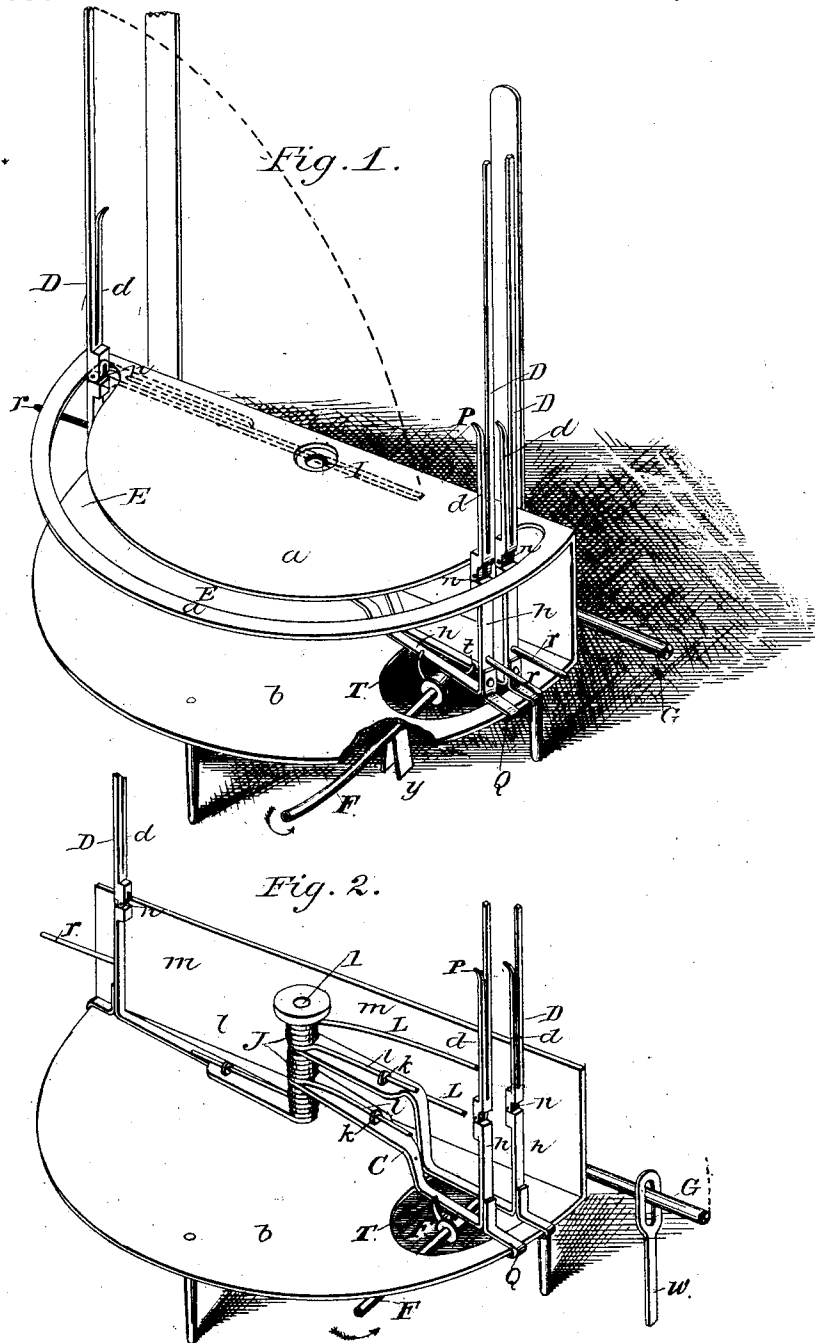


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Music Leaf Turner.

No. 229,313.

Patented June 29, 1880.



