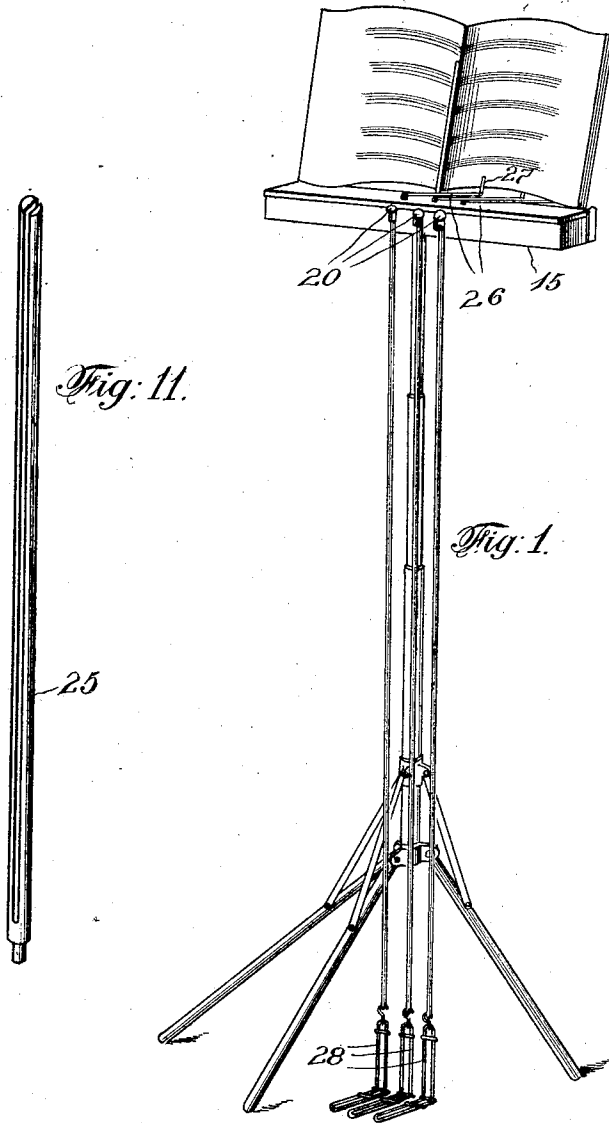


J. DIETHELM.
MUSIC LEAF TURNER.
APPLICATION FILED JUNE 22, 1909.

1,005,174.

Patented Oct. 10, 1911.

3 SHEETS—SHEET 1.



Witnesses:
John J. Kittel
Gustav Genglinger.

