# G. CADDICK.

## Sound-Boards for Piano-Fortes.

No. 148,410. Patented March 10, 1874.

*Fig. 1.*

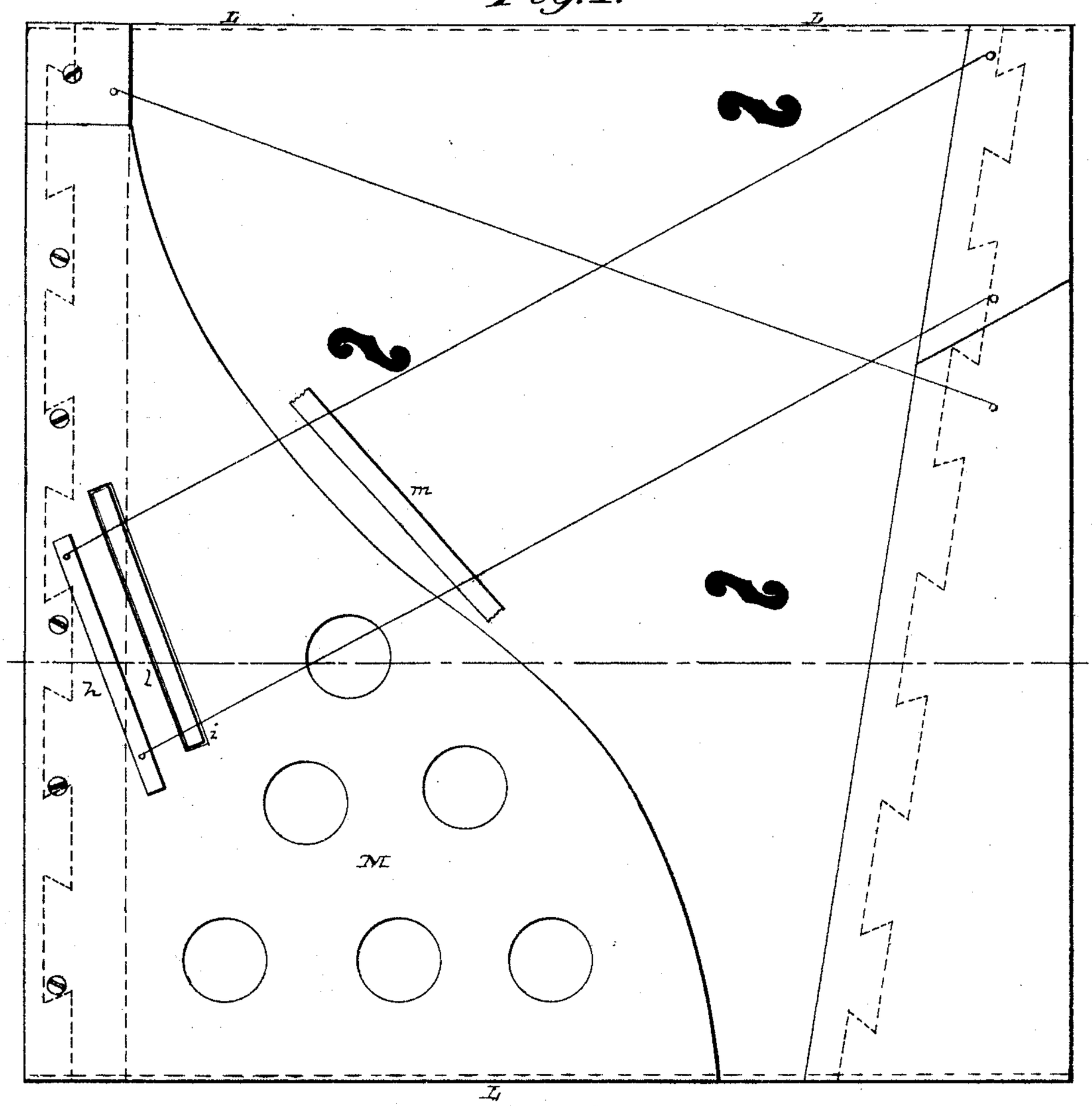
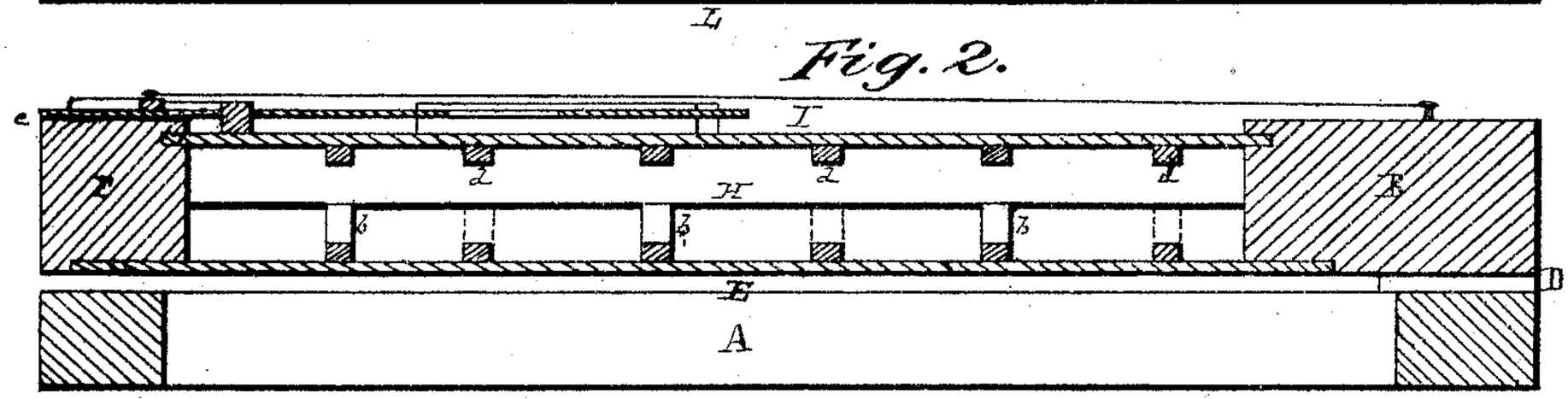



