(No Model.)

W. HAY.

KEY TOUCH REGULATOR FOR MUSICAL INSTRUMENTS.

No. 590,521. Patented Sept. 21, 1897.

Fig. 1.

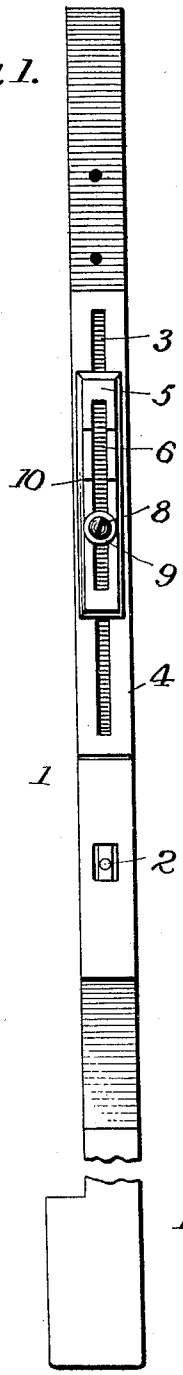


Fig. 2.

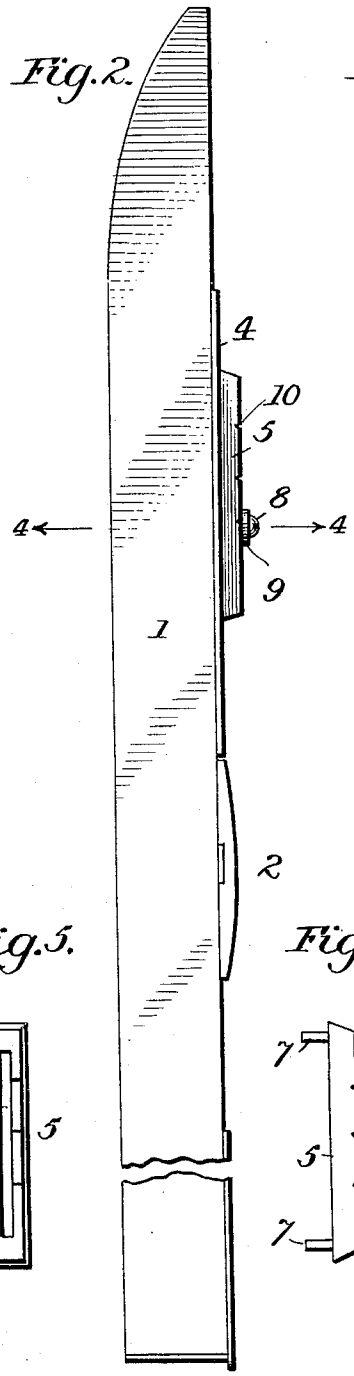


Fig. 3.

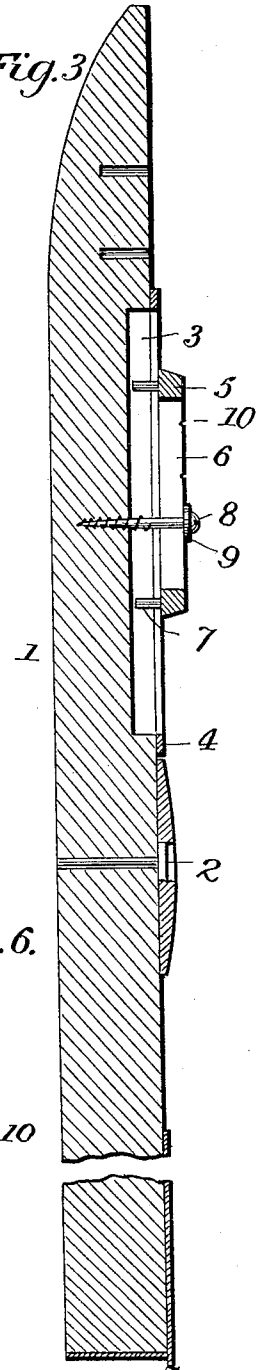


Fig. 5.

