(No Model.) 2 Sheets—Sheet 1.

J. W. REED.

PIANO.

No. 489,231. Patented Jan. 3, 1893.

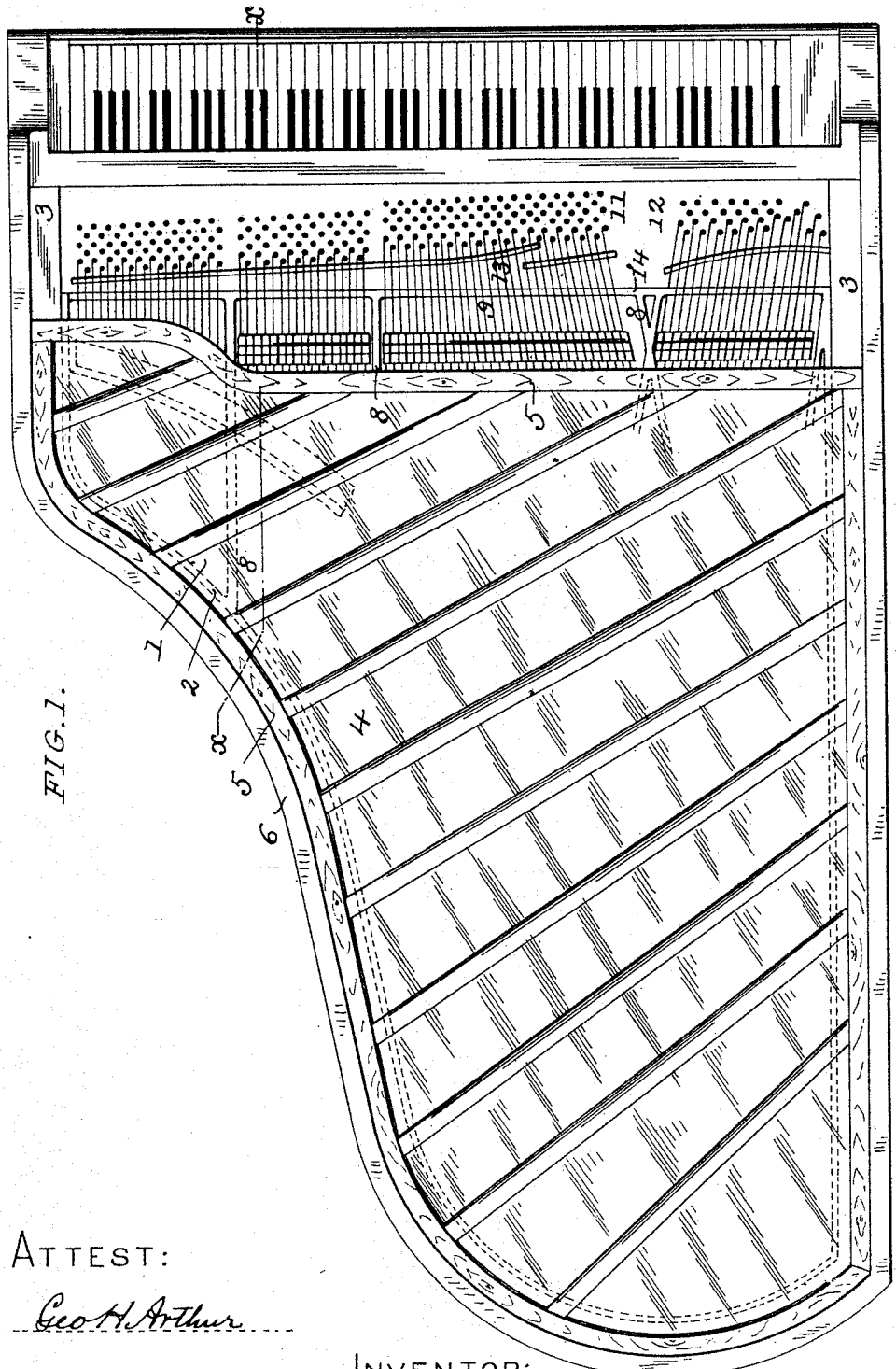

FIG. 1.

