O. H. GOODWIN.

Music-Leaf Turner.

No. 212,846. Patented Mar. 4, 1879.

Fig. 1.

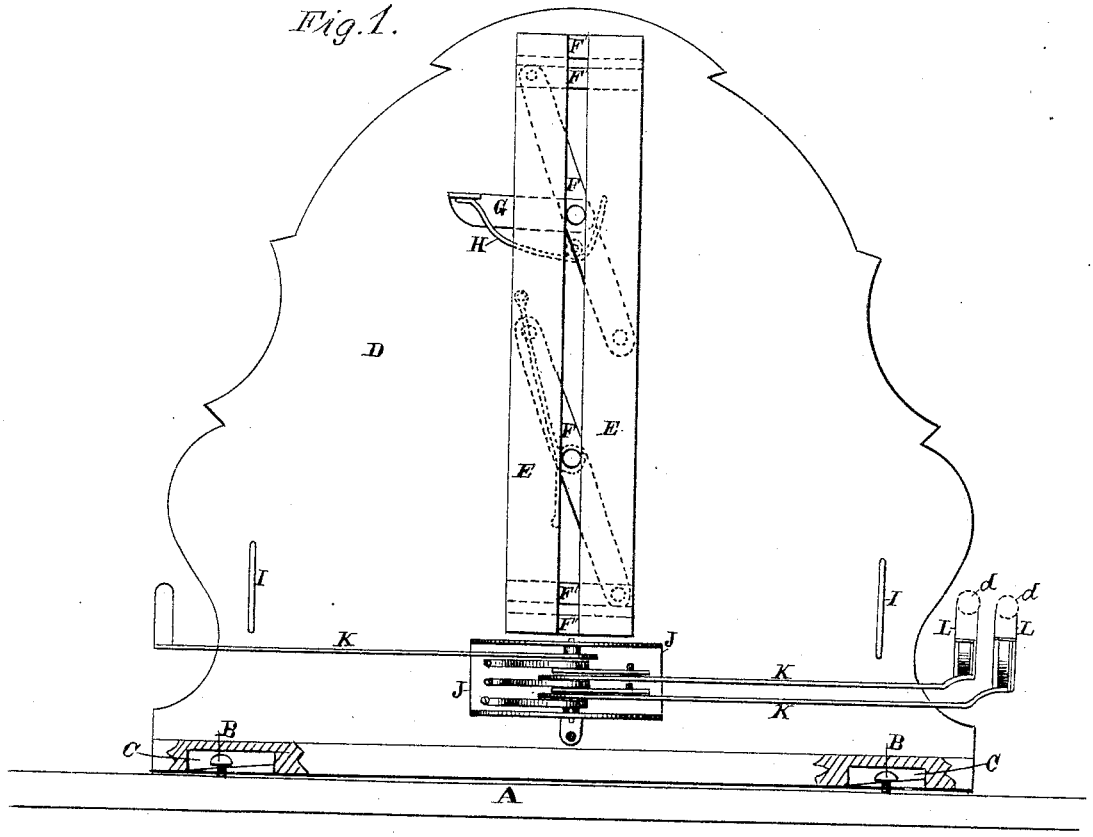


Fig. 2.

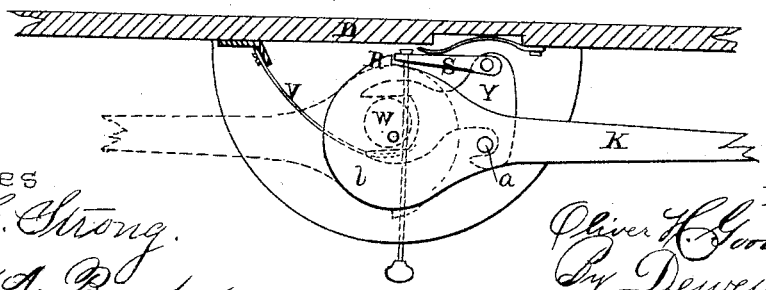
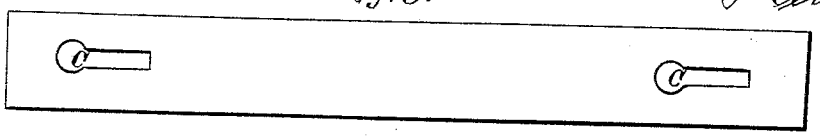


Fig. 3.



Witnesses
Geo. H. Strong.
Frank A. Brooks

Inventor
Oliver H. Goodwin
By Dewey & Co.
Attys

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Fig. 4.

