

W. L. BJUR.
PIANO.

APPLICATION FILED MAR. 8, 1910.

966,789.

Patented Aug. 9, 1910.

Fig. 1.

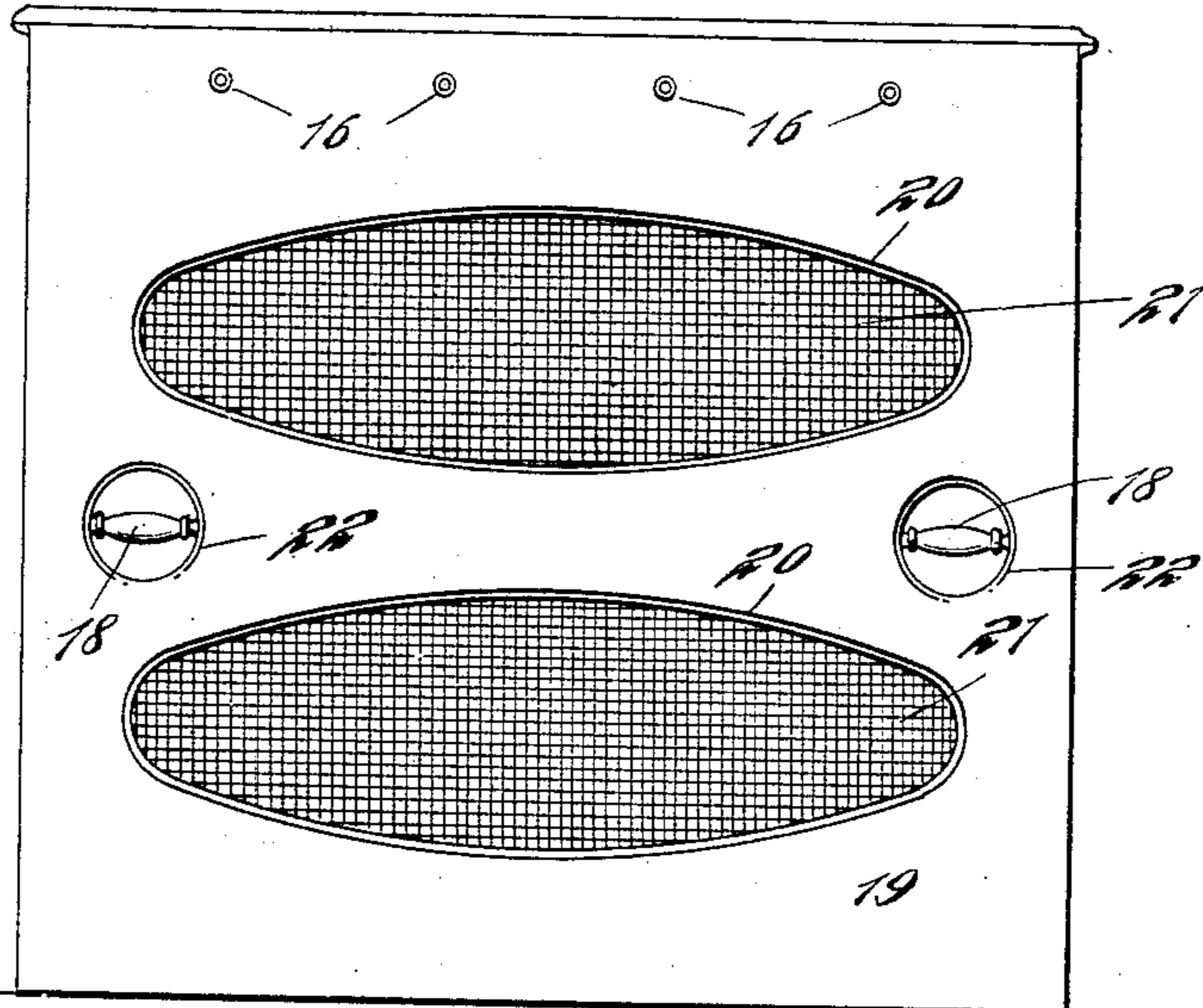
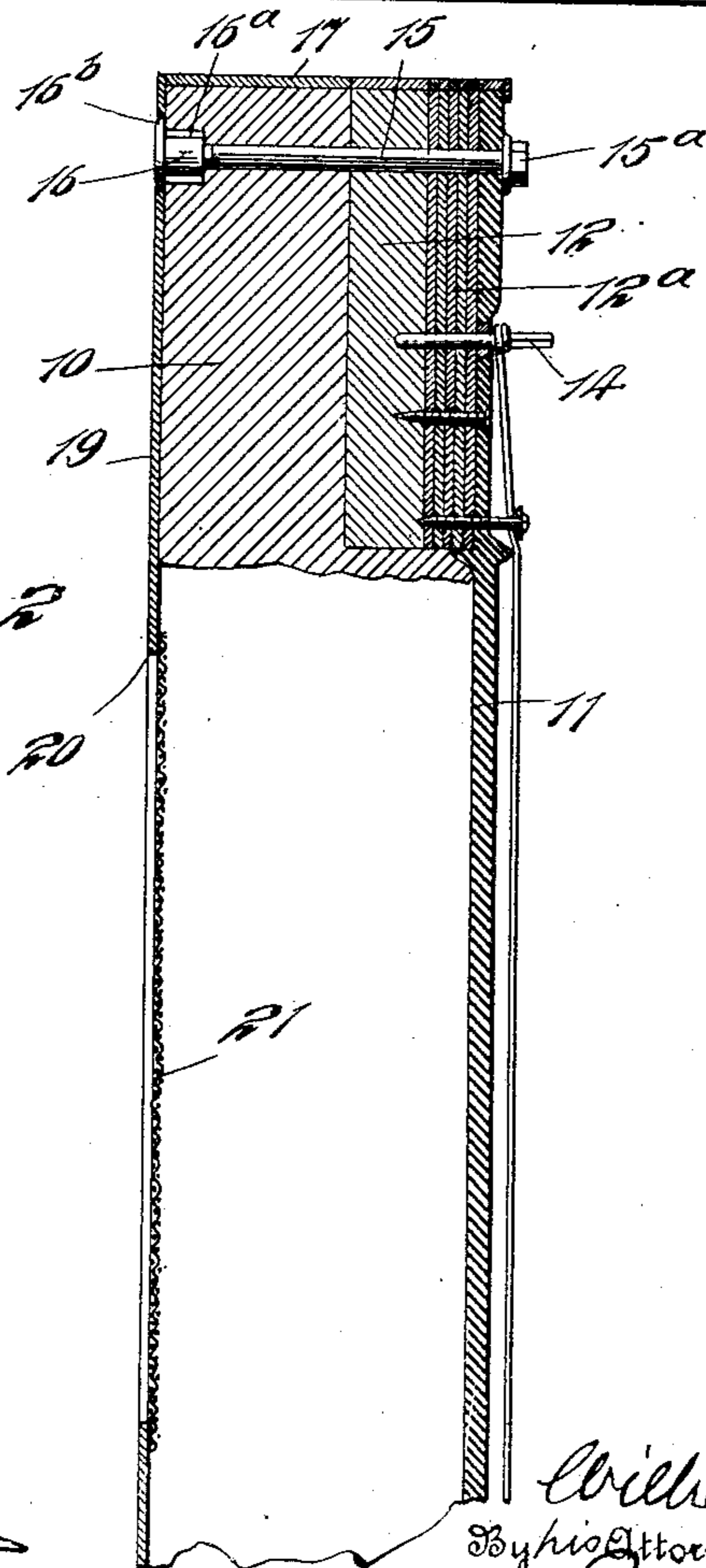


