

D. W. G. HUMPHREY.

LEAF-TURNER.

No. 191,055.

Patented May 22, 1877.

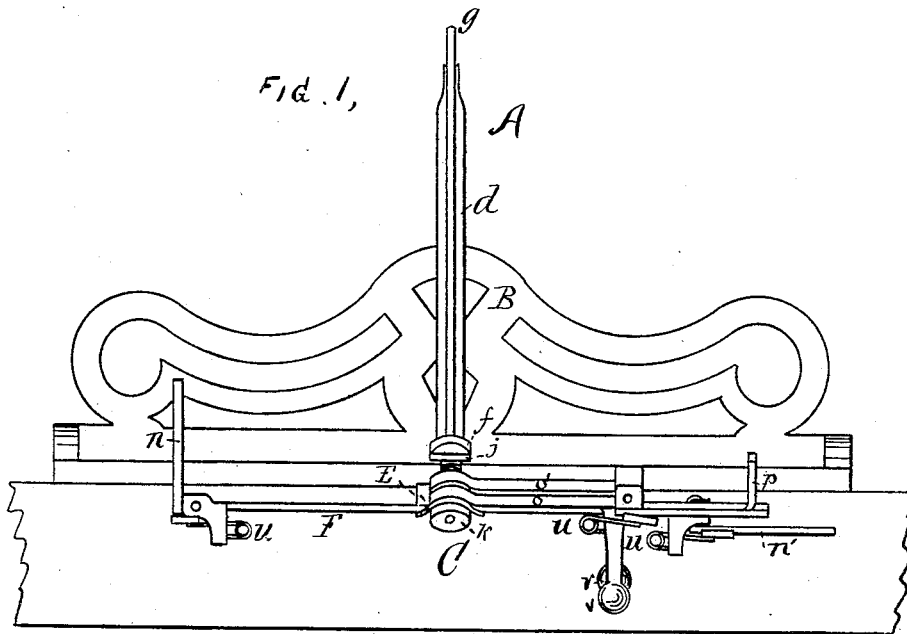


FIG. 2.



FIG. 3.

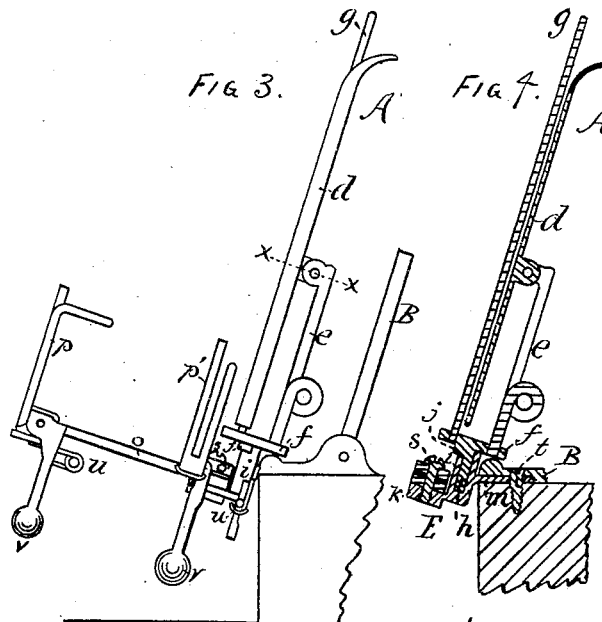
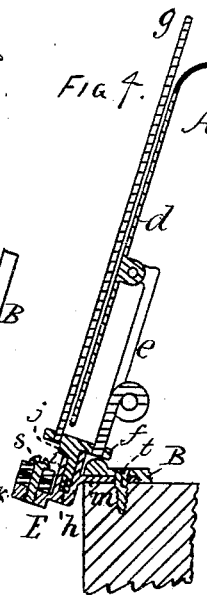


FIG. 4.



WITNESSES.

*Eben Hutchinson*  
*Samuel D. Kelley.*

INVENTOR.

*Daniel W. G. Humphrey*  
*By Eugene Humphrey*  
*Attorney*

# UNITED STATES PATENT OFFICE.

DANIEL W. G. HUMPHREY, OF CHELSEA, MASSACHUSETTS.

## IMPROVEMENT IN LEAF-TURNERS.

Specification forming part of Letters Patent No. **191,055**, dated May 22, 1877; application filed March 31, 1877.