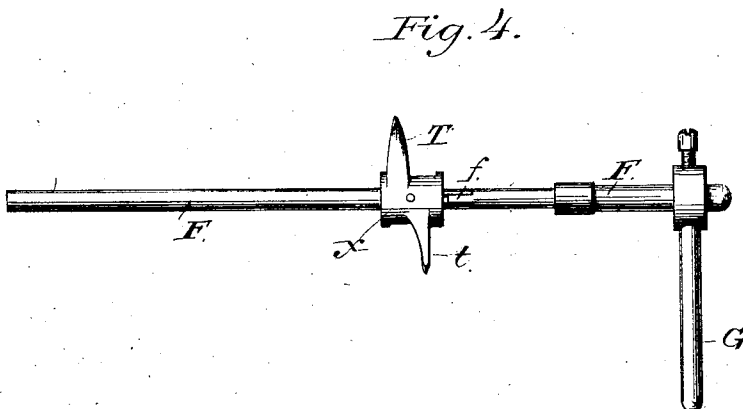
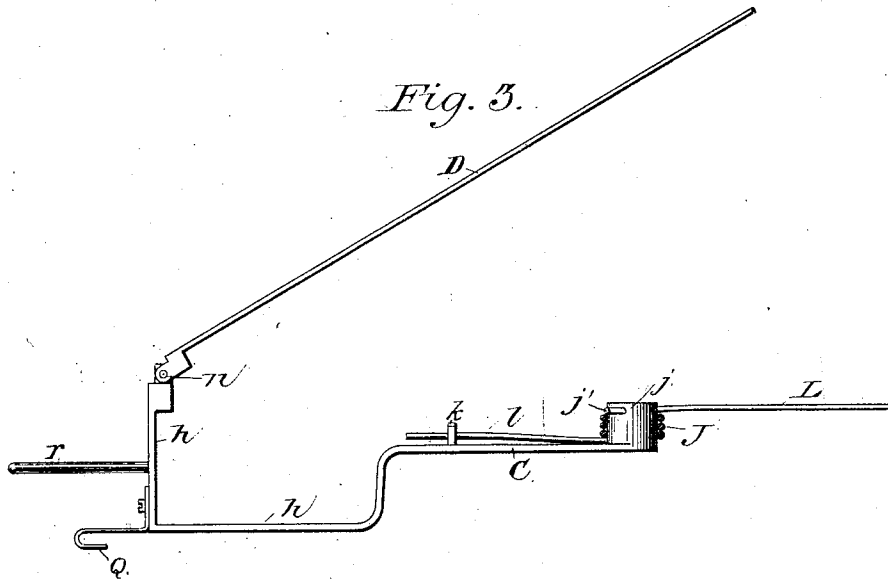
Witnesses:
Geo. R. Byington.
Montague Fassett.

Inventor:
Angelo Heilprin
by his Attorney
Giles F. Heilprin

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UNITED STATES PATENT OFFICE.

ANGELO HEILPRIN, OF NEW YORK, N. Y.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 229,313, dated June 29, 1880.

Application filed February 4, 1880.

To all whom it may concern:

Be it known that I, ANGELO HEILPRIN, of the city, county, and State of New York, have invented a new and Improved Music-Leaf Turner, of which the following is a specification.

The subject of my invention is a machine of small and compact dimensions and semicircular shape, easily applicable to a piano or any ordinary erect music-stand, and to be operated by a pedal attachment, so as to relieve the performer from the necessity of turning the leaves by hand.

The semicircular frame of the machine is open in front, and consists of two horizontal plates connected at back, and containing between them the horizontal arms of any desirable number of turning-fingers, said arms being attached independently to sleeves mounted on a stationary central shaft common to all, around which shaft the finger-arms are carried from right to left for turning the successive leaves by the action of independent springs. The vertical parts of the fingers which receive the leaves are hinged so that they may be turned down flat upon the upper plate of the frame when not in use. The fingers are further provided with guiding-lips and with studs for moving them back from left to right by hand. Their successive movement is controlled by a rock-shaft operated by the pedal-connection before referred to, and having two detents which move in different planes, so that the turning of the shaft in one direction to retract the first detent from in front of the first finger will advance the second detent in front of the second finger to hold it when the first moves, and the reversed motion of the rock-shaft will retract the second detent and advance the first, causing this to catch the said second finger, in readiness to be released in its turn. The rock-shaft is hinged, to admit of depressing the detents out of the way when the fingers are to be moved back by hand, and is held in its operating position by a spring-catch.

