H. S. HORNBECK.

PIANO.

APPLICATION FILED MAY 24, 1910.

993,777. Patented May 30, 1911.

Fig. 1.

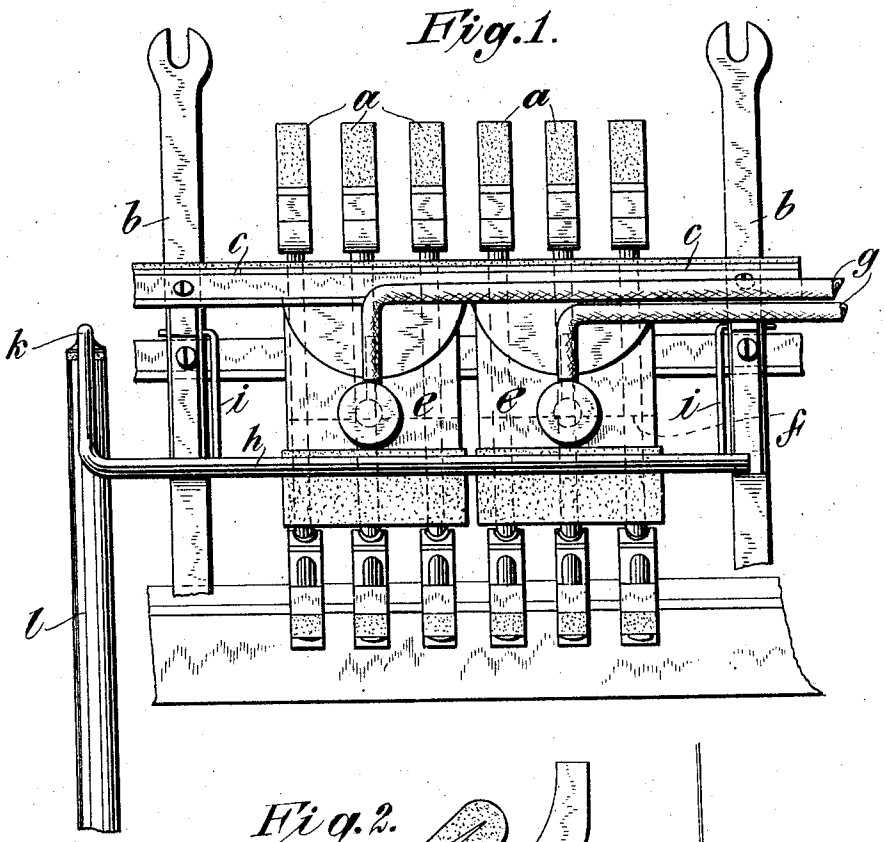
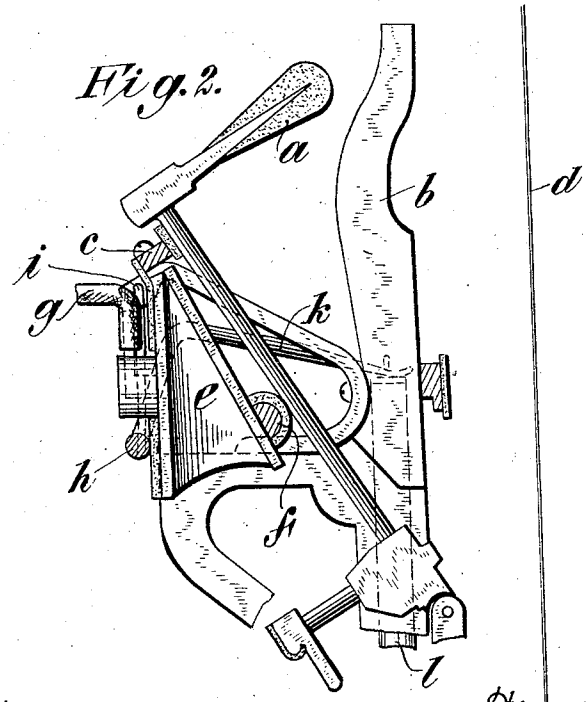


Fig. 2.



Witnesses:
Geo. H. Graves.
J. Hubert

Inventor
Henry S. Hornbeck
By his Attorneys
Redding, Greeley & Austin

UNITED STATES PATENT OFFICE.

HENRY S. HORNBECK, OF ELIZABETH, NEW JERSEY, ASSIGNOR OF ONE-HALF TO GEORGE M. NEWCOMER, OF NEW YORK, N. Y.

