A. G. Corliss,

Piano Attachment,

No. 10,773. Patented Apr. 11, 1854.

Fig. 1.

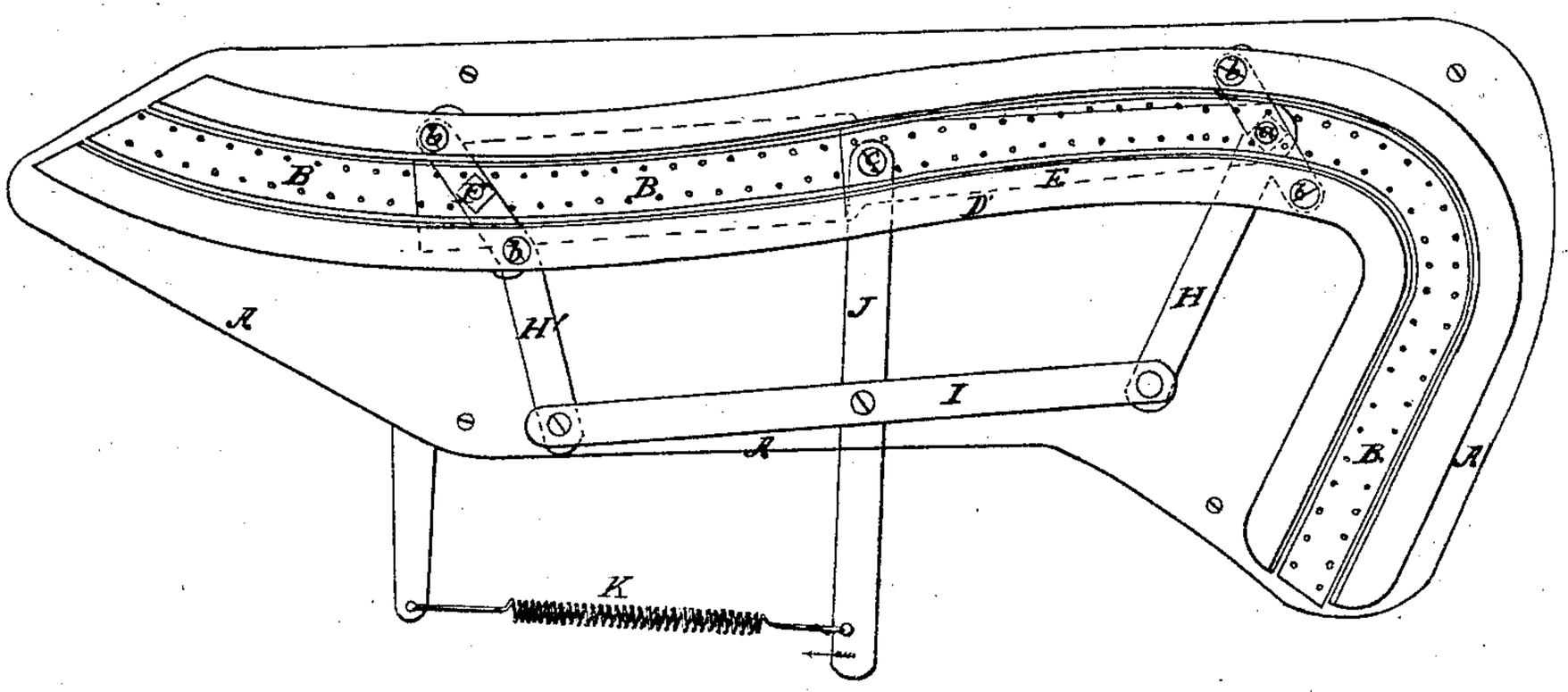
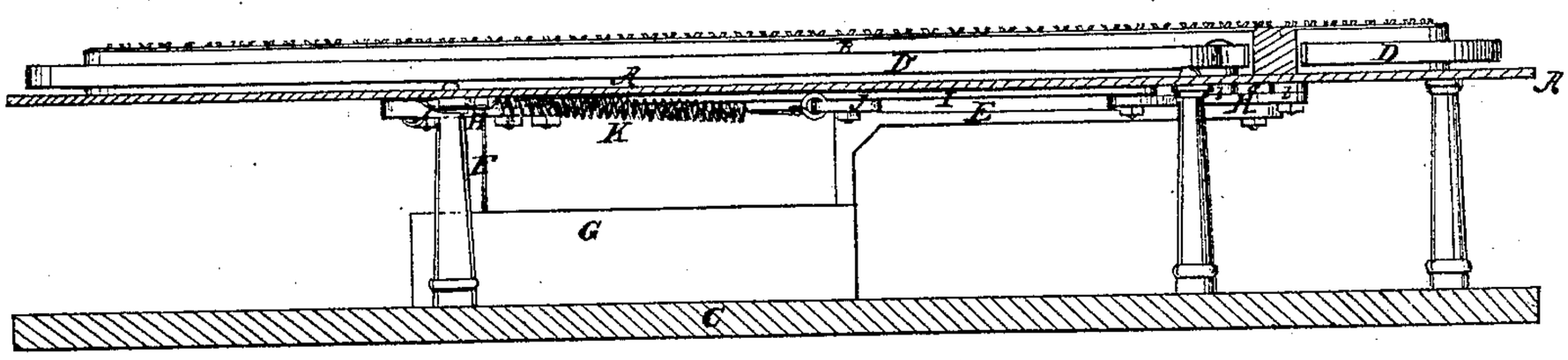


Fig. 2.



