No. 751,219. PATENTED FEB. 2, 1904.

E. TAYLOR.

LEAF TURNER.

APPLICATION FILED APR. 24, 1903.

NO MODEL.

Fig. 1.

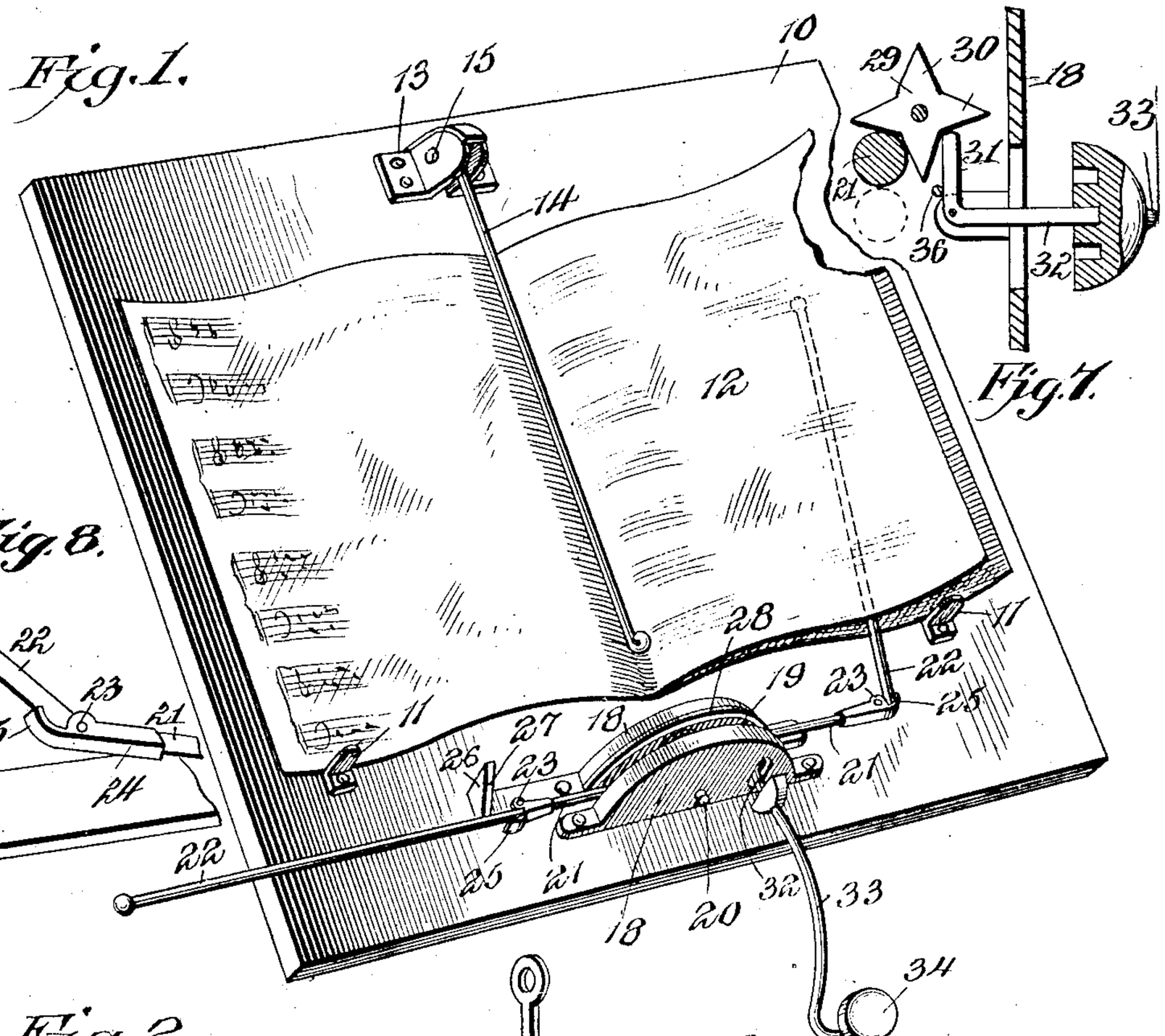


Fig. 7.

Fig. 8.

Fig. 2.

