(No Model.)

2 Sheets—Sheet 1.

J. H. CLARK.

PIANOFORTE.

No. 540,298. Patented June 4, 1895.

Fig. 1

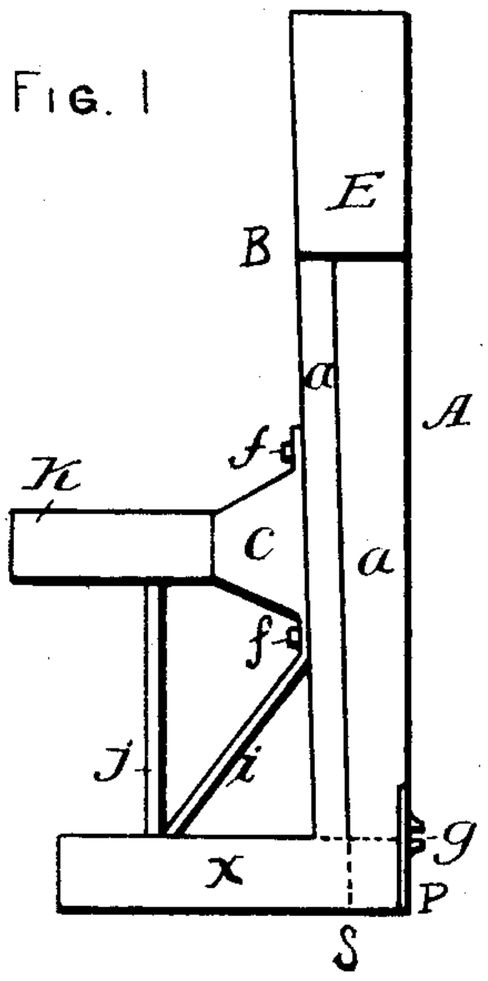


Fig. 2

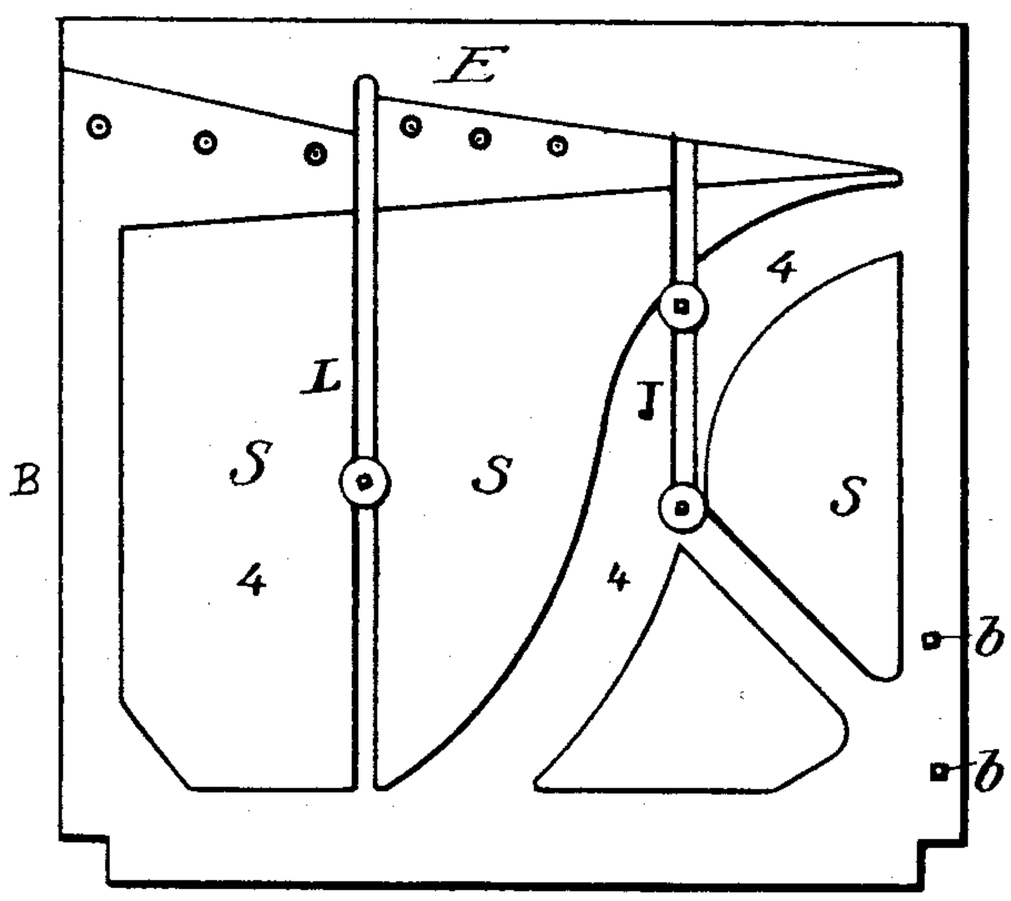
