

G. E. JONES.  
MUSIC LEAF TURNER.  
APPLICATION FILED APR. 9, 1912.

1,040,209.

Patented Oct. 1, 1912.

3 SHEETS—SHEET 1.

Fig. 1.

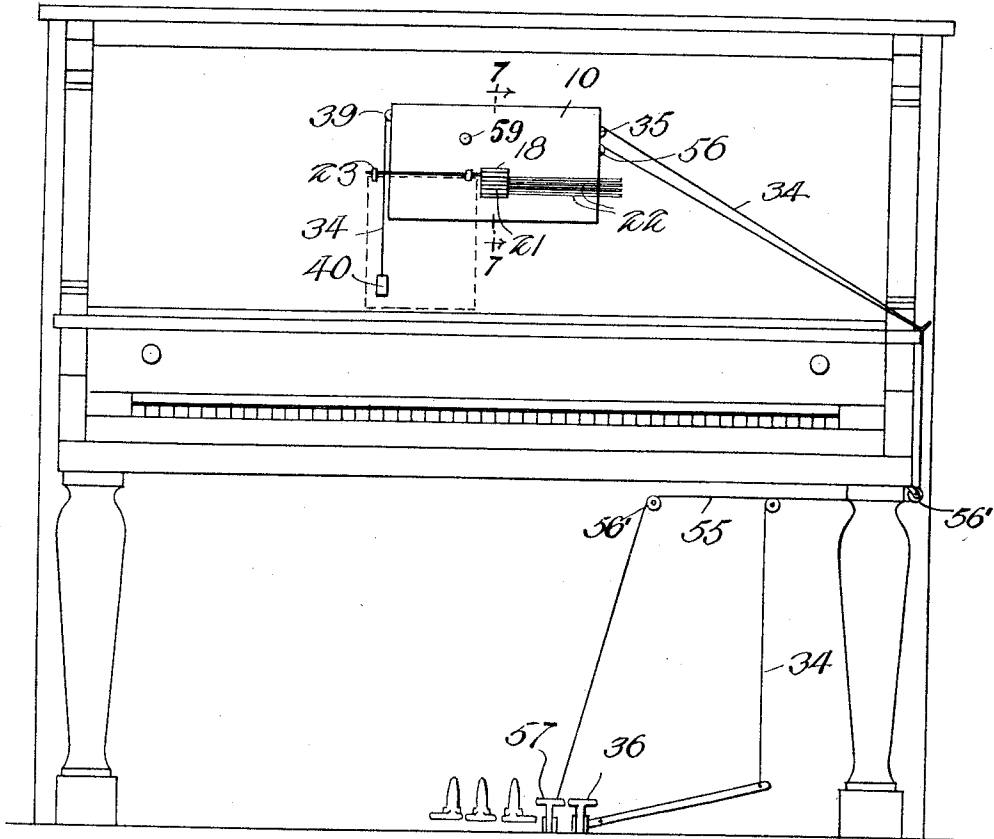
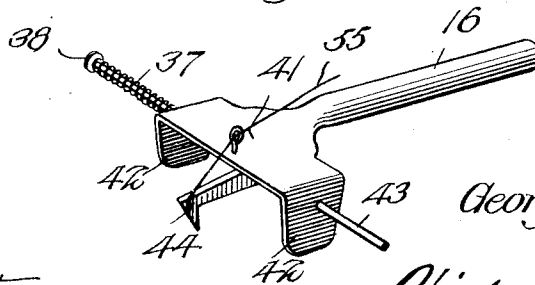


Fig. 8.



