

J. WAUTERS.
TUNING DEVICE FOR SELF PLAYING MUSICAL INSTRUMENTS.
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1,014,925.

Patented Jan. 16, 1912.

Fig. 1.

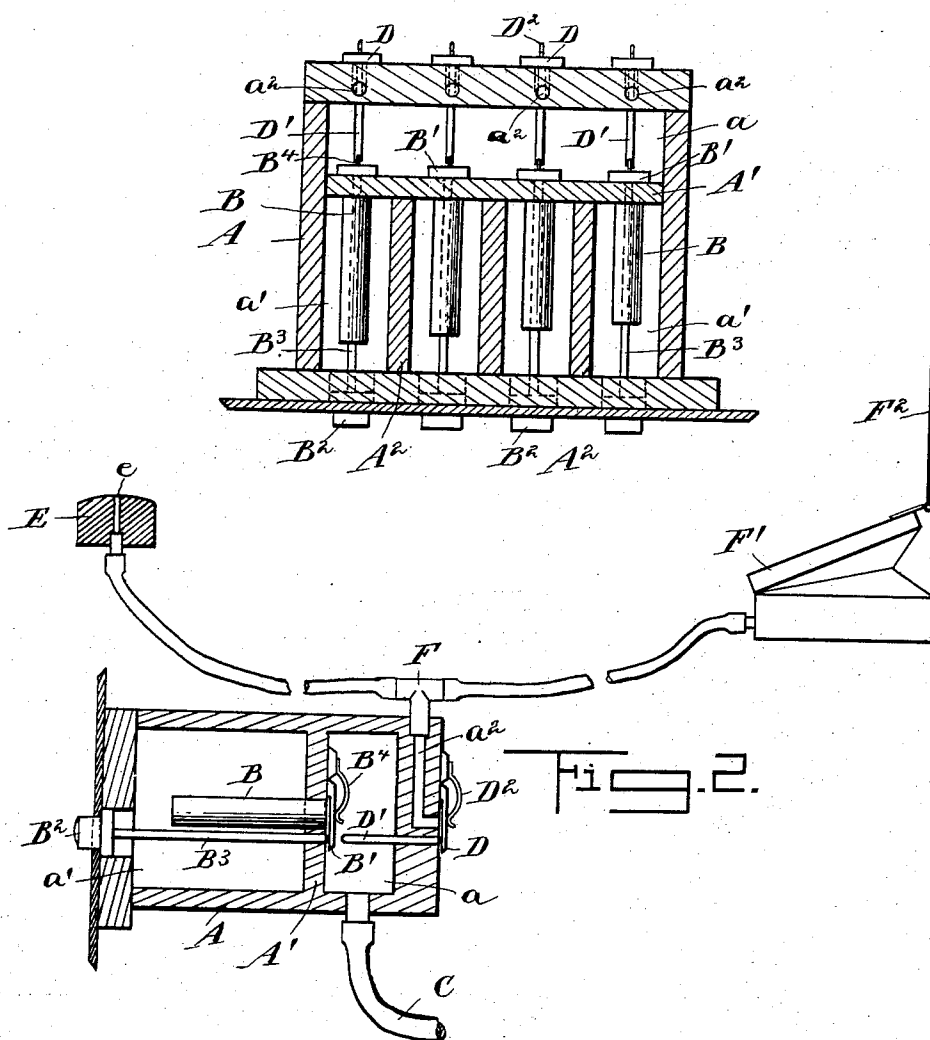


Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

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TUNING DEVICE FOR SELF-PLAYING MUSICAL INSTRUMENTS.

1,014,925.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Original application filed August 1, 1908, Serial No. 446,397. Divided and this application filed April 15, 1911. Serial No. 621,201.

To all whom it may concern:

Be it known that I, JOSEPH WAUTERS, a subject of the King of Belgium, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented a certain new and useful Improvement in Tuning Devices for Self-Playing Musical Instruments, of which the following is a specification.

The invention relates to means for tuning the strings of automatic instruments and particularly those of pneumatically operated self-playing instruments of the violin class.

The object of the invention is to provide simple, easily operated means for sounding pitchpipes or the like, tuned to the proper pitch of the strings, so that the latter may be readily brought into unison therewith, and for simultaneously sounding the string so that comparison with the pitchpipe is easily made and the correct pitch of the string readily determined.

The invention consists in certain novel features of construction and arrangement by which the above objects are attained, to be hereinafter described.

