(No Model.) 2 Sheets—Sheet 1.

E. G. GILLESPIE.

MUSIC LEAF TURNER.

No. 472,170. Patented Apr. 5, 1892.

Fig. 1

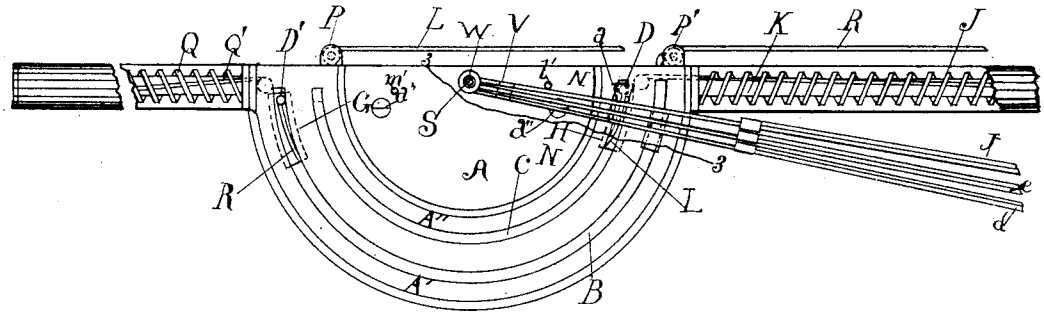


Fig. 2.

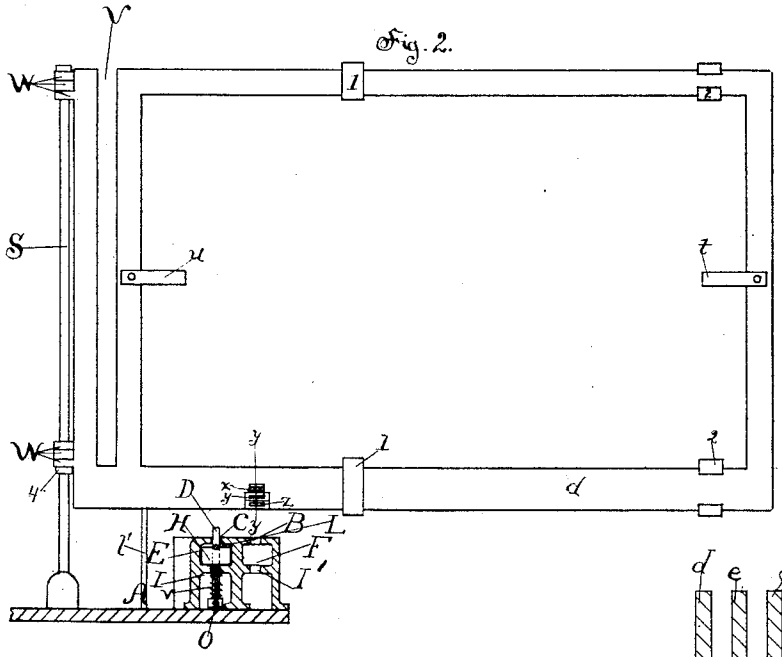


Fig. 3.

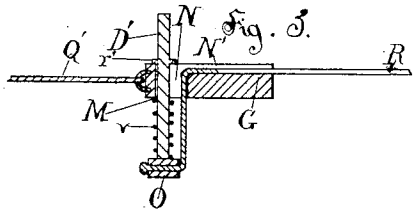
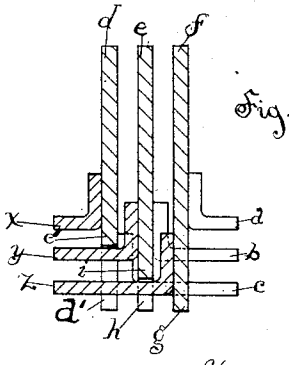


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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MUSIC LEAF TURNER.

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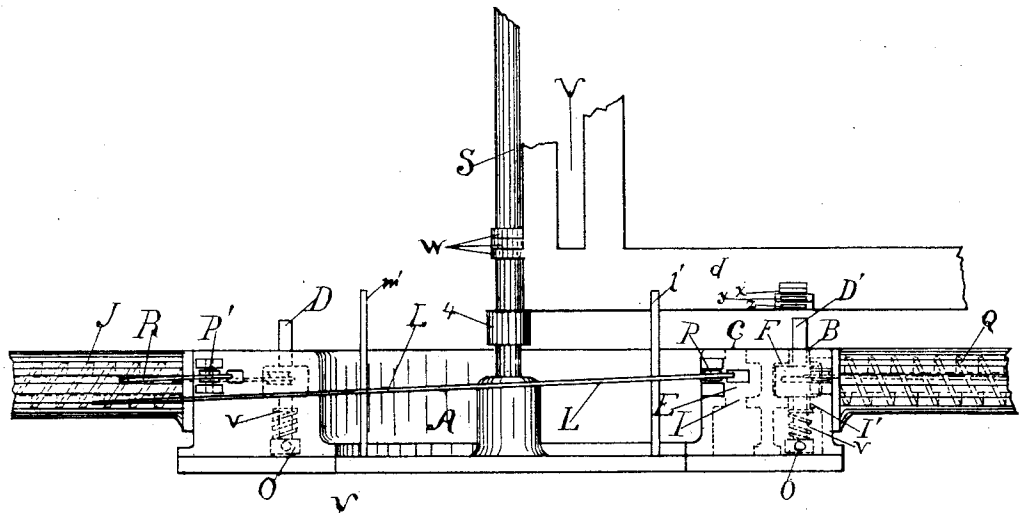
Fig. 5.