Witnesses

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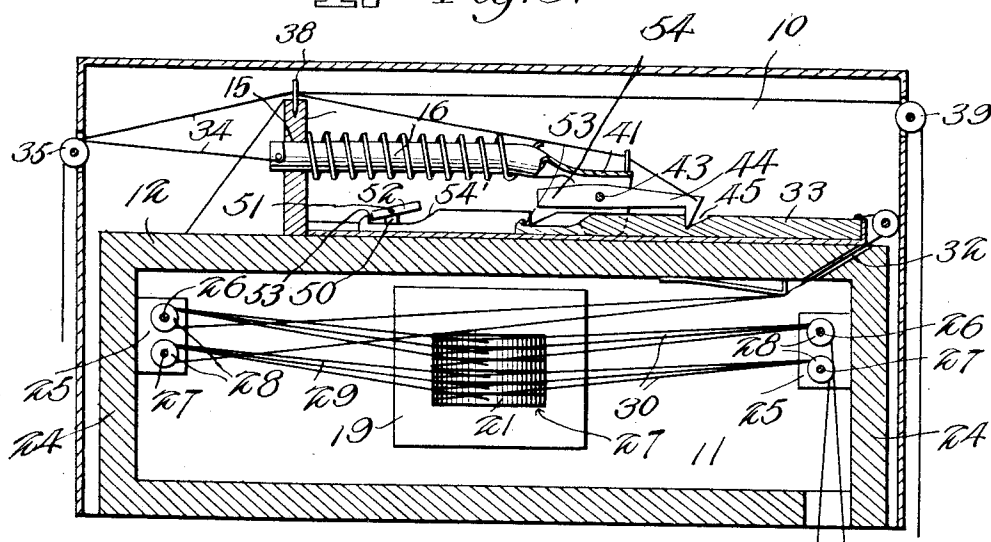
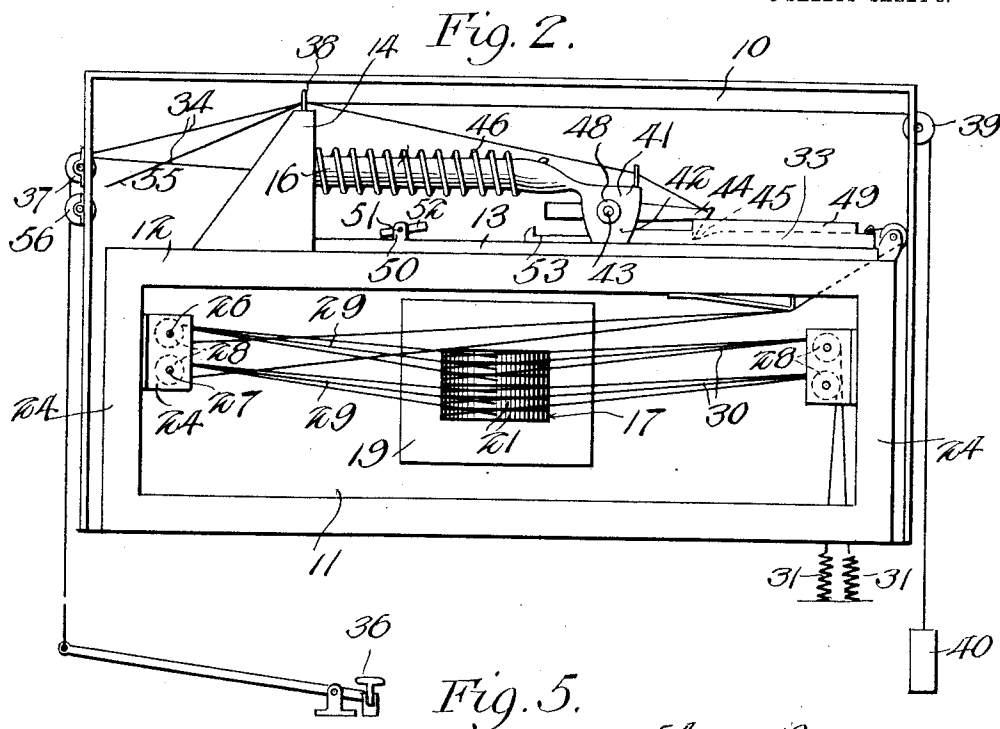
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3 SHEETS—SHEET 2.