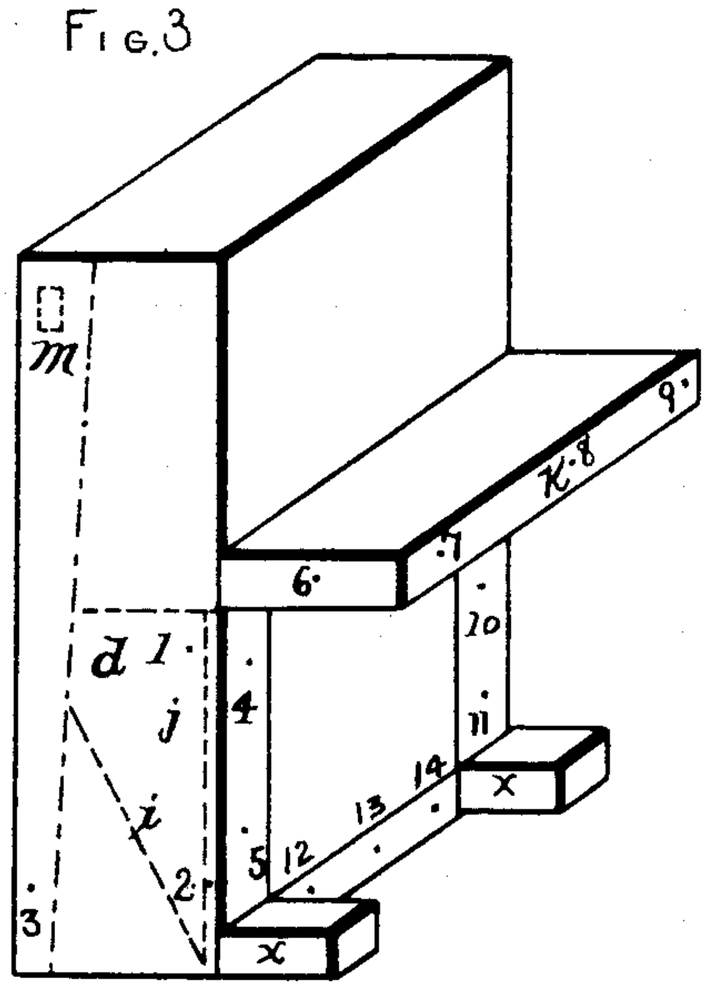
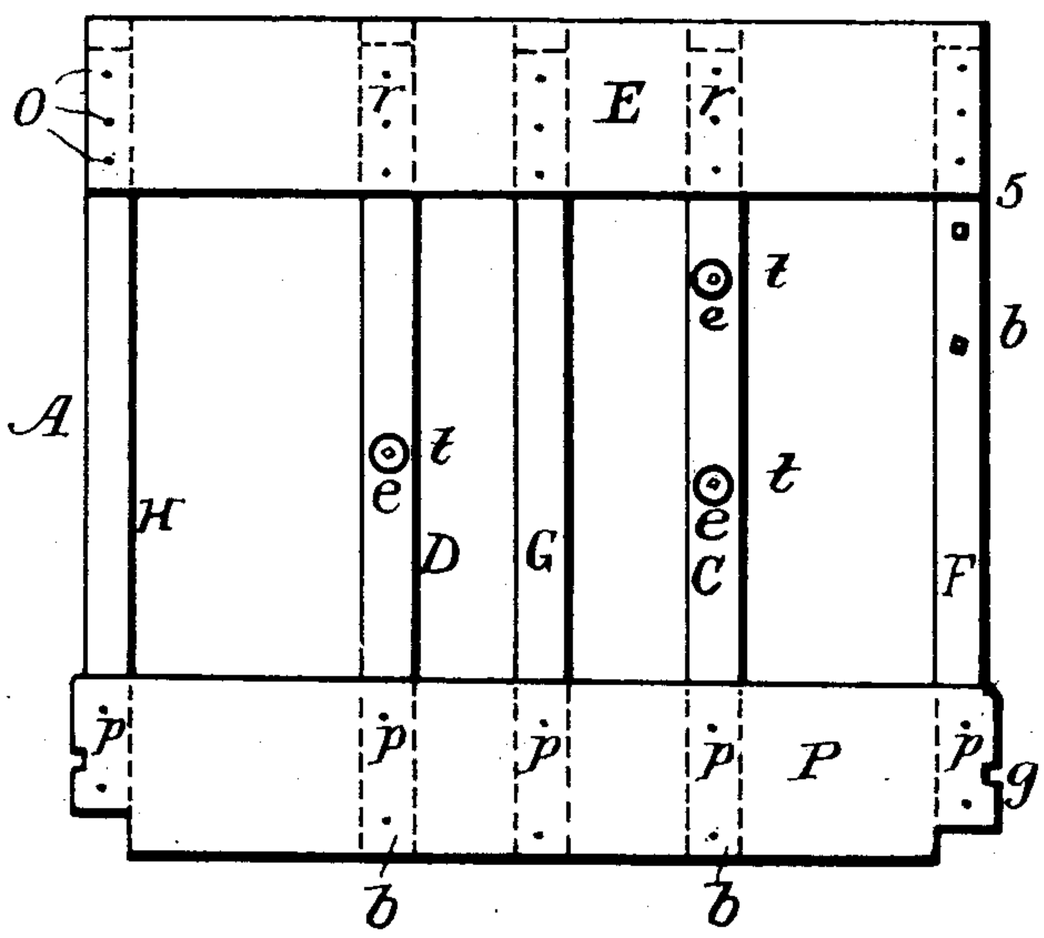


