Jan. 22, 1929. 1,699,561

R. H. COLLEN

PIANOFORTE

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Fig. 2.

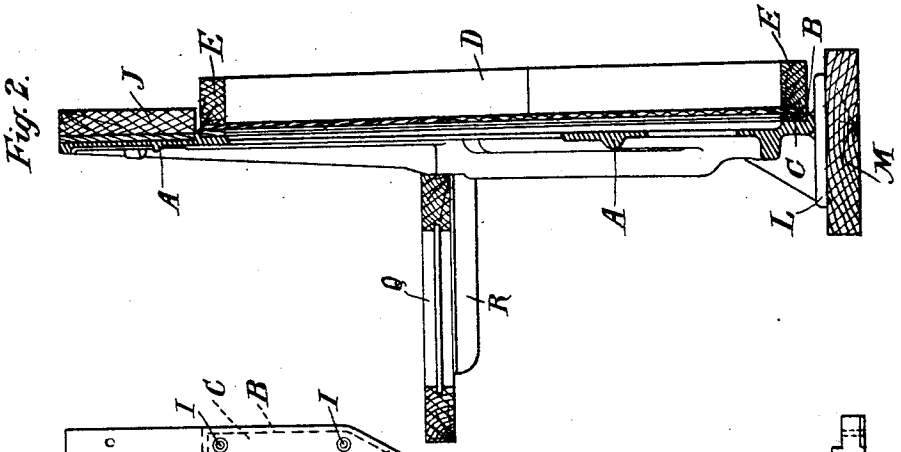
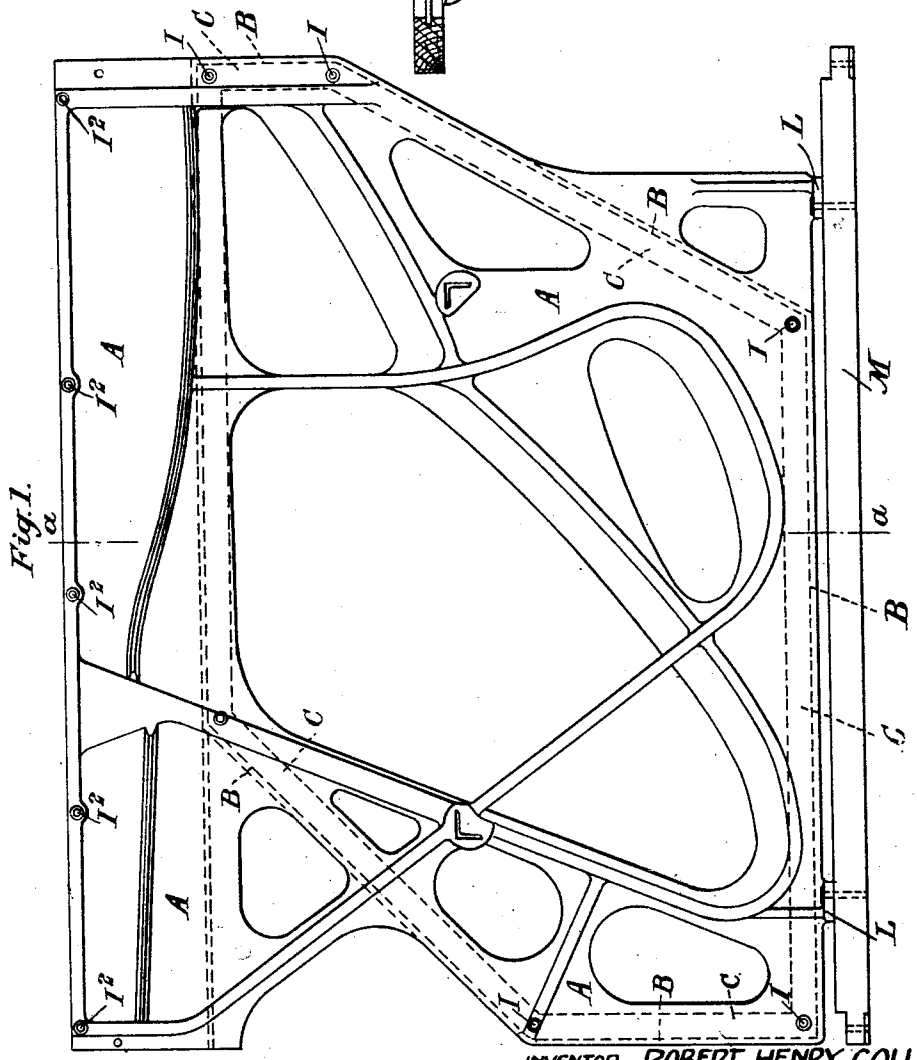