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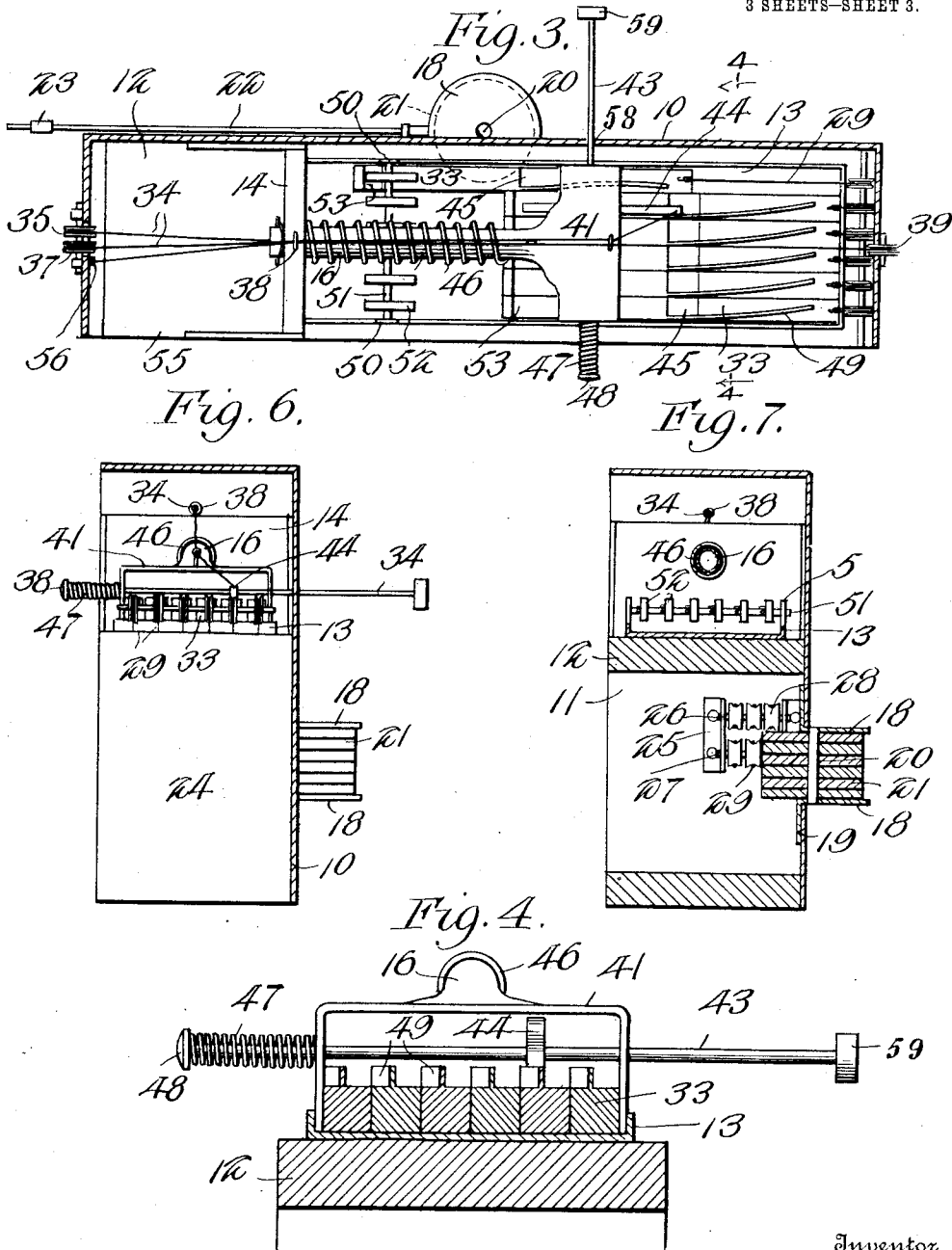
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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

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## MUSIC-LEAF TURNER.

1,040,209.

Specification of Letters Patent.

Patented Oct. 1, 1912.

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*To all whom it may concern:*

Be it known that I, GEORGE E. JONES, a citizen of the United States, residing at Longbeach, in the county of Los Angeles and State of California, have invented new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

The invention relates to music leaf turners, and more particularly to the class of foot-controlled music leaf turners.

The primary object of the invention is the provision of a device of this character in which the leaves of sheet music may be successively turned on the operation of the foot treadle, without requiring the player of a piano handling the sheet music, during the playing thereof.

Another object of the invention is the provision of a device of this character which may be readily mounted upon the front of a piano or other instrument, and that will turn the sheets of the music in successive order, thereby enabling the player to have free use of his or her hands, while performing on the instrument.

A further object of the invention is the provision of a device of this character which is simple in construction, thoroughly reliable and efficient in operation, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a fragmentary front elevation of a piano, showing the music leaf turner mounted thereon and sheet music held thereby. Fig. 2 is a rear elevation of the device removed from the piano. Fig. 3 is a top plan view with the outer casing removed and partly in section. Fig. 4 is a sectional view on the line 4—4 of Fig. 3. Fig. 5 is a vertical longitudinal sectional view of the same. Fig. 6 is an end elevation the same being partly in section. Fig. 7 is a sectional view on the line 7—7 of Fig. 1, looking in the direction of the arrow. Fig. 8 is a detail perspective view of the trip device.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring to the drawings by numerals, the music leaf turner comprises a box-like casing 10, preferably constructed from metal, although the same may be made from any other suitable material, and is adapted to be mounted in any approved manner upon the music rack or rest-board of a piano or other instrument. In the casing 10 is fixed a rectangular-shaped frame 11, on the top rail 12 of which is fixed a runway or guide tray 13, the latter extending longitudinally thereof for a greater portion of its length, and located adjacent to one end thereof is a transversely disposed vertical partition 14, the same suitably fixed to and rising from the said top rail 12. This partition 14 is formed with a central guide opening 15, in which is slidably engaged the stem 16 of a treadle operated pull element, hereinafter more fully described.