Fig. 3





WITNESSES

J. C. Pettengill

Fred A. Morrill

INVENTOR

Joseph H. Clark

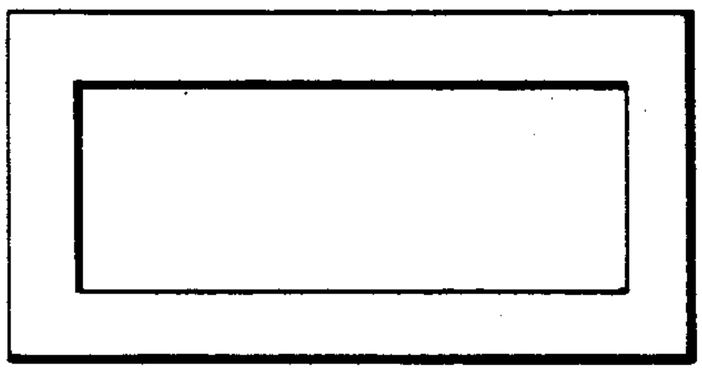
(No Model.) 2 Sheets—Sheet 2.

J. H. CLARK.

PIANOFORTE.

No. 540,298. Patented June 4, 1895.

Fig. 4.



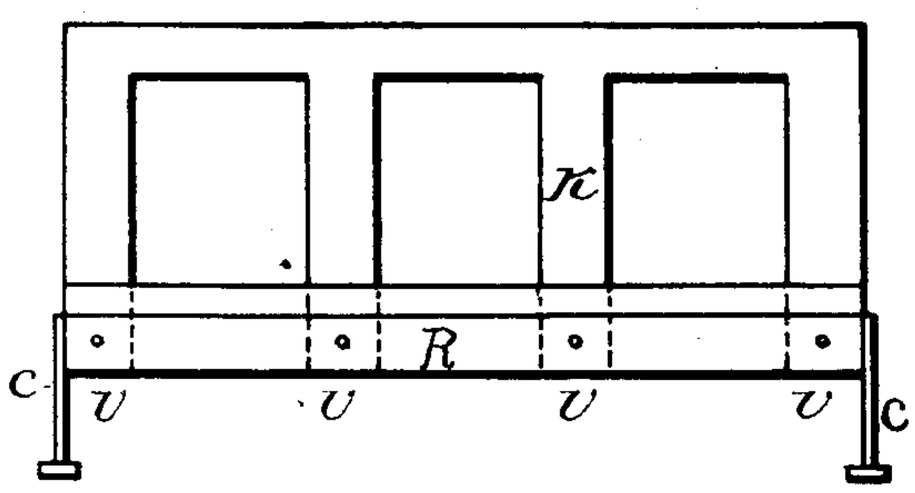


Fig. 5.

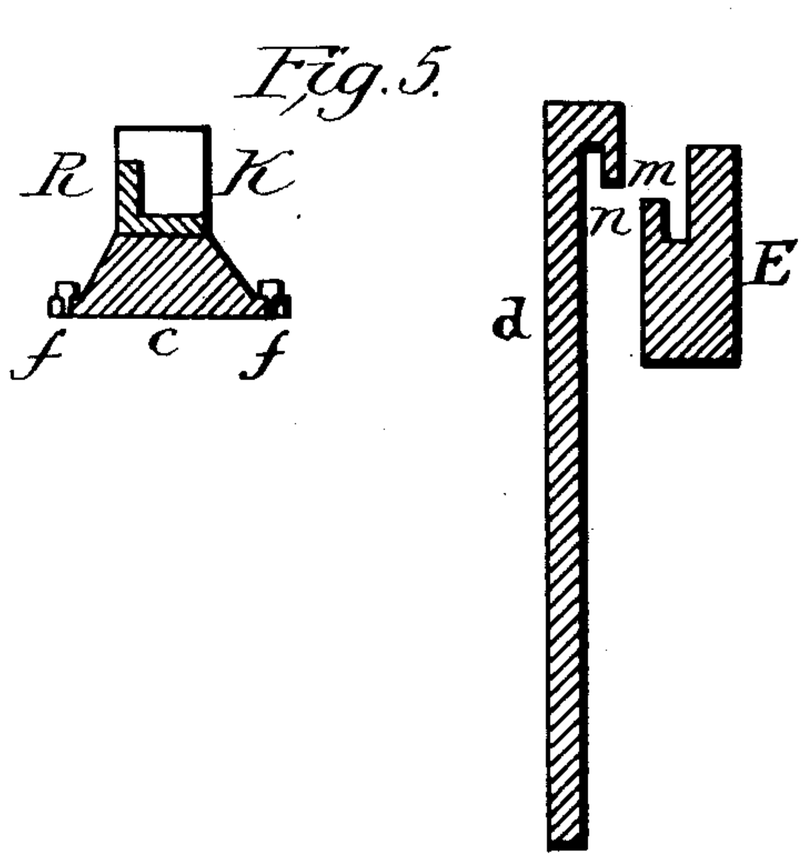
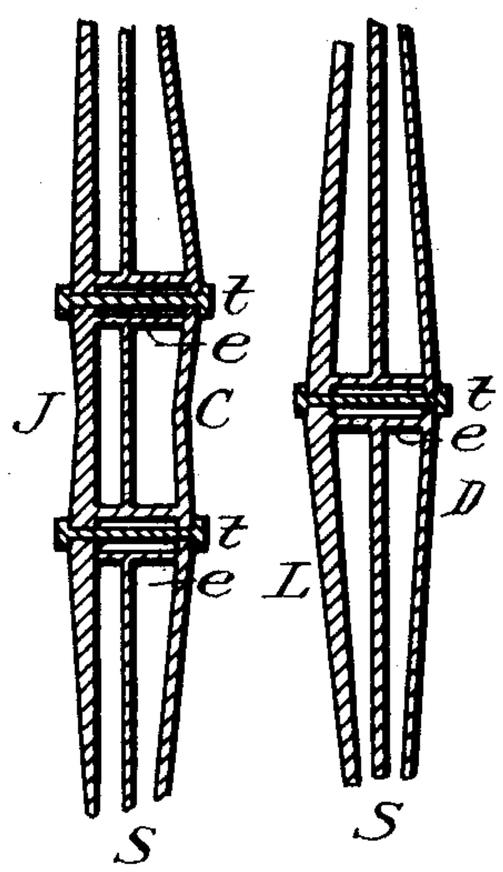


