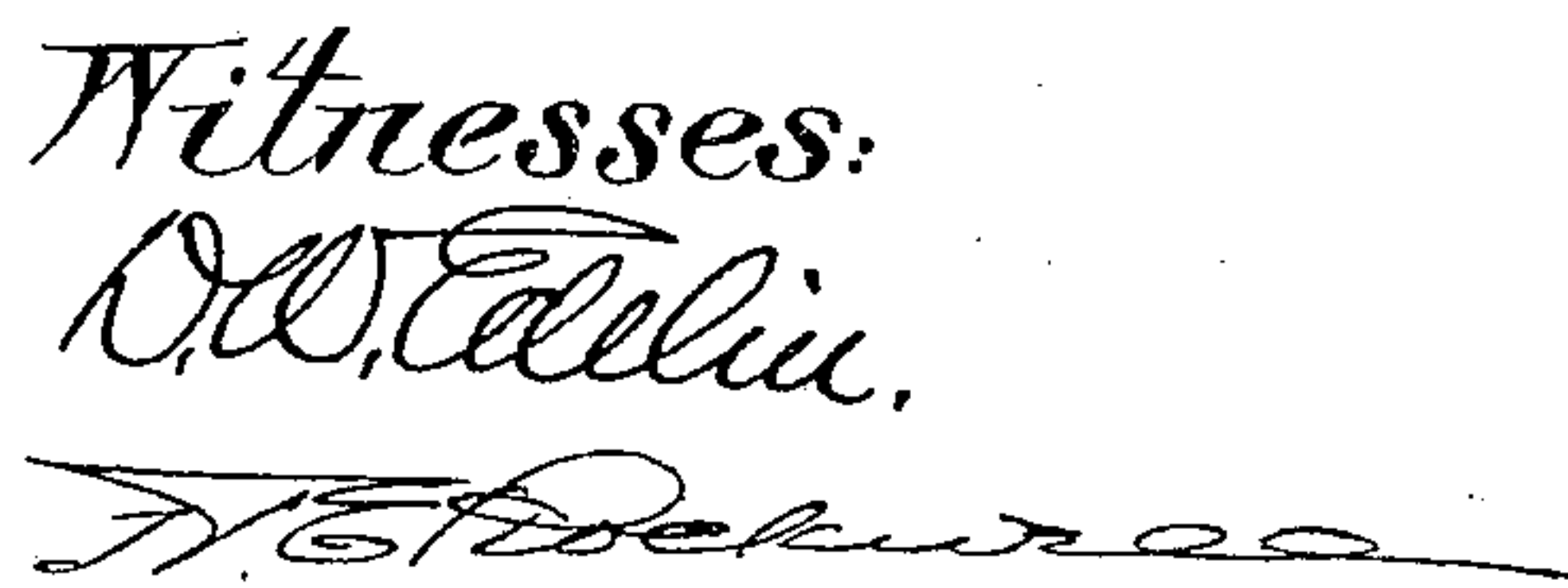


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Patented Aug. 31, 1909.



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# UNITED STATES PATENT OFFICE.

AUGUSTUS D. DIMICK, OF WAKEFIELD, MASSACHUSETTS.

PIANO-ACTION.

933,024.

Specification of Letters Patent.

Patented Aug. 31, 1909.

Original application filed February 24, 1909, Serial No. 479,729. Divided and this application filed May 17, 1909. Serial No. 496,404.

*To all whom it may concern:*

Be it known that I, AUGUSTUS D. DIMICK, of Wakefield, county of Middlesex, and State of Massachusetts, have invented certain new and useful Improvements in Piano-Actions; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to piano actions, and more particularly to the actions of upright pianos such as illustrated in my application, Serial No. 479,729, filed February 24, 1909, of which this application is a division.

In the standard actions of upright pianos it has heretofore been customary to connect each wippen or jack-bed with the hammer-butt by means of a bridle strap or tape, some times called a martingale, said strap or tape being usually glued at one end to the hammer-butt and attached at the opposite end to the eye or pig-tail of the bridle wire. This arrangement involves much careful manipulation in the construction of the piano action, and moreover bridle straps or tapes deteriorate quickly and require frequent renewal. Furthermore, the location of the bridle wire on the jack-bed renders said wire particularly susceptible to lateral dislocation, so that it interferes with the adjacent parts of the action and produces annoying noises, at times preventing the proper operation of the action. Again, when one or more of the bridle straps breaks, and the corresponding key or keys are removed, the entire connecting mechanism between each key and the corresponding hammer-butt drops down so that the upper end of the jack is moved out of proper coöperative engagement with the hammer-butt and usually falls against the hammer-flange. When this happens, it is necessary to fish the jack out of its fallen position with a wire or other instrument in order to restore it to its proper position.