*To all whom it may concern:*

Be it known that I, DANIEL W. G. HUMPHREY, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Music-Rack Attachment, which invention is fully set forth in the following specification, reference being had to the accompanying drawing.

The object of my invention is to furnish for the use of musicians a convenient, practical, and comparatively inexpensive mechanism, whereby their music, whether in the form of sheet-music or in bound volumes, may be held upon the usual rack of the piano, organ, or portable stand, and the leaves thereof be thereby turned with a very slight manipulation by the performer, and with great facility, certainty, and promptness; and

My invention consists—

First, in a sheet-music or other leaf turner, of a holder or binder of peculiar construction, which may be conveniently attached to and detached from such music-rack, as hereinafter described.

Second, in a leaf holding and turning attachment, applicable to such music stands and racks, of peculiar construction and mode of operation, as hereinafter described.

Third, in the combination of such music holder or binder with a leaf-turning device, as hereinafter described.

Fourth, in the combination of such leaf-turning device with a stationary guard having adjustable ends, for holding in place the idle leaves of music which are not being sung or played from.

Fifth, in the combination of such music holder or binder with such stationary guard.

Sixth, in the combination of such detachable music-holder with the music-rack of a piano, organ, or stand.

Seventh, in the combination of such music-leaf turner with the music-rack of a piano, organ, or stand.

Eighth, in certain details of construction, arrangement, and combination of said music holding, guarding, and turning devices, all as hereinafter fully described and shown in the accompanying drawings, in which—

Figure 1 represents a front elevation of my invention applied to the usual rack of a mu-

sical instrument. Fig. 2 is a horizontal section of the detachable music holder or binder, taken on line *x x*, Fig. 3. Fig. 3 is an end view from the right hand of Fig. 1, but with some of the parts changed in position, so that the music-holder and one of the leaf-turners are shown in side elevation, and the other leaf-turner in end elevation. Fig. 4 is a vertical section of the parts shown in Fig. 3, exclusive of the swinging arms and guard, showing the construction and method of combining the music-holder and leaf-turning attachment with the musical instrument and its rack, and the manner of combining the leaf-turning arms with their bracket, and, also, the music holder or binder in the socket of such bracket.

In said figures, A represents the music holder or binder; B, the usual rack of a piano, organ, or stand; C, the leaf-guard and leaf-turning attachment.

The music-holder A (see Fig. 4) is composed of the longitudinally concaved and pivoted back *d*, supported by the spring-post *e*, secured in the base-plate *f*, the binding-wire *g*, also secured at its lower end in said base-plate, the socket-wire *h*, for securing the holder to the bracket E by inserting it in socket *i*, and the stop-bar *j* across said base-plate.

The leaf guarding and turning attachment comprises the bracket E, containing the step *k*, the socket *i*, and arm *m*, the stationary guard F, attached to said bracket, with its pivoted arms *n n'*, the swinging arms *o o'*, for turning the leaves, with their pivoted leaf-forks *p p'*, supported by springs *u u*, finger-knobs *v v*, and their pivotal screw *s*.

The bracket E is secured to the instrument by a screw, *t*, which passes through the base of the rack and arm *m* of said bracket into the body of the musical instrument or stand to which said invention is applied. The pivoted arms *n n'* of the stationary guard F and the leaf-forks *p p'* are supported in horizontal or vertical position by their respective springs *u u u*. The top of the socket *i* on bracket E is cut away, so as to allow the stop-bar *j* of the music-binder to rest thereon, as shown in Figs. 3 and 4, whereby the said binder is prevented from rotating on its socket-pin *h*, or turning out of proper position while in use.

The leaf-turning arms *o o'*, which are weighted by the finger-knobs *v v*, are arranged to vibrate, or perform a semi-revolution, upon their pivot *s*; the axis whereof is arranged oblique to a vertical line, and parallel, or nearly so, to the inclined plane of the pivoted music-rack B when it is raised for use, as shown. By thus arranging the axis of the arm-pivot *s* the outer and weighted extremities of said arms *o o'*, when swung from right to left, (as the music is passed over by the player,) move in an ascending line or plane until directly in front of their said common pivot *s*, or until ninety degrees of a circle be passed through, (see arm *o*, Fig. 3,) when a descending line of movement takes place, whereby the momentum acquired and imparted by the performer's moving said arm through said first quarter of a circle insures the descent and complete semi-revolution thereof, and the consequent turning of the leaf secured in the fork P thereof, without further care or attention on the part of the singer or player.

