Oct. 18, 1927. 1,646,353

F. M. ELVEY

MUSIC TURNER

Filed Dec. 2, 1922 5 Sheets-Sheet 1

Fig. 1.

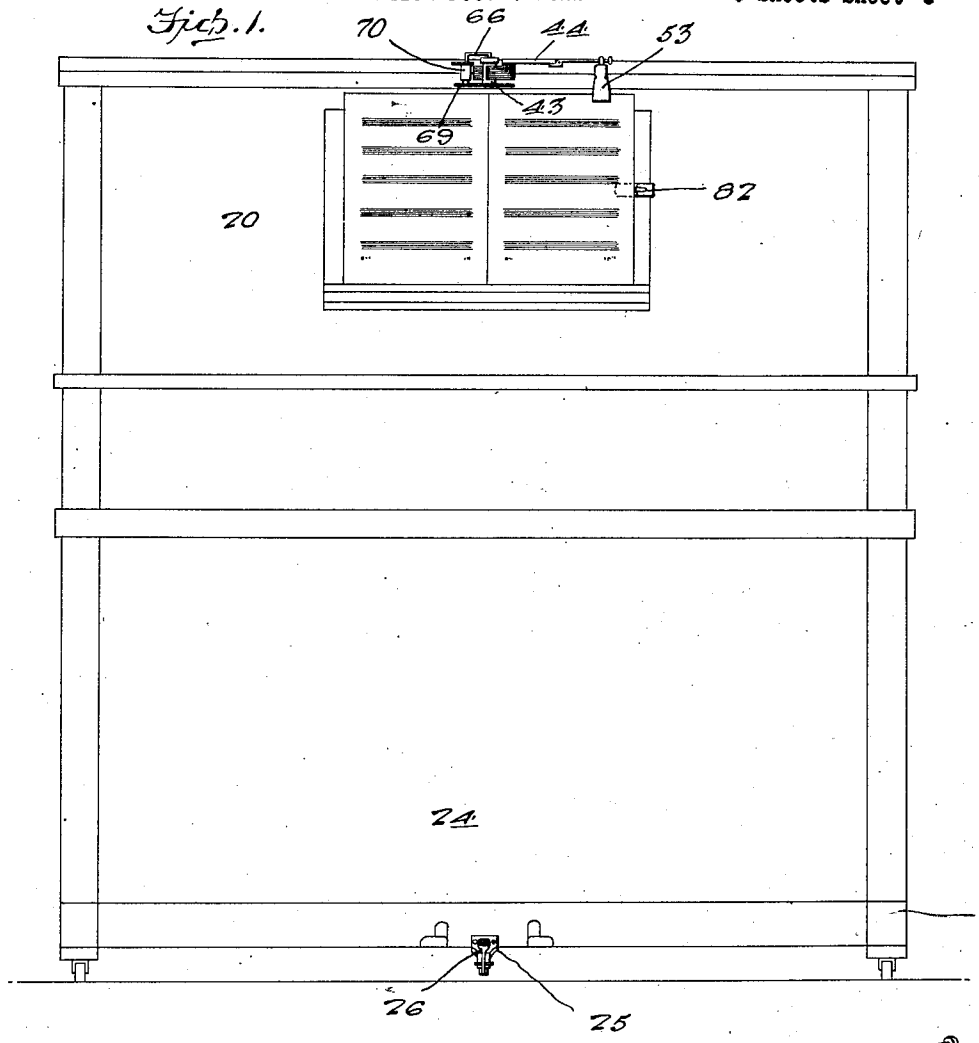
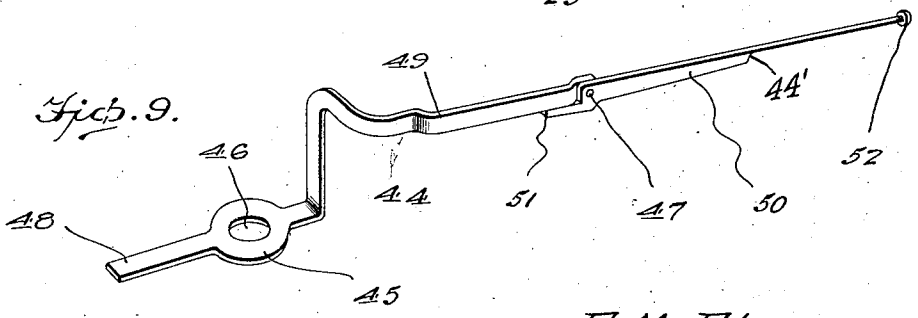


Fig. 9.



