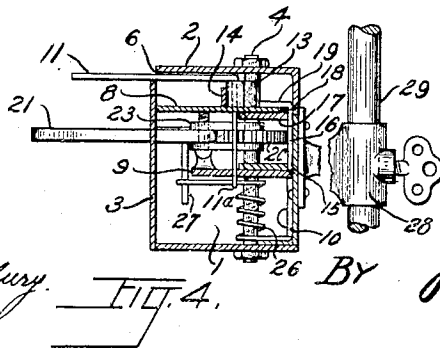
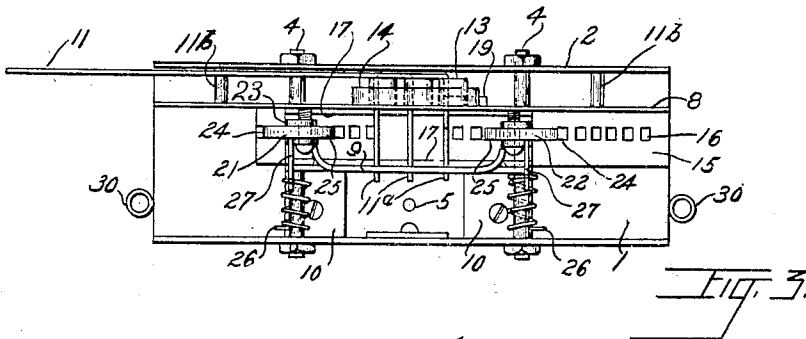
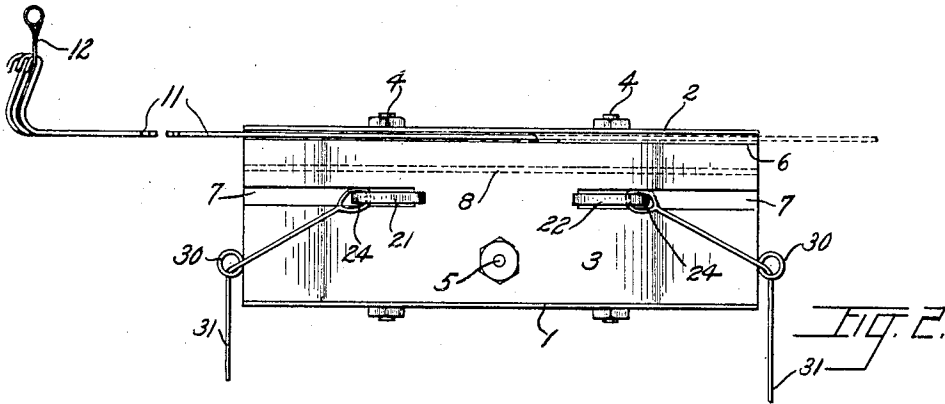
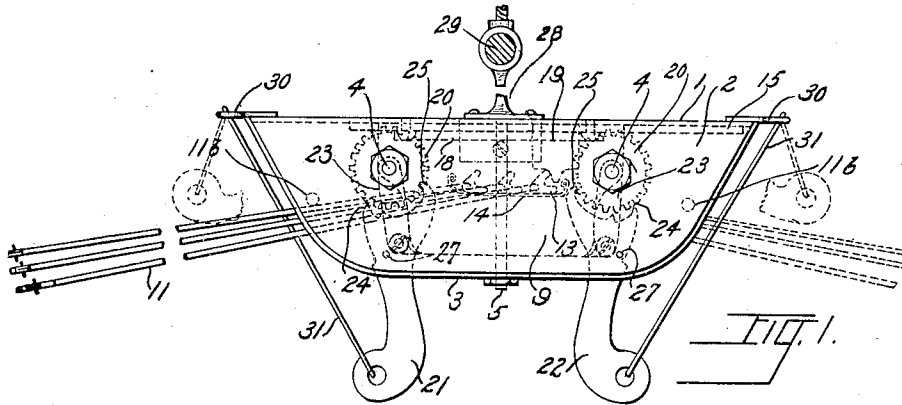


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MUSIC LEAF TURNER.
APPLICATION FILED APR. 24, 1909.

972,861.

Patented Oct. 18, 1910.

