M. Martin.

Piano Frame.

No. 57,743 Patented Sept. 4, 1866.

Fig. 1

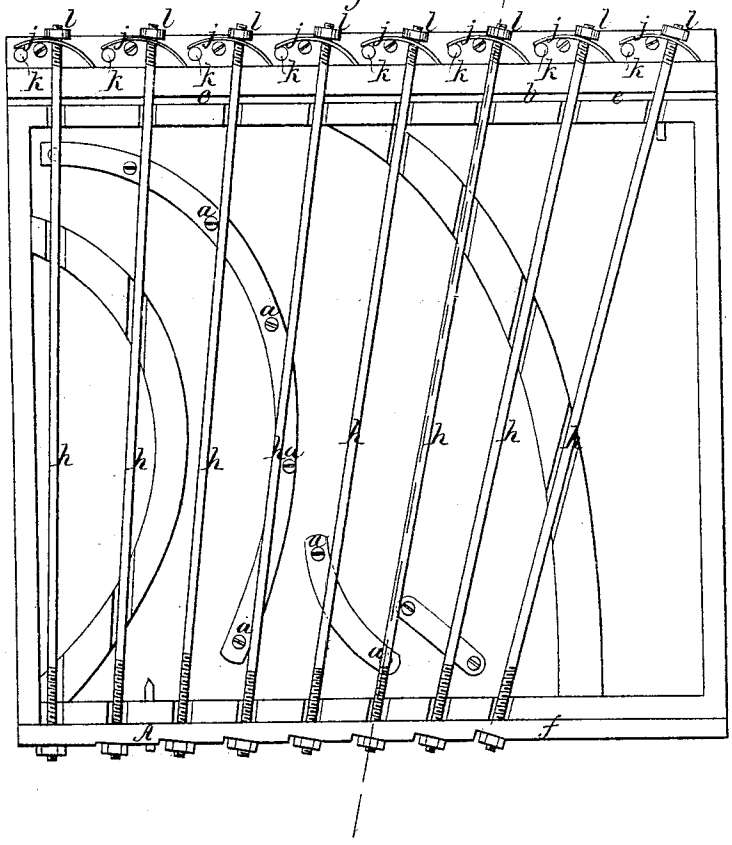
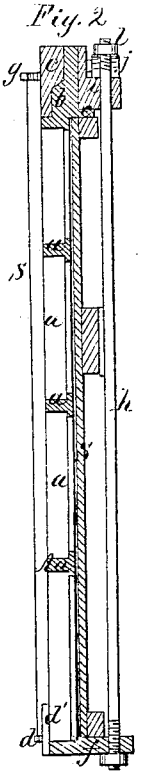


Fig. 2



Witnesses

J. W. Bloomington

Wm. Irwin

Inventor

Martin Harding

Per Munn & Co

Attorneys

UNITED STATES PATENT OFFICE.

MARTIN MARTINS, OF NEW YORK, N. Y.

IMPROVEMENT IN METAL FRAMES FOR PIANOS.

Specification forming part of Letters Patent No. **57,743**, dated September 4, 1866.

To all whom it may concern:

Be it known that I, MARTIN MARTINS, of the city, county, and State of New York, have invented a new and useful Improvement in Metal Frames for Piano-Fortes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents an inverted plan of this invention. Fig. 2 is a longitudinal section of the same.

Similar letters of reference indicate like parts.

This invention relates to certain improvements in the metal case of piano-fortes, said case being cast solid, with a series of longitudinal and of cross-braces, in combination with tension-screws extending under the metal frame in a direction parallel with the strings, or nearly so, and rendered yielding and adjustable by suitable springs in such a manner that, by said tension-screws and adjusting-springs, the strain of the strings is counteracted, and the metal frame is held flat and prevented from bulging out when exposed to a variable temperature, or by the continuous strain of the strings. The strain exerted by the tension-screws is regulated by the springs, which can be compressed more or less, simply by screwing the nuts in or out.

A represents a metal frame, cast of iron or any other suitable material, and provided on its upper or front surface with a series of longitudinal or transverse braces or rafters, *a*, which extend across the frame from one rim of the same to the other, and which serve to strengthen the frame and to render it capable of sustaining the strain of the strings. One end of the frame is provided with a double-shouldered bracket, *b*, which is intended to support the wrest-plank *c*. Said wrest-plank is secured to the bracket *b* by screws or any other suitable means, and it is provided with a series of sockets to receive the tuning-pins *g*. From the tuning-pins the strings extend over suitable bridges to the hitch-pins *d* in the usual manner, and the bridges rise from the sounding-board, and they are supported by suitable studs, whereby the same are elevated far enough to let the braces or rafters *a* pass through under them. The hitch-pins are secured in a metal plate, *d'*, which is fastened to the frame A. From the lower or rear surface of the frame A project two lips, *e f*, and between these ribs the sounding-board *s* is introduced, as clearly shown in the drawings. This sounding-board is supported by pins or any other suitable means, and the metal frame A is strengthened by a series of screw-rods, *h*, which extend on its rear side or lower surface parallel with the strings, or nearly so, as shown in Fig. 1 of the drawings. These screws have their bearings at one end in the lip *f* of the frame A, and at the opposite end is an L-shaped plank, *i*, which is secured to the rear or lower surface of the bracket *b*, which supports the wrest-plank.

Suitable slots in the L-shaped plank *i* serve to admit the screws, the ends of which extend through springs *j*, which bear at one end each against a stud, *k*, and at the other against the L-shaped plank *i*, as clearly shown in the drawings. By tightening the nuts *l*, which are fitted on the screws on the end of rods *h*, the springs are strained, and a yielding strain is exerted on the metal frame A, which strain can be increased or diminished at will. By this strain the tendency of the metal frame to bulge out or to curve by the strain of the strings is counteracted, and a piano-forte with a metal frame is obtained, which will keep its tune for a long time; whereas piano-fortes with metal frames constructed in the ordinary manner are liable to get out of tune by the variations of the temperature, whereby the metal frame is caused to expand and to curve or bulge out under the increased strain of the strings.

I do not wish to confine myself, in carrying out my invention, to the precise form of springs shown in the drawings, since springs of any desired form or shape may be applied, and if one spring is not sufficient under each nut, two

or more springs may be combined until the desired effect is produced.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The tension screw-rods *h* and springs *j*, in combination with the frame A, constructed and operating substantially as and for the purpose described.

2. The L-shaped plank *i*, in combination with the lips *e f* of the frame A, and with the tension screw-rods *h*, constructed and operating substantially as and for the purpose described.

MARTIN MARTINS.

Witnesses:
WM. DEAN OVERELL,
M. M. LIVINGSTON.