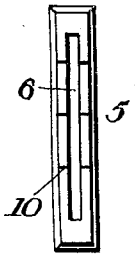
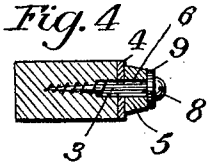


Fig. 6.

Fig. 4.



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KEY TOUCH-REGULATOR FOR MUSICAL INSTRUMENTS.

SPECIFICATION forming part of Letters Patent No. 590,521, dated September 21, 1897.

Application filed May 1, 1897. Serial No. 634,747. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HAY, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Key Touch-Regulators for Musical Instruments, of which the following is a specification.

My invention consists in a movable weight combined with a piano-key and adjustable thereon to and from the pivotal point of the key to vary the pressure required to operate it, together with means for clamping the weight in any desired adjustment.

My invention is intended particularly for pianos, although it is applicable to any form of musical instrument operated by keys.

In the accompanying drawings, which illustrate my invention, Figure 1 is a top plan view of a piano-key provided with my improvements. Fig. 2 is a side view of the same. Fig. 3 is a longitudinal central section of Fig. 1. Fig. 4 is a horizontal section on the line 4 4 of Fig. 2. Fig. 5 is a top plan view of the sliding weight, and Fig. 6 is a side view of the same.

Referring to the drawings, 1 indicates a key constructed in the usual way and which may be mounted upon the musical instrument in any suitable manner, as by a central pin 2, upon which it oscillates. The key has upon its upper face a narrow longitudinal groove 3, located in the rear of the pivot-pin. Upon the top of the key I secure, by paste or otherwise, a strip of felt 4, having a longitudinal slot coinciding with the groove 3 in the key. Upon this felt is placed an oblong weight 5, having a central longitudinal slot 6, and upon its under side at each end it is provided with a guide-pin 7, which passes into the groove in the key. A set-screw 8 passes through the slot in the weight and into the bottom of the groove in the key at its central point and is adapted to clamp the weight to the key. A washer 9, made of leather or other suitable sound-deadening material, is placed between the head of the screw and the movable weight. The guide-pins 7 serve to keep the slot in the weight opposite the groove in the key, so that the weight will always remain parallel with the key and cannot be moved sidewise so as to interfere with the operation of adjacent keys. The weight is adjustable longitudinally upon the key by loosening the screw 8. If the key is pivoted in the center, as shown in the drawings, the weight, if moved toward the pivotal point, will thereby decrease the amount of pressure required to operate the key, while if moved away from the pivotal point the required amount of pressure will be increased. Of course if the key were pivoted in the rear of the weight instead of at the central point of the key the movement of the weight to and from the pivotal point would be reversed in order to accomplish the same result. The weight is preferably rectangular in shape, and upon its surface along either side of the slot are a number of divisional marks 10, forming a scale to indicate the position of the weight with reference to the screw 8 or some fixed point upon the key.

The weights upon the entire set of keys may each be set at the same distance from the pivotal point of the keys by means of the scales 10 and a uniform pressure or touch upon the keys obtained, or the touch of any individual key may be adjusted by the proper movement of its weight independently of the other keys. The felt strip 4 and washer 9 form cushions for the weight and prevent any tendency to rattling between the weights and the keys when the latter are operated.

By means of my improvements a very cheap and durable touch-regulator is secured, as well as one which permits of nice adjustment.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A key touch-regulator consisting of a substantially-rectangular weight having a longitudinal slot, and a scale upon one side of said weight, substantially as described.

2. In a key touch-regulator the combination with the key having a longitudinal groove, of a substantially-rectangular slotted weight having guide-pins engaging said groove, and an adjustable screw or bolt passing through said slot and groove into the key, substantially as described.

3. In a key touch-regulator the combination

with the key having a groove, of a rectangular weight having a longitudinal slot and guide-pins to engage said groove, a set-screw passing through said slot and groove into the piano-key, and suitable insulating material interposed between said weight and the key and set-screw, substantially as described.

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

WILLIAM HAY.

Witnesses:
D. J. DAVIS,
C. A. BATTENBERG.