J. R. LOMAS.
Pianoforte.

No. 210,043. Patented Nov. 19, 1878.

fig. 1

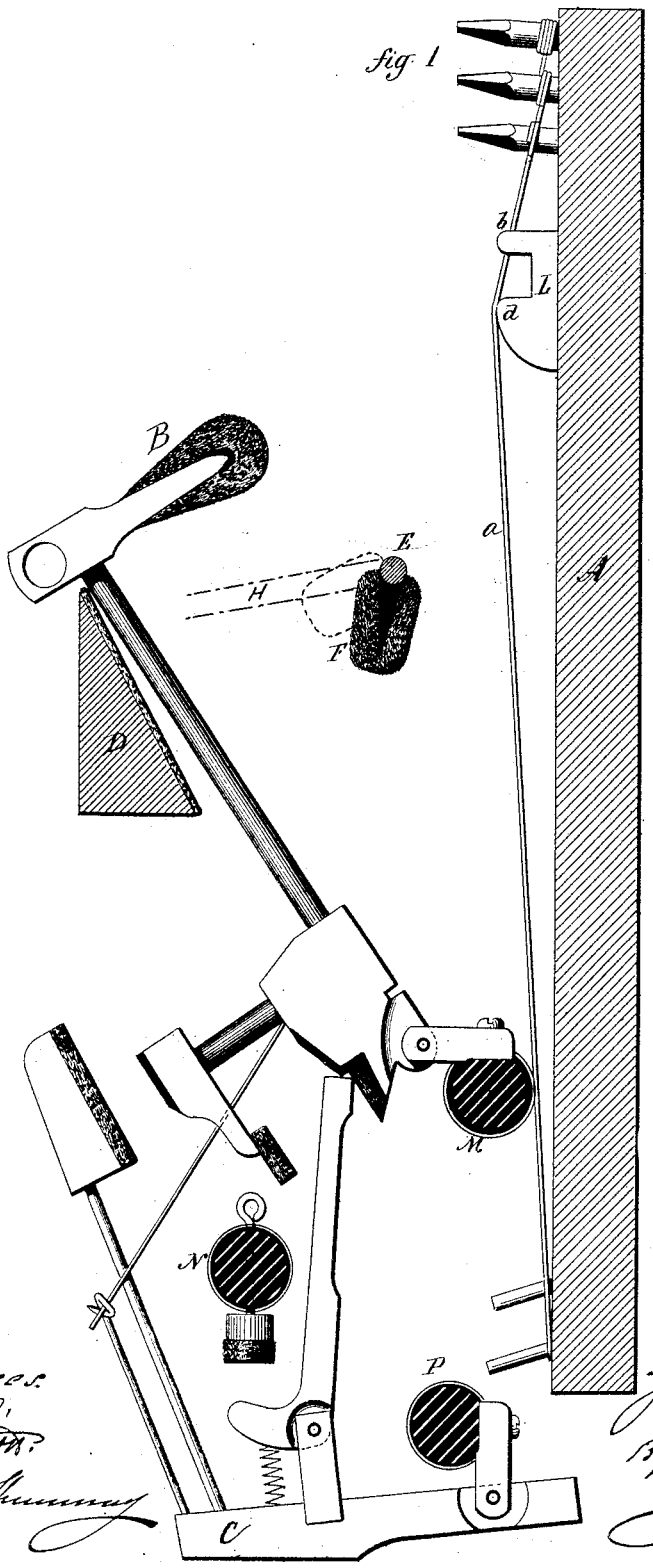

fig. 2.

Witnesses:
J. R. Chumney

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JOHN R. LOMAS, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO B. SHONINGER, OF SAME PLACE.

IMPROVEMENT IN PIANO-FORTES.

Specification forming part of Letters Patent No. **210,043**, dated November 19, 1878; application filed May 25, 1878.

To all whom it may concern:

Be it known that I, JOHN R. LOMAS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Piano-Actions; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, side view of the action; Fig. 2, portion of the action-frame.

This invention relates to an improvement in piano-actions specially designed for upright pianos, but parts of it applicable to pianos generally; and the invention consists in the details of construction, as hereinafter described, and more particularly recited in the claims.

First, a soft pedal. As heretofore made the soft pedal has been applied in several ways, among others one by throwing the hammers nearer the string, so that the action of the key does not come so soon upon it, and thereby lessens the blow of the hammer; but this arrangement necessarily changes the position of the hammer, and the whole action is thereby more or less disarranged. The touch of the keys is also materially affected, because they do not begin to act or meet the resistance of the hammer until they are nearly down.

In the second class, a piece of felt is introduced between the hammer and the wire; but this mode of softening changes the quality of the tone.

To overcome these difficulties is the object of the first part of the invention.

A represents the sounding-board, upon which the wires *a* are arranged in the usual manner; B, the hammer, which is operated by the action of the key, through the lever C, in substantially the usual manner; D, the rest, upon which the hammers fall after action.

Between the hammers and the wires a shaft, E, is longitudinally arranged, carrying a felt cushion, F. A rocking movement is imparted to this shaft from the pedal acting upon a lever, H, attached to said shaft. As represented in Fig. 1, the hammer is free to strike the wire with the full force to soften the tone. The pedal is depressed in the usual manner, which turns the cushion F up, as indicated in broken lines, so that the arm of the hammer will strike the cushion F before the hammer quite reaches the wire. The force of the blow will cause the handle to sink into the cushion F until the hammer strikes the wire. The force of the blow is therefore lessened by so much of the power as is required to impress the cushion, and this may be varied according as the cushion is turned to a greater or less extent toward the handle of the hammer. Thus the full and usual force may be given to the keys and the tone softened without in any way changing the position of the parts of the action or affecting the quality of the tone of the instrument.

The second part of this invention relates to an improvement in the action-frame, and particularly to the rods M N P, which support the action. These rods run across the instrument, and the parts are attached thereto by screws. These being so many in number and so near together are liable to split the rods, and thus disarrange the mechanism. To avoid this difficulty the rods are first covered with a fabricated net-work, woven or braided thereon in like manner as the covering of whips is applied to the stocks, and as seen in Fig. 3. This covering is then filled with glue to cause it to adhere rigidly to the rods, and then covered with varnish to prevent the ill effects of the atmosphere thereon. This covering so thoroughly binds the rods that they cannot be split, and renders the frame more durable and strong, and enabling the rods to be made very much lighter than can be done without the covering.

I claim—

1. In combination with the hammer and wires of a piano, the soft-pedal shaft carrying a felt cushion, arranged between the arm of the hammer and the wires, substantially as described.

2. The supporting-rods of a piano-action inclosed within a fabricated net-work, substantially as described.

JOHN R. LOMAS.

Witnesses:
J. H. SHUMWAY,
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