PIANO.

993,777. Specification of Letters Patent. Patented May 30, 1911.

Application filed May 24, 1910. Serial No. 563,088.

To all whom it may concern:

Be it known that I, HENRY S. HORNBECK, a citizen of the United States, residing in the city of Elizabeth, in the State of New Jersey, have invented certain new and useful Improvements in Pianos, of which the following is a specification, reference being had to the accompanying drawing, forming a part hereof.

This invention relates to means for controlling the position of the hammer rest rail, particularly in pneumatic player pianos, for the purpose of varying the throw of the hammers to regulate the strength of tone produced.

The invention is particularly applicable to player pianos of the general character of that shown in Letters Patent of the United States No. 951,276, dated March 8, 1910, in which the main rest rail has mounted thereon, so as to be movable therewith, toward and from the hammers, a series of small pneumatics or bellows, each of which carries a short sectional rest rail to coöperate with a small group of hammers, so that all of the sectional rest rails can be moved together toward the hammers to limit the throw thereof, and any one or more of the pneumatics can be collapsed to permit the corresponding hammers to have their full throw for the purpose of permitting a solo effect to be produced.

In the present invention the pneumatics which carry the sectional rest rails, instead of being mounted upon the main rest rail, to move therewith, are hinged upon the stationary rest rail and are swung together toward the hammers by a common bar, and are severally collapsible to permit the hammers of the corresponding groups to have their full throw.

The invention will be more fully explained hereinafter with reference to the accompanying drawing, in which it is illustrated, and in which:

Figure I, is a view in front elevation showing two groups of hammers with their corresponding pneumatics and their supporting and operating devices; and Fig. II, is a view thereof in transverse section.

In the embodiment of the invention illustrated in the drawing, the hammers *a* are mounted and arranged to be operated in the usual manner. Upon the supporting frame work *b* is mounted a stationary rest rail *c* against which the hammers rest in their normal position at their maximum distance from the strings *d*. To a stationary bar, which may be the stationary rest rail *c*, are hinged the small pneumatics or bellows *e*, each of which bears upon the front or relatively movable member thereof a sectional rest rail *f* which is adapted to coöperate with a small group of hammers. Each of the pneumatics, being normally expanded as usual, is connected by a flexible tube *g* with the vacuum system, not necessary to be shown. The several pneumatics rest at their backs against a movable bar *h* which is shown as hung by arms *i* from the supporting frame work, and as adapted to be moved toward the strings *d* to carry all of the pneumatics together toward the strings, and thereby to limit the throw of all of the hammers by an arm *k* and a vertically movable rod *l* which may be operated by any suitable means.

It will now be understood that if it is desirable to produce a solo effect the bar *h* is moved toward the strings, carrying with it all of the pneumatics *e*, thereby reducing the throw of the hammers and correspondingly reduce the strength of the tone produced, and that one or another of the pneumatics *e*, as selected by the performer, through devices which may be similar to those described in said Letters Patent No. 951,276 or through other suitable devices, is collapsed to cause the corresponding sectional rest rail *f* to move away from the strings to permit the corresponding hammers to have their full throw so that the corresponding tones are produced with normal strength.

It will be understood that various changes in details of construction and arrangement may be made to suit different conditions of use, and that the invention is not restricted to the precise construction shown and described herein.

I claim as my invention:

1. In a piano the combination with the hammers of a stationary bar, a series of pneumatics hinged to said bar, sectional rest rails carried by said pneumatics, and means to move all of said pneumatics together toward the hammers to limit the throw thereof.

2. In a piano the combination with the hammers of a stationary bar, a series of pneumatics hinged to said bar, sectional rest

rails carried by said pneumatics, a movable bar against which all of said pneumatics rest, and means to move said bar toward the strings to limit the throw of the hammers.

3. In a piano the combination with the hammers of a stationary bar, a series of pneumatics hinged to said bar, sectional rest rails carried by said pneumatics, a movable bar against which the pneumatics rest, arms by which the movable bar is hung from the supporting frame and means to swing the movable bar toward the strings carrying with it the pneumatics to limit the throw of the hammers.

4. In a piano the combination with the hammers of a stationary rest rail, pneumatics hinged to said rest rail, sectional rest rails carried by the pneumatics and means to swing all of the pneumatics together toward the strings to limit the throw of the hammers.

This specification witnessed this 23d day of May, A. D., 1910.

HENRY S. HORNBECK.

Signed in the presence of—
M. RIEDLING,
N. A. SMITH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."