C. R. GREENE.

MUSIC LEAF TURNER.

APPLICATION FILED MAR. 19, 1915.

1,175,746.

Patented Mar. 14, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

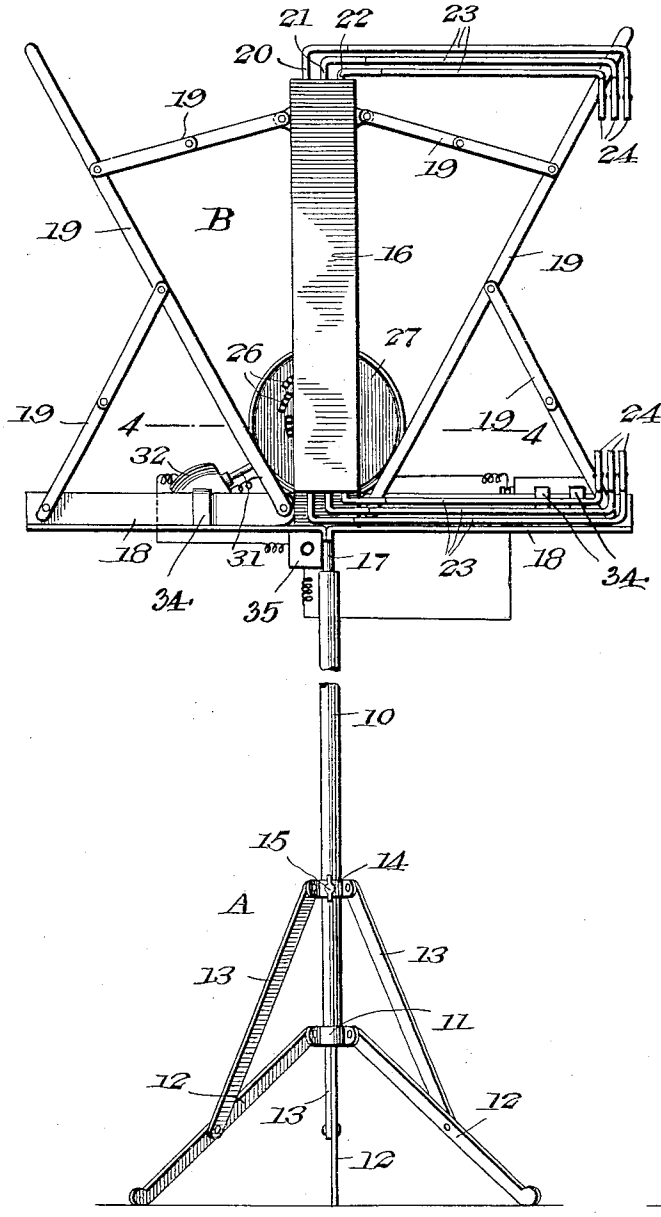
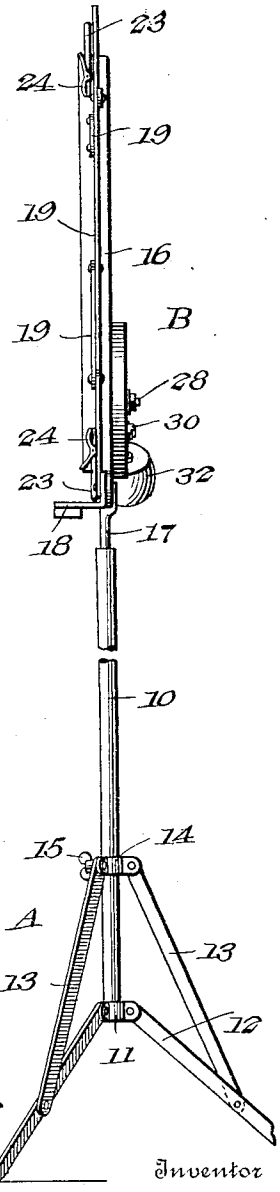


Fig. 2.



Witnesses

Hugh H. Lee

A. L. Mathews.

Inventor

Charles R. Greene

By Victor J. Evans

Attorney

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. R. GREENE.

MUSIC LEAF TURNER.

APPLICATION FILED MAR. 19, 1915.

1,175,746.

Patented Mar. 14, 1916.

2 SHEETS—SHEET 2.

Fig. 4.

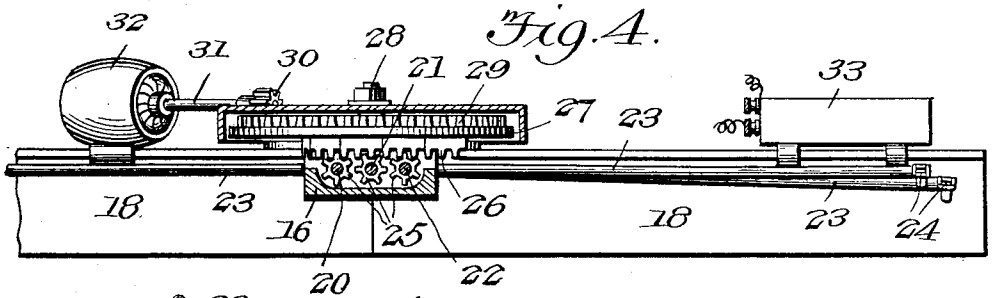


Fig. 7.

