2 Sheets—Sheet 1.

A. STEINWAY.

PIANO-FORTE ATTACHMENTS.

No. 190,639. Patented May 8, 1877.

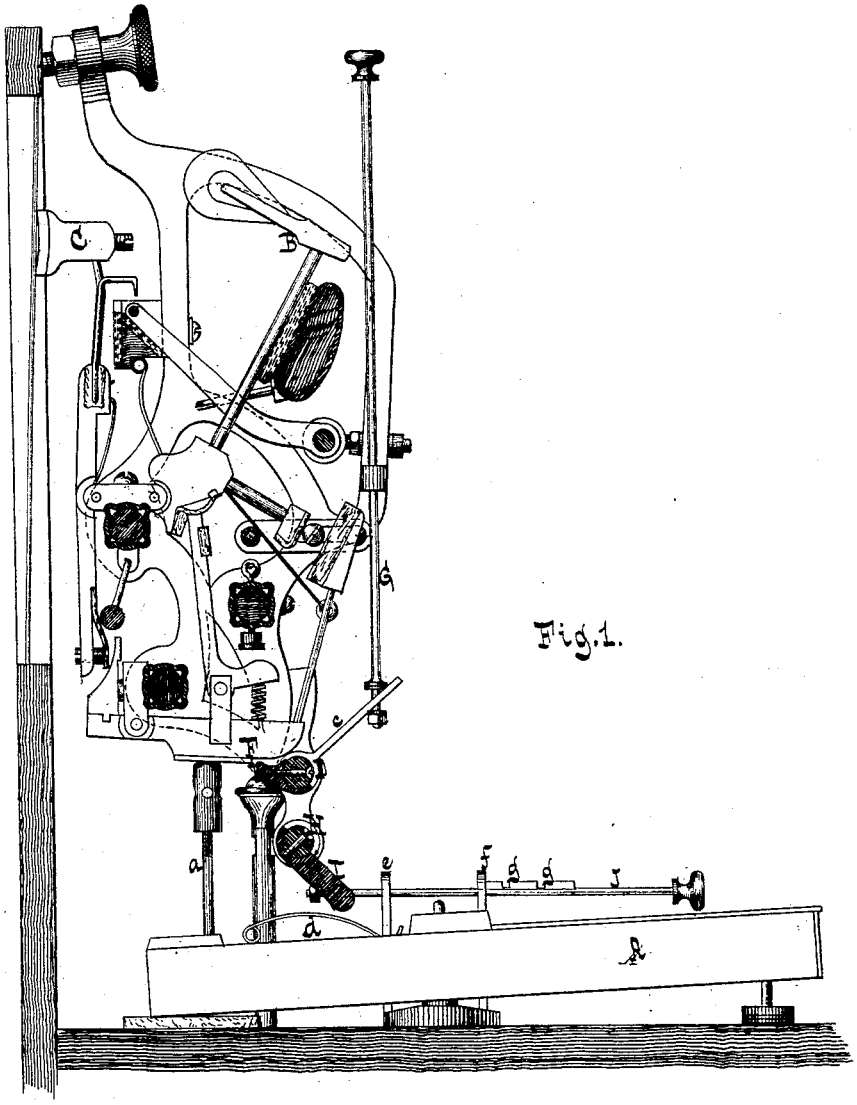

Fig. 1.