2 SHEETS—SHEET 1.



WITNESSES:
W. W. Withenbury

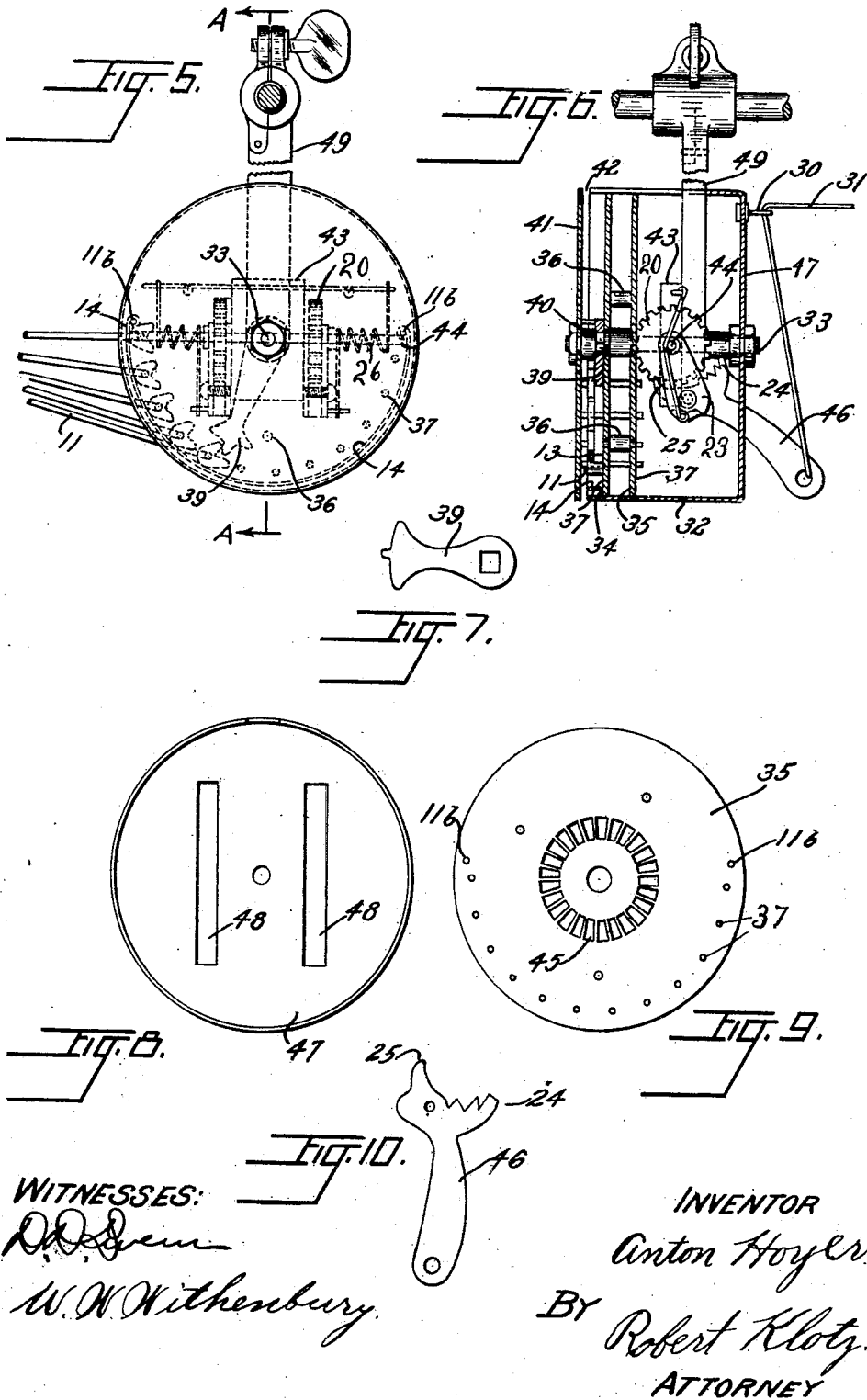
FIG. 4.

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MUSIC-LEAF TURNER.

972,861.

Specification of Letters Patent.

Patented Oct. 18, 1910.

Application filed April 24, 1909. Serial No. 491,997.

To all whom it may concern:

Be it known that I, ANTON HOYER, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Music-Leaf Turners, of which the following is a complete specification.

The main objects of this invention are to provide an improved construction of music leaf turner adapted to be attached to a music rack, piano, organ or other support for music leaves, and to be operated with the player's feet; to provide an improved mechanism for operating the leaf arms; to provide improved means for turning the leaves in either direction at the will of the operator and without in any way interfering with the use of his hands in playing; and to provide means for locking the arms against movement while the operating means are returning to normal position.

