No. 886,348. PATENTED MAY 5, 1908

A. T. CHESTER.

PLAYING ATTACHMENT FOR MUSICAL KEY INSTRUMENTS.

APPLICATION FILED NOV. 5, 1907.

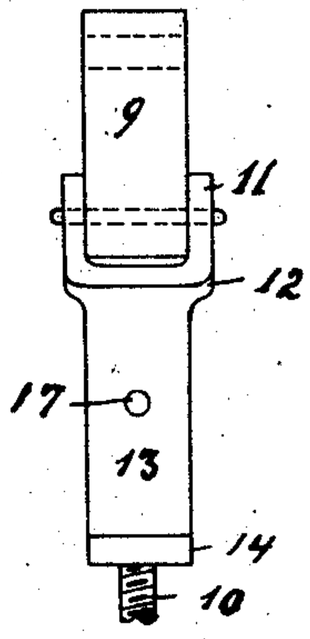

Fig 3.

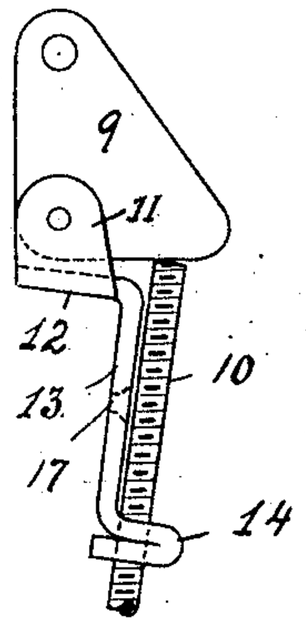

Fig 2.