When attached to the rack of an organ, piano, or other analogous instrument, the knobs *v v* are suspended over the key-board in such position as to not interfere with the free action of the hands of the player, but at the same time are so disposed as to be conveniently manipulated by the player with but slight interruption, he being required to simply strike one of the knobs with his finger with sufficient force to send it through the first half of its semi-revolution whenever the leaf held thereby is to be turned.

To place sheet-music in the holder A, the back or folded edge of the sheet is passed behind the wire *g*, so as to bring said wire between the folios, and then drawn downward between said wire and the back *d*, which back is curved at its top to facilitate such entrance of the sheet between it and the binding-wire. The spring-support *e* keeps said back in contact with the music or paper so placed therein, while the oscillation of said back upon its pivot distributes and equalizes the pressure upon the sheet along the entire line of the holder, thus firmly securing it therein at all points. A number of folio sheets may be thus held at the same time, and a single additional leaf may be likewise securely held by its margin, the binder being sufficiently yielding to hold a plurality of sheets.

When a bound volume of music is used, the book is placed upon the rack B, in the usual manner, holder A being first removed from its socket *i* and laid aside. The pages being selected from which the singing or playing is to be performed, the guard-arms *n n'* are turned up to hold back the idle leaves. The leaves of music so selected from a volume or sheets are then turned to the right, one after the other, against the bent arms of the forks *p'* and *p*, said bent arms serving as guides to direct the edges of the leaves more readily into the intermediate spaces be-

tween such bent arms and their accompanying straight arms, as the forks are turned up to embrace the leaves, as in the positions shown in Fig. 3.

The leaves being thus placed between the branches of the forks *p p'*, of which a suitable number, usually four, are to be employed, the preliminary arrangements are completed, and the music is in proper position to commence the singing or playing thereof; and when the music-leaves are so held their rapid turning in regular succession is accomplished by means of my said attachment with promptness and certainty, and without anxiety and frustration on the part of the performer, as the weighted arms which so embrace the leaves are sufficient to overcome the atmospheric action which usually accompanies the rapid turning of the leaves, and frequently causes, when such leaves are hastily turned, in the usual manner, by the fingers simply, the succeeding leaf to follow that which is thus quickly turned, to the great interruption and annoyance of the player.

The above-described attachment, which thus securely holds the music in position, and facilitates the rapid turning of the leaves thereof without undue interruption or disturbance of the performer, is equally applicable to music-racks mounted upon portable stands, such as are usually employed in orchestras and at band concerts.

In applying said attachment to a musical instrument it should be secured thereto in such manner, upon a cushion of felt or otherwise, as to prevent its vibrating, and thereby emitting a discordant sound; and the guard F, against which the movable arms *o o'* stop, and the points of contact between said arms, may be covered or muffled with some non-resonant material, to prevent any clinking of the movable parts when the attachment is in use.

I am aware that devices for holding and turning the leaves of music, in connection with musical instruments, have heretofore been invented, employing swinging arms and leaf-forks, but different in construction, arrangement, combination, and mode of operation from mine. I therefore do not claim said specific parts, broadly; but

What I do claim as my invention is—

1. In a leaf-turner, the holder or binder A, constructed with the binding-bar *g*, the pivoted back *d*, and the yielding pivoted support *e*, substantially as described and shown.

2. The leaf-turning device consisting of the pivoted arms *o o'*, the hinged leaf-guards P, and the weighted finger-bars *v*, all constructed and arranged to operate substantially in manner as described and shown.

3. The combination of binder A, rack B, pivoted guards *n n'*, for securing the idle leaves, and the turning device, all substantially as described and shown.

4. In combination with the binder, as de-

scribed and shown, the idle-leaf guards  $n n'$  and the leaf-turning device, as described and shown.

5. In a music or leaf turner, a series of weighted arms,  $o o'$ , when arranged to operate substantially as described and shown.

6. In a leaf or music turner, the combination of the series of weighted arms  $o o'$  and

leaf-forks  $p p'$ , constructed and combined to operate substantially in manner as described and shown.

DANIEL W. G. HUMPHREY.

Witnesses:

EUGENE HUMPHREY,  
EBEN HUTCHINSON.