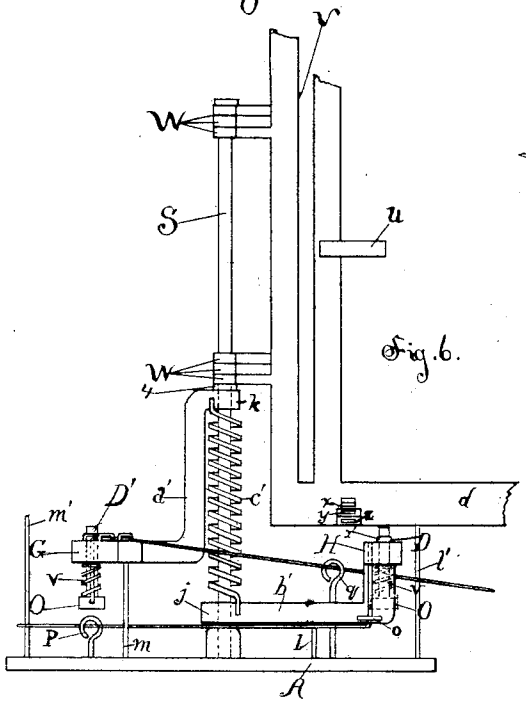
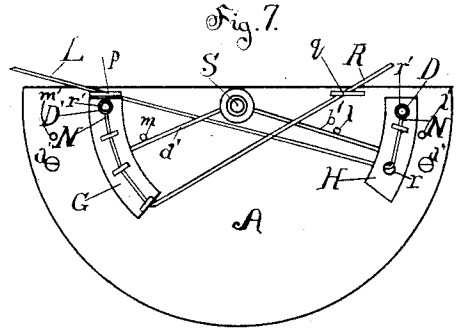


Fig. 6.

Fig. 7.



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UNITED STATES PATENT OFFICE.

EDWIN GRANT GILLESPIE, OF ARTESIA, CALIFORNIA.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 472,170, dated April 5, 1892.

Application filed January 30, 1891. Serial No. 379,628. (No model.)

To all whom it may concern:

Be it known that I, EDWIN GRANT GILLESPIE, a citizen of the United States, residing at Artesia, in the county of Los Angeles and State of California, have invented a new and useful Music-Leaf Turner, of which the following is a specification.

The object of my invention is to produce a compact, cheap, and simple leaf-turner which may be attached to pianos, organs, or to music-stands and which will hold and turn either loose or bound sheet-music to the right or left by actuating-treadles or other devices. (Not shown.)

The accompanying drawings illustrate my invention.

Figure 1 is a plan view of my invention with a portion of the spring-tubes broken away. Fig. 2 is a cross-section of Fig. 1 on line 3 3. Fig. 3 is a longitudinal mid-sectional view of a carrier block and pin with cords attached. Fig. 4 is an enlarged cross-sectional view of three leaf-frames at point indicated by line *y y*, Fig. 2. Fig. 5 is an enlarged fragmental rear view of Fig. 1. Fig. 6 is a fragmental front view of a modified form of my device. Fig. 7 is a plan view of Fig. 6 with the leaf-frames removed.

My invention consists of a base, a standard secured to such base, a movable carrier-block arranged to describe the arc of a circle of which such standard forms the center, a movable carrier-pin extending perpendicularly through such carrier-block, suitable leaf-holders journaled to such standard to allow semi-rotation of such holders, means for bringing such carrier-pin into successive engagement with such holders, and means for actuating such carrier-block and carrier-pin to cause successive semi-rotation of such holders.

The flat semicircular base A is formed of metal or other suitable material, upon which I secure the channel-boxes A′ A″, which are provided in their upper faces with the two semicircular slots B C, through which the vertically and laterally movable carrier-pins D and D′ project. Directly below the slots B and C are two semicircular tubular channels E F, in which slide the carrier-blocks G H, through which the carrier-pins D and D′ project upward through slots B and C and downward into slots I and I′. The base A may be formed of sufficient thickness to allow the channels to be formed therein, and I do not limit my claims to the construction shown.

