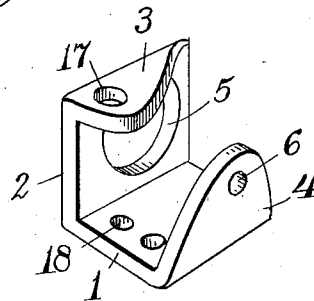
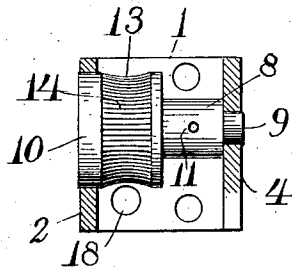
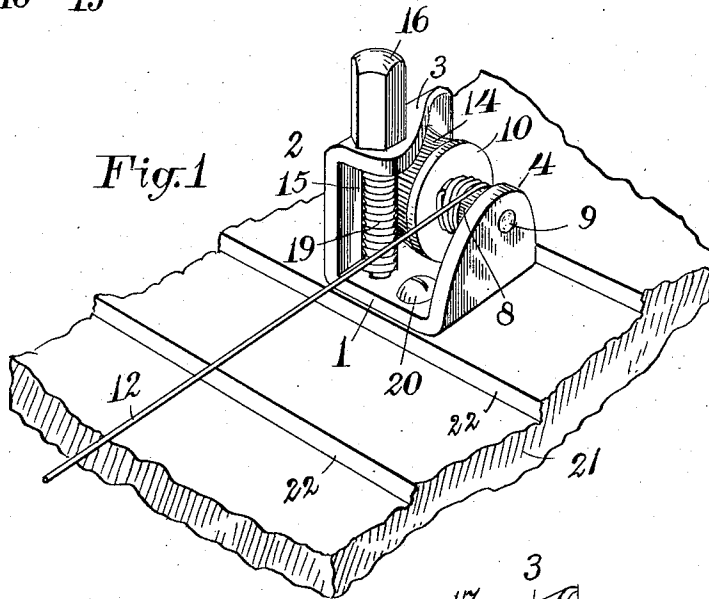
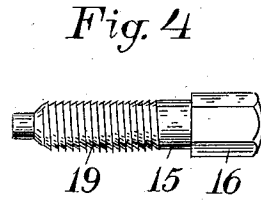
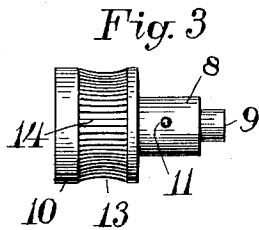


M. L. SEVERY & G. B. SINCLAIR.
TUNING DEVICE FOR PIANOS.
APPLICATION FILED JULY 1, 1909.

1,026,228.

Patented May 14, 1912.

2 SHEETS—SHEET 1.



Witnesses;
M. L. Severy
G. B. Sinclair

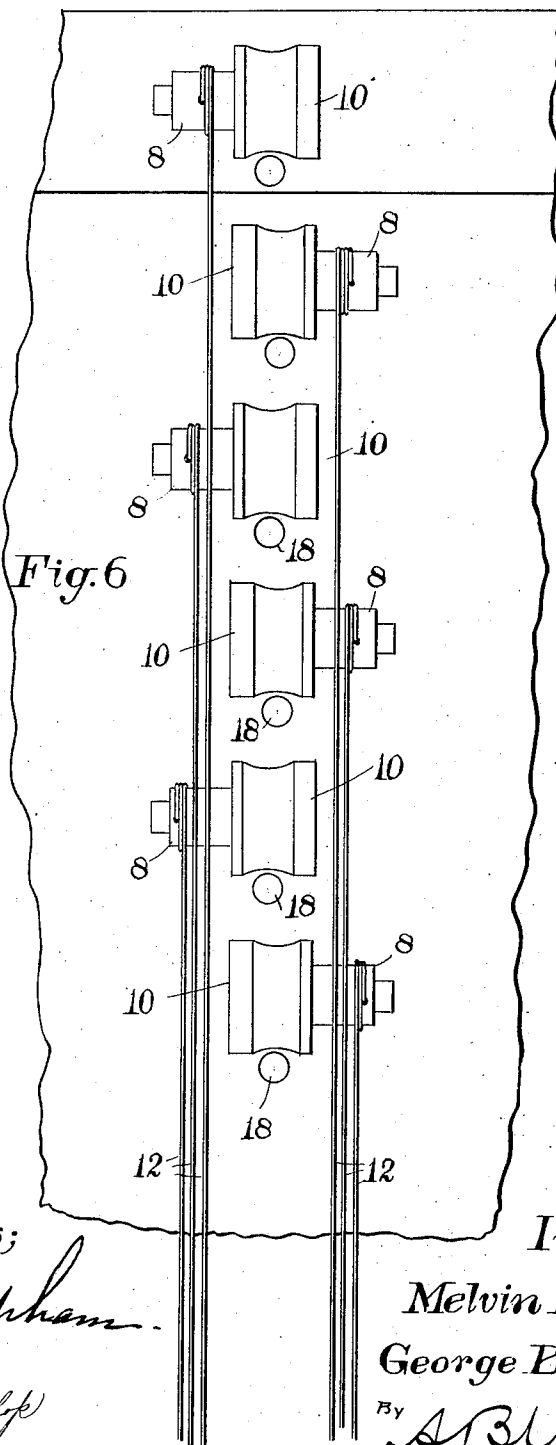
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

MELVIN L. SEVERY, OF ARLINGTON HEIGHTS, AND GEORGE B. SINCLAIR, OF MEDFORD,
MASSACHUSETTS.

