

W. S. THOMPSON & C. W. BAHR.

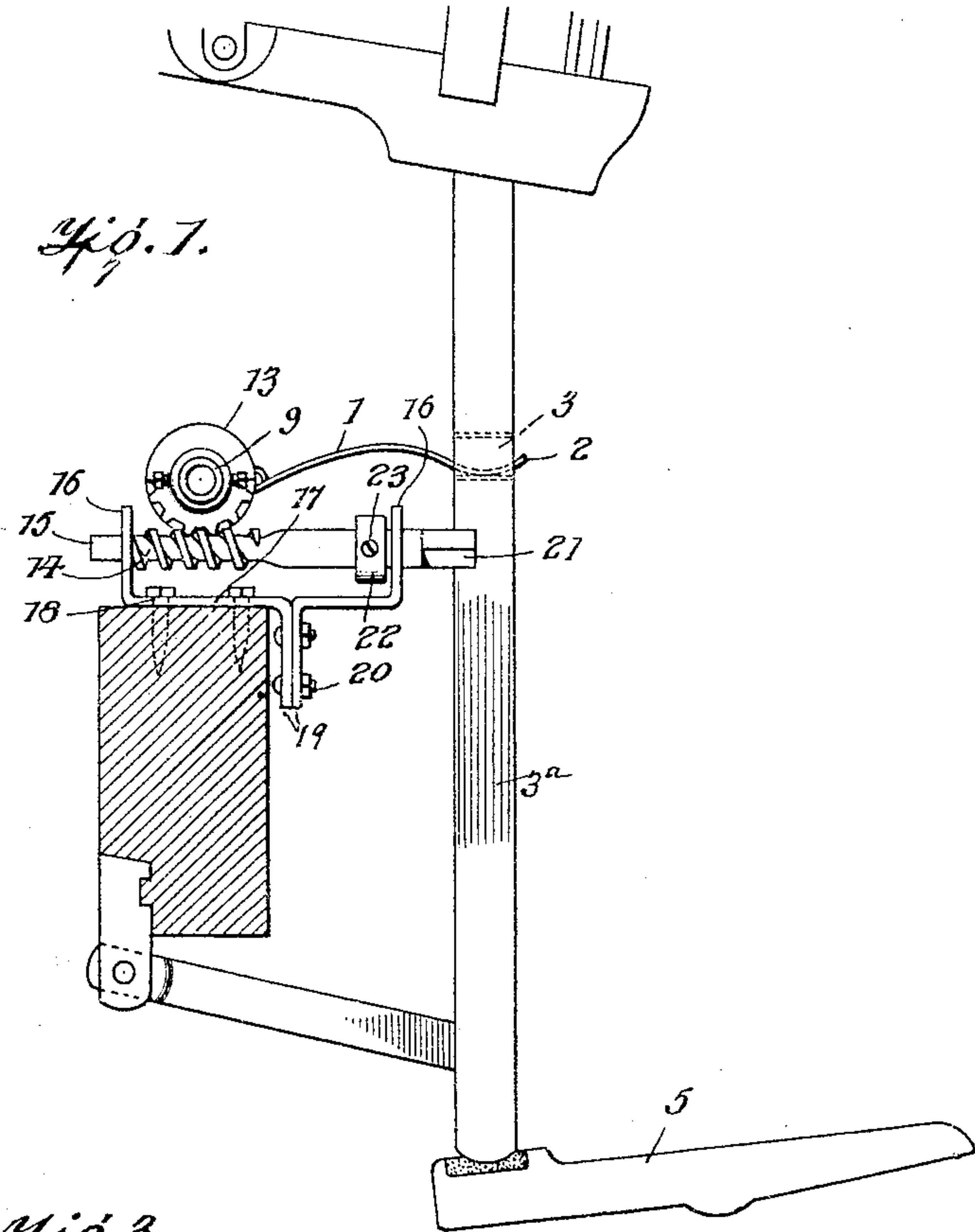
PIANO TOUCH REGULATOR.

APPLICATION FILED MAY 5, 1909.