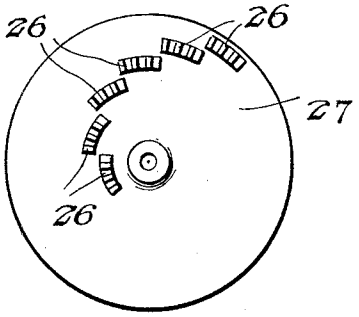
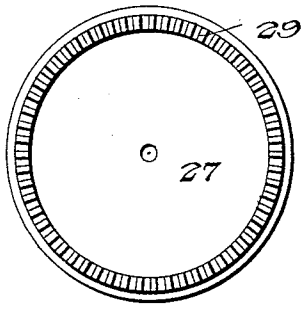


Fig. 8.



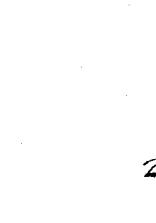


Fig. 3.

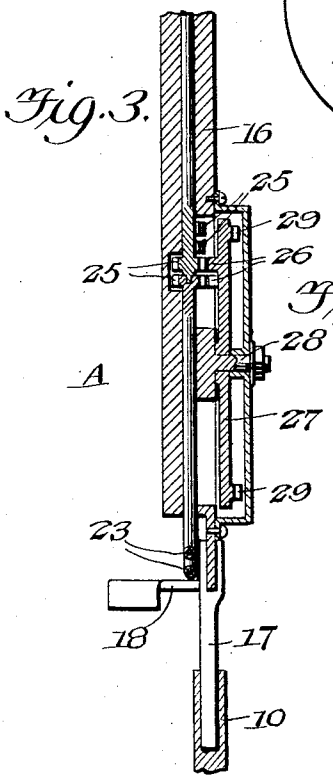


Fig. 5.

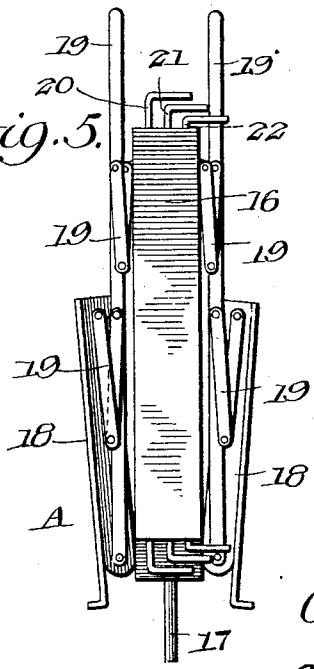
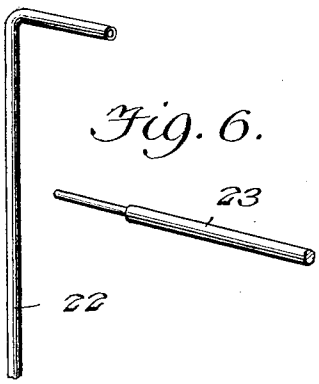


Fig. 6.



Witnesses

Hugh H. Hall

Inventor

Charles R. Greene

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

CHARLES R. GREENE, OF READING, PENNSYLVANIA.

MUSIC-LEAF TURNER.

1,175,746. Specification of Letters Patent. Patented Mar. 14, 1916.

Application filed March 19, 1915. Serial No. 15,529.

To all whom it may concern:

Be it known that I, CHARLES R. GREENE, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

The invention relates to a music leaf turner, and more particularly to the class of automatically operated foldable music leaf turners.

The primary object of the invention is the provision of a device of this character wherein the music leaf turning arms are actuated through gear connections with a motor, preferably of the electric type, so that the hands of the user of the device are free for the playing of the instrument, and thus being relieved from manual handling of the sheets of music.

Another object of the invention is the provision of a device of this character wherein the construction thereof is novel in form to assure the positive and perfect working thereof for the automatic turning of the leaves of sheet music in successive order, the device being adapted for use with various musical instruments, and is readily and easily folded when not in use so as to occupy the least possible space or be stored in a contracted place.

A further object of the invention is the provision of a device of this character which is simple in construction, reliable and efficient in its operation, strong, durable, and inexpensive in manufacture.