The accompanying drawings form a part of this specification and show the invention as applied to a self-playing instrument of the violin type.

Similar letters of reference indicate the same parts in both the figures.

Figure 1 is a horizontal section through the tuning device, and Fig. 2 is a corresponding vertical section partly in diagrammatic elevation showing the tuning device and its connections.

The violin may be understood to be mounted upon a suitable case, not shown, with its pegs easily accessible, and provided with a bow and fingering devices for each string, operated by pneumatics in any approved manner.

A is a box divided by a longitudinal vertical partition A^1 into a single closed compartment a on one side and by additional transverse partitions A^2 A^2 into four cells a^1 a^1 on the other. In each of the cells is a reed or pitchpipe B one for each string of a violin, conditioned when sounded to emit the note corresponding to its string at the desired pitch. Each pitchpipe is closed by a valve B^1 in the common compartment a from

which air is exhausted through a pipe C leading to an exhaust reservoir, not shown, and in the rear wall of the box are L-shaped passages a^2 a^2 each extending to the top of such wall and also opening to the rear face of the wall where it is normally closed by an air-valve D. At the top of the wall each passage a^2 receives a T F from one branch of which extends a tube to a corresponding bow-pneumatic F^1 , and from the other a tube to the bow-operating aperture e in the tracker-board E. A pushbutton B^2 is provided for each pitchpipe, preferably exposed conveniently on the exterior of the violin-supporting casing, not shown, and from the pushbutton extends a rod or wire B^3 through the partition A^1 to its valve B^1 , and immediately behind the valve but slightly separated therefrom is a similar rod or wire D^1 extending through the rear wall of the box and in contact with the air-valve D. Thus constructed and arranged, pressure upon one of the buttons opens its valve and causes its pitchpipe to sound; further movement of the button, the tracker bar duct e being open, causes the valve to act upon the wire D^1 and open the corresponding air-valve D, admitting air to the bow-pneumatic F^1 which through the connection F^2 from the latter actuates its bow, not shown, to vibrate the corresponding string of the violin and cause it to sound simultaneously with the pitchpipe. If the tones emitted by the pitchpipe and string are not in unison the string is tightened or loosened until the desired coincidence in pitch is attained. When the pushbutton is released the valves again close under the force of their springs B^4 D^2 and the impulses produced in the usual manner by the perforations in the music-sheet, not shown, pass unobstructedly from the tracker-board to the bow-pneumatic F^1 through the branches of the T F and are unaffected by the tuning device which remains entirely inactive until its pushbuttons are again thrust inwardly in the next tuning operation.

This application is filed as a division of my application Serial No. 446,397, filed August 1, 1908, in which the subject matter of the present application is shown and described but not claimed.

I claim:—

1. In a self-playing instrument, a tracker-

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board, a string-sounding pneumatic, a pipe connection from said tracker-board to said pneumatic, and a tuning device connected to said pipe, comprising a box, a partition therein, a pitchpipe in said partition, a valve 5 controlling said pitchpipe, an exhaust tube leading from said box, and means for moving said valve to sound said pitchpipe.

2. In a self-playing instrument, a tuning 10 device comprising a box, a partition therein dividing said box into compartments and having an opening leading from one of such compartments to the other, a pitchpipe in said opening and extending into one of said 15 compartments, a valve located in the other compartment and controlling said opening and pitchpipe, means for opening said valve, a passage in the wall of said box, an air-valve exterior to the latter and closing one 20 end of said passage, a pipe connection from a tracker-board to the open end of said passage, a pipe connection from the open end of said passage to a string-sounding pneumatic, and means actuated by the opening 25 movement of said valve for opening said air-valve.

3. In a self-playing instrument, a tuning device comprising a box, partitions therein forming a series of cells and a compartment, an opening from each of said cells to said 30 compartment, a pitchpipe in each of said openings, valves in said compartment for closing said openings, pushbuttons and means actuated thereby for opening said valves, a series of passages in the wall of 35 said box, and an air-valve for each of said passages, a T in the open end of each passage, a pipe connection from a tracker-board to one branch of said T, a pipe connection 40 from the other branch of said T to a string-sounding pneumatic, an exhaust tube leading from said compartment, and means actuated by the movement of said valves for opening said air-valves.

In testimony that I claim the invention 45 above set forth I affix my signature, in presence of two witnesses.

JOSEPH WAUTERS.

Witnesses:

E. L. BURNS,
NELLIE DUFFY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."