In order that the invention may be more fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the machine

minus the pedal. Fig. 2 is a perspective view thereof with the upper plate of the frame omitted. Fig. 3 is an elevation, on a larger scale, of one of the fingers and its operating-spring. Fig. 4 is a plan, also on a larger scale, of the rock-shaft and the detents mounted thereon.

Similar letters of reference indicate corresponding parts in the several figures.

a and *b* are respectively the upper and lower plates of the frame, on the upper of which, *a*, the music-leaves turn. This plate is omitted in Fig. 2 to expose the operating parts.

F is a rock-shaft mounted in bearings beneath the lower plate, *b*, and having a rigid arm, *G*, projecting horizontally from its rear end, for the reception of an operating-rod, *w*, a portion of which appears in Fig. 2. The said rod is of any necessary length, and connects with a pedal. (Not shown.) On the rock-shaft are a pair of detents, *T t*, formed upon a hub, *x*, which is attached to said shaft, the positions of said detents being such that, as the shaft turns back and forth, they will oscillate in two different planes, one behind the other, for the purpose of operating on successive needles, as hereinafter described.

The vertical needles *D* are hinged at *n* to the vertical portions *h* of arms *C*, which are attached to sleeves *j*, fitted one above another on a stationary pivot, *I*, common to all, the arms *C* above the first being bent downward, each succeeding one to a greater extent, so as to bring the outer ends of all the arms to one horizontal plane. Their extremities are guided by lips *Q*, engaging over the margin of the semicircular plate *b*. The needles move in a segmental slot, *E*, in the upper plate, *a*, concentric with the pivot *I*, and the hinging of the said needles at *n* adapts them to be turned down, as indicated by the dotted lines in Fig. 1, flat upon the upper surface of the plate *a* to admit of closing the piano.

In Fig. 3 the needle is shown partly turned down. *d* is a supplemental needle or prong, between which and the main needle *D* the leaf is inserted. The said prong serves to retain the leaf in place and prevent it being carried over with a previous leaf by cohesion or by the rush of air. These prongs are curved at their extremities, as shown, so that each will project across the outer face of the needle in

advance of it, so as to facilitate the introduction of the leaf behind the prong. On the sleeves *j* are coiled springs *J*, one to each, confined between a stud, *j'*, and the body of the needle, and having two arms, *L l*, the first of which bears against the rear wall, *m*, of the frame, while the other, *l*, occupies a hook or eye, *k*, on the needle, for the purpose of throwing it over from right to left when it is released, as hereinafter explained.

The turning of the needles back from left to right into position for use is effected by hand by means of the stiles or studs *r*. To permit them to be passed freely over the detents *T t* on the rock-shaft the said shaft is hinged at *f*, Fig. 4, so that its forward end may be moved down to depress the detents, and, after the fingers are placed in position, may be again set up in its operative position, where it is held by a spring-catch, *y*.

In Figs. 1 and 2 the first needle is shown on the left as released and carried over by its spring, and two on the right held by the detent *T*, in readiness to be released for turning successive leaves. If, now, the rock-shaft *F* be turned in the direction indicated by arrows in Figs. 1 and 2, the detent *T* will be retracted from in front of the second needle, and by the same motion the supplemental detent *t* will be projected in front of the third needle, while the second is carried over from right to left by its spring, so as to turn the leaf.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The independent needles *D*, turning on a central pivot, *I*, and actuated by springs *J*, in combination with the rock-shaft *F*, provided with detents *T t*, moving in parallel planes, one behind the other, and projecting upward at different angles, so that one detent will be elevated on the depression of the other, so as to adapt them to catch and hold the successive needles by the alternate movements of the rock-shaft, as explained.
2. The combination, with the pivoted needles *D*, of the rock-shaft *F*, provided with one or more detents, *T*, and constructed with a hinge-joint to admit of depressing said shaft and detents to permit the free passage of the needles, as explained.
3. The combination of the needles *D*, hinged rock-shaft *F*, one or more detents, *T*, and spring-catch *y*, as and for the purposes set forth.
4. The combination of pivoted needles *D*, semicircular plate *b*, and guiding-lip *Q*, substantially as set forth.

ANGELO HEILPRIN.

Witnesses:

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