No. 727,348. PATENTED MAY 5, 1903.

M. GOGGAN.

TOUCH REGULATOR FOR PIANOS.

APPLICATION FILED JULY 29, 1902.

NO MODEL.

Fig. 1.

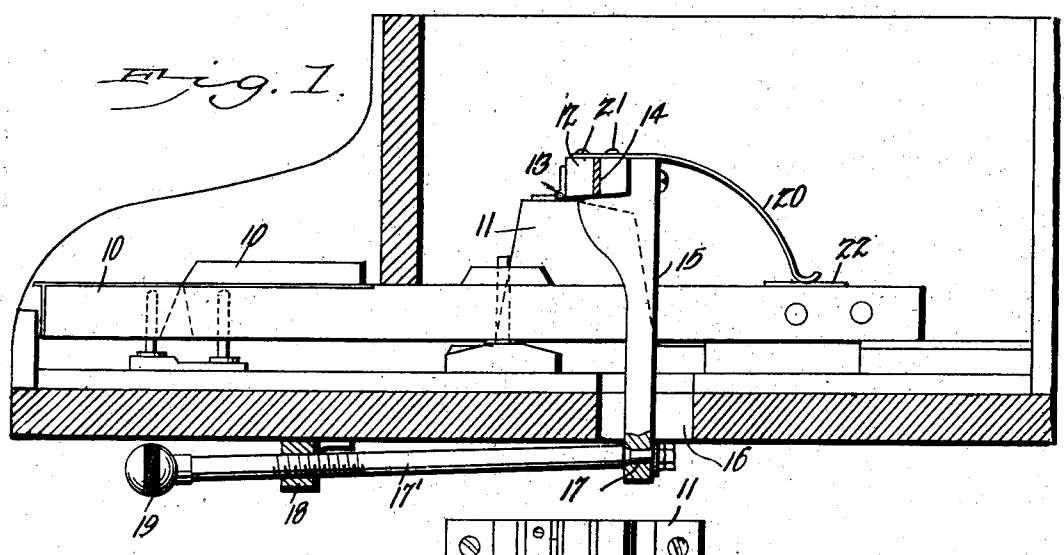


Fig. 2.

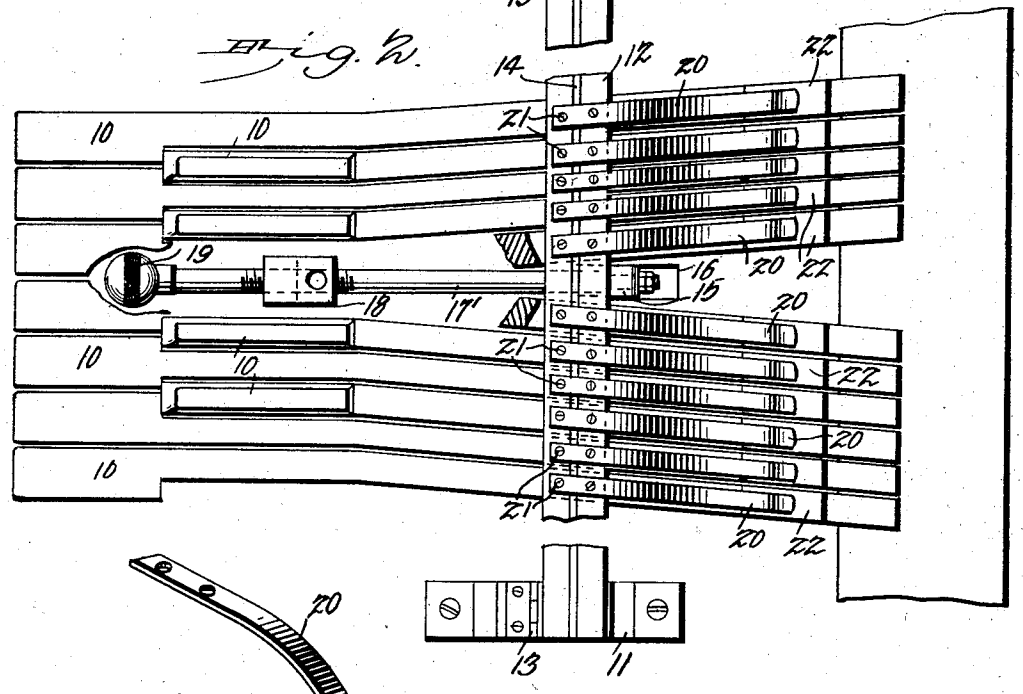
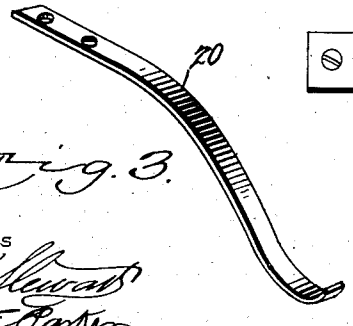


Fig. 3.