*Fig. 2.*




*Witnesses.*

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# UNITED STATES PATENT OFFICE.

GEORGE CADDICK, OF ALLEGHENY CITY, PENNSYLVANIA.

## IMPROVEMENT IN SOUND-BOARDS FOR PIANO-FORTES.

Specification forming part of Letters Patent No. **148,410,** dated March 10, 1874; application filed January 23, 1874.

*To all whom it may concern:*

Be it known that I, GEORGE CADDICK, of Allegheny City, Pennsylvania, have invented certain new and useful Improvements in Sounding-Boards for Pianos, of which the following is a specification, reference being had to the accompanying drawings.

The invention relates to an improved sound-board for pianos and analogous musical instruments; and consists in an upper and lower sound-board, closed at their sides, forming a sounding-chamber, with scroll-work slots to emit the sound. The strings are stretched over the upper or belly sound-board, at an elevation whereby it is contracted or compressed, while a strain upon the lower board is effected which expands or distends it, thus forming a sound-chamber, one side of which is compressed and the other distended by means of the strings of the instrument. Bridges of convenient construction are provided, which rest upon the upper board, the pressure upon which is counteracted by sounding-posts that, resting upon the lower board, equalize the pressure, as will more fully appear hereinafter. The object of the invention is to provide a double sounding-board, one part of which is compressed and the other expanded or distended, the two united by resisting the strain of the strings, and to produce an isolated sound-chamber, without interfering with the general construction of the instrument, and by these means to enhance the volume, quality, and solidity of the tone, as well as increase the carrying capacity.

Figure 1 is a plan view of a device embodying my invention. Fig. 2 is a view of the same in section.

A, in the accompanying drawings, is the frame, between which and the wrest-block B are placed the wash-leathers D, and the frame being secured on this side only, the parts attached to the wrest-block forming the sounding-chamber, hereinafter described, are held suspended by any suitable means, securing the wrest-block B upon the frame A, the wash-leathers D intervening between the frame and block, thus insulating and suspending the chamber. The above arrangement has relation to upright pianos and instruments of analogous construction; but in the case of grand pianos the chamber is supported by a wash-leather inserted between the hitch-pin block F and frame A, thereby increasing the resonant power. To the under side of the wrest-block B is dovetailed one edge of the lower sounding-board, E, the opposite edge of which is secured in like manner to the corresponding part of the hitch-pin block F. The inner or upper surface of the board E is provided with equidistant cleats, the upper surface of which impinges the lower surface of alternate sound-post *b*, arranged in alternate rows upon the under side of the braces H connecting the latch-pin and wrest-blocks. The braces H receive the cleats *d* secured to the lower surface of the upper or belly sound-board, I, which covers the space between the upper parts of wrest and hitch-pin blocks being fitted at each side therein. The intervals at each side, between the upper and lower sound-boards, are closed by the sounding-boards L, and thus a complete sounding-chamber is formed, the sides and upper and lower parts of which are composed of thin material. M is a plate of metal, of the shape and perforated as shown. It is firmly secured to the hitch-pin block, and is insulated therefrom by the wash-leathers *e*, placed upon the upper surface of the block, which projects a proper distance above the plane of the upper surface of the board I, and is properly provided with a hitch-pin rest, *h*, a slot, *i*, being cut through the plate M, through which is inserted the bridge *l*, secured upon the board I, and having diagonally opposite it the bridge *m*. The upper surface of the wrest-block B projects above the plane of the upper surface of the board I, which may be provided with scroll-slots to emit the sound from the chamber below. Thus the pressure of the strings upon the bridges *l m* is resisted by the sounding-posts *b* being firmly inserted between the sounding-boards E and I, which, being necessarily compressed and distended, perform the double function of resisting the strain and supporting the bridges, and also increasing the resonant powers of the instrument, the

vibrations of the strings being very effectively caught, retained, and modulated within the isolated chamber below them.

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

1. The sound-chamber formed by the sounding-boards E and I, side pieces L, wrest-block B, and hitch-pin block F, when constructed and arranged to be suspended by one end only, substantially as shown and described.

2. The combination of the sounding-boards E and I, wrest-block B, and hitch-pin block F, when arranged and constructed as shown, so that the sounding-boards, as respectively named, are distended and compressed, substantially as described and specified.

In testimony that I claim the foregoing improvements in sounding-boards for pianos, as above described, I have hereunto set my hand and seal this 14th day of January, 1874.

GEO. CADDICK. [L. S.]

Witnesses:

A. C. HERRON,

LEVI DE ROY.