Fig. 6.



WITNESSES.

J. C. Pettengill

Fred H. Morrill

INVENTOR.

Joseph H. Clark

UNITED STATES PATENT OFFICE.

JOSEPH H. CLARK, OF DEERING, MAINE.

PIANOFORTE.

SPECIFICATION forming part of Letters Patent No. 540,298, dated June 4, 1895.

Application filed September 30, 1892. Serial No. 447,446. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH H. CLARK, a citizen of the United States, residing at Deering, in the county of Cumberland and State of Maine, have invented a new and useful Pianoforte, of which the following is a specification.

My invention relates to an improvement in pianofortes in which a double metallic frame is used with a cast iron or a part steel and cast iron back or bottom supplied with stays and stay bolts, the double metallic frame being firm and not easily affected by the atmosphere, is made independent of the case, with the case fitted adjustable to the frame.

The objects of my invention are, first, to reduce the weight of the piano, and gain strength; second, to make the work compact, and, third, to avoid the changes caused by the swelling and shrinking of the wood in the frame. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the double metallic frame and the edge of sounding-board and glue-bars; Fig. 2, a front view of the two plates used to make the double metallic frame and their connections; Fig. 3, a perspective view of a combination of the case and framework of an upright pianoforte; Fig. 4, a vertical front support of the key-bottom and a top view of the said key-bottom. Fig. 5 shows sections of the back metallic rail for the key-bottom and sides of the piano-case work, and Fig 6 is a sectional side view of the arched work of the plate.

The back plate A, consists of five steel bars C, D, F, G, H, combined with the cast iron bottom plate P, the bars and plate being fastened together at the bottom with the bolts *b*, *b*, &c., for the outer edges of the plates A, B, and riveted at dots *p*, *p*, &c., and held at the top by three large wood screws in each of the five bars C, D, F, G, H, driven into the wrest-plank E, at dots *r*, *r*, &c.

The front plate B, is one piece of casting provided with two or more bars J, L.

The stay bushings *e*, *e*, *e*, are metallic tubes and are used to hold the plates A, B, at a given distance apart.

The double arched bar C, shown in Figs. 2 and 6, is held in the center by the bolts *t*, *t*, and supplied with the stay bushings *e*, *e*, through which the said center bolts *t*, *t*, pass and connect the bars J, C, and support the middle and upper part of the instrument.

The single arched bar D, seen in Figs. 2 and 6, is supplied with the stay bushing *e*, through which the center bolt *t*, passes connecting the bars L, D, to sustain the bars or lower part of the piano.

