

No. 646,577.

Patented Apr. 3, 1900.

H. M. GREENWOOD & F. R. BENNETT.

PIANOFORTE FRAME.

(No Model.)

(Application filed Jan. 23, 1900.)

2 Sheets—Sheet 1.

Fig. 1.

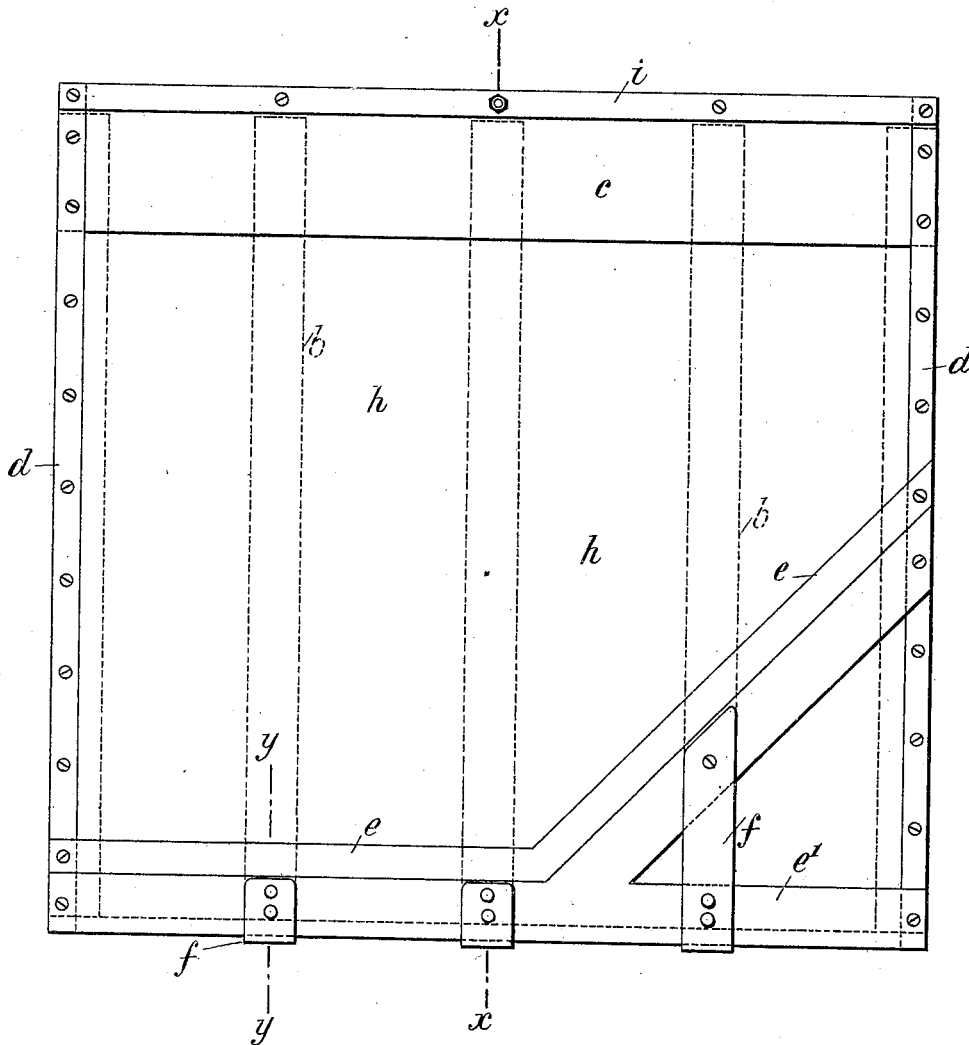
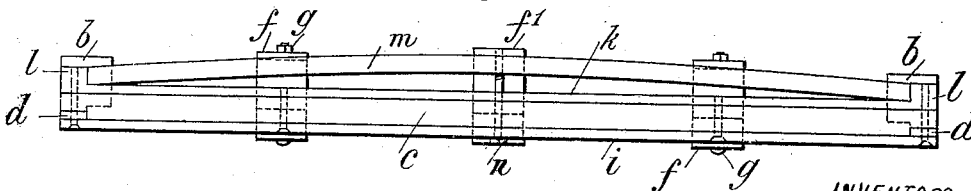


Fig. 3.



