

(No Model.)

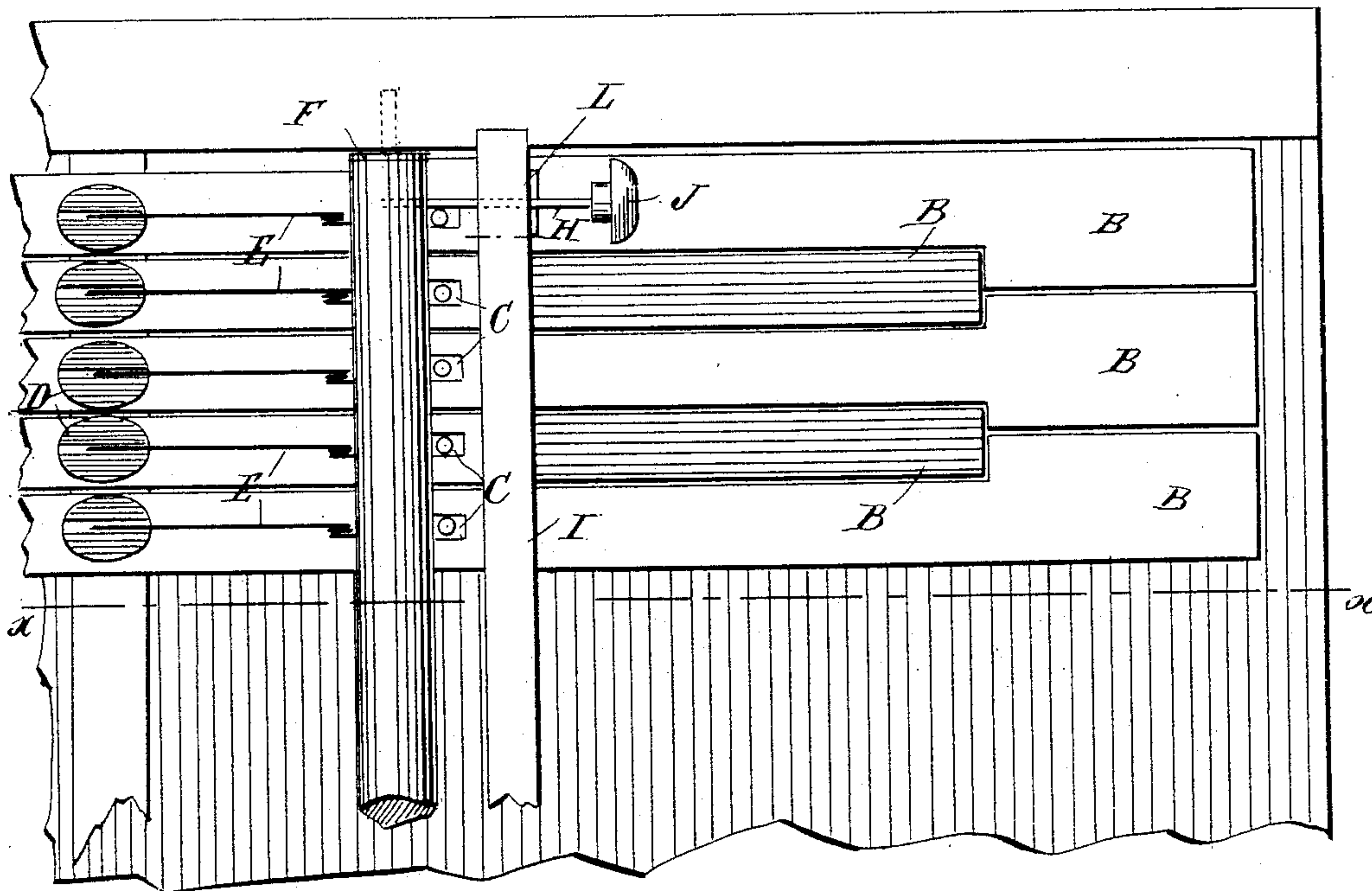
F. C. LIGHTE.  
TOUCH REGULATOR.