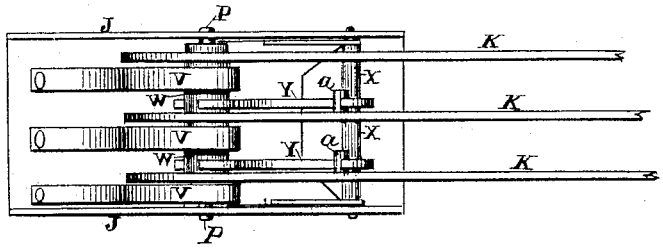


Fig. 5.

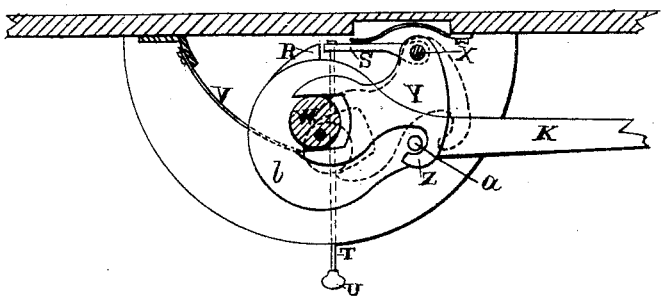


Fig. 6.

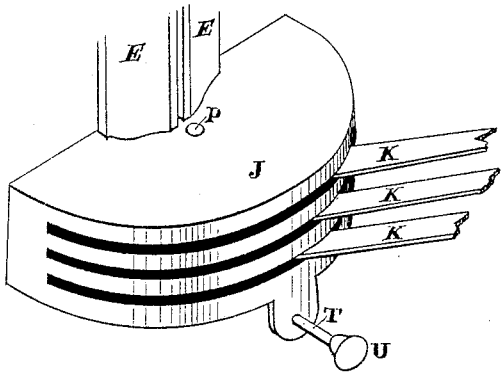
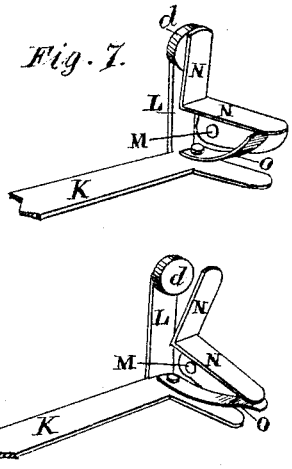


Fig. 7.



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UNITED STATES PATENT OFFICE.

OLIVER H. GOODWIN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN MUSIC-LEAF TURNERS.

Specification forming part of Letters Patent No. **212,846**, dated March 4, 1879; application filed October 18, 1878.

To all whom it may concern:

Be it known that I, OLIVER H. GOODWIN, of the city and county of San Francisco, and State of California, have invented a Music-Leaf Turner; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to an improved music-leaf turner; and my improvements consist in a mechanism for operating the arms which turn the leaves, so that each will act independently of the other, and one will set the other ready for turning, all being released by the same button and rod; and my improvements also consist in arranging the strips which hold the back or hinge of the music in such a position over the axis of the arms turning the music that the axis of the music is at the same point as that of the arms, thereby preventing any danger of tearing or displacing the leaves.

Figure 1 is a view of my device. Fig. 2 is a horizontal section through the top of the case J. Fig. 3 shows the slots in the bottom of the frame. Fig. 4 is a front view of the mechanism. Fig. 5 is a top view of the same. Figs. 6 and 7 are details of construction.

Let A represent the surface of the piano, music-stand, or table on which the music-leaf turner is to be placed; and in this, at proper distances apart, are two screws, B, with their heads and part of their shanks projecting, as shown. On the under side of the lower edge of the music-leaf turner are two slots, C, having each a hole large enough to admit the screw-heads, the elongation being, however, only wide enough for the shoulders of the screws to pass. Shoulders or flanges are formed on the inside of the slots, and are made beveled, so that when the screw-heads are in place in the slots and the turner pushed edgewise the under parts of the screw-heads bind on the beveled flanges and hold the music-leaf turner upright and in its proper position. It can easily be removed by sliding it back, so as to let the screw-heads come out of the enlargement in the slots.

The back or music-desk D is made in any desired ornamental form, and is formed of the height of an ordinary sheet of music. On this back are two vertical strips, E, their meeting faces being covered with rubber or cloth, said strips being arranged so as to separate and close again on the back edge of the piece of music, so as to hold it in place and form a sort of hinge, on which the music is folded back, as hereinafter described. These strips E are kept a short distance from the back of the stand or desk by the cleats or guides F′, which are secured to their backs at both upper and lower ends, serving to raise said strips from the desk high enough to enable the operating mechanism, hereinafter described, to be placed under them, and also for the purpose of having the axis of the music at the same point or center as the axis of the arms which turn the leaves.

