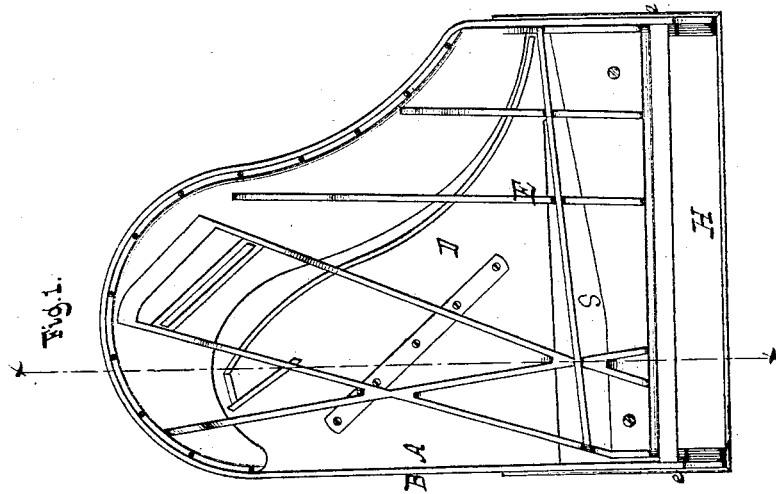
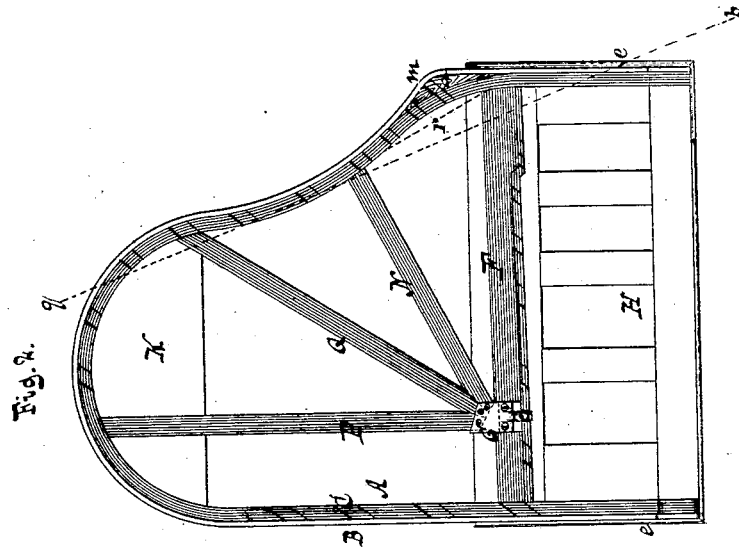


C. F. T. STEINWAY.
Grand Piano-Forte

No. 204,106.

Patented May 21, 1878.



Witnesses
Otto Stiefeland.
Hugo Ruggenain

Inventor.
Christian Friedrich Theodor Steinway
 by *Van Santvoord & Hauff*
 his atts.

UNITED STATES PATENT OFFICE.

CHRISTIAN F. T. STEINWAY, OF NEW YORK, N. Y.

IMPROVEMENT IN GRAND PIANO-FORTES.

Specification forming part of Letters Patent No. 204,106, dated May 21, 1878; application filed March 20, 1878.

To all whom it may concern:

Be it known that I, CHRISTIAN FRIEDRICH THEODOR STEINWAY, of the city, county, and State of New York, have invented a new and useful Improvement in Grand Piano-Fortes, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a plan or top view. Fig. 2 is a similar view of the case, the wrest-plank, and the iron frame, the sounding-board having been removed to expose the parts below. Fig. 3 is a longitudinal vertical section in the plane *x x*, Fig. 1. Fig. 4 is a perspective view of a portion of the case, showing my metallic shoe and the braces abutting against it on a larger scale than the previous figures. Fig. 5 is a horizontal section of the same in the plane *y y*, Fig. 4.

Similar letters indicate corresponding parts.

This invention consists in the combination, in the treble part of a grand-piano case, of an inside and outside rim bent in two different forms, the inside rim serving as a brace to prevent that section of the case from being forced out of position by the strain of the strings, both rims being connected by a strengthening-piece, *a*, substantially as and for the purpose set forth.