The carrier-blocks are arranged to slide easily in the semicircular tubular channels E F, and the rear end of the block H is attached to a spring J by suitable means, such as the cord K. A cord L passes into the channel E at the opposite end of such channel from cord K and passes through such channel to a block H, thence along a channel N′ in the top face of such block to a hole M, through which the pin D projects, and thence downward through a channel N in the wall of such hole and is attached to the head O of the pin. The other end of the cord L runs over the roller or pulley P and outward and downward to a foot-pedal. (Not shown.) The block G is connected to spring Q by cord Q′ in the same manner in which block H is connected to spring J, and cord R is attached to pin D′ in the same manner cord L is attached to pin D, and the said cord R passes out of such channel over pulley P′ and down to a foot-pedal (not shown) in the same manner as cord L. It will be seen by this arrangement that the block H and block G are held at opposite sides of the base A by their respective springs. The standard S is fastened in the center of the base-piece A, near the rear edge thereof, and projects upward a sufficient distance to form the support for the leaf-holders *d e f*. The leaf-holders *d e f* are formed of a rectangular frame of steel or other suitable material, the back standard of which frame is provided with a slot V, which extends from the top of the holder to near the bottom thereof. The leaf-holders are journaled to the standard S by eyes W and rest upon the collar 4 and are also provided with two series of pin-intercepting tongues *a b c* and *x y z*, which extend laterally one above another on opposite sides of the leaf-holders. The pin D′ is arranged to engage the series *x y z* to turn the leaf-holders toward the right, and the pin D is arranged to engage series *a b c* to turn the leaf-holders toward the left.

The series of tongues *x y z* are attached to their respective leaf-holders *d e f* in the following manner: The tongue *z* is attached to holder *f* a sufficient distance above the bottom edge of the holder to let such bottom form a

projecting stop g below such tongue. In the bottom edge of holder e is cut a gain h, sufficiently wide and high to permit the tongue z to pass therethrough without binding when the bottoms of the holders are on the same horizontal plane. Above this gain is attached the tongue y, leaving the stop i below such tongue. In the bottom of the holder d is cut a gain d', high enough to allow the tongues y and z to pass therethrough without binding when the bottom of such holder is in the same horizontal plane as the bottom of the holders e f, and the tongue x is attached to the holder d a short distance above the gain d', leaving the stop e' below such tongue. The pin-intercepting tongues a b c are so arranged that when their respective holders are at rest at the right side, as shown in Fig. 1, the tongues are in the vertical path of their carrier-pin D, one above the other, in the same manner that the pin-intercepting tongues x y z on the opposite sides of their respective leaf-holders will be above their carrier-pin when the holders are at rest at the left side. Any number of holders needed may be arranged in the same manner; but in the drawings I have only shown three.

The tongues x y z are arranged to project over the pin D′ when the music is to be turned toward the right and the tongues a b c to project over pin D when the music is to be turned to the left. The tongues are made of such length in relation to each other that when the leaf-holders are in position ready for use the outer ends of such tongues will be in line with each other.

In Fig. 6 I have shown a modified form of my device, in which I have dispensed with the semicircular channels for the carrier-blocks and have mounted such blocks upon radial arms a' b', which are journaled upon the standard S, with the coiled spring c' encircling the standard S between the eyes j k of the arms a' b', and such spring is in an engagement with such arms to force them in opposite directions. The stops l m prevent such arms being forced too far toward the rear, and the stops l' m' prevent the leaf-holders falling too far toward the rear. The arms a' b' are so arranged and proportioned that the tops of the carrier-blocks G H move in the same horizontal plane; but the arc described by the block G when in active operation is inside of the arc described by the block H.

The cords L and R are attached to the carrier-pins D D′ (which are provided with the stops r' r' to prevent them from dropping through the blocks G H) in the same manner as in Fig. 1, excepting that the cord L is passed downward through the hole r and through an eye o and thence outward to eye p to bring such cord below the plane of the arc described by the head of the pin D when said pin is in operation. The cords L and R respectively pass through the eyes p and q and outward and downward to their respective treadles. (Not shown.)

