

G. H. DAVIS.
Upright Piano-Fortes.

No. 143,967.

Patented Oct. 28, 1873.

Fig. 1.

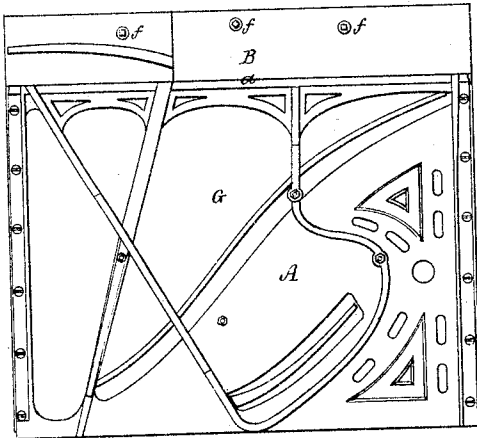


Fig. 2.

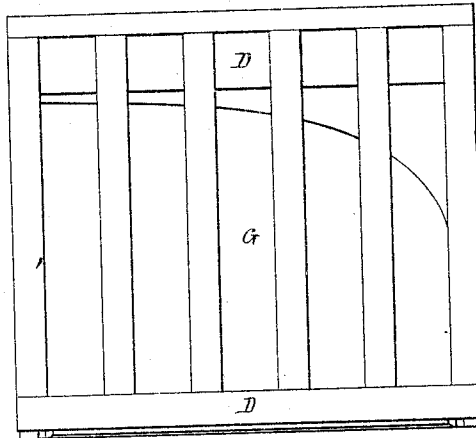


Fig. 4.

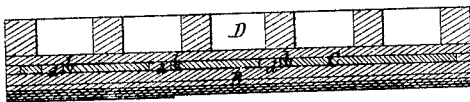


Fig. 5.

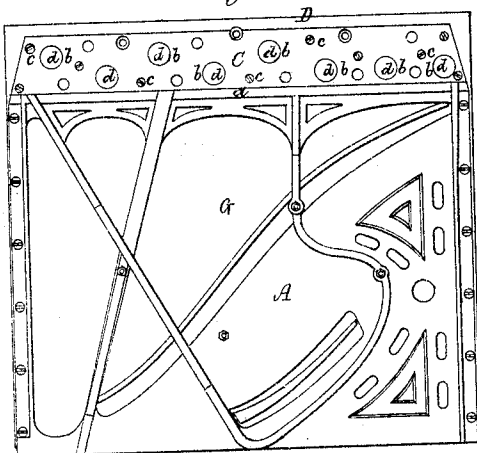
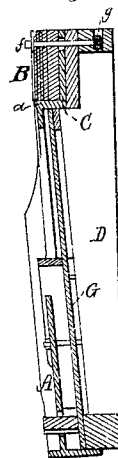


Fig. 3.



Witnesses
S. W. Piper
L. N. Keller

George H. Davis.
by his attorney.
R. H. Day

UNITED STATES PATENT OFFICE.

GEORGE H. DAVIS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN UPRIGHT PIANO-FORTES.

Specification forming part of Letters Patent No. **143,967**, dated October 28, 1873; application filed July 23, 1873.

To all whom it may concern:

Be it known that I, GEORGE HUBBARD DAVIS, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Upright Piano-Fortes; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a rear elevation, and Fig. 3 a transverse section, of the metallic and wooden frames and straining-pin bar of an upright piano having my improvement. Fig. 4 is a horizontal section of the whole taken through the straining-pin bar. Fig. 5 is a front elevation with the straining-pin bar removed.

In carrying out my invention I provide the metallic frame A at top with a shelf, *a*, for the lower edge of the straining-pin bar B to rest against; and from the back of the said shelf I project upward a flange, C, formed as shown, and especially with a series of circular or other proper shaped openings, *b b*, made through it transversely. This flange I embed within the upper part of the back or wooden frame D, and secure it fast thereto by means of glue and a series of screws, *c c*. The straining-pin bar B, composed of a series of thin plates or bars of wood placed flatwise upon one another and glued together, rests, at its back, against the front face of the flange, and is to be glued thereto, or to such and a series of wooden plugs, *d d*, arranged within and to closely fill the several openings *b b* of the flange. Previous to the fixation of the straining-pin bar B to the flange the several openings *b* are to be filled with the wooden plugs, which are to be glued to the main wooden frame, and subsequently to the straining-pin bar, which is further connected with the back frame by a series of metallic screw-bolts, *f f*, screwed into metallic nuts *g g* let into the top bar of the back frame.

The object of the flange is to insure greater solidity and stiffness to the metallic frame and the straining-pin bar, in order to render them better capable of withstanding the great strains of the strings. The object of the perforations *b* and the wooden plugs *d* thereof, connecting the wooden straining-pin bar with the wooden back frame, is to effect what may be termed a harmonious connection of the straining-pin bar with the back frame, in order that they may vibrate in unison as nearly as possible, or better than would result were there no such means of conjoining the two. Practice has demonstrated the plugs going through the flanges and uniting the straining-pin bar and the back frame to be a matter of much value and importance in various respects.

The sounding-board is shown at G. The metallic flange, cast in one piece with the rest of the metallic frame, also serves to prevent the straining-pin bar from being sprung or drawn forward by the strings. It also imparts solidity or stiffness to the metallic frame, as well as to the wooden back frame, and prevents the sounding-board from being sprung by the draft of the strings.

I claim as my invention—

1. The combination of the shelf *a* and flange C with the metallic frame A, the wooden straining-pin bar B, and the back-frame D, all being arranged and applied together substantially as set forth.

2. The combination of the series of wooden plugs *d*, or harmonic connections, with the perforated flange C, the metallic frame A, the straining-pin bar B, and the back frame D, all being connected and arranged essentially as specified.

GEORGE HUBBARD DAVIS.

Witnesses:

R. H. EDDY,
H. L. ROBINSON.