Witnesses
Otto Schefland
Hugo Bruneggemann

Inventor
Albert Steinway
by
Van Santvoord & Hauff
his attorneys

2 Sheets—Sheet 2.

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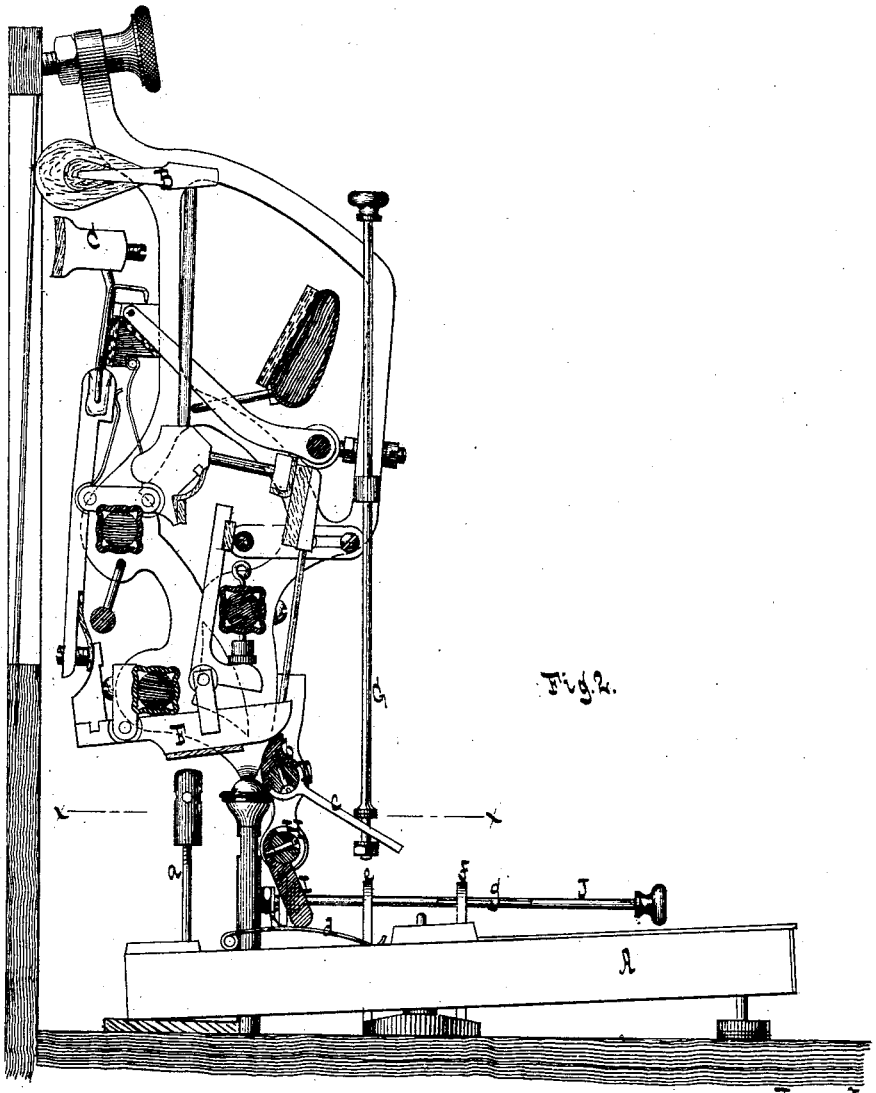

Fig. 2.

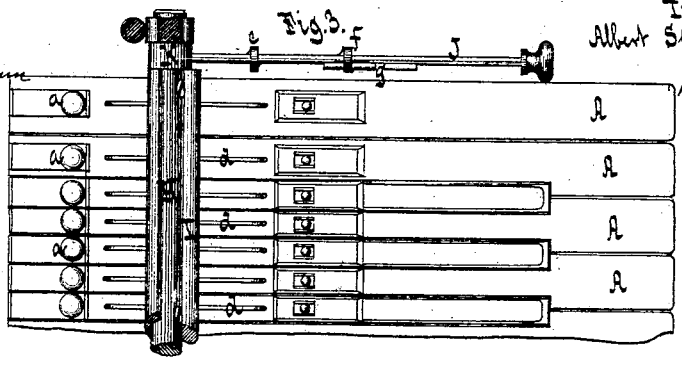

Fig. 3.

Witnesses
Otto Hufeland
Hugo Bruggemann

Inventor.
Albert Steinway by
Van Santvoord & Hauff
his attorneys

UNITED STATES PATENT OFFICE.

ALBERT STEINWAY, OF NEW YORK, N. Y.

IMPROVEMENT IN PIANO-FORTE ATTACHMENTS.

Specification forming part of Letters Patent No. **190,639**, dated May 8, 1877; application filed April 25, 1877.