By having the front edges of the strips over the axis of the arms the fingers on the arms do not pull the leaves, but fold them over easily, without danger of tearing the paper or pulling the sheets from their places.

The two strips are connected at their backs by two or more pivoted swinging arms or rods, F, said arms being pivoted to the music-desk at their centers and in the center of the desk. To the upper one of these swinging arms is secured a thumb-plate, G, having a spring, H, to throw it back into position and close the strips together. By pressing down on the thumb-plate the two strips are separated by the swinging arms moving on their axes, and the back edge or hinge of the music is inserted between them. Then, by releasing the thumb-piece, the springs close the strips together, they thus griping the music and holding it in an upright position, ready for use.

Holders I are pivoted at the lower edge of each side of the desk, as shown, which may be turned over the edges of the outside sheets of the music to hold said sheets open.

Immediately under the strips, on the front or music desk, is an inclosing case, J, which contains the mechanism for operating the arms K, said arms projecting through slots, as shown, in the front of the semicircular case. These arms are made of metal, and have on their ends an upright strip or finger, L, having on their upper ends a small pad or ball of rubber or cloth, *d*. The fingers are secured to the ends of the arms, so as to be stationary, and their lower ends are turned back and enlarged, as shown, so as to form flanges, through which a pin, M, may pass, on which the spring-clutch

N is pivoted. These clutches have springs O under them, so that when they are pressed down said springs will throw them back in contact with the ball or pad on the fingers. After the sheet-music is placed in position and the outside sheets are caught under the holders, the consecutive sheets on which the music is printed are secured between the fingers and clutches, and are thus held in position ready to be turned over consecutively by the fingers.

Down through the center of the inclosing case J passes a pin or rod, P, on which the arms K are hinged, said pin being directly under the meeting front edges of the vertical strips which form the hinge or center about which the leaves turn. The inner ends of the arms K are enlarged and made circular in form, as shown at *l*, having a notch, R, on one side to form a catch to engage with the plate S on the back of the case. This plate S has a spring behind it, and when pushed in by the rod T, on which is the button U, is pushed out of the notch R, and allows an arm K to swing around, the coiled spring V furnishing the power for moving said arm. On the inner end or enlarged portion of each arm, at the point where the pin P passes through them, is an eccentric, W, said pin P passing through said eccentric on one side, as shown. These eccentrics revolve around the pin P as the arms are revolved, being secured to said arms for the purpose hereinafter described.

A pin, X, passes down through one side of the case, which forms a fulcrum pin or shaft for the plates Y. Each plate Y has at one end a slot, which incloses the eccentric W, and the end is formed into a hook, Z, which engages with a pin, *a*, on the arm K. All the arms except the upper or front one have one of these plates Y and a pin, *a*, and each arm has also an eccentric, W, as shown.

The mechanism is so constructed that when the button is pressed in all the arms will not swing over at once, but that only one at a time will swing and turn one leaf.

It will be seen that as the button is pressed in and the plate S on the back of the case released from the notch R in the arm, the coiled spring will turn said arm from one side of the music-desk to the other. As this arm swings, the eccentric W on said arm, moving in the slot in the inner end of the plate Y, turns said plate on its pin X, the movement taking the hook Z on said plate away from the pin *a* on the arm, and leaving the next arm free to move when the button is pushed in. The next arm below is kept from swinging by the hook on the plate holding it by the pin *a;* but when said upper arm swings, the hook is released from the pin, as described, and it, in turn, is ready to swing. When the arms have all been turned they may be turned back into position, one at a time, beginning with the lower one, and as each comes to its place it is held by the hook on the plate and the notch, when they are ready for use again, as described.

By this means I furnish a music-leaf turner which is simple in construction and operation and not liable to get out of order. Each arm has an independent spring, as described, and only one arm will turn at a time. After the music is put in place and the leaves secured in the fingers, a simple pressure of the button at the proper time will turn the leaves consecutively and quickly, and hold them open.

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

1. The holding-bars E E, with their guiding-pieces F′, the bars being united by the diagonal parallel strips F, pivoted to the back, in combination with the operating thumb-piece G, so that they may be opened and closed, substantially as herein described.

2. The turning-arms K, with the hinged circular enlargement *l*, having a pin, *a*, upon one side, in combination with the eccentrics W and the plates Y, with the hooks or catches Z, to engage with the pins, said arms being pivoted to and operated by the eccentrics, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

OLIVER H. GOODWIN.

Witnesses:
CHAS. G. YALE,
JOS. A. BAYLESS.