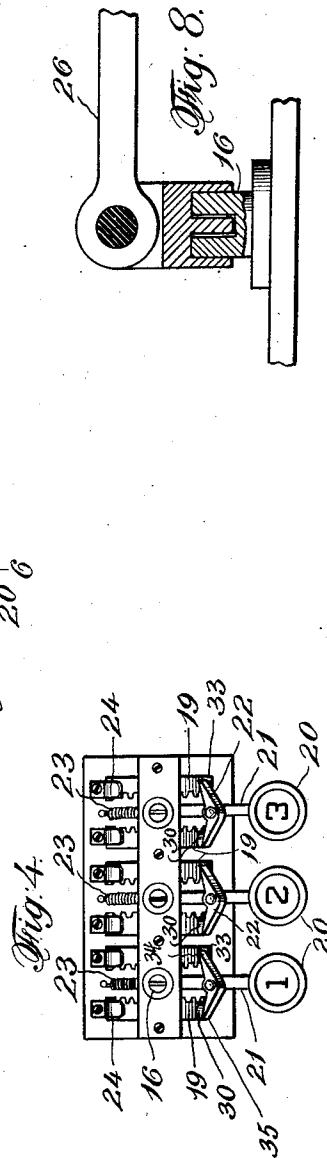
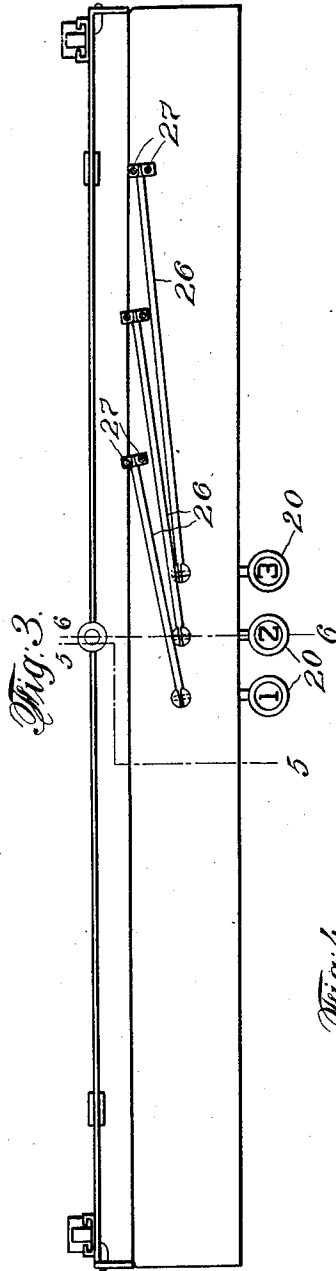
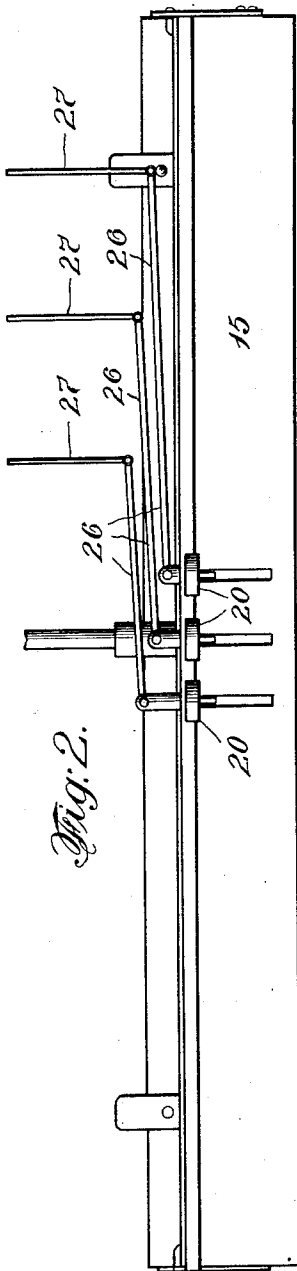
Inventor
John Diethelm
By his Attorney
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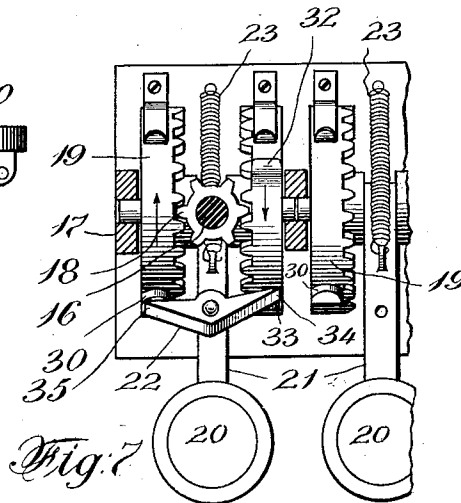
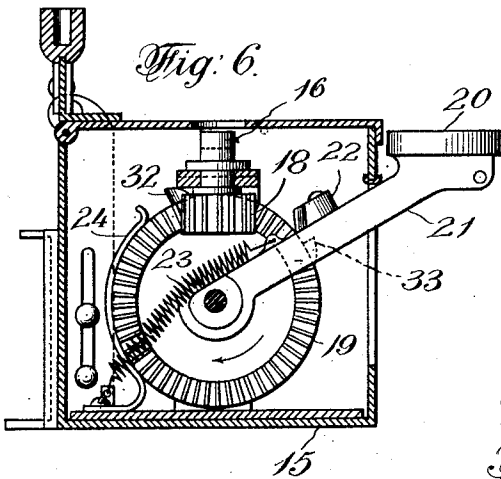
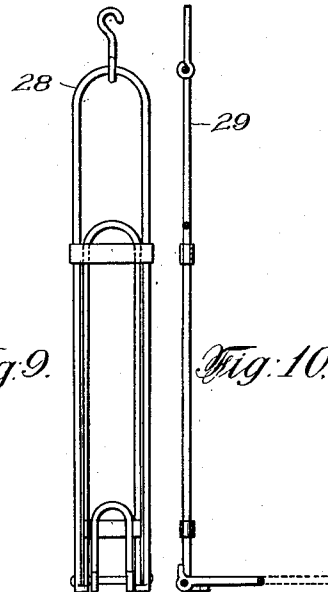
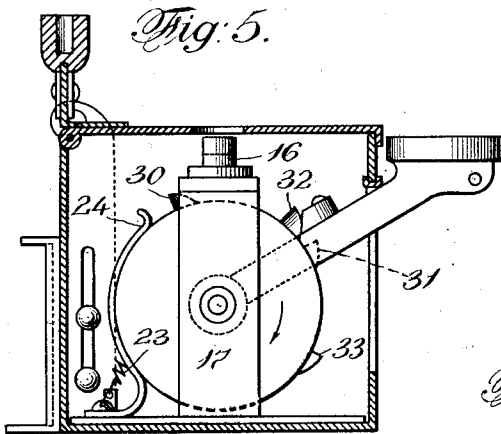
John Diethelm Inventor
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3 SHEETS—SHEET 3.