Formed in the front of the casing 10 is a suitable opening 17, through which protrude spaced parallel bearing ears 18 formed on and projecting from a reinforcing frame 19 fixed to the inner side of the front of the casing 10, about the said opening therein. Journaled in the bearing ears 18 is a vertical pintle 20, on which are rotatably mounted a plurality of turning wheels or disks 21, from which project sheet music turning arms 22, the latter supporting suitable clips 23 for engagement with the sheets of music, whereby said sheets may be turned successively on moving each arm 22, in a manner presently described.

Fixed to the inner sides of the ends 24 of the frame 11 are spaced parallel reversely arranged supporting ears 25, in which are mounted upper and lower pairs of axles 26 and 27 respectively, on which are journaled guide pulleys 28, and trained over the same, supported by the upper and lower axles 26 and 27, at one side of the axis of movement of the disks 21, are pull cords 29, the same being connected to the said disks 21, so that when a pull is exerted thereon the arms 22 will be thrown in one direction, while trained over the pulleys 28 on the upper and lower axles 26 and 27, at the opposite side of the axis of movement of the disks 21, are further pull cords 30, the same being connected to the disks 21 at points diametrically opposite the points of engagement of the cords 29 therewith. The cords 30 are also connected with tension springs 31, stationarily mounted upon the piano, at a point

below the frame 11, so that when the turning arms 22 have been shifted by the cords 29, the springs 31 will tension the cords 30, whereby the said arms 22 may be swung in the reverse direction, after the release of the cords 29, in a manner presently described. The pull cords 29 are trained through suitable passages 32 formed in the top rail 12 of the frame 11, and are connected with slide bars 33 arranged in juxtaposition and parallel with each other upon the runway or tray 13, to be successively engaged and moved by the treadle operated pull element, presently described.

Connected to the free end of the stem 16 of the treadle operated pull element is a flexible cord 34, which latter is trained over a guide pulley 35 rotatably mounted in one end of the casing 10, the cord 34 being carried downwardly and connected with the treadle 36, suitably mounted upon the piano. This cord 34 is continued upwardly over a further guide pulley 37 journaled in one end of the casing, adjacent to the pulley 35, and is passed through a guide eye 38 mounted in the upper edge of the partition 14, and thence over a further guide pulley 39, and downwardly at the opposite end of the casing. Upon the free end of the cord 34 is mounted a weight 40, the same being designed to hold the cord taut, and to aid in bringing the treadle 36 to normal position, after being depressed. Formed at the opposite end of the stem 16 is a U-shaped head 41, the limbs of which provide legs 42 adapted to contact with and slide on the runway or tray 13, and passed through these legs 42 is a transversely disposed shiftable trip pin or rod 43 having fixed thereto a locking dog or pawl 44, which is adapted to engage in a notch 45 formed in each of the said bars 33, so that when the dog 44 is engaged with the bars, the latter may be moved in one direction, on depressing the treadle 36, thereby throwing one of the music turning arms 22 in one direction, the dog 44 being successively moved into locking engagement with the bars 33, in a manner presently described.

Surrounding the stem 16 of the treadle operated pull element is a coiled expansion spring 46, one end of which works against the partition 14, while its opposite end is connected to the stem, so as to shift the said treadle operated pull element to normal position, after being retracted on depressing said treadle. Likewise, surrounding the trip rod or pin 43 is a coiled expansion spring 47, one end of which engages a head 48, formed on one end of the rod 43, while its opposite end works against the limb or leg of the head 41 adjacent thereto, thereby exerting a pull upon the said rod 43 for the automatic shifting of the dog 44 from one bar 33 to the other, in successive order, for

engagement therewith, in a manner presently described.

Formed on the bars 33 and rising therefrom are curved ribs 49 with each of which is adapted to engage the locking dog 44, that is to say on pulling one of the bars 33 inwardly in the direction of the partition 14 by means of the treadle operated pull element, the spring 46 will become active after releasing the treadle operated pull element so that the dog 44 will be moved in the reverse direction following the rib 49 on the said bar until it has reached the outer end of the rib whereupon the dog 44 will travel off of the rib and by reason of the tension of the spring 47 the said dog 44 will be shifted laterally, so as to contact with the rib 49 on the next adjacent bar, whereby the dog will be positioned for engagement in the notch 45 in the latter, so that upon again depressing the treadle the pull element operated thereby will move the said next adjacent bar similar to the position of the first bar for the turning of the second music sheet supporting arm 22. This operation is continued, so that the remaining bars may be engaged and moved by the pull element, thereby successively turning all of the arms 22.