With the case is combined a metallic shoe, which is secured to the cross-rail supporting the front edge of the sounding-board, and the face of which is placed at such an angle that it sustains the front ends of three wooden braces, which, together with the iron frame, resist the strain of the strings. With the shoe is combined a brace, which abuts against a nose formed on the iron frame or against the wrest-plank, so as to prevent said shoe from being crowded out of position by the strain of the strings. The frame which supports the key-board forms, together with the front legs, a console, and it is provided with a rim, which projects beyond the sides and front of the case, so as to form an architrave and to allow of reducing the height of the case without impairing its appearance. With the case and the frame which supports the key-board and rests upon the front legs is combined a support for the rear leg, which is situated inside the rim

and let into two of the wooden braces, leaving an open space for the escape of the sound.

In the drawings, the letter A designates the case of a grand piano-forte, which is composed of two rims, B C, each of which is composed of a series of flexible strips of wood glued together and bent in the form required for the case of a grand piano-forte. The inner rim C deviates from the form of the outer rim B at the point *m*, Fig. 2, leaving a space which is filled up by a strengthening-piece, *a*. By these means a case is produced which is comparatively light, and yet not liable to be crowded out of position by the strain of the strings in the direction of the line *p q*.

The two rims B C are firmly glued together, and the inner rim C forms the support for the sounding-board D, the iron frame E, and the wrest-plank S. The front edge of the sounding-board rests upon the cross-block F, which is firmly secured to the rim C, and on this cross-block is fastened a metallic shoe, G, the face *b* (see Fig. 5) of which is inclined, and forms the abutment for three wooden braces, P Q N, which, together with the iron frame, serve to resist the strain of the strings and enable the rims to retain their form. It will be noticed that by means of these braces the entire strain of the strings, acting on the wooden case, is concentrated upon the metal shoe G, while by the inclined face of said shoe the front ends of the braces are caused to act against each other, so that they are readily retained in position. The shoe G is provided with a toe, *c*, Figs. 2, 3, and 4, which abuts against the nose *d*, Fig. 3, formed on the under surface of the iron frame, so as to form a brace which prevents said shoe from being crowded out of position by the strain of the strings acting on it. Instead of forming this brace by the toe *c* and nose *d*, however, a separate piece may be used, which is inserted between the shoe and the wrest-plank, or between the shoe and any portion of the iron frame.

The frame H which supports the key-board forms, together with the front legs I, a console, on which rests the front part of the case A. Said frame is provided with a rim, *e*, Figs. 1, 2, and 3, which projects beyond the sides and the front of the case, and forms an archi-

trave, whereby an ornamental appearance is imparted to the case, and at the same time allows of reducing the height of the case, so that a saving of stock is effected and the cost of the case is lessened without detracting from its appearance.

The support K of the rear leg L is let into the braces P Q, and it fits the semicircular portion of the inner rim C. It does not project beyond the sides of the case A, and an open space is left between it and the inner edge of the key-board frame H, Fig. 2, so that the sound can escape more freely than by the old manner, which in itself is of considerable advantage, and at the same time the labor of fitting and securing a bottom to the case is saved.

By this arrangement I am enabled to produce a case for grand piano-fortes which is of superior strength, comparatively light, and cheap in its manufacture, and which has an elegant appearance.

I do not claim, broadly, as my invention a case for piano-fortes composed of two rims each composed of a series of strips of wood glued together and bent into the required form, such being not new.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, in the treble part of a grand-piano case, of an inside and outside rim bent in two different forms, the inside rim serving as a brace to prevent that section of the case from being forced out of position by

the strain of the strings, both rims being connected by a strengthening-piece, *a*, substantially as and for the purpose shown and described.

2. The combination, with the case A, of a metallic shoe, G, which is secured to the cross-block F, and the inclined face of which serves to support the front ends of the braces P Q N, substantially as and for the purpose set forth.

3. The combination, with the shoe which supports the front ends of the braces P Q N, of a brace placed between the shoe and the iron frame or the wrest-plank, substantially as shown and described.

4. The combination, with the case A, of a key-board-supporting frame, H, provided with a rim projecting beyond the sides of the case A, and forming an architrave, substantially as and for the purpose set forth.

5. The combination, with the case A and with the frame which supports the key-board and rests upon the front leg, forming a console for the case of a grand piano, of a support for the rear leg let into the wooden braces P Q, and leaving an open space for the escape of the sound, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 18th day of March, 1878.

C. F. THEODOR STEINWAY. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.