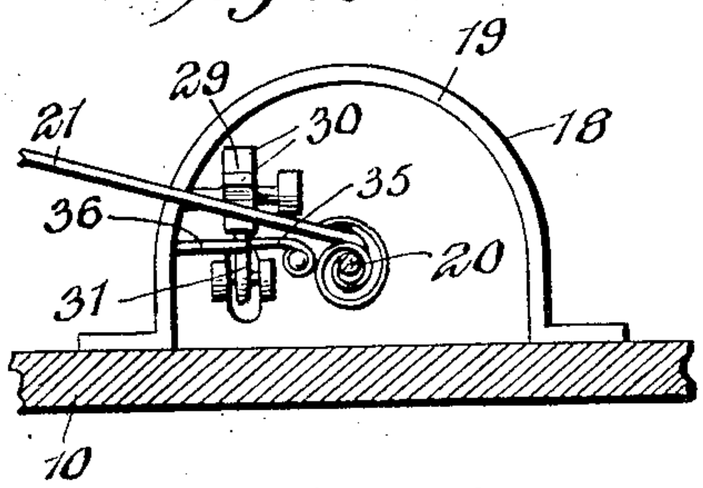


Fig. 4.

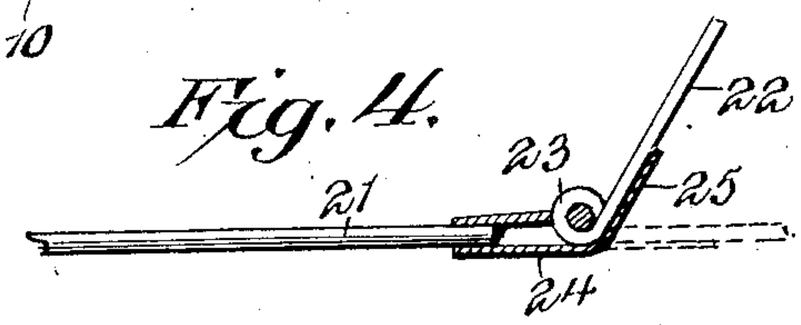


Fig. 6.

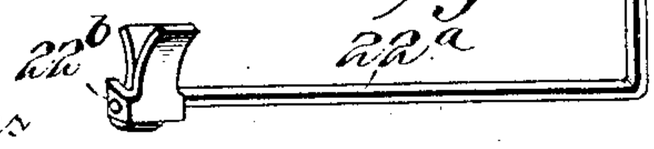


Fig. 3.

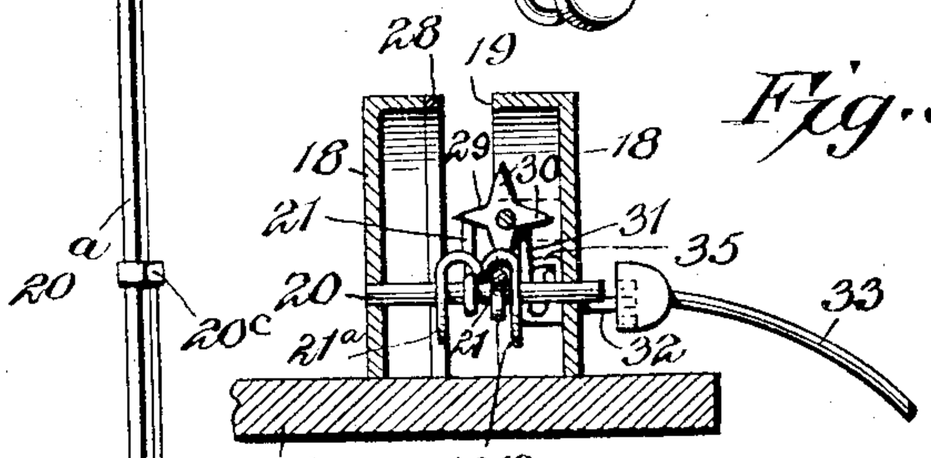
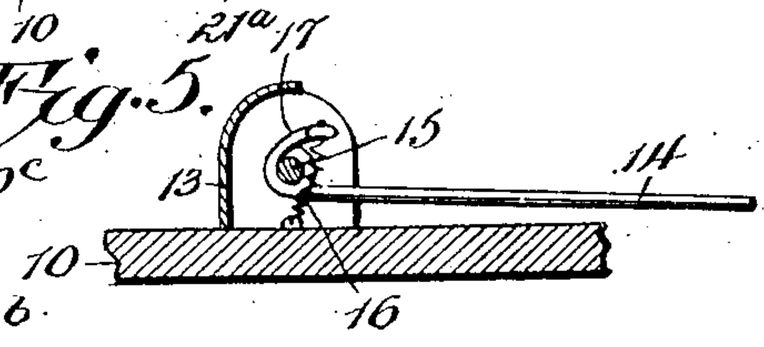


Fig. 5.



