F. J. LATENDRESSE.

MUSIC LEAF TURNER.

APPLICATION FILED APR. 8, 1910.

993,179.

Patented May 23, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

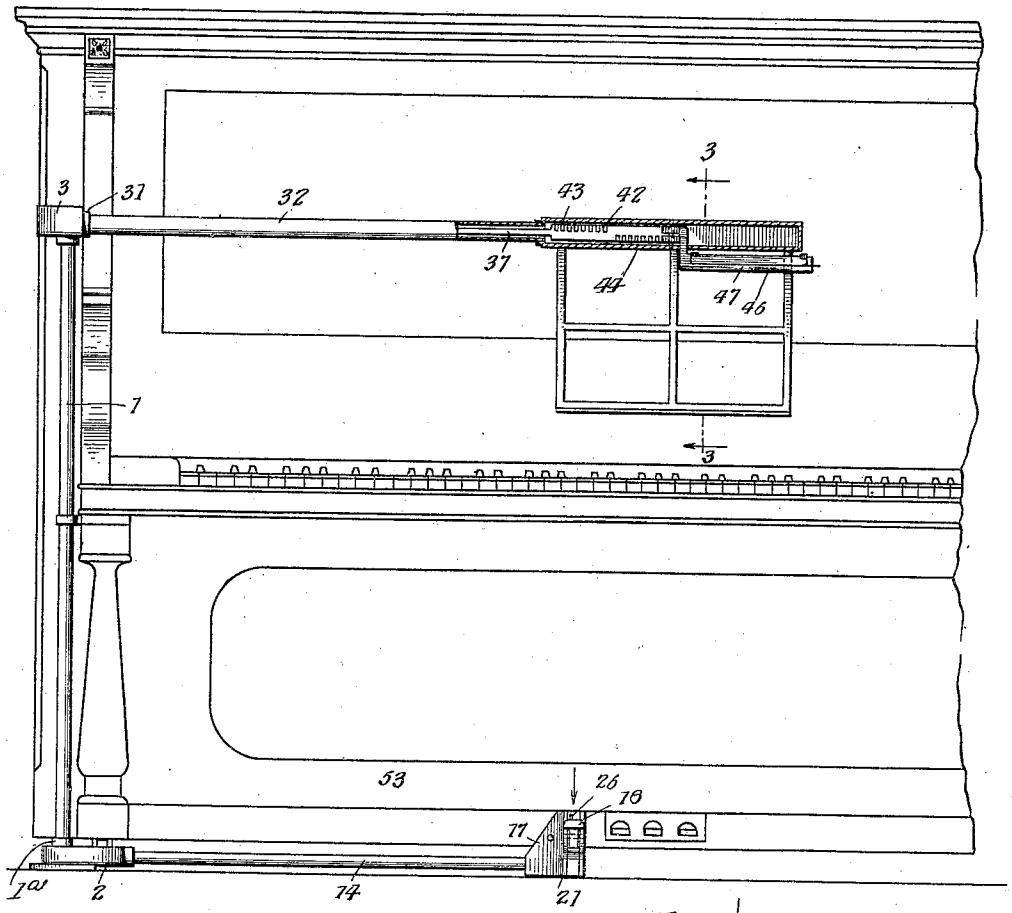
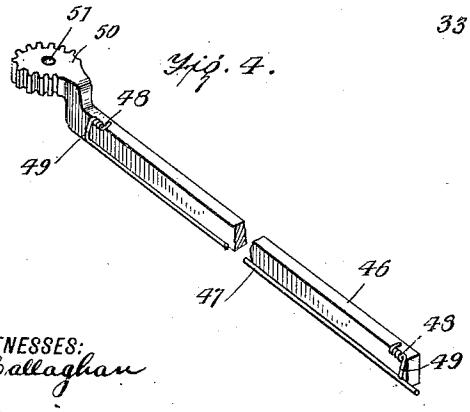


Fig. 4.



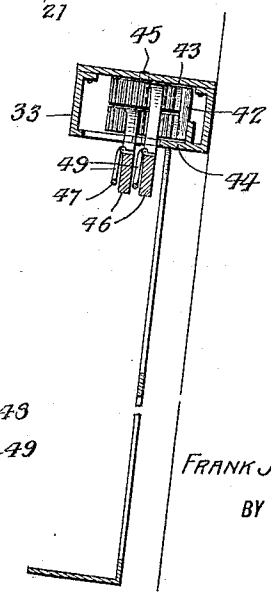


Fig. 3.

WITNESSES:

E. M. Callaghan

C. E. Trainer

INVENTOR

FRANK J. LATENDRESSE,

BY Munn & Co.