Formed on the sides of the runway or tray 13 near the inner end thereof are vertical alining ears or bearings 50, in which is mounted a shaft 51 loosely supporting locking pawls 52, the latter being adapted to automatically engage with nibs 53, formed on and rising from the inner ends of said bars 33, so that when each bar is moved by the treadle operated pull element it will be automatically locked in shifted position by the engagement of the said pawls 52 with the nibs 53 on the bar. The dog 44 is formed with a tripping heel 54, which is normally elevated out of the path of the locking pawl 52 when the said dog 44 is engaged in the notch 45 in any one of the bars 33, but on the rocking of said dog 44 the tripping heel 54 thereof will engage the pawl 52 in alinement therewith for rocking the same, so that it will disengage from the nib 53 of the bar 33 whereby the latter will be automatically moved by the spring 31 to normal position and in this manner the leaves of the music may be turned back successively at the option of the operator of the device.

Connected to the hook end of the dog 44 is a flexible cord 55, the same being trained through the eye 38 and over a guide pulley 56 and further guide pulleys 56'. The opposite end of the cord extends downwardly exterior of the casing 10 and is connected to a foot operated treadle 57, the same being arranged close to the treadle 36 for the convenience of the operator of the device. When the treadle 57 is depressed and after the head 41 has been retracted the cord 55

connected to the dog 44 will lift the hook end of the latter causing the lowering of the heel 54 thereof, thereby bringing the same into tripping engagement with the pawl 52 and in this manner the bars 33 will be singly released thereby reversely moving the music sheet turning arms 22, for bringing the said arms to normal positions. The pawls 52 are not spring held, but are automatically brought into locking position by engaging the cam surface 54' on each bar 33, so as to cause the tilting of the dog in a direction to engage the nib 53 on the bar 33 and thereby lock the same in its inwardly moved position.

Formed in the front of the casing 10, in alinement with the trip rod 43, is a suitable opening 58, through which projects the said rod, so that it may be manually shifted, the projected end of the rod being provided with a pull knob 59, to be manually engaged for the shifting thereof. After the locking dog 44 has been successively shifted from one bar to the other, throughout the entire number, it is necessary to slightly turn the rod 43, thereby disengaging the dog from the bar 33 last shifted, and on the pulling of the knob 59, the dog 44 may be brought into position for engagement with the first bar 33 to be shifted, so that the operation of the device may be repeated.

From the foregoing, taken in connection with the accompanying drawings, it is thought that the construction and operation of the invention will be readily understood, without requiring a more extended explanation.

What is claimed is:

1. A music leaf turner, comprising a casing having an opening in its front wall, a plurality of rotatable elements upon a common axis in said opening, sheet supporting arms mounted on the said elements, a frame arranged in the casing, a runway supported by said frame, a plurality of slidable bars mounted in said runway, a treadle operated sliding element having trip means engageable successively with said bars, connections between said bars and said rotatable elements, means on the said bars for guiding

the said trip means for successive engagement with the bars, means for locking the bars in shifted position, and treadle operated means for releasing the bars.

2. A music leaf turner, comprising a casing having an opening in its front wall, a plurality of rotatable elements upon a common axis in said opening, sheet supporting arms mounted on the said elements, a frame arranged in the casing, a runway supported by said frame, a plurality of slidable bars mounted in said runway, a treadle operated sliding element having trip means engageable successively with said bars, connections between said bars and said rotatable elements, means on the said bars for guiding the said trip means for successive engagement with the bars, means for locking the bars in shifted position, treadle operated means for releasing the bars, and means for automatically moving the bars when released and coöperative with the rotary elements to reversely rotate the same.

3. A music leaf turner, comprising a casing having an opening in its front wall, a plurality of rotatable elements upon a common axis in said opening, sheet supporting arms mounted on the said elements, a frame arranged in the casing, a runway supported by said frame, a plurality of slidable bars mounted in said runway, a treadle operated sliding element having trip means engageable successively with said bars, connections between said bars and said rotatable elements, means on the said bars for guiding the said trip means for successive engagement with the bars, means for locking the bars in shifted position, treadle operated means for releasing the bars, means for automatically moving the bars when released and coöperative with the rotary elements to reversely rotate the same, and means acting upon the treadle operated sliding element for moving the same to normal position.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE EDWIN JONES.

Witnesses:

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R. E. JENNINGS.