The invention consists of the matters hereinafter described in the specification and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a top plan view of a device embodying this invention, and showing in dotted lines the position of the pawl levers at the limit of their operative movement. Fig. 2 is a front elevation of the device. Fig. 3 is a view similar to Fig. 2, with the front plate removed and the mechanism shown in elevation. Fig. 4 is a transverse section of the device. Fig. 5 is a top plan view of a modified form of the device with part of the leaf arms removed. Fig. 6 is a section taken on line A—A of Fig. 5. Fig. 7 is a plan view of the actuating finger of the modified form. Fig. 8 is a bottom plan view of the casing of the modified form. Fig. 9 is a plan view of the rotative rack disk of the modified form. Fig. 10 is a side elevation of one of the pawl levers of the modified form.

As shown in said drawings: referring first to Figs. 1 to 4 inclusive, the casing 1, which may be of any preferred construction, but preferably of metal capable of taking a good finish, is provided with a removable cover 2, and a removable front wall 3, by means of which access may be had to the interior mechanism. The cover is secured in place by means of bolts 4 which extend through the bottom of the casing and cover and are situated one at each side of the center of the casing. The front wall 3 is

secured in place by means of a bolt 5 which extends through the back of the casing and said front wall. The front of said casing is preferably curved rearwardly at its ends, as shown more clearly in Fig. 1, and the front wall is spaced a distance from the cover to provide an arm slot 6. Beneath said arm slot, and extending from near the center of the casing to each end of the front wall are the lever slots 7. A shelf 8 is supported within said casing beneath the slot 6, and a shelf 9 is situated beneath the shelf 8 and is provided with downwardly directed ears 10 which are secured to the rear wall of the casing by means of bolts or screws. A plurality of leaf arms 11 have their rear ends 11^a bent downwardly and journaled in the shelves 8 and 9. Said arms extend forwardly through the arm slot 6, and are provided with clips 12 of any preferred construction, which are slidably secured thereon and are adapted to be engaged to the bottom of the music leaves. On each of said downturned ends 11^a, above the shelf 8, is a fork 13 which opens toward the rear end of the arm, and a leaf spring 14 is carried on the shelf 8 and bears against the front ends of the forks and, by creating tension thereon, acts as a brake to steady the movement of said arms. Stop pins 11^b are carried on said shelf 8 and act to limit the movement of said arms. Slidably mounted against the rear wall of said casing, between the shelves 8 and 9, is the rack bar 15, which is provided with a plurality of apertures 16 therethrough. Said rack bar is held in place against the rear wall by guide bars 17 which are secured on the bolts 4 and bear against the bar at its top and bottom. Carried on the upper edge of said rack bar 15 and projecting upwardly through a slot 18 in the shelf 8 is the operating finger 19, which as shown more clearly in Fig. 4, lies flat on said shelf in position to engage the forks 13 and is adapted to operate said leaf arms. Journaled on the bolts 4 are the gears 20 which mesh with the apertures 16 in the bar 15, and when either of said gears is rotated it acts to move the rack bar longitudinally. For the purpose of actuating said gears, pawl levers 21 and 22 are connected to said bolts 4 by means of links 23, and each is provided at its inner end, on the side adjacent the end of the casing, with an actuating pawl or tooth 24, adapted when the lever is moved toward the end of the cas-

ing, to engage the gear teeth and rotate the gear. On the inner side of each lever, or that adjacent the center of the casing, is a locking pawl or tooth 25, which, when the lever is in normal position, as shown in Fig. 1, is in engagement with the adjacent gear teeth and acts to hold said gear against reverse movement when the other lever is returning to normal position after being actuated. For the purpose of normally holding said levers at their inner limits of movement, with their pawls 25 in engagement with the gear teeth, a coiled spring 26 is carried on each bolt 4, and has one end thereof engaged behind the adjacent ear 10, and its other end is engaged to a pin 27 on the adjacent lever, and acts to hold the lever at the inner limit of its movement, or its normal position.

The casing may be provided with any desired means for supporting it in position to permit the arms to be attached to the music leaves, but, as shown, it is provided with a rearwardly extending bracket 28, adapted to be engaged to the standard 29 of the music rack and support the casing immediately beneath the music leaves. At each end of the casing is an eye 30, and a cord 31 is attached to the outer end of each lever and passes through the adjacent eye and downwardly to a foot pedal, not shown, at the bottom of the standard.