The object of the present invention is to obviate these drawbacks and to provide a piano action having means which prevent the displacement of the jacks when the corresponding keys are removed, and which insure in a direct and positive manner the proper positioning of the jack at all times. The means referred to takes the form of a simple device such as a spoon applied directly to the wippen or jack-bed and coact-

ing with the abstract in such a way as to prevent the jack-bed or wippen from falling down too far when the key is removed and causing the displacement of the jack with respect to the hammer-butt.

In the accompanying drawing, Figure 1 is a transverse vertical section through a piano action constructed in accordance with the invention, and Fig. 2 is a detail view showing the position of the parts when the key is removed.

The main parts of the piano action illustrated in the drawing are of the usual construction. The key 1 coacts in the usual manner with the balance rail 3 of the key frame 2, and coöperates with the usual abstract 4 supported from the abstract rail 5. The abstract is pivoted to the usual wippen or jack-bed 6 which is pivotally supported from the main action rail 7. The hammer, which comprises the head 8, the stem or shank 9 and the butt 10, is pivoted by means of the ordinary flange 11 to the main action rail, and the hammer normally rests upon the customary hammer-rail 12. The hammer is actuated by the jack 13 which is pivotally supported on the wippen 6 and abuts at its upper end against the hammer-butt 10. The dampers 14 are provided with shanks 15 by which they are pivotally supported on the main action rail 7, and each damper is operated and controlled in any suitable manner. The sostenuto mechanism illustrated in the drawing is of the type described in my prior application hereinbefore mentioned, and comprises a rocking clutch adapted to engage and retract spring fingers that are connected to the damper levers, said clutch being operated by a suitable pedal rod.

The invention consists in placing upon each wippen or jack-bed 6 a small spoon 16 which is attached to the under surface of the wippen at a point slightly in advance of the abstract 4 and extends in downward direction along side the latter. The lower free end of the spoon 16 coacts with a small cushion 17 applied to the forward face of the abstract. When the parts are in their normal inoperative position, the spoon or finger is in close proximity to the cushion though not in actual contact therewith, but when the key is removed said spoon or finger forms an abutment which presses against the cushion 17 with sufficient force to pre-



vent the wippen from dropping down and taking a position lower than that shown in Fig. 2.

It will be understood that the abstract 4 is maintained by its connections in upright position when the key is removed, as shown in Fig. 2, and therefore the abutment of the spoon or finger against the abstract will hold the wippen up in the position indicated regardless of whether or not the corresponding key is in position in the action. This manner of supporting the wippen results in holding up the jack in coöperation with the hammer-butt, as will be understood, and the jack will consequently not be permitted to fall down against the hammer-flange when the corresponding key is removed. The jack will therefore be maintained in coöperation with the hammer-butt at all times, and the fishing out of the jack away from the hammer-flange which is necessitated by the customary arrangement hereinbefore indicated, is entirely obviated.

It will be obvious that the abutment between the wippen and the abstract may be varied in form and arrangement without departing from the scope of the invention.

What I claim is:—

1. In a piano action, the combination with a pivoted hammer, a pivoted wippen, an abstract, and a jack on the wippen coacting with the butt of the hammer, of means interposed between the wippen and the abstract to prevent the dropping of the jack below a predetermined position.

2. In a piano action, the combination with a key, an abstract resting thereon, a wippen pivoted to the abstract, a pivoted hammer,

and a jack on the wippen coacting with the butt of the hammer, of means interposed between the wippen and abstract to prevent the dropping of the jack out of engagement with the hammer butt when the key is removed.

3. In a piano action, the combination with a pivoted hammer having the usual hammer-butt, a wippen, a jack pivoted on the wippen and engaging at its upper end with the hammer butt, and an abstract to actuate the wippen, of an abutment carried by the wippen and coacting with the abstract.

4. In a piano action, the combination of a hammer having a butt, a pivoted wippen, a jack pivotally supported on the upper face of the wippen and engaging the hammer butt, an abstract pivoted to the wippen at the lower part of the latter, and a spoon depending from the lower portion of the wippen and adapted to abut at its free end against the abstract.

5. In a piano action, the combination with a pivoted hammer, a pivoted wippen, a jack supported on the wippen and coacting with the butt of the hammer, and an abstract pivoted to the wippen at the lower part of the latter, of a spoon depending from the wippen and extending at its free end into close proximity to the abstract at the front surface of the latter when the abstract is in its lowermost position.

In testimony whereof I affix my signature, in presence of two witnesses.

AUGUSTUS D. DIMICK.

Witnesses:

FRANK M. DIMICK,  
FRANK E. DIMICK.