No. 472,376.

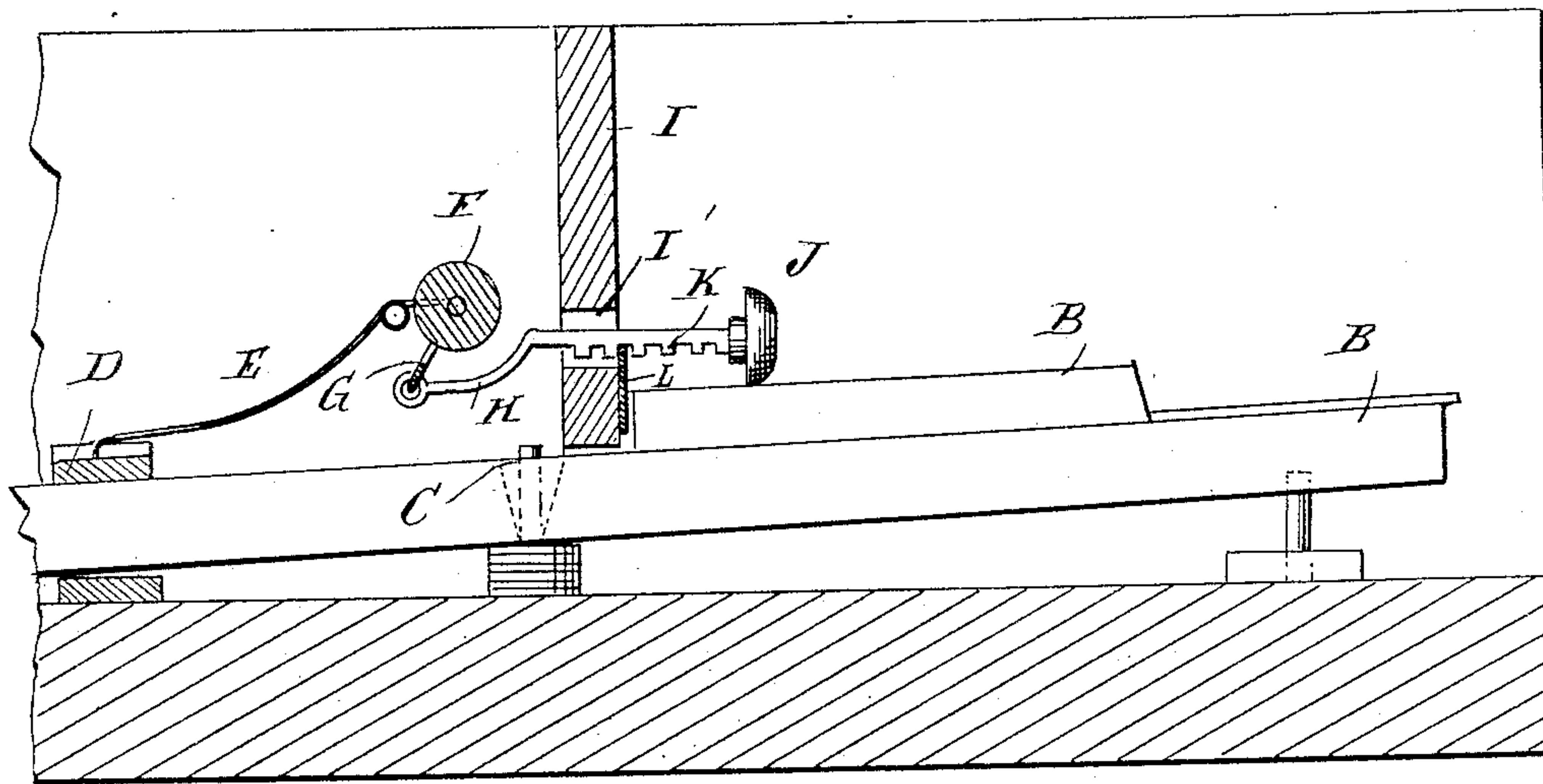
Patented Apr. 5, 1892.

