in the sounding board, said openings being of greater diameter than the posts and permitting the posts to pass freely therethrough. In this way the string plate is firmly secured to the continuous curved frame member and vibrates therewith while it is otherwise free from the piano frame, except along its upper edge.

The combination of these several features enables me to reproduce with great accuracy the tone qualities of the grand piano, while also securing the advantages of the upright piano with reference to the space occupied thereby.

Having thus described my invention it will be evident that changes and modifications can be made therein by those skilled in the art without departing from the spirit and scope thereof as set forth in the claims, and I do not wish to be otherwise limited to the details herein disclosed, but

What I do claim is:—

1. An upright piano having a rectangular back frame including a pin block as one member thereof, a continuous supplementary curved frame member disposed within said back frame and engaging said frame on the bottom and two sides thereof with the two ends of said member abutting against said pin block, and a plurality of spaced upwardly converging braces secured between said curved member and said pin block and each separately engaging said member and block, said frame, block, member and braces all lying in a single plane.

2. An upright piano, having, in combination a back frame comprising a pin block and a continuous curved member secured at its ends to said pin block adjacent the opposite ends thereof, a sounding board having a plurality of openings therein at a substantial distance from the edges thereof, a string plate secured to the pin block at its upper edge, and a series of separated sound posts each extending freely through one of said openings and fixed to said curved member, said posts and pin block constituting the entire support of said string plate.

3. An upright piano having, in combination, a sounding board having a plurality of openings therein, a back frame including a pin block and a continuous curved member joined at its two ends to said pin block adjacent the opposite ends thereof, a plurality of upwardly converging braces secured in the plane of and between said curved member and said pin block, a string plate secured at its upper end to the pin block, and a plurality of sound posts extending freely through said openings in the sounding board and fixed to said curved member, said posts and pin block constituting the entire support of said string plate.

In testimony whereof I have hereunto set my hand.

STEPHEN BRAMBACH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."