F. G. JOHNSON.

Music-Leaf Turner.

No 160,826 Fig: 1. Patented March 16, 1875.

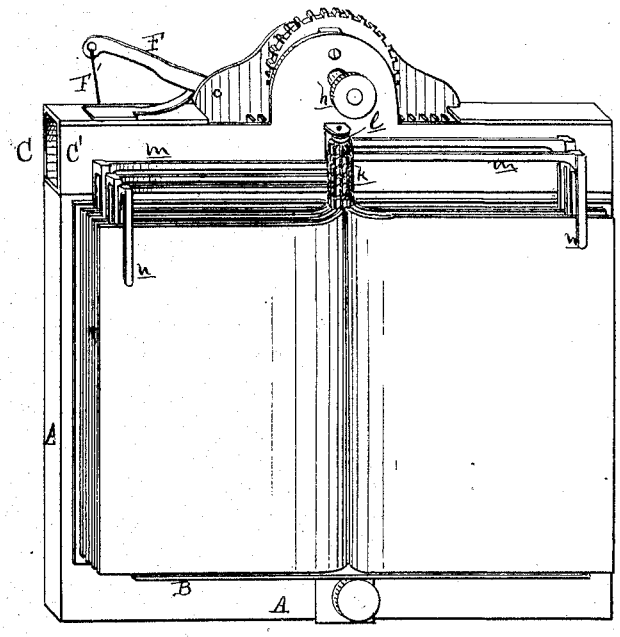


Fig: 3.

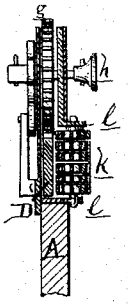


Fig: 2.

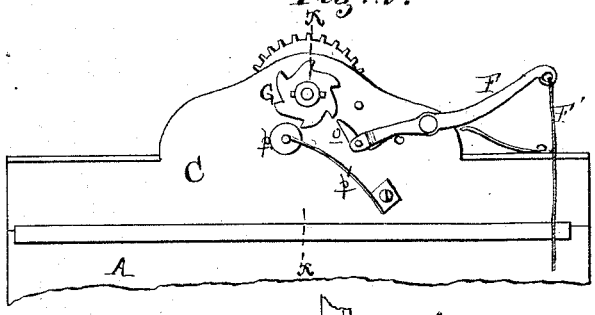


Fig: 4.

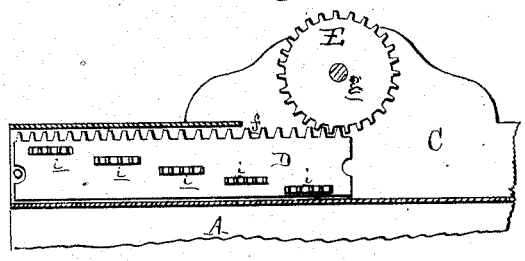


Fig: 5

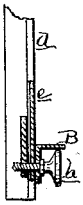
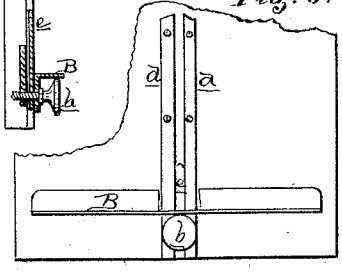


Fig: 6.



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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. **160,826**, dated March 16, 1875; application filed January 19, 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 Improved Leaf-Turner, of which the following is a specification:

The nature of this invention relates to an improved device to be attached to an organ or piano, to serve as a sheet-music or book support, and provided with swinging leaf-clamps, by means of which the pages may be consecutively turned by the player by means of a treadle and lever.

The invention consists, first, in an adjustable book or sheet-music support, in combination with a "lyre" or desk; and, secondly, in the combination, with said desk, of the peculiar leaf-turning apparatus, as more fully hereinafter set forth.

Figure 1 is a perspective view of the support and leaf-turning devices. Fig. 2 is a rear elevation of the latter. Fig. 3 is a cross-section at *x x*. Fig. 4 is an elevation of the back plate, spur-gear, and rack of the leaf-turning device, the front plate and leaf-turning levers being removed. Fig. 5 is a cross-section of the adjustable book-support at *y y* in Fig. 6, which is a front elevation of the same.

In the drawing, A represents a lyre or music-desk, such as are ordinarily used on organs and pianos. B is a flanged metallic support for a book or sheet-music, adjustable to various heights on the face of the desk, which has two metal strips, *a a*, secured to it—one on each side of a vertical slot. *b* is a clamp-screw, which passes through the space between the bars, first, however, through a pendent lug under the center of the support, and is tapped into a clamp-nut, *c*, behind said plates. The support is maintained in a horizontal plane by a tongue, *e*, which lies in the slot between the strips *a*. Across the top edge of the desk a back plate, C, is secured, and a front plate, C′, which may be partly or wholly connected or covered at top and bottom, making a tubular structure of it, except at the middle, where the top of each plate is arched. D is a bar, which slides between the front and back plates, having a toothed rack, *f*, cut in its top edge, with which meshes a spur-gear, E, mounted on a shaft, *g*, journaled in the plates above. The front end of the shaft projects through to receive a hand-wheel, *h*. On the face of the bar D are several short racks, *i*, arranged in echelon, running longitudinally in horizontal planes, one above the other. *k* are pinions, sleeved on a vertical shaft, *l*, stepped in a pair of brackets above and below a slot cut vertically in the center of the front plate, the pinions projecting through said slot into the plane of the pitch-lines of the racks *i*, so that as the bar D is moved along these will consecutively come into gear with said pinions, and rotate them a half-revolution. A leaf-turning lever, *m*, is secured to each of said pinions, with a pendent fork, *n*, at the outer end of each to receive the corner of a sheet or page of music, which is turned each time the pinion to which the arm is attached is rotated.

The bar D may be moved by the hand-wheel *h* to turn the music by hand, if desired; but in order to turn the music by a treadle a cord, F′, connected to the latter, is carried up to a lever, F, pivoted on the back plate. The inner end of this lever carries a vibrating pawl, *o*, which engages with one tooth of a ratchet, G, on the rear end of the shaft *g*, and moves it around one tooth each time the treadle is depressed. The ratchet has as many teeth as there are pinions *k*.

The ratchet is prevented from moving out of position in which it may be left by the pawl through a friction-stop, consisting of a roller, *p*, held against it by a spring, *p′*. By having two sets of ratchets on the shaft *g*, and corresponding pawls and treadles, the music can be turned at will to the right or left.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the desk A, of the adjustable book-support B, strips *a a*, clamp-screw *b*, nut *c*, and tongue *e*, substantially as and for the purpose set forth.

2. The plates C′ C′, bar D, provided with the racks *f i*, the shaft *g*, spur-gear E, ratchet G, lever F, pawl *o*, stop *p*, pinions *k*, and arms *m*, in combination with the desk A, substantially as and for the purpose set forth.

FRANK. G. JOHNSON.

Witnesses:
WM. H. LOTZ,
CARL MEYER.