Witnesses:
John J. Kittel
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UNITED STATES PATENT OFFICE.

JOHN DIETHELM, OF NEW YORK, N. Y.

MUSIC-LEAF TURNER.

1,005,174.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed June 22, 1909. Serial No. 503,755.

To all whom it may concern:

Be it known that I, JOHN DIETHELM, a citizen of the United States, residing in the borough of Manhattan of the city of New York, in the county and State of New York, have invented a new and useful Music-Leaf Turner, of which the following is a specification.

My invention relates to a music leaf turner in which the leaf turning arms are operated by gear wheels arranged in pairs, a pair to each shaft carrying the leaf turning arms, and the objects of my invention are to provide a music leaf turner which may be used in connection with a piano, organ, music stand and even an ordinary table; by which the leaves of music may be turned in either direction, and which shall be simple in construction and cheap to manufacture.

I attain these objects by the device illustrated in the accompanying drawing in which,

Figure 1, is a perspective view of my music leaf turner attached to a music stand. Fig. 2, is a front elevation of my music leaf turner. Fig. 3, is a top plan thereof. Fig. 4, is a detail plan view of the operating device thereof. Fig. 5, is a sectional view on the line 5—5 of Fig. 3. Fig. 6, is a sectional view on the line 6—6 of Fig. 3. Fig. 7, is a partial plan and sectional view of the operating device. Fig. 8, is a detail sectional view of a leaf carrying arm. Fig. 9, is a front view of the hand and foot attachment. Fig. 10, is a side view of the same. Fig. 11, is the vertical music sheet clip.

Similar numerals refer to similar parts throughout the several views.

My music leaf turner is provided with the inclosing and supporting box, 15, within which vertical shafts, 16, are arranged in alinement on the same plane supported by the cross piece of a standard, 17, resting on the floor of the box, the heads of the shafts, 16, extending upward to openings in the top of the box. Each shaft, 16, has on its downward extending portion a pinion, 18, revolving with the shaft. Loosely attached to a horizontal axle pivoted in the uprights of the standard, 17, are wheels, 19, a wheel on either side of a shaft, 16, forming a pair for each shaft.