To all whom it may concern:

Be it known that I, ALBERT STEINWAY, of the city, county, and State of New York, have invented a new and useful Improvement in Piano-Fortes, which improvement is fully set forth in the following specification, reference being had to the accompanying drawing, in which—

Figure 1 represents a vertical section when the action is in gear with the keys. Fig. 2 is a similar section when the action is out of gear with the keys. Fig. 3 is a horizontal section in the plane *x x*, Fig. 2.

Similar letters indicate corresponding parts.

This invention consists in the combination, with a piano-forte action and with its keys, of an attachment for throwing the action out of gear with the keys, so as to produce a dumb key-board, and to enable persons to practice without creating an annoyance.

The invention also consists in the combination, with a piano-forte action and with its keys, having an attachment for throwing the action out of gear with the keys, of an attachment for regulating the weight or resistance of the keys in practicing.

In the drawing, the letter A designates the key of a piano-forte, which acts on the hammer B and on the damper C by means of standard *a*, secured to the rear end of the key, and bearing against an intermediate lever, F. Beneath this lever is situated a rock-shaft, D, which extends throughout the whole length of the action-frame, and to which is secured a toe-plate, *b*, and a lever, *c*, so that by depressing this lever the toe-plate rises, and lifts up all the intermediate levers F out of contact with the standards *a* of the keys A. The lever *c* is actuated by a slide, G, which can be moved by hand, or which may be attached to a pedal, so that the rock-shaft D can be turned by the action of the foot. When the slide G is depressed, the entire action of the piano-forte is thrown out of gear with the keys, and a person is enabled to practice on the key-board without producing any sound. It is obvious that the mechanism for throwing the action out of gear with the keys can be changed in various ways. For instance, a sliding plate may be arranged beneath the intermediate levers F, and connected to a pedal or hand-lever; so that, by raising this slide, said intermediate levers are lifted out of contact with the keys, or, if my attachment is to be used on an action for a square or upright piano-forte, the toe-plate *b*, or a sliding plate, may be made to act directly on the shanks of the hammers, so as to lift the hammers out of contact with the jacks. All these or similar changes will readily suggest themselves to a practical piano-forte manufacturer, and I do not wish to confine myself, therefore, to the precise mechanism shown in the drawing.

When the action is thrown out of gear with the keys, the power required for depressing the keys is naturally diminished, and in order to enable a person to practice on the dumb key-board, it is requisite to apply some means for regulating the weight of the keys. This object I have accomplished by applying to each key a weak spring, *d*, and over these springs is situated a rock-shaft, H, from which extends a cam-plate, I, and a lever, K, which is connected to a slide, J. When this slide is drawn out, the cam-plate is not in contact with the springs; but by forcing said slide inward, the cam-plate is brought to bear on the springs, and the weight of the keys can be regulated.

The slide J is guided in standards *e f*, and it is provided with notches *g*, which can be made to engage with the standard *f*, so as to retain the slide in the desired position. The farther the slide is moved in, the greater becomes the resistance or weight of the keys. Instead of using a slide such as shown in the drawing, however, a screw-rod may be employed, which screws into one of the standards, so that by turning said screw-rod in one direction, the cam-plate I is brought to bear with more or less power on the springs *d*, and by turning the screw-rod in the opposite direction the cam-plate is thrown out of contact with the springs. Other changes may be made in the construction of my attachment for regulating the weight of the keys, and I do not wish to confine myself to the precise arrangement shown in the drawings.

The advantage of my invention will be readily understood if it is considered that, in many schools, a number of piano-fortes are placed in the same room, and if several schol-

ars have to practice at the same time the music produced is not very harmonious. Also, in many cases, a person practicing on a piano-forte for a number of hours in succession annoys his neighbors. By my attachment a person is enabled to practice on the dumb key-board precisely in the same manner as on the key-board of an ordinary piano-forte, but without creating any annoyance.

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

1. The combination, with a piano-forte action and with its keys, of an attachment for throwing the action out of gear with the keys, constructed and arranged to operate substantially as herein shown and described.

2. The combination, with a piano-forte action and with its keys, having an attachment for throwing the action out of gear with the keys, of an attachment for regulating the weight or resistance of the keys, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 20th day of April, 1877.

ALBERT STEINWAY. [L. S.]

Witnesses:
W. HAUFF,
E. F. KASTENHUBER.