ATTEST:

Geo. H. Arthur

H. W. A. Nott

INVENTOR:

John W. Reed,

by Robert Burns, Attorney.

(No Model.) 2 Sheets—Sheet 2.

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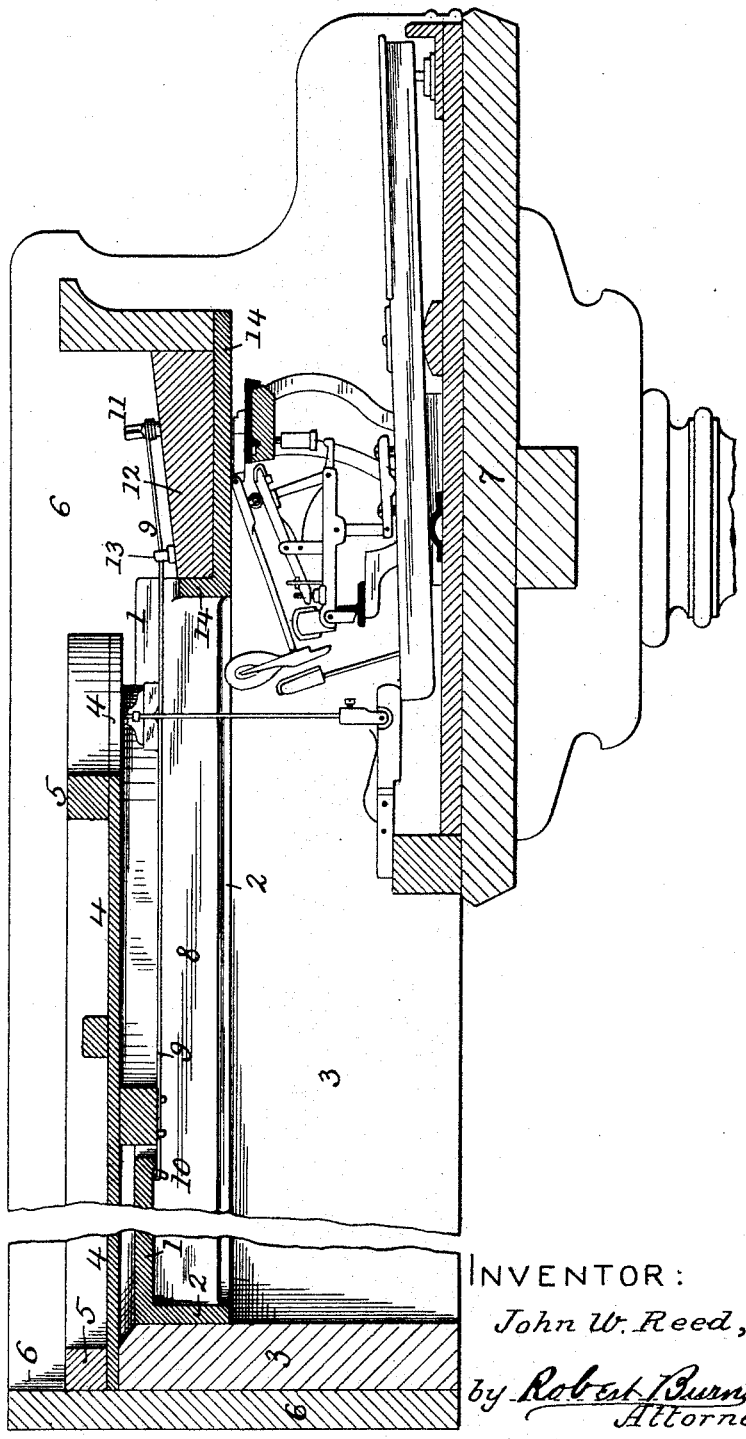
FIG. 2.



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INVENTOR:

John W. Reed,

by Robert Burns
Attorney.

UNITED STATES PATENT OFFICE.

JOHN W. REED, OF CHICAGO, ILLINOIS.

PIANO.

SPECIFICATION forming part of Letters Patent No. 489,231, dated January 3, 1893.