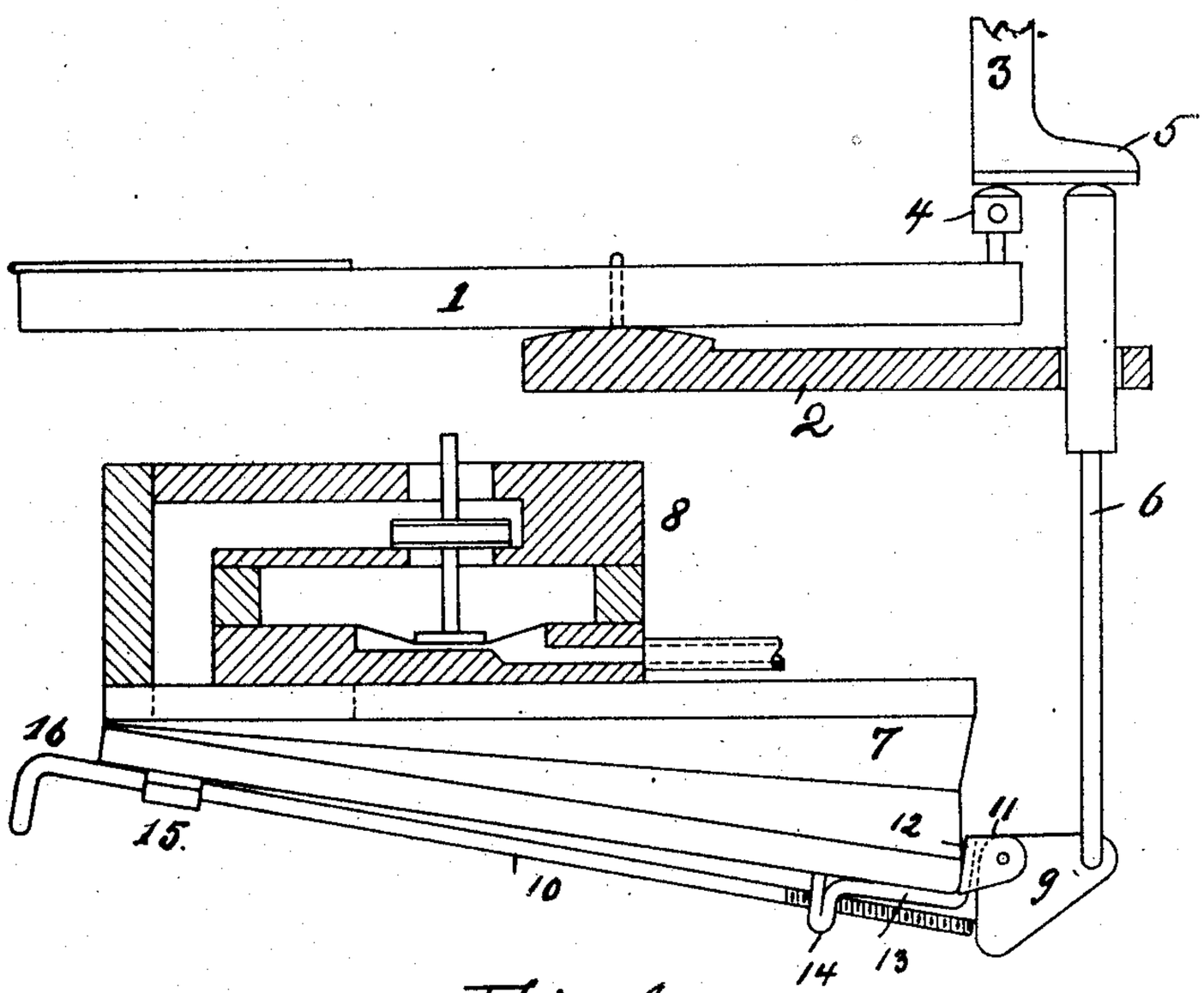

Fig: 1.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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PLAYING ATTACHMENT FOR MUSICAL KEY INSTRUMENTS.

No. 886,348. Specification of Letters Patent. Patented May 5, 1908.

Application filed November 5, 1907. Serial No. 400,796.

To all whom it may concern:

Be it known that I, ARTHUR T. CHESTER, a citizen of the United States, and a resident of Pelham Manor, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Playing Attachments for Musical Key Instruments, of which the following is a specification.

This invention relates to improvements in playing attachments for key musical instruments and particularly to improvements in that class of instruments in which the abstracts are actuated from motor pneumatics by means of a suitable mechanical connection extending from the motor pneumatic to the abstract.

The object of my invention is to provide a new and improved adjustable connection or power transmitting member extending from the motor pneumatic to the abstract and capable of neat adjustment so that all lost motion between the motor pneumatic and the abstract can be avoided and thus greater accuracy, efficiency and beauty of playing attained.

In the accompanying drawings, in which like letters of reference indicate like parts in all the figures: Figure 1 is a vertical transverse sectional view through part of a piano playing attachment provided with my improvement. Fig. 2 is a side view of the adjustable piece to be attached to the motor pneumatic. Fig. 3 is an inner face view of the same.

The key 1 is mounted in the conventional manner on the key bed 2 and its inner end is beneath the abstract 3 of the piano mechanism, which abstract rests in the conventional manner upon an adjustable head 4 at the inner end of the key.

The abstract is provided with a toe 5 or lateral extension which rests upon a power transmitting or push rod, suitably guided and operated by a motor pneumatic 7 of conventional construction, the upper board of which pneumatic is secured to a valve chest 8 containing the valves as commonly provided for controlling such pneumatic and causing its collapsing by the exhaustion of the air.