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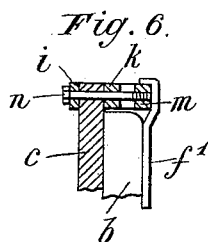
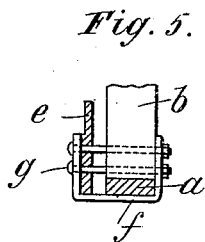
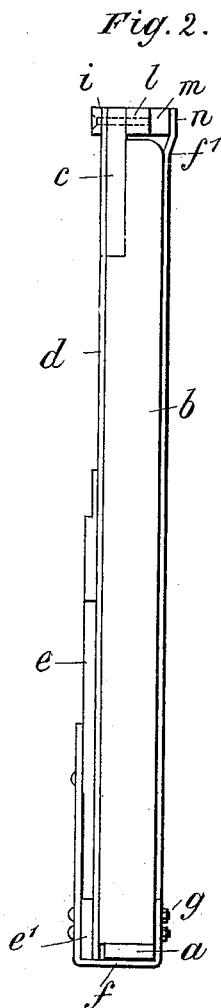
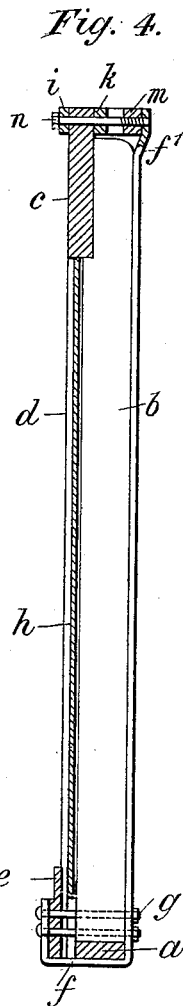
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

HERBERT MELCHOR GREENWOOD AND FREDRICK RICKARDS BENNETT, OF
LONDON, ENGLAND.

PIANOFORTE-FRAME.

SPECIFICATION forming part of Letters Patent No. 646,577, dated April 3, 1900.

Application filed January 23, 1900. Serial No. 3,105. (No model.)

To all whom it may concern:

Be it known that we, HERBERT MELCHOR GREENWOOD, gentleman, residing at 32 Garlies road, Forest Hill, London, in the county of Surrey, and FREDRICK RICKARDS BENNETT, pianoforte-tuner, residing at 6 Beaconsfield road, Willesden Green, London, England, subjects of Her Majesty the Queen of Great Britain and Ireland, have invented certain new and useful Improvements in and Relating to Pianoforte-Frames; and we 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 object of the present invention, which relates to pianoforte-frames, is to improve the tone of the instrument by dispensing with the ordinary braced iron frame which supports the lower front edge of the wrest-plank and is placed in front of the sound-board, obstructing the latter with its braces. The removal of the usual front iron frame, while leaving the sound-board free and unobstructed, of course entails loss of support to the lower front edge of the wrest-plank, rendering the latter liable to buckle, bulge, or "pull over" under the stress of the wiring, and our invention provides means for overcoming this difficulty.

According to our invention the bent plate to which the wires are hitched and which is usually cast integral with a braced front iron frame is either a separate casting or part secured in front and clear of the sound-board in any suitable manner or it may be cast integral with a light iron frame of novel construction, which leaves the face of the sound-board absolutely unobstructed, as will hereinafter be described. To compensate for the loss of the support afforded to the wrest-plank by the ordinary braced iron frame, we stiffen the former by applying a truss device to the back thereof, as will be hereinafter described.

We will now fully describe our invention and the manner of performing the same, having reference to the annexed drawings, in which similar letters refer to like parts in all the figures, and wherein—

Figure 1 is a front elevation of a pianoforte-

frame constructed in accordance with our invention. Fig. 2 is an end view, and Fig. 3 a plan of Fig. 1. Fig. 4 is a transverse vertical section on line *x x* Fig. 1. Fig. 5 is a transverse vertical section on line *y y*, Fig. 1; and Fig. 6 is a detail.