Application filed March 21, 1892. Serial No. 425,678. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. REED, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pianos; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to the horizontal or "grand" type of piano fortes, the object of the present improvement being to provide a simple and effective arrangement of the sounding board with relation to the piano action and string plate, so that the tone producing blows of the action hammers will be given in the direction of the sounding board, and in consequence of such mode of operation cause a marked increase in the volume of sound produced; a further object being to afford a light, strong and simple construction of the interior frame or body of the piano, so that the interference thereof with the sound waves, will be reduced to a minimum, and the tone and volume thereof increased in a corresponding degree; and with which the gathering of dust &c, upon the strings, string plate &c, is in a great measure avoided; the dust that gathers on the exposed portions of the present construction being capable of ready and easy removal. I attain such objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which:

Figure 1, is a plan view of a grand piano, embodying my present improvements; and Fig. 2, an enlarged vertical longitudinal section on line *x*—*x*, Fig. 1.

Similar numerals of reference indicate like parts in both views.

In the present invention, as illustrated in the accompanying drawings, I preferably employ in a modified form, the novel construction of metallic string plate, and marginal wooden frame that incloses the same, and supports the sounding board, that forms the subject matter of my former application for Letters Patent filed March 11, 1891, Serial No. 384,541.

In the present improved construction as illustrated in the drawings, 1, represents the metallic string plate, having a downturned marginal flange or web 2, by which it is bolted, or otherwise securely attached, to the inside of the wooden rim or frame 3, that extends up past the face of the string plate, to receive and support the sounding board 4, which is secured in place by the usual marginal rim 5, as shown.

In the present construction the forward edge of the sounding board 4, is unsupported other than by its marginal rim 5, which at this point may be made of any required thickness desired or found necessary. This arrangement of parts is necessary to admit of access to the strings during the operation of tuning the piano, &c, and the forward edge of the sounding board will be correspondingly set back, to admit of the insertion of the usual wedges between the strings, and back of the dampers, by the tuning operator. The metallic string plate 1, and the wooden rim or frame 3, when secured together constitute the interior body of the piano, to which are attached the sounding board, the outer inclosing rim or casing 6, as well as the key frame bed 7, and other usual piano parts. The sounding board 4, is superimposed above the metallic string plate 1, with its ribs, which may be of any usual form and arrangement, attached to its top surface; the string plate is correspondingly constructed with its braces or ribs 8, arranged on its under surface, and the piano strings 9, will be connected at their rear ends to hitch-pins 10, on the under surface of the string plate 1, and at their forward ends such strings will be connected to the usual tuning pins 11, or other equivalent device arranged in or on the top surface of the pin block 12, so as to be convenient for access during the tuning operation. The pin block or wrest plank 12, will be depressed, so that the tuning pins 11, or agraffes 13, will be in line with the piano strings, as they extend forward underneath the string plate 1. I attain such position of the pin block 12, by arranging the same in a depressed pocket, formed at the forward end of the string plate, and which is formed by a transversely extending angle plate 14, that is integral with the side flanges or webs, of the string plate, and is braced and strengthened

by the braces or ribs 8, of such plate as illustrated in Figs. 1 and 2.

With the present construction the stroke of the action hammers, is in the direction of the sounding board, as a result thereof the tone or volume of sound produced is increased in a very perceptible manner, and at the same time the tendency to drive the strings upward, on the sounding bridge pins, and off and away from the sounding board, is entirely avoided; this tendency in grand pianos of the ordinary construction has heretofore been a very serious drawback.

Another advantage resulting from the present construction lies in the fact that the height of the inclosing rim can be materially reduced, and in consequence the general appearance of the piano case is capable of being rendered much lighter and more elegant.

Having thus fully described my said invention what I claim and desire to secure by Letters Patent, is:

In a horizontal piano, the combination of the metallic string plate 1, having a down-turned marginal flange 2, and stiffening braces 8, and hitch pins 10, arranged on its under side, the inclosing wooden rim or frame 3, attached to the string plate and extending up past the same, the superimposed sounding board secured to the top of said frame, with its sounding bridge or bridges projecting downwardly, the outer inclosing casing and the depressed pin block 12, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. REED.

Witnesses
ROBERT BURNS,
GEO. H. ARTHUR.