*Fig: 1.*

A



*Fig: 2.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

FERDINAND C. LIGHTE, OF FLORENCE, SOUTH CAROLINA.

## TOUCH-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 472,376, dated April 5, 1892.

Application filed September 24, 1891. Serial No. 406,661. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND C. LIGHTE, of Florence, in the county of Florence and State of South Carolina, have invented a new and Improved Touch-Regulator, of which the following is a full, clear, and exact description.

The invention relates to musical instruments, such as upright, square, and grand pianos, organs, &c.; and its object is to provide a new and improved touch-regulator which is simple and durable in construction, and is arranged to enable the performer to change the feeling of the touch, making it either hard or soft, according to the taste or strength of the performer.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of the improvement as applied, and Fig. 2 is a sectional side elevation of the same on the line  $xx$  of Fig. 1.

The musical instrument A of the class above mentioned is of the usual construction, being provided with keys B, each pivoted at C and connected in the usual manner with the action. On each of the keys B, in the rear of its pivot C, is arranged a projection D, of felt or other soft material, on which presses the free end of a spring E, secured on a shaft F, arranged longitudinally and journaled in the ends of the keyboard or frame of the musical instrument A. The several springs E for the keys B are secured on this shaft F, so that when the latter is turned in one direction the pressure of the springs on the keys is increased, and if the said shaft is turned in the opposite direction the pressure of the springs on the keys is diminished.

Near one end of the shaft F is arranged a downwardly-extending arm G, pivotally connected with a rod H, extending forward and passing through a slot I' in the front board I of the keyboard. On the front end of the rod H is arranged a knob J within convenient reach of the performer, so that the latter can

pull or push the said rod H, as desired, and for the purpose hereinafter more fully explained. On the under side of the rod H are arranged a series of teeth K, adapted to engage the plate L, secured to the board I in close proximity to the opening I'. (See Fig. 2.)

When the device is in the position shown in the drawings, the shaft F is locked in position, and the springs E, by pressing on the keys B in the rear of the pivot C, have a tendency to hold the rear end of the key in a downward position. The performer by adjusting the rod H on the plate L can readily increase and diminish the pressure of the springs E on the keys D to suit his taste or strength, as it requires more or less force to press the keys B, according to the tension of the springs E.

If desired, several springs may be employed for one key, said springs, however, being fastened to the shaft F. Thus it will be seen that if the performer does not like the touch of a piano he can readily change it to suit his taste by adjusting the rod H, by pulling the same outward or pushing it inward, or locking it in place on the plate L. In case the keys of the piano stick this can be quickly remedied by pulling out the rod H, one or two teeth K, and locking the rod in place on the plate L, so that the tension of the springs E is increased and the sticking of the keys is prevented.

In musical instruments in which the soft pedal is arranged to press the hammers tightly against the strings the instrument can be made mute by the touch-regulator, so that a performer who is practicing finger exercises or even compositions cannot be heard in any other part of the house.

I do not limit myself to the especial means employed for regulating the tension of the springs, as other suitable devices may be advantageously employed for the same purpose.

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

1. In a touch-regulator for musical instruments, the combination of a shaft journaled in the frame of the instrument, springs secured to the shaft and having their free ends resting upon the keys in rear of their pivots,

and an adjusting-rod pivotally connected with the shaft and projecting through an opening in the front board of the keyboard, substantially as described.

5 2. In a touch-regulator for musical instruments, the combination, with the frame having the front board of the keyboard apertured and provided with a plate secured thereto in proximity to the said opening and the keys,  
10 of the shaft F, journaled in the frame and

provided with the arm G, the springs E, secured to the shaft and having their free ends resting upon the keys, and the rod H, pivoted to the arm G and provided with the knob J and teeth K, substantially as herein shown 15 and described.

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