The frame comprises the usual base-plank *a*, from which extend upward the vertical braces *b*, upon which the wrest-plank *c* is supported in the ordinary manner. To the front edges of the outer braces *b* are bolted metal plates *d*, the upper ends of which fit into rabbets in the extremities of the wrest-plank, and thus assist to some extent to hold the same in place.

e is the bent plate to which the wires are hitched, the same, with its extension *e'*, being secured to the plates *d* aforesaid, the latter and the bent plate and extension being preferably one casting and forming a light iron frame which in no way obstructs the sound-board.

ff are bent metal straps, preferably cast on the bent plate, which pass beneath the frame and up the rear faces of the wood braces *b*, to which they are bolted. In the drawings these straps *f* are represented as separate parts secured in place by bolts *g* traversing the frame. (See Figs. 4 and 5.)

h is the usual sound-board, which, it will be noted, is absolutely unobstructed by the iron portion of the frame. This greatly improves the tone of the instrument; but at the same time the wrest-plank is deprived of the support to its lower front edge afforded by the ordinary construction of braced iron frame. Now to compensate for this loss of support and prevent all risk of the wrest-plank *c* buckling or bulging under the stress of the wiring we apply a truss device, as before stated, to the back of the wrest-plank and will now describe in detail the particular arrangement illustrated in the drawings.

Along the upper edge of the front face of the wrest-plank is bolted the metal strap *i*, and along the upper edge of the rear face of the wrest-plank is bolted a similar strap *k*, at each end of which latter projections *l* are formed, which constitute abutments for the ends of the curved metal truss rod or bar *m* to bear against. The stress of this truss rod

or bar (which is preferably of wrought-iron) is regulated by the screw-bolt *n*, which passes through the wrest-plank and the straps and screws into the truss-bar *m*. The said truss-
 5 bar effectually stiffens the wrest-plank and enables it to withstand the stress of the wiring without buckling or bulging, and as security against any liability to pull over the bolt *n* is caused to engage a hole in an extension *f'* of one of the straps *f*, as illustrated,
 10 Fig. 4, or the extremity of this extension *f'* may be bent over and engage the upper edge of the truss-bar *m* for the same purpose, Fig. 6.

15 Although we have illustrated an upright frame in the drawings, it is clear that with obvious slight modifications our invention may be equally well applied to horizontal frames.

In conclusion we would observe that we do not confine or limit ourselves to the precise
 20 constructional details of the frame as above described, and illustrated in the drawings, as the same may be obviously somewhat modified without in any way departing from our
 25 invention as set forth.

What we claim, and desire to secure by Letters Patent of the United States, is—

1. The combination with a pianoforte-frame of a wrest-plank having a truss applied to the
 30 back thereof, and a part of the frame engaging with the truss device, whereby risk of "pulling over" is obviated, substantially as described.

2. In a pianoforte-frame the combination
 35 of a trussed wrest-plank carried by a suitable braced frame, a sound-board in front of said frame, and a bent plate secured in front and clear of the sound-board and having metal straps which pass beneath the frame and up

the backs of the braces to which they are
 40 bolted the sound-board being left entirely unobstructed, substantially as described.

3. In a pianoforte-frame the combination of a trussed wrest-plank carried by the braces
 45 of a suitable frame, a sound-board in front of said braces, and a bent plate secured in front of the sound-board and having metal straps which pass beneath the frame and are
 50 secured to the back thereof, one of said straps being provided with an extension which engages the truss device of the wrest-plank, substantially as and for the purpose described.

4. In a pianoforte-frame the combination of a trussed wrest-plank carried by a braced
 55 frame a sound-board in front of said frame, metal plates secured to the front of the outer braces or sides of the frame, a bent plate carried by said plates and straps provided on the
 60 bent side which pass beneath the frame and are secured to the back thereof, substantially as and for the purpose described.

5. The combination with a pianoforte wrest-plank of metal straps extending longitudinally of the front and rear faces thereof, abutments at each end of the rear strap, a curved
 65 metal bar bearing against said abutments and a screw passed through the straps and wrest-plank and engaging said truss-bar whereby the stress thereof is regulated as described and for the purpose set forth.
 70

In testimony whereof we affix our signatures in presence of two witnesses.

HERBERT MELCHOR GREENWOOD.
 FREDRICK RICKARDS BENNETT.

Witnesses:

STEPHEN MINES,
 JOSEPH WESLEY RAYE.