In the construction shown in Figs. 5 to 10 inclusive, the casing 32 is cylindrical and is provided with an axial shaft 33 which is non-rotatively secured therein. Journaled near the top of said casing on said shaft is a pair of disks 34 and 35, which are spaced a distance apart and are rigidly secured together by studs 36. Said disks are provided near their peripheries with a plurality of apertures 37, in which the downturned ends of the arms 11 are journaled. Rigidly secured on the shaft 33 above the disk 34 is the actuating finger 39 adapted to engage the forks 13 on said arms. A nut 40 is secured on said shaft above said finger and holds the finger in place, and the cover 41 rests on said nut and affords a slot 42 between its periphery and the side wall of the casing, through which the arms project. Rigidly secured on said shaft 33 beneath the disk 35 is a block 43, having laterally projecting shafts 44 thereon. Journaled on said shafts are the gears 20 which mesh in apertures 45 in the disk 35 and when rotated act to rotate said disks. The levers 46 are similar in construction to the levers 21 and operate said gears in the same manner. The bottom of the casing is provided with slots 48 through which said levers project, and a rearwardly projecting arm 49 is secured to the shaft 33, or to any other suitable stationary part and is adapted to be engaged to the standard of the music rack.

On the bottom of the casing, at the rear side thereof are the eyes 30 for the cord 31. The tension or brake spring 14 is carried on the stop pins 11^b.

The operation is as follows: The casing is attached to the music rack or other object on which the music is supported, at a point immediately beneath the music leaves. Each arm is attached to a leaf by means of the clips 12, and in the construction shown in Figs. 1 to 4 inclusive, when it is desired to turn a leaf the lever at the opposite end of the casing from that at which the arm may be positioned is operated and acts to move the rack bar longitudinally in the direction to bring the finger 19 into engagement with the fork 13 on the arm. As said finger moves past said fork it turns the arm and the leaf is carried therewith. As soon as the lever which has been operated is released it returns to normal position by the action of its spring 26, and the locking pawl on the opposite lever is held in engagement with its gear and holds the rack from backward movement. When it is desired to turn the leaves in the opposite direction, the other lever is operated.

In the construction shown in Figs. 5 to 10 inclusive the operation is similar with the exception that the finger is stationary and the arms are carried on the revolving disks and travel past said finger.

Obviously a music leaf turner constructed in accordance with this invention is adapted to turn the leaves of music in either direction, and obviously many details of invention may be varied without departing from the spirit of this invention.

I claim as my invention:

1. A music leaf turner comprising arms adapted to be secured to music leaves, means for supporting said arms, an actuating finger adapted to successively operate said arms when moving in either direction, a rack supporting said finger, gears meshing with said rack, means for operating each gear, and means for locking said gears from reverse movement while the operating means is returning to normal position.

2. A music leaf turner comprising a casing having an opening in the front side thereof, a plurality of arms journaled in said casing and protruding from said opening, a fork on the inner end of each arm, a rack slidably mounted in the casing, a forwardly directed finger thereon adapted to engage said forks and operate the arms in succession, a pair of gears journaled in the casing and each having engagement with said rack, levers pivoted in the casing, one adjacent each gear and having teeth thereon adapted to mesh with and operate the gear, and means for independently operating said levers.

3. A music leaf turner comprising a cas-

ing having an elongated opening in one side thereof, a plurality of leaf arms protruding from said opening and each having a downturned inner end, means providing journal bearings for said inner ends, a fork on each arm within the casing, an actuating finger adapted to successively engage said forks, a movable rack mounted in the casing, gears meshing with said rack, levers mounted adjacent said gears and having teeth thereon adapted to mesh with the gear teeth and each adapted to operate one of said gears and thereby swing said arms in one direction.

4. A music leaf turner comprising a casing, a plurality of arms pivoted therein, a fork on each arm, an actuating finger adapted to engage said forks and successively operate the arms, a rack adapted to bring said forks and finger into successive operative engagement with each other, a pair of gears engaging said rack, and means for operating said gears independently of each other.

5. A music leaf turner comprising a casing having an opening in one side, leaf arms protruding from said opening and having their inner ends journaled in the casing, a fork on the inner end of each arm, a movable rack in the casing, a finger on said rack

adapted to engage said forks in succession, a pair of shafts mounted in the casing, a gear journaled on each shaft and meshing with said rack, a lever adjacent each gear and having teeth thereon adapted to mesh with the gear teeth, links connecting each lever with the adjacent shaft, and means for operating said levers.

6. A music leaf turner comprising a casing, a plurality of arms pivoted therein, a fork on each arm, a rack bar slidably mounted in said casing, a finger thereon adapted to engage said forks and operate the arms in succession, a pair of gears engaging said rack, a lever pivoted adjacent each gear and each having means adapted to operate one of the gears and thereby operate the bar oppositely from the direction of the movement caused by the other lever, and means on each lever adapted to lock its gear from reverse movement.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

ANTON HOYER.

Witnesses:

W. W. WITTHENBURY,
W. A. SWAREN.