Fig. 1.



INVENTOR ROBERT HENRY COLLEN
BY HIS ATTORNEYS
Howson and Howson

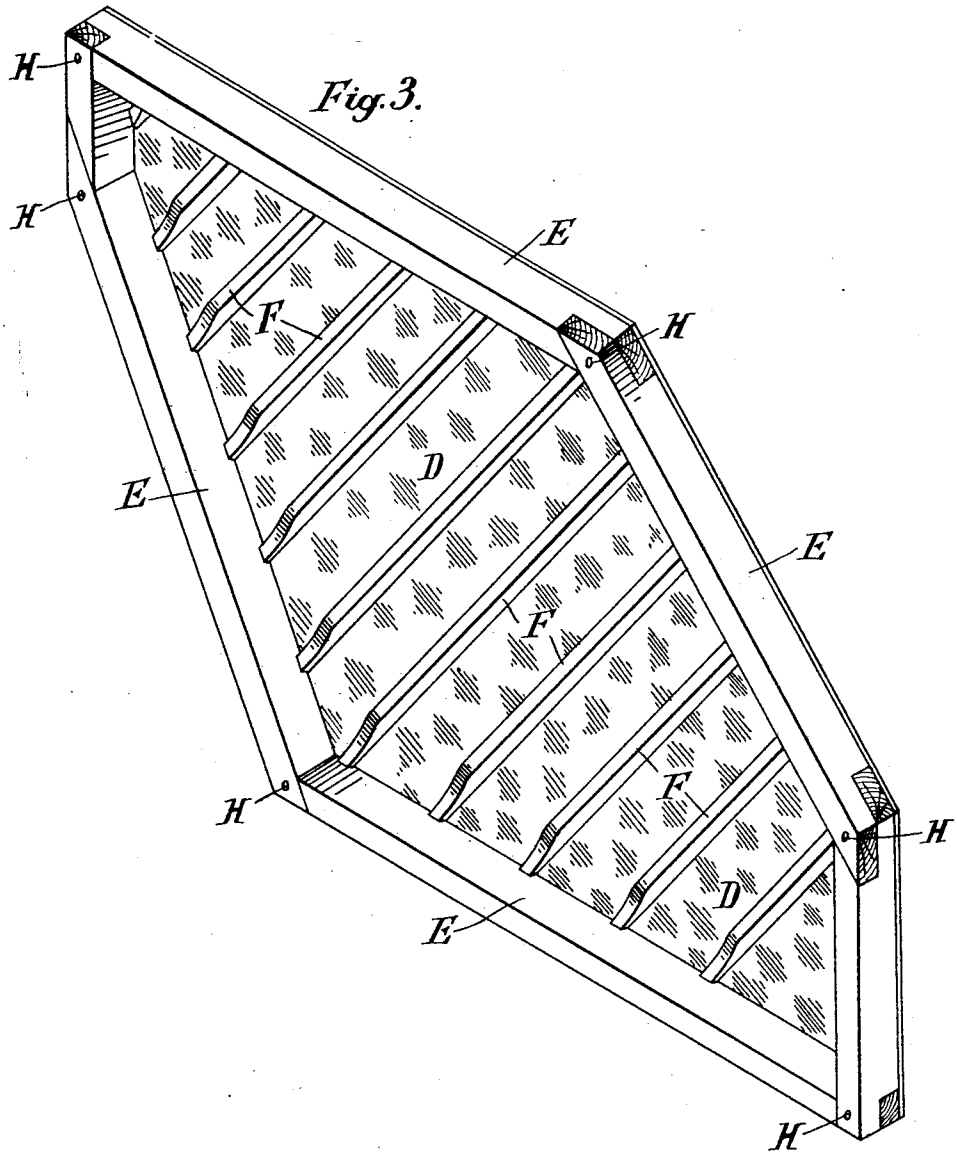
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R. H. COLLEN

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Fig. 3.



