F. G. JOHNSON.

# Music Leaf-Turner.

No. 167,541. *Fig: 1* Patented Sept. 7, 1875.

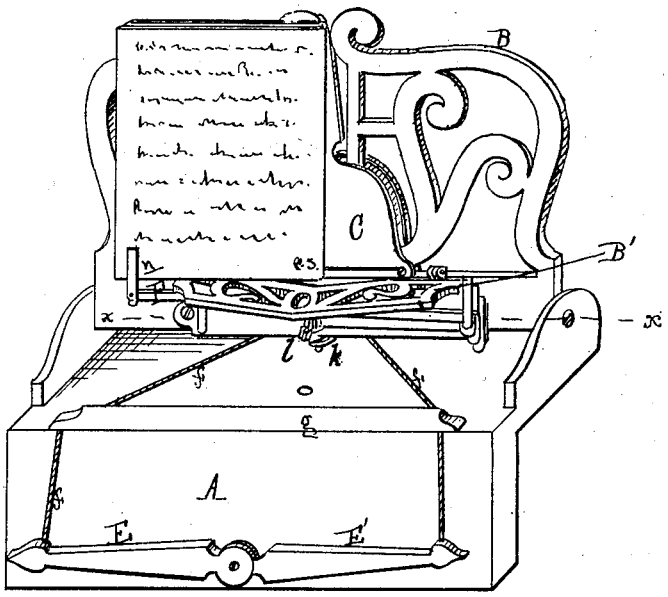



*Fig: 2.*

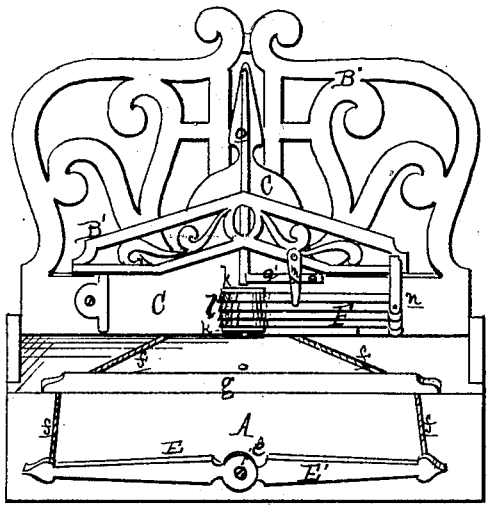



*Fig: 3.*

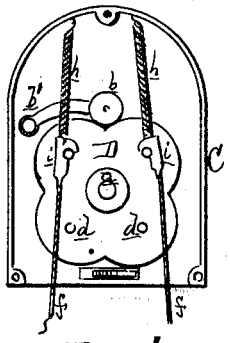



*Fig: 4.*

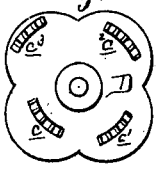
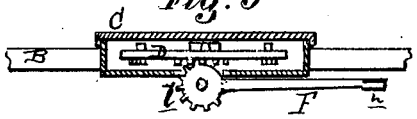



*Fig: 5*

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# UNITED STATES PATENT OFFICE.

FRANK. G. JOHNSON, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN MUSIC-LEAF TURNERS.

Specification forming part of Letters Patent No. **167,541**, dated September 7, 1875; application filed June 12, 1875.

*To all whom it may concern:*

Be it known that I, FRANK. G. JOHNSON, of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Music-Leaf Turners, of which the following is a specification:

The object of my invention is to provide the music-desk of a piano or other keyed instrument with a permanently-attached device, by means of which four leaves of a music-book may be consecutively turned in either direction, and which device can be folded down with the desk when the instrument is to be closed.

The invention consists in the novel and peculiar construction of the devices for moving the leaf-arms, and their combination with the desk of the instrument, as more fully hereinafter set forth.

Figure 1 is a perspective view of the desk and front board of a piano, fitted with my improvement, as it appears in use. Fig. 2 is a front elevation, showing the book-support folded, and the arms locked, preparatory to turning down the desk. Fig. 3 is a rear elevation of the incased mechanism, the back-plate of the case being removed to show it. Fig. 4 is an elevation of the front side of the geared turning-plate. Fig. 5 is a horizontal section at *x x* in Fig. 1.

In the drawing, A represents the front board of a piano or organ, and B a desk pivoted at its lower corners to brackets above the front board and back of the same. C is a metal case set into the center and lower part of the desk, and in it is journaled, by its shaft *a*, a plate, D, having four rounded projections, making a corresponding number of notches in its periphery, into which drops a roller, *b*, at the end of a spring, *b'*, which holds the plate in whatever position it may be left (in a notch) unless some little force be exerted to rotate it. On the face of the plate D there are four geared segments, *c* $c^1$ $c^2$ $c^3$, one in each corner, and all of different radii. On the back there are four studs, *d*, one in each corner. E E' are two levers, with rule-jointed ends, pivoted by a screw, *e*, to the middle of the front board. To the outer end of each lever is fastened a cord, *f*, which is led up through a hole in a guide-strip, *g*, at the top edge; thence back into the case at each side, and up behind the plate D, and connected to the top of the case by a spiral spring, *h*, which keeps each cord under tension, and the levers in or near a horizontal position. Just below each spring *h* a hook, *i*, is fastened to each cord, in such a position that when its lever is depressed the hook will engage with a stud, *d*, and rotate the plate D a quarter revolution. In the lower front part of the casing there are two projecting brackets, *k*, one above the other, between which four superposed arms, F, are pivoted by a pin, each arm having a geared sector, *l*, on its heel, which projects into the case in the plane of one of the geared segments *c*, $c^1$, $c^2$, or $c^3$, so that when that segment is brought into gear with the sector of a given arm the latter will be caused to describe a half revolution.

It will be seen that the arms can be swung successively in either direction.

Above the arms a folding book-support, B', is hinged to the desk, and on the under side is pivoted a turn-buckle, *m*, which, when the support B' is folded up against the desk, can be turned over the arms, as seen in Fig. 2, when the desk can be turned down flat, to permit the instrument to be closed.

The outer end of each arm is provided with a pair of vertical clips, *n*, to receive the corner of a leaf of music, to secure its turning with the arm.

The music-book or leaf-music is held open by a rod, *o*, extending up the middle of the desk, and held against it by a torsional leaf-spring, *o'*, secured to its foot and to the lower part of the desk.

What I claim as my invention is—

1. The combination, with the plate D, having the four studs *d*, of the cords *f*, hooks *i*, and springs *h*, for turning said wheel, substantially as described and shown.

2. The combination of the plate D, pivoted in the case C, and provided with the geared segments *c* $c^1$ $c^2$ $c^3$, and the studs *d*, the arms F, each having a geared sector, *l*,

at its inner end, the levers E E′, cords *f*, hooks *i*, and springs *h*, substantially as described and shown.

3. The combination, with the plate D, having notches in its periphery, of the spring-roller *b*, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my invention, I have signed my name hereto this 18th day of May, 1875.

FRANK. G. JOHNSON.

In presence of—
WM. H. LOTZ,
GEO. FROMMANN.