When the pneumatic is collapsed, the rod 6, being connected with the lower movable board of the pneumatic, is moved upward and thus forces the abstract upward causing the corresponding string of the piano to be struck. If there is any space, even if the same is extremely small, between the upper end of the rod 6 and the abstract there will be a certain irregularity in the playing on account of the lost motion and hence it is essential that the rod 6 shall be so adjusted that there will be absolutely no space between its upper end and the corresponding abstract and consequently no lost motion. For the purpose of readily and easily accomplishing such adjustment the lower end of the push rod or connecting rod 6 is connected with a piece 9 pivotally connected with the movable board of the bellows and for the purpose of adjusting the pivoted piece 9, I provide a screw rod 10 suitably mounted on the outside of the bottom or movable board of the bellows. The angle piece 9 is pivoted between two lugs 11 projecting from the upturned end 12 of a metal strip 13 the opposite end 14 of which strip is doubled over and bent to extend in the reverse direction of the end 12. A screw threaded hole is made in the doubled end 14 through which hole the threaded portion of the screw rod 10 is passed. This screw rod is suitably held on the underside of the movable board of the bellows by a clip 15 and the bent outer end 16 of the screw rod projects some distance beyond the bellows for facility in operating. The plate or strip 13 is placed against the underside of the movable board of the bellows at the swinging end of such board in such a manner that the bent end 12 of the metal strip 13 rests against the end edge of the board and the doubled apertured end 14 projects from the under face of the movable board. A screw 17 is passed through a suitable hole in the strip 13 into the underside of the movable bellows board. The metal strip 13 with the angle piece 9 is pivoted thereon and the screw rod 10 screwed into the doubled end 14 can be assembled as an entirety for attachment to the bellows and after the bellows have been secured in place it is only necessary to connect the lower end of the rod 6 with the angle piece 9. The weight of the rod 6 presses down the angle piece, pressing one side or shank of the same against the inner end of the screw 10. If the upper end of the rod 6 is not in contact with the underside of the abstract or its toe, it is only necessary to turn the screw rod 10 in such a manner that it moves lengthwise toward the angle piece 9 whereby the latter is swung up sufficiently to

bring the upper end of the rod 6 in contact with the underside of the abstract. If it is found that the rod 6 holds the abstract too high so that the latter cannot come in contact with the button 4 on the key, all that is necessary is to turn the screw rod in reverse direction.

By this attachment a neat and perfect adjustment is readily obtained, by simple and inexpensive means and without requiring any change whatever in the construction of the motor pneumatic, its valve chest or in the abstract.

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

1. The combination with a motor pneumatic and an abstract, of an adjustable piece on the motor pneumatic, motion transmitting means extending from said adjustable piece to the abstract and a rod mounted on the pneumatic to turn axially, one end of said rod being threaded and means at the opposite end of said rod for turning it and a threaded piece secured on the pneumatic, through which threaded piece the threaded part of the rod is screwed, said rod serving to adjust the adjustable piece on the pneumatic, substantially as set forth.

2. The combination with a motor pneumatic and an abstract, of a pivoted adjustable member on the motor pneumatic, at the swinging end of the movable board, a motion transmitting member extending from said pivoted member to the abstract and means on the motor pneumatic for adjusting the pivoted member, substantially as set forth.

3. The combination with a motor pneumatic and an abstract, of a pivoted adjustable member on the motor pneumatic, at the swinging end of the movable board, a motion transmitting member extending from said pivoted member to the abstract, a screw on the motor pneumatic for adjusting the pivoted member which screw extends beyond the hinged end of the movable board of the pneumatic, substantially as set forth.

4. The combination with a motor pneumatic and an abstract, of a member hinged to the movable board of the motor pneumatic at the swinging end of the same and a motion transmitting member extending from the pivoted member to the abstract, and a screw mounted on the movable board of the pneumatic and bearing with one end on the pivoted member, substantially as set forth.

5. The combination with a motor pneumatic, of a metal plate having jaws at one end, and secured to the movable board of the motor pneumatic at the swinging end thereof, a piece pivoted in the jaws, a screw rod screwed through a hole in the metal plate, the pivoted member resting against the end of said screw, and a motion transmitting member extending from the pivoted piece to the abstract, substantially as set forth.

6. The combination with a motor pneumatic and an abstract, of a metal strip having its two ends bent in opposite directions, one end having two lugs and the other having a threaded hole, said metal strip being secured to the under side of the movable board of the motor pneumatic at its swinging end and the end of the metal strip having the jaws resting against the end of the movable board, a piece pivoted between the jaws, a motion transmitting member extending from said piece to the abstract, and a screw secured through the threaded hole in the other bent end of the metal strip, substantially as set forth.

Signed at New York city in the county of New York and State of New York this 22nd day of October A. D. 1907.

ARTHUR T. CHESTER.

Witnesses:
A. W. SPENCE,
E. C. THOMPSON.