Each wheel, 19, has on its face toward the shaft, 16, teeth engaging with the pinion, 18, of the shaft, 16, and on its rim lugs or

spurs, the lugs or spurs, 32 and 33, being on the right hand wheel, 19, of each pair of wheels and the lugs or spurs, 30 and 31, being on the left hand wheel, 19, of each pair of wheels. The lugs or spurs, 30 and 32, are made higher than the lugs or spurs, 31 and 33, and with a rising curve on their fronts or faces and are perpendicular but with a rounded contour at their rears or backs. The lugs or spurs, 31 and 33, have a rising curve on their fronts, are lower than the spurs, 30 and 32, and are perpendicular but straight at their backs.

The wheels, 19, are so arranged on their axles that when in normal position or ready to operate the leaf carrying arms, the high lugs or spurs, 30 and 32, lie slightly alternate to the low lugs or spurs, 31 and 33, on the adjacent wheels, 19, as shown in Figs. 4 and 7. Operating keys, 20, having arms, 21, extending inwardly through the front of the box, 15, are loosely attached to the same shaft as the wheels, 19, an operating key for each pair of wheels. A dog, 22, is pivoted at its middle upon each arm, 21. The dogs, 22, are pointed at each of their ends, 34 and 35, and are beveled on their inward edges to adapt them to rise on the rising curved portions of the high lugs or spurs, 30 and 32, the intention being that when the music leaf turner is in position to operate, one end of a dog, 22, will rest upon the rising curved portion of a high lug or spur of a wheel, 19, and the other end thereof will tilt slightly downward and lie behind the perpendicular back of the alternate low lug or spur on the adjacent wheel, 19, Figs. 4 and 7. A coil spring, 23, is fastened at one end to each of the arms, 21, and at its other end at the bottom of the box, 15, having a tendency to pull the arm, 21, upward. At the rear of each wheel, 19, a spring, 24, is placed to regulate the rotation of the wheel, 19, to prevent it from attaining a position in which the dog, 22, of the adjacent operating key, 20, will not act or engage with the lugs or spurs on the rim of the wheel.

A vertical clip, 25, removably attached to the box, 15, is provided to hold the sheet music in a rigid and substantially upright position. The leaf holding members or arms, 26, have pivoted shoulders removably attachable to the heads of the shafts, 16, an arm to each shaft, and have pivoted leaf clips, 27.

The operation of my device is as fol-

lows: Its removable parts having been adjusted my music leaf turner is placed on the front of a piano or organ or upon a table, the form of the box not requiring any means of attachment. The sheet music is inserted in the vertical sheet clip, 25, to hold it rigid at that part and each separate leaf is caught between the proper leaf clip, 27, the sheet music to be turned then being at the right hand side of the turner, and one end, 34, of each of the dogs, 22, on the arms of the operating keys, 20, lying behind the perpendicular back of the low lug or spur, 33, of each right hand wheel, 19, and the other end, 35, of each dog, 22, resting upon the rising portion of the high lug or spur, 30, of each left hand wheel, 19, Figs. 4 and 7. A downward pressure of the first operating key, 20, pulls forward its dog, 22, owing to the downward movement of the arm, 21, the end, 34, of the dog engaging with the low spur, 33, carries with it or pulls forward the right hand wheel, 19, causing the wheel to perform a partial revolution forward and its adjacent shaft 16, because of the teeth on the wheel engaging with the pinion on the shaft, to turn from right to left and to carry over the leaf carrying arm attached to the shaft from right to left, this action being repeated until all the leaves have been turned from right to left. When the right hand wheel, 19, turns forward, the left hand wheel, because of the engagement of the teeth on this wheel with the pinion on the shaft turns rearward. After the leaves have been turned from right to left if it is desirable to turn them back or from left to right the action is as follows: The release of the operating key, 20, returning it to a neutral position carries upward with it the dog, 22, on the arm 21. The rearward revolution above mentioned of the left hand wheel, 19, brings its spurs into proper alternate relation with the spurs on the right hand wheel, 19, which has revolved forward. The release of the operating key, 20, through the upward movement of the arm, 21, thereof brings the position of the ends, 34 and 35, of the dog, 22, relative to the spurs on the wheels, the reverse of that shown in Figs. 4 and 7, that is, the end, 34, of the dog rests on the rising portion of the high spur on the right hand wheel and the end, 35, lies behind the low spur on the left hand wheel. A downward pressure of the key, 20, will then cause the left hand wheel to turn forward and cause the shaft, 16, to which the leaf-carrying arm is attached to turn from left to right and carry over the sheet of music, the right hand wheel, 19, in this case turning rearward, the keys being operated in reverse order, that is, beginning with key 3, until all the sheets have been turned from left to right. An individual leaf of music may be turned in either direction provided it is not