The combination of the plates A, B, with the stay bushings *e*, *e*, *e*, the center bolts *t*, *t*, *t*, and the outer edge bolts *b*, *b*, and screws *r*, *r*, &c., as many as may be needed to keep the parts in the proper place, will hold the work without twisting when made of light material.

The end *c*, of the back metallic rail R, is held to the plate B, by the bolts *f*, *f*. The said metallic rail R, is made in one piece and held on both ends alike.

The key bottom K, for the key board to rest upon is held upon the back with wood screws through the back rail R, at *v*, *v*, *v*, and the said ends *c*, *c*, and in front by the vertical front panel frame *j*, which is framed into and rests upon the shoe pieces *x*, *x*, which shoe pieces *x*, *x*, are held parallel with the key bottom K, by the braces *i*, *i*, which braces *i*, *i*, support the instrument with the help of the front frame *j*. The shoe pieces *x*, *x*, are held on the front by the said frame *j*, and framed into the back work and are used to hold the casters of the piano.

The slotted projection *g*, near the bottom at right angles with, and a part of the bottom piece P, of the back plate A, is used for the wood screw at dot 3, to hold the lower end of the side of the case *d*, on the back edge.

The side piece *d*, is one of the sides of the case of the piano, and is held on the lower end by the wood screws 2, 3, and near the middle, by the screw 1, and at the top by the tenon *n*, in the mortise *m*. (See Figs. 3 and 5.) The tenon or hook *n*, on the inside of the side of the case *d*, is used to hold the upper end of the said side piece *d*, and its opposite. The mortise *m*, in the end of the wrest plank E, is made to receive the tenon *n*.

The outside finish for the key bottom K, is made in one piece and held by the screw 6, and its opposite, and its screws 7, 8, 9.

The screws 1, 2, 3, and 6, represent opposite parts. The screws 4, 5, connect the outside

covering for one of the base pieces *x*, *x*, shown in Fig. 3, with one end of the frame *j*, and 10, 11, hold the same opposite. The screws 12, 13, 14, hold the lower finish of the frame *j*, (figures numerical,) and represent wood screws numbering from one to fourteen and are shown in the drawings by dots, with four opposites.

The wrest plank E, and the sounding board S, are placed as usual, (Figs. 1 and 2,) and dots at *o*, *o*, *o*, &c., represent the manner of holding the different parts with wood screws connected with the said sounding board and wrest plank.

The dotted lines in Fig. 3, represent the frame work of the piano in part and single dots numbered or lettered show the position of the wood screws and rivets for holding the work.

In Fig. 6, the arched and stay work shown is for a small sized piano. A larger instrument would require more bars of the same kind, well stayed, according to the strength required.

The wrestplank E, the sounding board S, with its glue bars *a*, *a*, the plates A, B, the key bottom K, the panel frame *j*, the braces *i*, *i*, and the shoe pieces *x*, *x*, constitute the frame work of the piano, which frame is made independent of the outside finish or case, and the arched bars previously referred to, add strength without increasing the weight of the material, and Figs. 2 and 6, show the form of the bent or arched bars or ribs required to do as stated above. The slot in the projection *g*, is made through the plate P, for clearness but not needed for use. The wood supports *i*, and *j*, are used to help make the frame independent of the case and provide a place for screws which are driven from the inside of the frame to hold the case. The side piece *d*, is made to represent the fastenings of the different parts of the case, which are not shown on the outside.

I am aware that prior to my invention, metallic frames have been used in pianofortes, and that the cases of the same have been made separable. I therefore do not claim such a combination broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

The double metallic frame A, B, provided with the combined steel and cast iron back plate A, the arched bars C, D, the center bolts *t*, *t*, *t*, the stay bushings *e*, *e*, *e*, the key bottom K, supported by the frame *j*, and the braces *i*, *i*, substantially as shown and described.

JOSEPH H. CLARK.

Witnesses:
J. C. PETTENGILL,
N. M. HUSSEY.