INVENTOR
ROBERT HENRY COLLEN
BY HIS ATTORNEYS
Howson and Howson

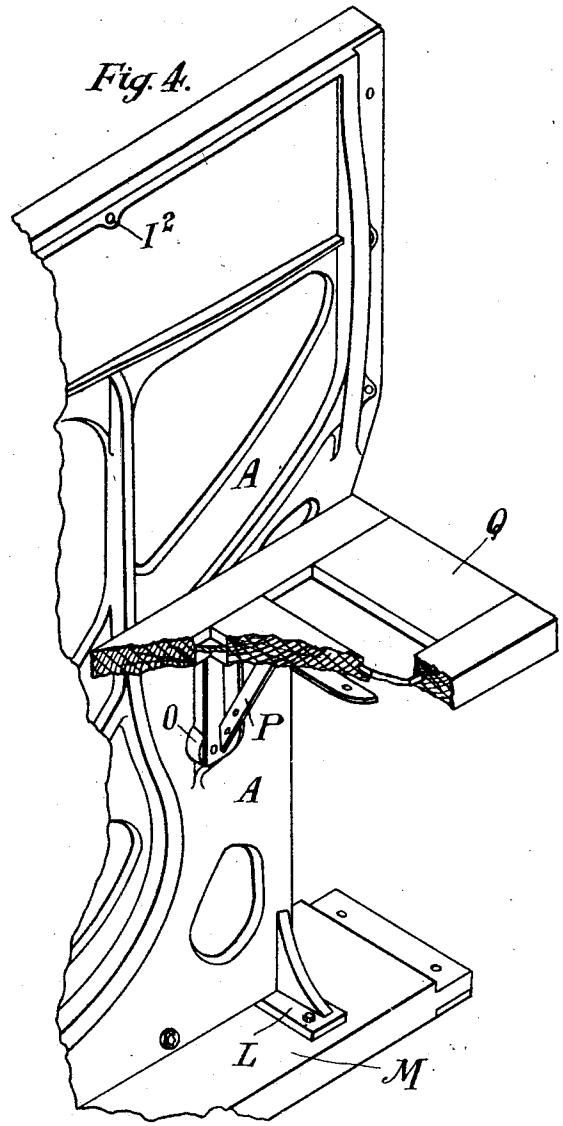
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R. H. COLLEN

PIANOFORTE

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Fig. 4.



INVENTOR
ROBERT HENRY COLLEN
BY HIS ATTORNEYS
Howson and Howson

Patented Jan. 22, 1929. 1,699,561

UNITED STATES PATENT OFFICE.

ROBERT HENRY COLLEN, OF EAST HAM, ENGLAND, ASSIGNOR OF ONE-HALF TO JOHN BROADWOOD & SONS LIMITED, OF LONDON, ENGLAND.

PIANOFORTE.

Application filed November 9, 1926, Serial No. 147,271, and in Great Britain November 26, 1925.

This invention relates to the construction of pianofortes and mainly consists in providing an improved metal frame to which the strings of the pianoforte are strung, which frame is adapted to with-stand the full tension of the strings so that the said frame may constitute the back of the said instrument, whereby the heavy timber back provided in pianofortes as hitherto constructed is dispensed with; the said frame is also adapted to have securely attached thereto a sound-board, constructed as a separate unit.

