(No Model.)

W. H. IVERS.

PIANO FORTE.

No. 375,491. Patented Dec. 27, 1887.

Fig. 1.

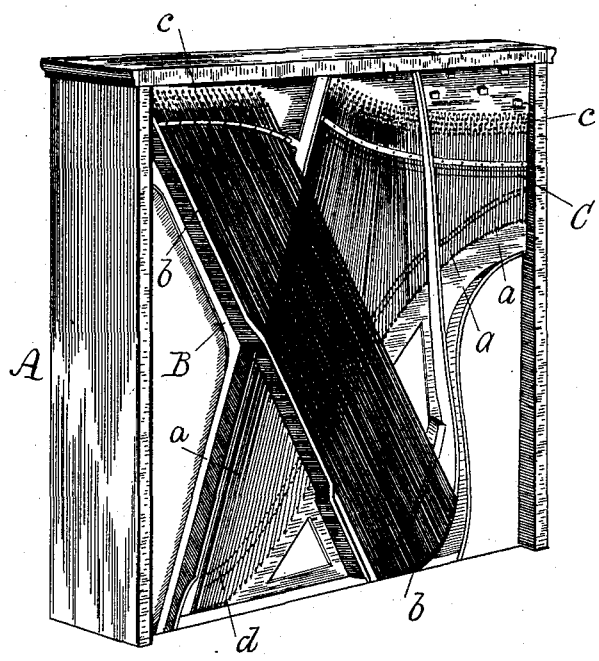
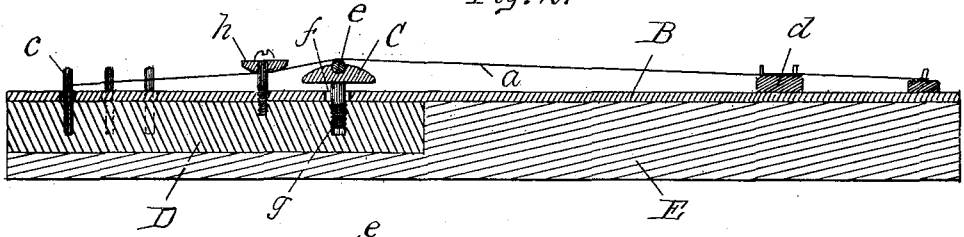


Fig. 2.



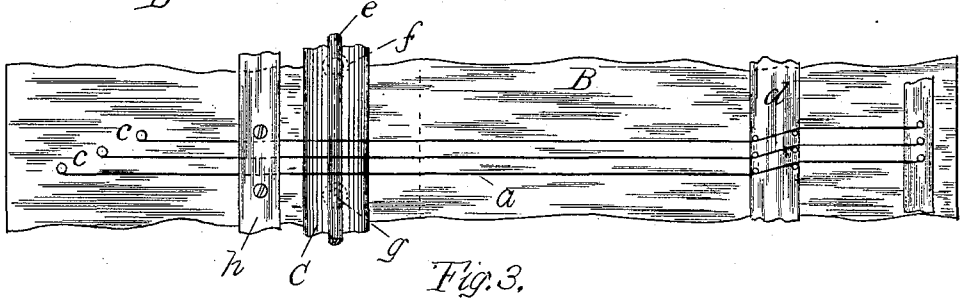


Fig. 3.

Witnesses.

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WILLIAM H. IVERS, OF DEDHAM, ASSIGNOR TO IVERS & POND PIANO CO., OF BOSTON, MASSACHUSETTS.

PIANO-FORTE.

SPECIFICATION forming part of Letters Patent No. 375,491, dated December 27, 1887.

Application filed September 23, 1887. Serial No. 250,498. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. IVERS, a citizen of the United States, residing at Dedham, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Piano-Fortes; and I 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to piano-fortes; and it consists in certain features of construction which relate to the mounting and adjustment of the "bridge," so called. Moreover, these improvements relate to what is termed the "upper bridge" in contradistinction to the lower or sounding-board bridge, with which it might be confused.