in a position to be interfered with by contact with another leaf in course of turning.

My device may be used with a music stand by any suitable means of clamp arrangement. Operation may be had by hand or foot attachments, 28 and 29, by hanging them from the underside of the operating keys, 20. The lid of the box, 15, is arranged to lift and the removable parts of my music leaf turner may be placed therein when not in use.

Having fully described my invention what I claim and desire to protect by Letters Patent is:—

1. A music leaf turner comprising, with suitable means of support, vertical shafts arranged in the same plane and having pinions, leaf holding members attached to said shafts, vertical wheels arranged in pairs, a pair to each of said vertical shafts, having on their inner edges teeth engaging the pinion on the adjacent vertical shaft and spurs on their rims, and actuating keys having arms with dogs engaging the spurs on said wheels, an actuating key for each pair of wheels operating such pair; substantially as described and set forth.

2. A music leaf turner, comprising a supporting box, a vertical sheet clip attached to said box, vertical shafts located in the same plane in said supporting box and provided with a pinion on each shaft, leaf holding members attached to the heads of said shafts, vertical wheels arranged in pairs, a pair to each vertical shaft, having on their inner edges teeth engaging the pinion on the adjacent vertical shaft and spurs on their rims, springs regulating the rotative distance of said wheels, and actuating keys having arms with dogs engaging the spurs on said wheels, an actuating key for each pair of wheels operating such pair; substantially as described and set forth.

3. A music leaf turner, comprising a supporting box, vertical shafts located in the same plane in said supporting box and provided with a pinion on each shaft, leaf holding members attached to the heads of said shafts, vertical wheels arranged in pairs, a pair to each vertical shaft, having on their inner edges teeth engaging the pinion on the adjacent vertical shaft and spurs on their rims, springs regulating the rotative distance of said wheels, actuating keys having arms with dogs engaging the spurs on said wheels, an actuating key for each pair of wheels operating such pair, and springs returning the actuating keys to an operating position, substantially as described and set forth.

4. In a music leaf turner having a supporting base and leaf holding members, the combination of a vertical shaft, having a pinion thereon, located on said supporting base, vertical wheels arranged as a pair, one

wheel on either side of said vertical shaft, having teeth on their inner edges engaging the pinion on the vertical shaft and spurs on their rims, and an actuating key having
5 an arm with a dog engaging the spurs on the rims of said pair of wheels, substantially as described and set forth.

5. In a music leaf turner having a supporting base and leaf holding members, the
10 combination of a vertical shaft, having a pinion thereon, located on said supporting base, vertical wheels arranged as a pair, one wheel on either side of said vertical shaft,

having teeth on their inner edges engaging the pinion on the vertical shaft and spurs on
15 their rims, springs regulating the rotative distance of said pair of wheels, an actuating key having an arm with a dog engaging the spurs on the rims of said pair of wheels, and a coil spring returning said key to an
20 operating position; substantially as described and set forth.

JOHN DIETHELM.

Witnesses:

ADOLF H. MERTZ,

J. BREITHART.

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