ATTORNEYS

F. J. LATENDRESSE.

MUSIC LEAF TURNER.

APPLICATION FILED APR. 8, 1910.

993,179.

Patented May 23, 1911.

2 SHEETS—SHEET 2.

Fig. 2.

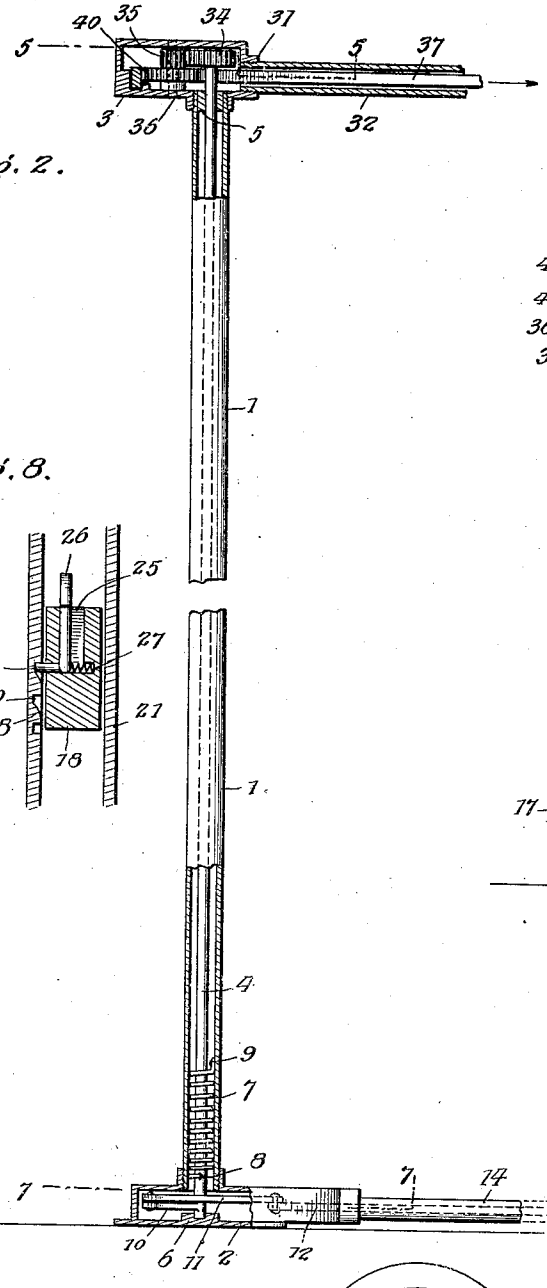


Fig. 5.

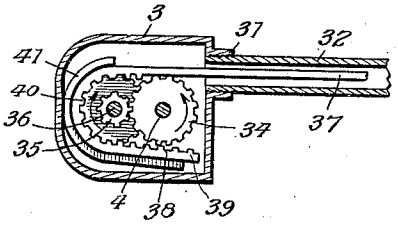
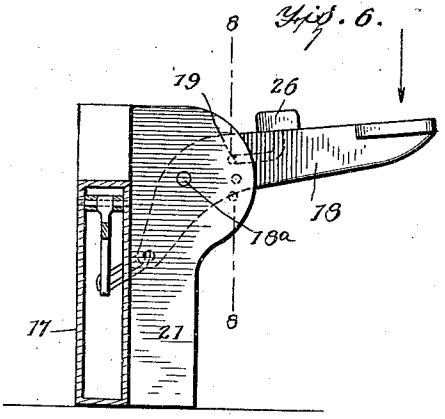


Fig. 8.

Fig. 6.



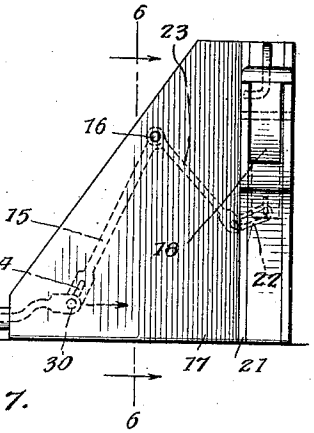
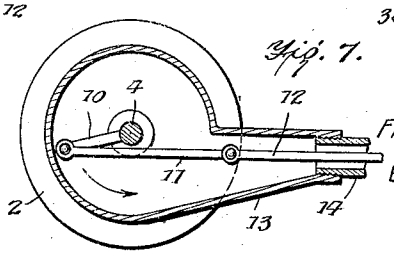


Fig. 7.