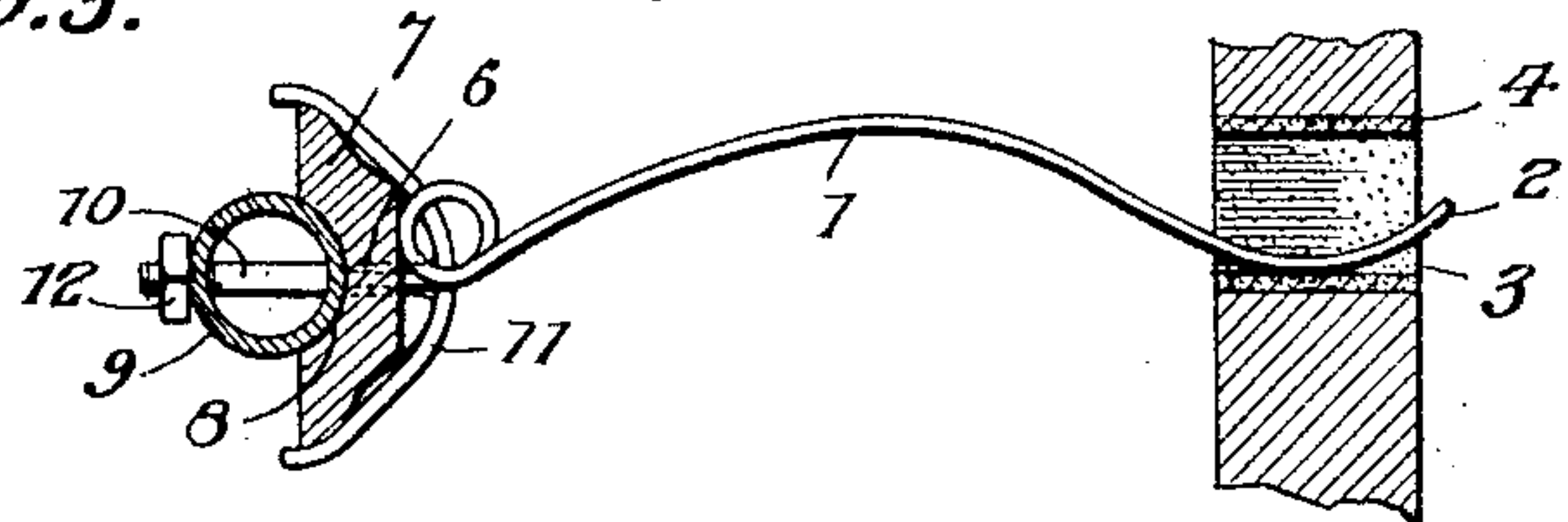
956,448.

Patented Apr. 26, 1910.

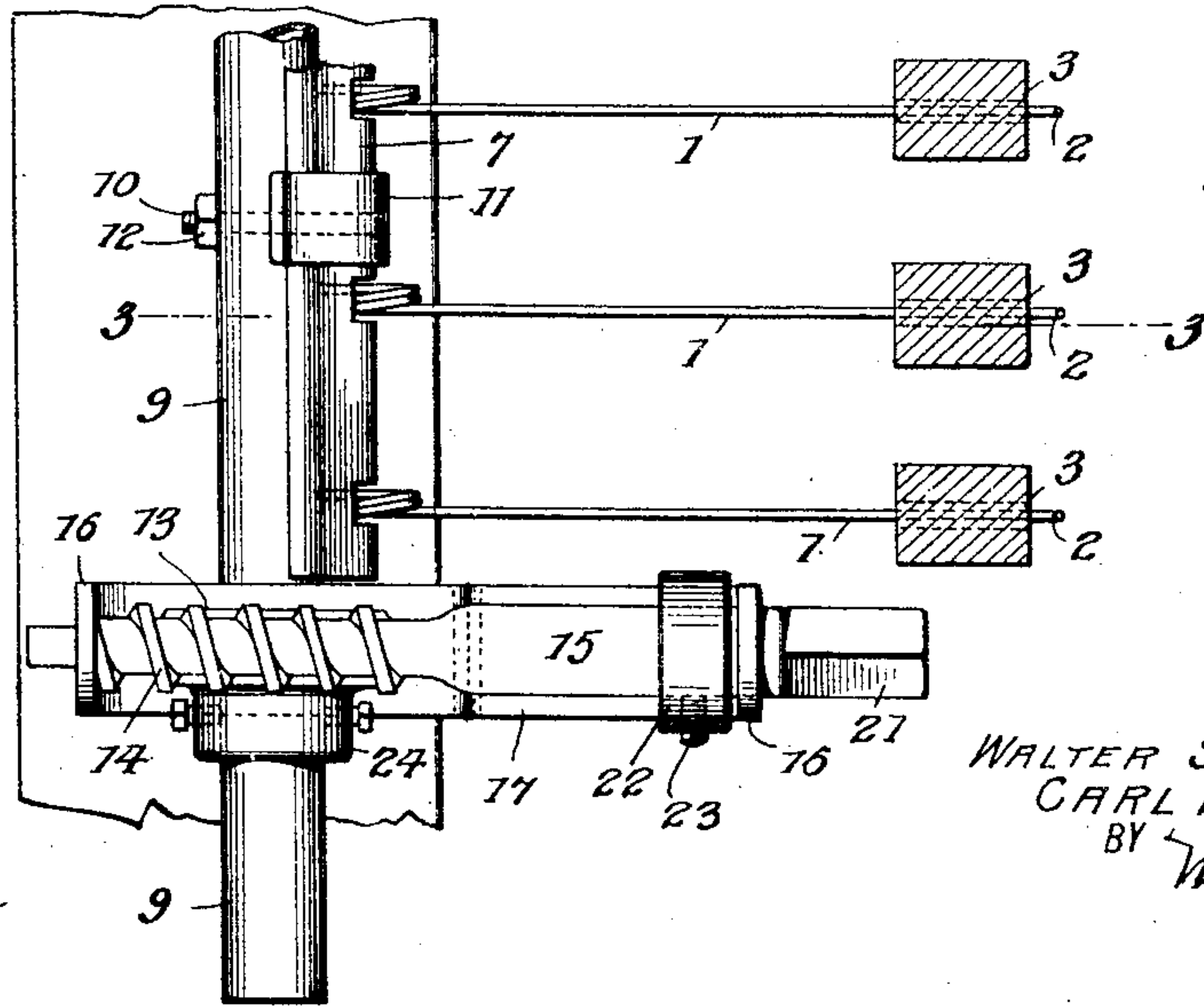
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