With these and other objects in view, the invention consists in the construction, combination and arrangement of parts as will be hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a front elevation of a music leaf turner constructed in accordance with the invention. Fig. 2 is an end elevation thereof. Fig. 3 is a fragmentary vertical central sectional elevation. Fig. 4 is a sectional view on the line 4—4 of Fig. 1. Fig. 5 is a plan view of the music leaf turner when folded. Fig. 6 is a fragmentary perspective view of one of the music leaf turning arms showing the sections thereof separated. Fig. 7 is a plan view of the gear for operating the music leaf turner. Fig. 8 is a similar view looking toward the opposite face thereof.

Similar reference characters indicate corresponding parts throughout the several views in the drawings,

Referring to the drawings in detail, A designates a stand or support on which is mounted the foldable music leaf turner B, both being hereinafter fully described.

The stand A comprises a sleeve-like upright or column 10 having at its lower end a spider 11 in which are pivoted supporting legs 12 having pivotally connected thereto brace arms 13 which are also pivoted to a slidable spider or collar 14 surrounding the upright or column 10 so that the legs can be folded and unfolded, as will be clearly apparent, the collar 14 being fitted with a set screw 15 to fasten the legs in folded or unfolded position.

The music leaf turner B comprises a center post 16, to the lower end of which is fixed a stem 17, the latter being mounted in the upright or column 10, and to this post 16 are pivoted the sections 18 of a rack or rest rail for the music. Pivoted to the sections 18 of the rack or rest rail and to the post 16, and also to each other, is a series of levers 19 which form the back frame of the music leaf turner, and on breaking the joints of certain of these levers 19 the rack or rest rail can be folded for bringing the music leaf turner into compact form when not in use.

Journaled in the post 16 are the respective music leaf turning shafts 20, 21 and 22, each having top and bottom horizontally disposed arms 23 on which are provided suitable clips 24 for the fastening of the leaves of the sheet music thereto. Mounted on each shaft 20 is a pinion 25, and these pinions on the respective shafts are arranged in staggered relation to each other, or out of alinement, for meshing engagement with short rows of gear teeth 26, the rows being in segment form and disposed concentrically on a gear wheel 27 with respect to its journal 28, which is rotatably mounted in the post 16, the teeth 26 being on one side of the wheel 27, while formed at the other side at the periphery thereof are gear teeth 29 with which meshes a pinion 30 on a drive shaft 31 of an electric motor 32 of any approved type, the same being fixed upon one section 18 of the rack or rest and is electrically connected with a battery 33 mounted on the other section of the rest or rack, the motor 32 being started and stopped through any suitable switch controlled device arranged in

the electric circuit therewith. The electric motor 32 and the battery 33 each has thereon a suitable clip 34 which is adapted to engage over and be supported upon the back rail of the section 10 for the detachable mounting of the battery and motor thereon. It is understood that the motor can be started and stopped through the medium of any suitable switch 35.

The operation of the music leaf turner is as follows: Assuming that the music book or the sheet of music has been placed upon the rest therefor, the leaves of the said music being engaged in the clips 24 at the right hand side of the device so that by closing the switch 35 for completing the electric circuit between the battery and the motor, the latter is started, which rotates the shaft 31 with the pinion 30 thereon meshing with the teeth 29 on the disk 27, thus rotating the latter, which, through the medium of the rows of teeth 26, act upon the pinions 25 for driving the shaft 21, causing the same to turn from right to left, thereby swinging the music leaf turning arm 33 in this direction, it being thus seen that the leaves of the music will be successively swung from right to left for the turning thereof. When each leaf is swung from right to left the switch 35 is open for breaking the circuit and thereby stopping the motor until it is desired to turn another leaf or sheet of the music, whence the operation is again repeated as hereinbefore set forth.

The folding of the music leaf turner will be clearly apparent, and therefore an explanation of the mode of folding the same has been omitted. Furthermore, the operation of the music leaf turner will be clearly understood without a further detail description thereof, so that the same has been dispensed with.

What is claimed is:

1. In a music leaf turning mechanism, a plurality of vertically disposed spaced shafts having music leaf turning arms, pinions fixed on the shafts out of alinement with each other, a gear having concentrically disposed segmentally arranged rows of teeth meshing with the respective pinions, perforated teeth on the said disk on the face opposite the rows of teeth, a motor arranged in a normally open electric circuit and having a shaft, and a pinion on the said last named shaft and meshing with the perforated teeth on the disk.

2. In a music leaf turning mechanism, a plurality of vertically disposed spaced shafts having music leaf turning arms, pinions fixed on the shafts out of alinement with each other, a gear having concentrically disposed segmentally arranged rows of teeth meshing with the respective pinions, perforated teeth on the said disk on the face opposite the rows of teeth, a motor arranged in a normally open electric circuit and having a shaft, a pinion on said last named shaft and meshing with the perforated teeth on the disk, and means for detachably supporting the motor in operative relation to the disk.

In testimony whereof I affix my signature in presence of a witness.

CHARLES R. GREENE.

Witness:

J. C. MELLIX.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."