Witnesses

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No. 751,219. Patented February 2, 1904.

UNITED STATES PATENT OFFICE.

ELIAS TAYLOR, OF WINCHESTER, ILLINOIS.

LEAF-TURNER.

SPECIFICATION forming part of Letters Patent No. 751,219, dated February 2, 1904.

Application filed April 24, 1903. Serial No. 154,125. (No model.)

To all whom it may concern:

Be it known that I, ELIAS TAYLOR, a citizen of the United States, residing at Winchester, in the county of Scott and State of Illinois, have invented a new and useful Leaf-Turner, of which the following is a specification.

An operator upon a musical instrument when playing from a score placed upon said instrument is often vexatiously delayed in turning the sheets or leaves, the necessity for removing the hands from the keyboard and fingering the leaves in order to turn them causing an inharmonious break in the melody and the time.

It is the object in the present invention to provide means which will permit an operator to readily turn the sheets of music without causing any serious interference in his operation upon the instrument, said means being very simple and the parts thereof being such that they will not readily become deranged.

It is also the object to provide mechanism which will be housed, and thus protected against damage, the exposed or exterior conformation being simple in outline, so that it does not appear clumsy or inapt.

A still further object of the invention is to provide means which will not interfere with an unobstructed view of the exposed pages.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of the improved structure. Fig. 2 is a sectional view through the same. Fig. 3 is a cross-sectional view through the casing. Fig. 4 is a detail view of the joint between the sections of one of the arms. Fig. 5 is a sectional view through the casing in which the holding-arm is located. Fig. 6 is a view of a slightly-modified form of arm. Fig. 7 is a detail sectional view through the casing and similar to Fig. 3, but on an enlarged scale. Fig. 8 is a detail perspective view showing the manner in which the leaf-turning arms are thrown from upright to horizontal position by the projection.

Similar reference-numerals indicate corresponding parts in all the figures of the drawings.

In the embodiment illustrated a rack 10 is employed, which may be of any desired form and can be either placed upon the music-support of a piano or organ or constitute a portion of a stand. This rack is provided contiguous to its lower end with outstanding lugs 11, constituting a support for the music-score, which is designated 12. A casing 13 is secured upon the outer face of the rack at its upper end, and midway between its side edges and in this casing is pivoted a music-holding arm 14, journaled upon a suitable pivot 15. This arm is arranged to rest upon the book or sheet music at its line of turning, as shown in Fig. 1, and it is normally and yieldingly held in place by means of a spring 16, secured at one end to the rack within the casing and having its other end fastened to the offset terminal 17 of the arm. By this arrangement (shown in Fig. 5) the arm will be yieldingly held upon the music or when thrown to an upright position will maintain such position.

The leaf-turning mechanism will now be described. A casing is employed formed of two semicircular sections 18, secured to the rack between and below the projections 11 and spaced apart to form a longitudinally-disposed slot 19. A pivot-rod 20 extends across the central portion of the casing, and upon the same are journaled leaf-turning arms, any number of which may be employed as desired, said arms being turned in one direction by suitable springs 21ª. These arms are each made up of sections 21 and 22, hinged together, as shown at 23. An angular spring 24 is fastened to the section 21 and has its free end 25 bearing against the section 22 and bridging the hinged joint 23, thus normally holding the sections in angular relation, as shown in Figs. 1 and 4. Arranged in the path of movement of the swinging arms is a projection 26, preferably formed integral with one section of the casing and having a beveled edge 27, upon which the outer sections 22 ride, whereby said sections are moved to horizontal positions, as is hereinafter more fully explained. In order to prevent too rapid movement on the part of the arms, a compressible friction-pad 28 is preferably secured to one of

the sections 18, being preferably formed of rubber or similar material, and is so disposed that the inner sections 21 bear against the same during their movements, being retarded thereby.

A star-wheel 29 is journaled in the right-hand side of the casing and has teeth 30, that are arranged to extend successively across the the slot 9, thereby holding the arms in their retracted position. This star-wheel is held against free rotation by means of a trip 31, pivoted within the casing and having an exposed terminal 32, to which is fastened a suitable operating-stem 33, having at its lower end an actuating-knob 34. The trip 31 is held beneath the adjacent tooth of the star-wheel by a spring 35, and the inward movement is limited by a stop-lug 36.