TUNING DEVICE FOR PIANOS.

1,026,228.

Specification of Letters Patent.

Patented May 14, 1912.

Application filed July 1, 1909. Serial No. 505,404.

To all whom it may concern:

Be it known that we, MELVIN L. SEVERY, of Arlington Heights, in the county of Middlesex and Commonwealth of Massachusetts, and GEORGE B. SINCLAIR, of Medford, in said county and Commonwealth, both citizens of the United States, have invented certain new and useful Improvements in Tuning Devices for Pianos, of which the following is a specification.

This invention has for its object the effecting of the hereinafter described improvements in devices for tensioning or tuning the strings of pianos and the like.

Referring to the drawings forming part of this specification, Figure 1 is a perspective view of a tuning device made in accordance with our invention. Fig. 2 is a horizontal section of the same, but with the tangent screw removed. Fig. 3 is a face view of the winding member or drum. Fig. 4 is a side view of the tangent screw for rotating said drum. Fig. 5 is a perspective view of the body or frame in which the movable parts of the device are supported. Fig. 6 is a diagram illustrating the manner of grouping the tuning devices of neighboring strings.

The body or frame of this tuning device consists preferably of a length of heavy sheet metal shaped and bent to form two rectangular sides 1 and 2, and two incomplete sides 3 and 4. In the side 2 is a large circular opening 5, and directly opposite thereto and concentric therewith, in the incomplete side 4, is a smaller hole 6. Into said opening and hole is passed the rotatable member which comprises the winding drum 8, pintle 9 and head 10. Said pintle fits the said hole 6, and the head 10 fits the opening 5; said member being sufficiently loose therein to be capable of rotation. In said drum is a small hole 11 through which is introduced the end of the piano string 12, and which after a wind or two of the string has been made about the drum, effectually holds such string. Midway between the inner surface of the frame-side 2 and the inner end of the head 10, is a groove 13 formed with ratchet teeth 14 adapted to intermesh with the thread of the tangent screw 15. The head 16 of said screw is positioned above the incomplete side 3 of the frame; the screw itself passing through and turning in the opening 17. The lower end of this screw

is reduced in diameter and loosely fitted to the hole 18 in the frame-bottom 1. As illustrated in Fig. 1, the string 12 is wound upon the drum 8 in a direction to press the teeth 14 down upon the screw thread 19 of said tangent screw, and to thereby hold said screw in the seat or hole 18.

To insure a better grip of the teeth 14 upon the screw thread 19, we prefer to form the same to be of ratchet type, with the upper face of the screw thread horizontal, and its under face oblique. This causes the engaging surfaces to lie in a substantially horizontal plane at right angles to the line of pressure, and consequently materially reduces the frictional resistance between said screw and teeth when turning the screw.

The tuning device is fastened in place by means of one or more screws 20 entered through suitable holes in the frame-bottom 1, and secured in the plate 21. As shown in Fig. 1, said plate is stepped in order to enable the two or three strings customarily employed for a single note, to pass one above another without interference. Although said plate is illustrated with three such steps 22, we do not confine ourselves to such number.

To permit a plurality of strings to be grouped closely enough together to constitute a single note, and these multiple-stringed notes to be brought within the usual space, we find it best to make half of the tuning devices right handed and the others left handed, as illustrated in Fig. 6. Said figure shows a group of six tuning devices tensioning the strings of two adjacent notes, each note having three strings. For the sake of clearness in illustration, only the winding members 8 and the holes 18 are shown in each case but the same are sufficient to disclose the right and left handed arrangement spoken of. By alternating, as shown, the six tuning devices, and having three project toward the right and three toward the left, they are made to occupy no more space transverse to the strings than is required for the three tuning devices of a single note.

The parts composing this tuning device are put together without further work than the slight effort of assembling them; the winding drum being first introduced into its hole 6 and opening 5 through the latter. Then the tangent screw is put in place and, by its engagement with the groove 13, locks

the winding member in place. As before stated, the pressure given by the tensioned string through the ratchet teeth 14 and the screw thread 19, causes the tangent screw to be held in its place.

What we claim as our invention and for which we desire Letters Patent is as follows, to wit:—

1. A tuning device for stringed instruments comprising a hollow supporting member consisting of a top, bottom and two opposing sides, a small bearing-opening being formed in one of said sides and a large bearing-opening in the opposing side, said openings being in axial alinement, a small bearing-opening being formed in said bottom and a slightly larger one directly above it in said top, a member consisting of a toothed head, a winding drum and a pintle, said pintle fitting in the first-named small bearing-opening and said head fitting in the first-named large bearing-opening, and a tangent screw passed through and rotatable in the second-named larger bearing-opening and having a small end turning in the second-named small bearing-opening, said tan-

gent screw engaging said toothed head and the latter being formed with an annular groove entered by said screw to enable the screw to retain the winding drum in place in its bearings.

2. A tuning device for stringed instruments comprising three separable members, one being a single integral supporting member having bearing-openings therein, another being a winding member fitted to certain of said openings and having a toothed head, and the third member being a tangent screw fitted to the other of said bearing-openings, the winding member being adapted to be introduced into its bearing openings, and then the tangent screw into its bearing openings, the tangent screw acting to lock the winding member in place.

In testimony that we claim the foregoing invention, we have hereunto set our hands this 25th day of June, 1909.

MELVIN L. SEVERY.
GEORGE B. SINCLAIR.

Witnesses:

A. B. UPHAM,
E. V. MORRISON.

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