Fig. 2.



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UNITED STATES PATENT OFFICE.

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PIANO.

966,789.

Specification of Letters Patent.

Patented Aug. 9, 1910.

Application filed March 8, 1910. Serial No. 548,010.

To all whom it may concern:

Be it known that I, WILLIAM L. BJUR, of the borough of Manhattan, city, county, and State of New York, have invented certain
5 new and useful Improvements in Pianos, of which the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it appertains to make and use the same.

10 My invention relates to an improvement in the construction of the frame work of pianos, particularly upright or vertical pianos. Usually such pianos have a heavy wooden back in the upper part of which is arranged
15 a laminated pin block carrying the pins by which the strings are fastened and the whole being fastened to the back by heavy lag screws. The top is finished off to expose the laminations of the pin block to view and the
20 back is braced by vertical beams or scantlings. This method of construction is expensive in the finishing of the top of the pin block; the lag screws for fastening the pin block do not always properly serve their purpose and the scantling or beams at the back
25 are unsightly.

The object of my invention is to overcome these disadvantages and to so organize the frame of the piano at the points referred
30 to that the laminations of the pin block may be made to appear without the expense of finishing the rough wood-ends, the pin block fastened through the whole thickness of the back by a special nut and bolt and the back
35 inclosed in a neat and artistic manner without, however, impairing the acoustical properties of the instrument. I attain these ends by certain individual features of construction and combination of parts which will be
40 fully set forth hereinafter and particularly pointed out in the claims.

For this purpose reference is had to the accompanying drawing, which represents, as an example, the preferred embodiment of my,
45 invention and in which—

Figure 1 is a rear view of the piano embodying my invention; and Fig. 2 is a vertical section of the upper part of the frame of the piano, excepting that the top cover or
50 lid is removed.