UNITED STATES PATENT OFFICE.

ALBERT G. CORLISS, OF PORTLAND, MAINE.

SWELL-MUTE ATTACHMENT TO PIANOFORTES.

Specification of Letters Patent No. 10,773, dated April 11, 1854.

To all whom it may concern:

Be it known that I, ALBERT G. CORLISS, of Portland, in the county of Cumberland and State of Maine, have invented a new and useful Attachment for the Pianoforte, which I denominate the "Swell-Mute Attachment;" and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a plan of my invention, and Fig. 2, is an elevation of the same.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to hold the tone of the instrument in perfect subjection to the performer, and produce effects on the piano, corresponding with the effects produced by the swell on the organ, the crescendo, diminuendo, and swell.

The nature of my invention consists in the employment of clamps so arranged within the instruments, and so controlled by suitable mechanism, that the performer may, at pleasure, cause them to press upon both sides of the bridge and hold it in such a manner as to control the vibration of the sounding board, and thus regulate the tone.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying figures A, represents part of the sounding board of a piano; B, the bridge, and C, the bottom of the case. The sounding board and bridge are represented in Fig. 1, in red outlines, in order to distinguish them from the parts which constitute my invention. They are of the usual construction.

D, D′, are the clamps which are for the purpose of pressing on the sides of the bridge, and which I call "mutes." They are made of iron, but may be made of other material, and are of such form that when arranged on opposite sides of the bridge, as shown in Fig. 1, they are capable of pressing upon the whole length of both sides. Their faces, or the parts which press upon the bridge, are faced with buckskin or other similar material, to render their action noiseless.

The clamps and the principal parts of the mechanism by which they are operated, are all supported by an iron elbow piece, E, and a standard, F, both secured to a block, G, which rests upon, and is secured to the bottom of the case. The elbow piece, E, carries an upright pivot, *a*, which forms the fulcrum of a horizontal lever, H, and the top part of the standard, F, forms the fulcrum of another horizontal lever, H′. Both of these fulcra are exactly under the center of the width of the bildge. Each of the levers above named, is connected by two pivots, *b*, *b*, on opposite sides of, and at equal distances from, its fulcrum, with the two mutes, D, D′, which are supported by the levers, whose pivots, *b*, *b*, pass through openings in the sounding board. By moving the levers, the two clamps are removed entirely from the bridge, so as not to touch it, or are made to press with equal force upon it. The two levers bear such relation to each other that, when connected together by a link rod, I, so as to move together, they will cause all parts of the mutes to bear the same relation to the bridge, that is to say, will make them bear with about an equal pressure throughout their whole length, or not touch on any part. The link rod, I, is connected at about the middle of its length, with a horizontal lever, J, whose fulcrum is a pivot, *c*, secured in the elbow piece, E. This lever, J, has a spring, K, applied to it in such a way as to pull it in the direction of the arrow shown on it in Fig. 1, and thus operate upon the levers, H, H′, to make them draw the mutes away from the bridge; and when it is left free to the action of this spring the mutes do not touch the bridge. It is intended to be connected with a pedal, (not shown), so that the performer, by pressing with his foot, may bring the mutes into contact with the bridge, and cause them to bear thereon with any desired degree of pressure.

As the mutes and the whole of the mechanism by which they are operated, are entirely independent of, and unconnected, with the sounding board; when the mutes are left free to the action of the spring, and the bridge is quite free, the tone of the piano is not in any way affected by my attachment, but when the foot is applied to the pedal and the mutes are made to bear upon the bridge the sound is diminished, and as the pressure is increased the sound of the instrument will die away until nearly inaudible, but as the bridge is relieved of the pressure of the mutes, the sound is again in-

creased. Thus the whole power of the instrument may be allowed to roll out, and then the sound allowed to subside into a calm, delicate and refined tone, until the sound requires to be again increased. The performer, by the pressure of the foot, holds the power of the instrument under the most perfect control, and modulates the tone. The quality of the tone produced by the pressure of the mutes, resembles that of the harp, or a medium between the harp and guitar, being more prolonged in its vibration than the former, and free from the nasal twang of the latter.

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

Controlling the vibration of the sounding board by means of what I have hereinbefore termed the "mutes," D, D′, which are so arranged and actuated as to be capable, when desired, of pressing upon the bridge, B, with any degree of force necessary to produce the tone desired, as herein fully described.

ALBERT G. CORLISS.

Witnesses:
N. WEBB,
WOODBURY STORER.