Witnesses

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No. 727,348. Patented May 5, 1903.

UNITED STATES PATENT OFFICE.

MICHAEL GOGGAN, OF SAN ANTONIO, TEXAS, ASSIGNOR OF ONE-HALF TO THOMAS GOGGAN AND JOHN GOGGAN, OF GALVESTON, TEXAS.

TOUCH-REGULATOR FOR PIANOS.

SPECIFICATION forming part of Letters Patent No. 727,348, dated May 5, 1903.

Application filed July 29, 1902. Serial No. 117,513. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL GOGGAN, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented a new and useful Touch-Regulator for Pianos, of which the following is a specification.

This invention relates to certain improvements in touch-regulators for pianos and practice-claviers, and has for its principal object to provide an improved means for regulating the touch of the keys to any desired extent.

The invention is applicable to upright, square, or grand pianos, organs, claviers, and other musical instruments having keyboards and may be adjusted to provide for either a hard or a soft touch, as may be desired by the performer.

With this and other objects in view the invention consists in the novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a transverse sectional elevation through a portion of the keyboard of a musical instrument provided with a touch-regulator in accordance with my invention. Fig. 2 is a plan view of the same, a portion of the keys being broken away to more clearly illustrate the construction of the adjustable regulator. Fig. 3 is a detail perspective view of one of the key-springs.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The musical instrument is of any desired construction and provided with keys 10, mounted in the usual manner and connected to any form of action.

At a point inside the case of the instrument are arranged a pair of supporting-blocks 11, and on said blocks is mounted a cross-bar 12, extending for the full width of the keyboard and connected to the supporting-blocks by suitable hinges or other pivotal connections 13. In order to prevent warping of the cross-bar when the latter is formed of wood, I employ a centrally-disposed strengthening-bar 14, of steel or other material.

To the central portion of the cross-bar is secured a depending arm 15, which extends through a suitable opening 16 in the keyboard-support and at its lower end is swiveled to the rear end 17 of an adjusting-screw 17′, which fits within a nut 18, and at its outer end is provided with a knob 19, arranged within convenient reach of the performer, the turning of the screw in either direction causing a swinging movement of the bar 12 on its hinges or pivots 13.

To the upper surface of the bar 12 are secured a number of springs 20, a screw or other securing device 21 being passed through the upper portion of each spring at a point on each side of the strengthening-bar 14 in order that the springs may be more securely held in place. A separate spring is used for each of the keys, the lower rear ends of said springs bearing against small strips of felt 22, arranged on the upper surface of each key.

By turning the screw 17 in either direction the spring may be depressed with greater or less force against the keys, so that more or less pressure will be required to depress the keys, as desired by the performer. It has been found best in practice to employ the flat-strip springs illustrated in the drawings, owing to the greater uniformity in temper and elasticity which they possess and the ease with which such springs may be secured in position. The adjusting-screw is placed at a convenient position, preferably a trifle to one side of the center of the keyboard, and where the depending arm 15 passes down between the keys it becomes necessary to offset the keys, as indicated in Fig. 2.

While the construction herein described and illustrated in the accompanying drawings is the preferred form of the device, it is obvious that various changes in the form, proportions, size, and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what I claim is—

1. The combination with a musical instrument having playing-keys, of a touch-regulating device comprising a pivoted bar extending across the keys, springs secured to said bar and adapted to engage the rear ends of

the key-levers, a depending arm secured to said bar and extending through an opening in the keyboard-support, an adjusting-screw having one end swiveled to the arm, and a stationary nut engaging with said screw.

2. The combination with a musical instrument having a keyboard, of a pivotally-mounted bar 12 extending across all of the keys, a strengthening-bar 14 forming a part of said pivoted bar, springs 20 connected to the pivoted bar and having their lower rear ends engaging strips on the rear ends of the key-levers, a depending arm 15 secured to the pivoted bar and extending through an opening in the keyboard-support, a screw 17′ having a swiveled connection with the arm and provided at its outer end with a turning-knob 19, and a stationary nut 18 with which said screw engages, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

MICHAEL GOGGAN.

Witnesses:
J. C. NELSON,
THOS. S. GOGGAN.