The operation is as follows: The base A is attached to the piano by screws a'' a'', with the standard S inclined to the rear from the perpendicular. The music to be turned is placed on the device with one leaf attached to each leaf-holder. For convenience of adjustment to accommodate music-sheets of varying widths I provide the leaf-holders with telescopic slides 1 and 2. This permits the holder to be adjusted to any ordinary width of music; but such slides are of common construction and do not require any further description. When separate sheets of music are used, the clamps t and u are used to clamp the sheet to the holder; but when stitched music is used the back of the bound leaves is passed down through the slots V and the front edge of the leaf is clamped in the clamp t, which is long and clasps the leaves gently, so that when the leaves are turned, if there is any strain upon the leaf, owing to the change of position of the holder, the clamp t will permit the leaf to slide in the clamp far enough to release the strain upon the leaf without pulling it out of the grasp of such clamp. When the player desires to turn the music toward the left, the left treadle, (not shown,) to which is attached the lower end of cord L, is depressed and the tendency of the pressure so transmitted through such cord to the carrier-pin D is to cause such carrier-pin and carrier-block H to slide along the groove E toward the left; but the tension of the spring J, which is attached to the rear of the carrier-block H through the medium of the cord K, causes the block H to remain stationary until considerable force is exerted upon the cord L, and since such cord is attached to the head O of the said pin and passes upward through the groove N in the block H the force thus exerted draws the said pin upward until it strikes against the tongue c, which projects outward from the rear face of the holder d into the path of the pin to intercept the pin and prevent its further upward movement. The strain is then communicated to the block H and causes such block, together with the said carrier-pin, to move along toward the left, and as the point at which the pin D strikes the tongue is at the rear of the position occupied by the leaf-holder e such pin slides along the tongue c until it reaches the stop e', which projects below the tongue c, and the strain is then communicated to the leaf-holder d, and such holder, together with its respective leaf of music, is carried toward the left until such holder rests against the stop m, which prevents it from going too far toward the rear. In practice it is only necessary to carry the holder past the center of the semicircle described by such revolving leaf-holder, and the inclination of the shaft S causes the weight of the holder and its respective leaf of music to swing against the stop m by the force of gravity alone. When the foot is removed from the treadle, the spring forces the pin D back into the nor-

mal position assumed by such pin, and the spring J, acting through the cord K, draws the block H and pin D back to the point of starting. The operation is repeated when it is desired to turn the holder *e*, and so on. When it is desired to turn the music in the reverse direction, the treadle attached to cord R is pressed, and this, actuating carrier-block G and pin D′, operates to carry the leaf-holder in the reverse direction.

I have hereinbefore explained the manner in which the carrier-pins are brought into successive engagement with the leaf-holders, and further explanation is not necessary.

It is obvious that various modifications of my invention will present themselves to any one versed in the art, and I do not wish to be limited to the construction shown.

Now, having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a music-leaf turner, the combination of the base, the standard secured to the base, the leaf-holders journaled to the standard, the carrier-block provided with a sliding carrier-pin and arranged to describe the arc of a circle of which the standard is the center, means for bringing such carrier-pin into successive engagement with such leaf-holders, and means for actuating such carrier-block and carrier-pin to cause them successively to describe the arc of a circle.

2. In a music-leaf turner, the combination of the base, the channel-boxes secured to such base and provided with the semicircular tubular channels, the carrier-blocks arranged to slide in such channels, the slots in the top and bottom of such channels, the sliding carrier-pins loosely inserted through such carrier-blocks and projecting upward and downward through such slots, the standard, suitable leaf-holders journaled to such standard and provided with the tongues and stops adapted to respectively receive and engage such carrier-pins successively, means for successively forcing such pins into contact with such tongues, and means for actuating such carrier-blocks and carrier-pins to cause successive partial rotation of the leaf-holders.

3. In a leaf-turner, the combination of the base and the channel-box provided with a tubular channel and the slots, a carrier-block arranged to slide in such channel and provided with a carrier-pin, the cord passing through such block and attached to the head of the carrier-pin, suitable means for actuating such cord to cause such pin and block to slide along such channel, and suitable means to return such block to its normal position.

4. In a music-leaf turner, the combination of the vertically and laterally movable carrier-pin, the leaf-holders provided, respectively, with the pin-intercepting tongues arranged in series one above the other in the vertical path of the pin and also provided with the pin-intercepting stops arranged one above the other in the horizontal path of the pin, and suitable means for operating the pin vertically and horizontally, as and for the purpose set forth.

5. In a music-leaf turner, the combination of the base and the channel-box provided with a tubular channel and the slots, the carrier-block arranged to slide in such channel and provided with a carrier-pin, the cord attached to the head of such carrier-pin and passing through such carrier-block and out of one end of such channel, the cord attached to the rear of the carrier-block and passing out of the other end of the channel, and means for actuating such cords to cause such carrier-block and carrier-pin to slide along such channel.

6. In a music-leaf turner, the combination of a series of rectangular leaf-holding frames, each journaled to partially revolve and provided adjacent its rear edge with a slot extending from the top of the holder to a point near the bottom thereof and a leaf-clamp near its front edge, and means for partially rotating such leaf-holders.

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V. B. DILLEY.