Metal frames in accordance with this invention and having sound-boards secured thereto as hereinafter described are equally applicable to pianofortes both of the upright, or cottage, type and of the horizontal type, but in the hereinafter description it will be presumed, for clearness, that the description refers more particularly to a metal frame and a sound-board intended for application to a pianoforte of the upright, or cottage, type from which their application to a pianoforte of the horizontal type will be readily understood.

I will describe an example of a metal pianoforte frame and sound-board constructed in accordance with this invention with reference to the accompanying drawings in which Figure 1 is an elevation of the metal frame, attached to a bottom board, Figure 2 is a section on the lines *a*, *a*, of Figure 1, the said section also shewing the sound-board and the arms for supporting the "playing unit"; Figure 3 is a perspective view of the sound-board as a separate unit and Figure 4 is a perspective view of part of the front of the metal frame shewing the bottom board and keyboard attached thereto.

Referring to the drawings, the metal frame A is made of stronger section than usual so that it can take the full tension of the strings. The actual stringing portion of the frame may be of any suitable, or known, construction. On the rear side of the frame is an endless web B which constitutes a flange within which the sound-board closely fits, a slightly raised, or thickened, portion C within and adjoining the said web, or flange, constituting a seating for the sound-board. Instead of the web B the frame A may be cast with bosses (not shown) there being as many as are required for the purpose of bolting the sound board at each of its corners to the frame this having the effect of a suspended sound-board.

The sound-board (Figure 3) consists of a board D having glued, or otherwise secured, to the edges of its rear face the sound board rails E and the diagonal bars F. To the front face of the sound board the usual bridges may be secured. This sound board construction may be of the usual form, but preferably the said sound-board rails E are wider and deeper than usual. The sound board is made the same outside shape as the shape of the web B into which it fits and is secured to the frame A by bolts, or screws, passed through the holes H and I in the sound board and frame respectively. The wrest-plank J for the tuning pins is secured in the usual position to the rear face of the iron-frame A by bolts passing through holes I^2 in the known, or any suitable, manner. Secured to, or formed in one with, the said iron frame A are suitably shaped feet L, or the equivalent, for securing the said frame to the casing of the instrument, this being provided for by means of a stout bottom board M, being secured to the said feet by means of screws, or bolts, which in turn may be secured to the case of the instrument at its extreme treble and bass ends. This said bottom board M being fitted to the frame, forms the means of attachment to the case at the lower portion of the instrument and also serves for the purpose of transporting the unit from shop to shop, by means of its being placed in two grooved cradles (not shown) of timber castored each end and temporarily fitted one at each end, while to complete the mechanism of the unit, the pedals and pedal gear are mounted and fixed in position and adjusted in the usual place on the said bottom board M. In Figure 4 the iron frame A is provided with bosses O in the position of two pairs, one pair situated towards the treble end and one pair toward the bass end, one boss being at a distance underneath its corresponding boss with respect to each pair, for the purpose of having an angle iron bracket P bolted at the top and bottom of the vertical member through to the respective pair of bosses, adapted to have secured thereto the key-bottom board Q of the instrument. In Figure 2 the frame A is shewn provided with arms R for supporting the key-bottom board Q.

The iron frame having the sound board secured thereto as aforesaid may constitute part of a playing-unit to be separately assembled and attached as a whole to an upright, or cottage, pianoforte case, also constructed as a separate unit, or the said casing and the playing mechanism respectively, may be built thereon, or be applied, as in the ordinary manner of constructing pianofortes.

Where the word "bolt" is used in the claims, it is to be understood as including screws, clamps or other mechanical equivalents, for attaching one part to another.

I claim—

1. In a pianoforte, a metal frame of sufficient section to take the full tension of the strings, in combination with a sound board constructed as a separate unit, and bosses on the rear face of said frame to which the corners of the sound board are fastened, said sound board by being attached only at its corners being adapted to act as a suspended member.

2. In a pianoforte, a metal frame of sufficient section to take the full tension of the strings, and a bottom board for attachment to the case, in combination with feet upon said frame and bolts for attaching said feet to said bottom board, substantially as described.

In testimony whereof I have signed my name to this specification.

ROBERT HENRY COLLEN.