WITNESSES:

E. M. Callaghan

C. E. Palmer

INVENTOR

FRANK J. LATENDRESSE,

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

FRANK J. LATENDRESSE, OF HUGO, MINNESOTA.

MUSIC-LEAF TURNER.

993,179. Specification of Letters Patent. Patented May 23, 1911.

Application filed April 8, 1910. Serial No. 554,100.

To all whom it may concern:

Be it known that I, FRANK J. LATENDRESSE, a citizen of the United States, and a resident of Hugo, in the county of Washington and State of Minnesota, have made certain new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

My invention is an improvement in music leaf turners, and consists in certain novel constructions, and combinations of parts, hereinafter described and claimed.

The object of the invention is to provide a cheap and simple device of the character specified, which may be operated by repeated downward movements of the foot to turn a plurality of leaves in succession.

Referring to the drawings, forming a part hereof, Figure 1 is a front view of the improvement in place on a piano, Fig. 2 is a front view partly in section, Fig. 3 is a section on the line 3—3 of Fig. 1 looking in the direction of the arrow, Fig. 4 is a detail perspective view of one of the turning arms, Fig. 5 is a section on the line 5—5 of Fig. 2, Fig. 6 is a section on the line 6—6 of Fig. 2, Fig. 7 is a section on the line 7—7 of Fig. 2, and Fig. 8 is a section on the line 8—8 of Fig. 6.

The embodiment of the invention shown in the drawings, comprises a hollow standard 1, circular in cross section, having a hollow cylindrical base 2, and a substantially square hollow top casing 3. A shaft 4 is rotatable in the standard in a bearing 5 at the top thereof, and in a step bearing 6 in the base. A coil spring 7 encircles the shaft in the standard, one end being secured to the shaft, as at 8, and the other to the standard as at 9, and normally holds the shaft in a definite position.

At its lower end the shaft is provided with a crank arm 10, and a link 11 is pivoted by one end to the crank, the other end being pivoted to a rod 12, which extends through an extension 13 of the base, and a pipe 14 leading from the extension, to a connection with one of the arms 15, of an elbow lever, pivoted at 16 in a casing 17 with which the outer end of the pipe is connected.

A treadle 18 is pivoted as at 18ª in a lateral extension 21 from the casing 17, one end of the treadle extending out of the casing in position for engagement by the foot of the player. A catch 19 extends laterally from a lever 24 mounted for swinging movement in a slot 25 in the treadle, the lever being operated by a handle or head 26 outside of the treadle, and is adapted to engage one of a series 20 of openings in the side wall of the casing extension to hold the treadle from upward movement.

The lower walls of the upper openings 20 are inclined as shown at 28, so that no resistance is offered to the downward movement of the treadle. The lower wall of the lowest opening however is not inclined so that when the catch engages therewith the treadle is prevented from further downward movement. A spring 27 acts normally to hold the catch in engagement with the openings. The inner end of the treadle is connected by a loop 22 with the other arm 23 of the elbow lever before mentioned, so that when the treadle is depressed the lever is rocked.

The connection between the arm 15 of the elbow lever and the rod 12 is a lost motion connection, the arm having a slot 24, and the rod a pin 30 engaging the slot.

It will be evident that when the outer end of the treadle 18 is depressed, the inner end will be lifted, and the elbow lever 15—23 will be rocked on its pivot. The rod 12 will be drawn outwardly, and the shaft 4 will be oscillated. As the treadle is released, the spring 7 will return the shaft to its original position.

The casing 3 at the top of the standard is provided with a nipple 31, into which is threaded a pipe 32 leading to a casing 33, supported at the free end of the pipe. The shaft 4 has secured to the top thereof a gear wheel 34, which meshes with a pinion 35, on a stub shaft 36 journaled parallel with the shaft 4 in the casing 3. A rod 37 is slidable in the pipe 32, and the end 38 of the rod adjacent to the shaft 4 is flexible, and provided with rack teeth 39, which are in mesh with a gear wheel 40 on the stub shaft 36. The flexible end of the rod doubles around the gear wheel 40, as shown in Fig. 5, and a guide 41 is arranged in the casing 3 to hold the flexible end in position and in mesh with the gear wheel.

When the shaft 4 is oscillated, in the manner just described, the gear wheel 40 rotates at a much higher rate of speed, and the rod 37 is moved longitudinally of the pipe 32. The gear wheels 34 and 35 form a multiplying train of gears between the

shaft 4 and the stub shaft for increasing the speed of the stub shaft with respect to the shaft 4.