In these drawings—10 indicates the back of the piano which is of massive wood and 11 indicates the string plate which is of iron. The pin block is composed of a main
55 lamination 12 and a number of minor laminations 12^a which together constitute the

built-up pin block. The laminations 12^a are placed with their grain crossing so that they constitute an extremely tough body of wood into which the string pins 14 are driven and
60 by which such pins are firmly held, notwithstanding the extremely heavy strain imposed upon them by the tension of the piano strings.

For fastening the pin block in place and
65 for holding the string plate properly in position I employ peculiar back bolts which are represented at 15 in the drawing. These bolts have heads 15^a integral therewith and bearing against the face of the string plate.
70 Said bolts extend through the string plate, pin block and back and are engaged at the very back of the piano with special nuts 16. These nuts are counter-sunk into the back
75 10 and are furnished with ribs 16^a driven into the back to prevent them from turning and a flange 16^b engaging the face of the back 10. Each nut 16 has two bearings facing in the same direction, one bearing being
80 at the inner end of the nut to draw against the bottom of the counterbore and another bearing at the inner face of the flange 16^b arranged to draw against the rear surface of the back 10. This allows the back bolt to be
85 tightened to the necessary degree of tension and enables all the parts held by such bolt to be drawn most firmly together.

It is customary in the construction of upright pianos to finish off the wood-ends at the upper edge of the frame showing a back
90 and pin block in a highly polished state exposing the laminations of the latter. This, however, is expensive and difficult and I have effected the same result by the provision of a heavy veneer 17. This veneer is
95 of the same wood as the back and pin block and it is formed in strips corresponding precisely to the laminations of the pin block. The veneer 17 is glued or otherwise suitably
100 fastened to the back and pin block and corresponds precisely thereto, not only with respect to the laminations but to the direction of the graining of the wood. Its surface may be readily polished and varnished and in this way I illustrate the laminated structure
105 without involving the expense of actually finishing the rough and massive wood-ends.

Such pianos as those to which my invention relates are usually provided with
110 vertical beams or scantlings at the back constituting part of the frame and between two

of these beams at each side of the piano handles (shown at 18 in Fig. 1) are provided by which the piano may be moved. In order to render the rear of the piano 5 symmetrical and neat in appearance and to hide the ribbed construction I provide a thin wooden sheathing 19 which covers the entire back of the piano and which is suitably fastened thereto by glue or otherwise. 10 It may be polished and finished and in this way increases greatly the neatness of the piano construction. In order, however, not to interfere with the acoustical properties of the instrument large openings 20 are 15 formed in said sheathing 19 which openings are preferably, though not necessarily, of oval form. These openings are closed and the back of the piano practically obscured by means of sections of screening 21 which 20 cover the openings and are fastened in back of the sheathing. In order to enable the handles 18 to be reached the sheathing is also formed with openings 22 which expose the handles and allow them to be 25 easily grasped.

From the foregoing description of my invention it will therefore appear that by means of my improvement I have cheapened the construction of the piano, increased its 30 mechanical efficiency and increased its artistic or ornamental effect. This is true since by applying the veneer to the wood-ends a difficult and laborious operation has been dispensed with; by the back bolt passing 35 clear through the back and furnished with a special nut I provide a much stronger construction, and by the sheathing 19 at the back I have changed the rough and irregular construction heretofore employed into a 40 neat and symmetrical surface.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is:

1. A piano having a back, a laminated 45 pin block set against the front thereof, a string plate set against the pin block and back, a back bolt extending through the

string plate, the pin block and back from front to rear thereof, having two bearings facing in the same direction, said nut being 50 counter-sunk in the back at the rear and engaged by said back bolt to hold it in place, a finished veneer applied to the top of the back and pin block and constructed of 55 strips corresponding to the laminations of the pin and block, a finished sheathing covering the rear surface of the back and formed with openings and metallic screening secured between the back and said sheathing and covering said openings in the latter. 60

2. A piano having a back, a pin block fastened thereto and composed of laminations of wood, the grain of the wood crossing in said laminations, and a veneer secured to the top of the back and pin block, said 65 veneer composed of strips of wood representing the grain and character of the wood of the back and pin block, for the purpose specified.

3. A piano having a back, a pin block 70 and string plate, a back bolt extending completely through said parts from the front to the rear thereof and a nut counter-sunk in the back and having two bearings facing in the same direction and both drawing 75 against said back, said bolt engaged with the nut to fasten it.

4. In a piano, a back, a pin block and string plate, a back bolt extending through said parts from the front to the rear and 80 a nut countersunk in the back, said nut having two bearings spaced apart but facing in the same direction and both drawing against said back and means to prevent said nut from turning in said back when in place, 85 said bolt engaging said nut.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM L. BJUR.

Witnesses:

GEORGE DERBY,
GEORGE F. USBELT.