Figure 1 represents a perspective view of the back of an upright piano embodying my improvements. Fig. 2 is a vertical transverse section. Fig. 3 is a plan of a portion of the same.

In the manufacture of piano-fortes, particularly "uprights," so styled, the case is divided into two vertical sections, front and back, respectively. My invention pertains solely to the latter portion, which alone is shown in the drawings, and contains the frame, skeleton plate, sounding-board, and strings. Furthermore, in the present improved construction of instruments of this class, and to strengthen the frame shown at A, a cast-iron plate, B, is set into the frame, and directly upon and to this plate the upper bridge, C, has been secured. As a result of this arrangement, a metallic connection exists between the strings, particularly the treble *a a*, which rest upon said bridge and the plate B supporting it; hence a metallic sound is imparted to the tone of the instrument as distinguished from the full soft tones resembling a flute or reed, which are especially desired in instruments of this class. The object of my invention is to overcome and obviate, if possible, any such metallic tones which may be caused or produced by the use of the cast-iron plate B, before mentioned.

Upon reference to Fig. 1, the general features of an upright piano are therein shown, composed of the rectangular frame A, within which is firmly secured a metal skeleton plate, B, of a size and shape adapted to its requirements. Upon this are superimposed the treble and bass strings, (designated, respectively, *a a b b*,) the wrist-pins to which they are secured being shown at *c c*. To the rear of this plate, and disposed in the upper part of the frame, is the pin-block D, the latter resting upon uprights E, one of which is shown in Fig. 2. The lower or sounding-board bridge is shown at *d*, while the upper is designated at C.

As before premised, the primary object of my invention is embodied in the manner of mounting the bearing-bridge C and in preventing metallic contact with the plate B. Preferably this bearing-bridge is composed of a metal piece or strip in cross-section a segment of a circle, cast with a longitudinal groove, within which is secured a slender rod or wire, *e*, upon which the strings bear. In lieu of placing the bridge in direct contact with the plate and mounting it upon the latter, I have bored a series of holes, *f*, in the plate and disposed them beneath the bridge. Within said holes are placed a series of pins or posts, *g*, to be made either of wood or metal, and inserted firmly in the pin-block. Said pins can be adjusted by means of screw-threads cut upon them, while the bridge C is thus upheld above the plate at any desired distance. No contact now occurs between the bearing-bridge and the plate, since the former is supported by the pin-block, while the tone of the instrument is improved, being rendered fuller and softer. The depression bar or bolster is shown at *h*.

By this construction—that is, mounting the bearing-bridge upon a series of posts which pass freely through the plate B and are inserted in the pin-block—metallic vibrations arising from the plate and due to the action of the strings are almost entirely, if not quite, prevented. It is evident that either wood or metal posts can be employed, since in the event of employing the latter material said posts should be smaller than the holes *f*, through which they pass, and no contact exists between the plate and said posts or pins, while the same result is produced as if said supports

were of wood. In both instances the bearing-bridge is supported on the pin-block and not upon the plate B, with which it has no contact or support whatsoever.

What I claim is—

1. In piano-fortes, the combination, with a frame, the skeleton plate to which the strings are attached, and the pin-block, of a bearing-bridge and its series of posts inserted in the pin-block and supporting said bridge independently of the skeleton plate, substantially as described.

2. In combination with a piano-forte having a bearing-bridge independently mounted upon the pin-block, a skeleton metal plate formed with a series of holes aligned beneath said bridge and adapted to receive a series of posts, substantially as stated.

3. The combination, with the frame A and pin-block D, of the skeleton plate B, provided with a series of holes, *f*, and the pins *g*, which enter the pin-block and upon which the bearing-bridge is mounted, substantially as stated.

4. In a piano-forte having a frame, A, and skeleton plate B, the pin-block D, its series of posts *g*, and the wrist-pin *c*, combined with the wires attached to the latter, the depression-bar *h*, and the bearing-bridge C, independently supported upon said posts *g*, substantially for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. IVERS.

Witnesses:

H. E. LODGE,

LEMUEL HANWOOD.