The outer end of the rod 37 is flattened and widened vertically as at 42, and is provided with a plurality of series 43, 44 of rack teeth, the series being offset laterally and vertically with respect to each other. The series 44 is nearer the outer end of the rod, and is at the lower side of the flattened position of the rod, while the series 43 begins as the series 44 ends and is at the upper edge of the rod.

A stub shaft 45 is journaled in the casing 33, and a plurality of arms 46 are mounted for swinging movement on the shaft. Each arm (Fig. 4) is of a length somewhat greater than the width of the sheet to be turned, and is provided on one face with a spring clip consisting of a wire 47 having a plurality of lateral arms, 49 pivoted to the arm 46, a coil spring 48 being arranged between each arm and the arm 46, to normally retain the wire rod 47 in contact with the face of the arm 46. Each arm is provided at one end with a vertically offset portion, which is formed into a gear segment 50 having a central opening 51 engaging the stub shaft. One of the arms has the gear segments offset to a greater extent as shown in Fig. 3, and has its gear segment journaled above the segment of the other arm, so that the arms proper are at the same level. When the rod 37 is moved longitudinally to the right of Fig. 1, which will occur every time the treadle is depressed, the first series 44 of teeth on the flattened portion will engage the lower segment, and swing the outer arm, from right to left of the stub shaft, and the edge of a leaf of music being inserted under the clip, the leaf will be swung with the arm. The treadle is held in position by the engagement of the catch 19 with one of the openings 20, and when the treadle is again depressed, the second series of rack teeth engage the lower pinion, and swing the second arm, turning the second leaf. The catch 19 now engages the lowermost opening, and when the treadle is released the arms swing back in reverse order, and when the selection of music has been finished, the turner is engaged with other leaves. Either arm can be moving in either direction without interfering with the other. It will be evident that more than two arms could be mounted in the same manner, but as a rule two are sufficient. The arm is firmly held in position when moved, and cannot swing when the treadle is released, since it is held by the catch.

The improvement is shown in position before a piano 53, and the pipes 14 and 32, and rods 12 and 37 are of sufficient length to permit the standard to be arranged at one side of the piano as shown, where it will not interfere with the movements of the performer. It will be evident that for use with other instruments the pipe and rods would be of lesser length, and many other modifications might be made without departing from the spirit of the invention.

I claim:

1. A music leaf turner comprising a hollow standard, a hollow base on which the standard is mounted, a pipe extending laterally from the base, a pipe extending parallel therewith from the top of the standard, a shaft journaled in the standard, means for rotating the shaft in one direction, a spring for returning the shaft, a catch for holding the shaft against the resistance of the spring, a rod slidable in the upper pipe and having its end adjacent to the shaft provided with rack teeth, a gear wheel engaging the rack teeth, a multiplying train of gears connecting the shaft with the gear wheel, a plurality of series of rack teeth on the outer end of the rod, said series being offset laterally and vertically with respect to each other, a plurality of arms having means for engaging the leaves of music, each arm having a vertically offset gear segment at one end, and a stub shaft on which the segments are journaled in superposed relation and in position for engagement by the series of rack teeth when the rod is moved.

2. In a music leaf turner, a vertical shaft, means for rotating the shaft in one direction, a spring for returning the shaft to original position, a stub shaft parallel with the vertical shaft, a multiplying train of gears connecting said shafts, a gear wheel on the stub shaft, a plurality of leaf turning arms arranged laterally with respect to the vertical shaft, a rod extending between the shaft and the arms, means in connection with one end of the rod and the arms for swinging said arms in succession when the rod is moved longitudinally, the other end of the rod being flexible, and having rack teeth meshing with the gear wheel, and a guide for holding the flexible end of the rod in a looped position around the gear wheel.

3. In a music leaf turner, a plurality of turning arms, means for swinging the arms in succession, a pivotally mounted treadle for operating the swinging means, and a catch on the treadle for preventing upward movement of the treadle, said catch comprising a lever in the treadle having a lateral extension, a casing in which the treadle is mounted having a vertical series of openings for engagement by the extension, and a spring pressing the extension into engagement with the openings, said lever having an operating handle extending out of the treadle.

4. In a music leaf turner, a plurality of

turning arms, means for swinging the arms in succession, a pivotally mounted treadle for operating the swinging means, and a catch on the treadle for preventing upward movement of the treadle, said catch comprising a lever having a lateral extension, a casing in which the treadle is mounted and having openings for engagement by the extension, and a spring engaging the bar to hold the catch in engagement.

FRANK J. LATENDRESSE.

Witnesses:
L. H. HENDERON,
JNO. K. KELLOGG.