WITNESSES

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# UNITED STATES PATENT OFFICE.

WALTER S. THOMPSON AND CARL W. BAHR, OF FORT COLLINS, COLORADO.

PIANO TOUCH-REGULATOR.

956,448.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed May 5, 1909. Serial No. 494,029.

*To all whom it may concern:*

Be it known that we, WALTER S. THOMPSON and CARL W. BAHR, citizens of the United States, and residents of Fort Collins, in the county of Larimer and State of Colorado, have made certain new and useful Improvements in Piano Touch-Regulators, of which the following is a specification.

Our invention is an improvement in piano movements, and consists in certain novel constructions and combinations of parts, hereinafter described and claimed.

The object of the invention is to provide a means for regulating the touch of the action, that is the resistance of the keys to the touch of the performer, and wherein the said resistance may be increased or decreased to suit the individual.

Referring to the drawings forming a part hereof, Figure 1 is a transverse section of a piano action provided with the improvement, Fig. 2 is a longitudinal section, and Fig. 3 is a section on the line 3—3 of Fig. 2.

As is well known, pianos are constructed for light and for heavy touch performers, and a performer accustomed to a heavy touch piano, finds it extremely difficult to play on an instrument adapted for a light touch performer.

The embodiment of the invention shown in the drawings, consists of a spring 1 formed of a piece of resilient wire, or the like, and whose free end 2 is inserted in a slot 3, in the abstract 3<sup>a</sup>, at a suitable distance above the key 5. The slot is provided with a layer 4 of felt or the like, and the opposite end 6 of the spring is inserted in an opening in a rail 7, which is provided with a longitudinal groove 8, in which rests a hollow shaft or rod 9, the rail being secured to the shaft by T bolts 10, whose heads 11 engage the outer face of the rail, the threaded ends being engaged by nuts 12. The shaft or rod is journaled in suitable bearings (not shown), and is provided at one end with a worm wheel 13, which is in mesh with a worm 14, on a transverse key shaft 15, journaled in bearings 16 on a bracket plate 17, secured to the lower flange rail by screws 18.

The bracket plate consists of two sections each provided with a bearing, and with a

downwardly extending lug 19, and the lugs are secured together by bolts 20. The outer end of the shaft is square as shown at 21 for receiving a key, and a collar 22 is adjustably secured to the shaft by a set screw 23, the collar retaining the shaft in position.

Each abstract is provided with a spring, and it will be evident from the description, that when the shaft 15 is turned, the rod 9 will be oscillated to simultaneously increase or decrease the stress of the springs, in accordance with the direction in which the shaft is turned.

A portion of the worm wheel is blank as shown in Fig. 1, so that the wheel may not be completely rotated in order to prevent overtightening or loosening of the spring.

It will be evident from the description, that by properly manipulating the rod the stress on the abstracts may be adjusted within nice limits in accordance with the touch of the performer.

We claim—

1. In a piano action the combination with the abstracts, of a rod journaled adjacent thereto, a rail secured to the rod, and provided opposite each abstract with an opening, a spring for each abstract having one end inserted in the adjacent opening of the rail, the abstract being provided with a slot for receiving the other end, and means for oscillating the rod to simultaneously vary the stress of the springs, said means comprising a shaft having a square outer end for engagement by a key, and a worm adjacent to the other end, and a worm wheel on the rod meshing with the worm.

2. In a piano action, the combination with the abstracts, of a rail adjacent to the abstracts and arranged transversely thereof, a spring rod having one end connected with the rail and the other engaged with the adjacent abstract, said spring having a coil intermediate its ends and adjacent to the rail, a shaft, and a connection between the shaft and the rail for rocking the rail.

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Witnesses:

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