In use the structure is placed upon the music-support of a piano or organ, whereupon the actuating-knob 34 will be located just above the keyboard and in convenient position to be touched by the musician. The music is then placed upon the rack and secured by the holding-arm 14. The arms are first swung to the right side of the casing and located beneath consecutive leaves of the music, being locked in this position by the star-wheel. The outer sections will be in elevated position, as illustrated in Fig. 1. When it is desired to turn a leaf, the musician need only give a slight tap upon the knob 34, which will cause the dog 31 to move from its position beneath the adjacent finger of the star-wheel, thus permitting said wheel to revolve. This releases the uppermost finger, and impelled by its spring said finger will rotate to the left side, carrying the superposed page with it. As it reaches said side the section 22 will come into contact with the bevel edge 27 of the projection 26, whereupon the tension of the spring 25 will be overcome and the section 22 will be carried to horizontal position, and therefore out of engagement with the leaf. The knob being merely tapped, as already stated, is consequently immediately released, so that the dog will spring back beneath the tooth of the star-wheel succeeding that freed by the actuation of the dog. In other words, the tap upon the knob permits the passage of a single tooth of the star-wheel past the dog. Therefore on the opposite side of the wheel to said dog but one tooth has been moved out of the way of the carrying-fingers, and this tooth has released the carrying-finger which turns the leaf. A succeeding tooth, however, moves in below the released carrying-finger and over the succeeding finger. Consequently when the wheel is stopped by the dog, as above explained, this latter tooth obstructs the passage of the carrying-finger below it and releases the same only upon another impulse given to the knob.

From the above it will be apparent that by means of this structure leaves of music may be quickly turned without materially interfering with the use of the hands upon the keyboard. The parts are simple, so that they will not become easily deranged, and the escapement mechanism is entirely housed within the casing, so that it is protected from accidental injury, said casing, moreover, serving as a guide for the arms, so that they must necessarily travel in their proper path and operate in the manner above described. While the structure has been described particularly with reference to use upon pianos or organs, it will be clearly seen that it is entirely applicable for use in orchestras and the like, in which case the rack 10 would constitute a portion of the usual stand.

A slightly-modified form of arm is shown in Fig. 6, said arm being applicable to the same operating structure and being particularly intended for outdoor use for bands and orchestras. In this instance the turning-arm is made of two sections 20^a and 20^b, each of which carries a collar 20^c, surrounding the other, so that the sections are slidably associated. The arm 20^b is provided with an outstanding finger 22^a, having on its free end a leaf-engaging clasp 22^b. By this structure the leaf can be secured to the turning-arm and is thus not liable to be disarranged by the wind.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a leaf-turner, the combination with swinging arms, of a star-wheel having teeth arranged to successively engage the arms, and a trip detachably engaging the teeth of the star-wheel to normally hold said wheel against movement.

2. In a leaf-turner, the combination with swinging leaf-turning arms, of a revoluble star-wheel having teeth arranged to successively engage and release the arms, and a pivoted trip detachably engaging the teeth of the star-wheel to normally hold the same against movement.

3. In a leaf-turner, the combination with a casing, of arms pivoted in the casing and projecting therefrom, a star-wheel journaled in the casing and constituting a holder for the arms, and a pivoted trip having a portion located within the casing and engaging the star-wheel.

4. In a leaf-turner, the combination with a swinging-arm, having jointed sections, of

means carried by one section and engaging the other to hold the outer section elevated, and means for depressing said outer section when a predetermined position of the arm is reached.

5. In a leaf-turner, the combination with a casing, of arms movably mounted in the casing and projecting therefrom, a star-wheel journaled in the casing and constituting a holder for the arms, and a trip pivoted to the casing, one end of the trip engaging the star-wheel and the other end having an actuating-knob.

6. In a leaf-turner, the combination with a swinging arm having jointed sections, of means carried by the arm for holding the outer section elevated, and means for automatically swinging said elevated section to a depressed position.

7. In a leaf-turner, the combination with a swinging arm having jointed sections, of a spring for holding the outer section elevated, and a projection located in the path of movement of said section for automatically moving the same to depressed position.

8. In a leaf-turner, the combination with a leaf-turning arm comprising sections, of a spring for holding the outer section elevated, and means acting upon said outer section, when the arm has reached a predetermined position, to depress the same against the action of the spring.

9. In a leaf-turner, the combination with a swinging arm comprising pivotally-associated sections, of a projection having an inclined edge located in the path of movement of the arm.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ELIAS TAYLOR.

Witnesses:
T. B. LYONS,
G. H. COX.