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MUSIC TURNER

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Fig. 2.

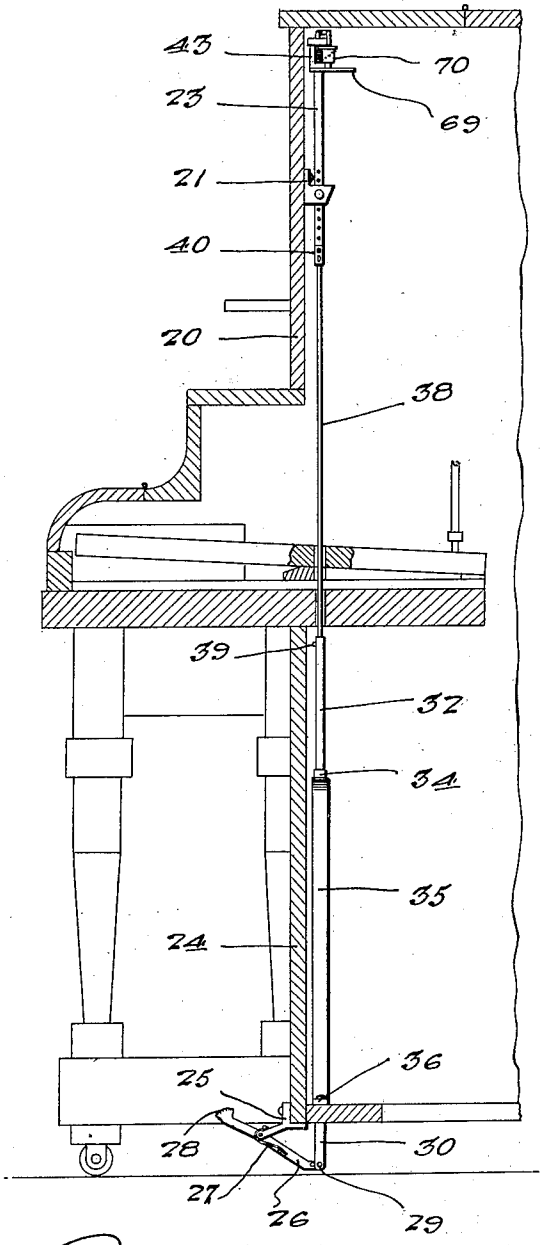


Fig. 10.

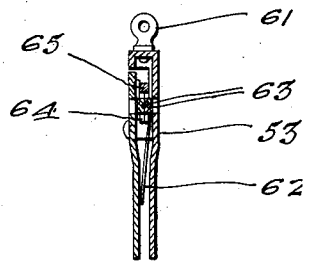


Fig. 11.

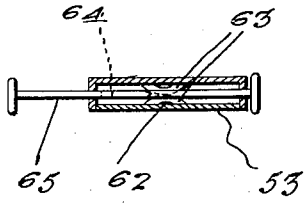
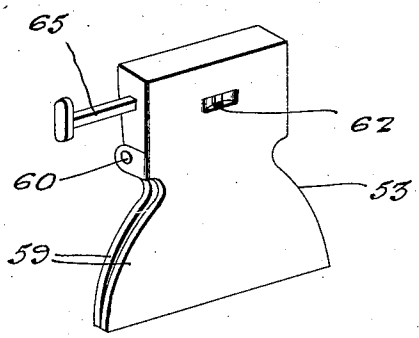


Fig. 12.



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MUSIC TURNER

Filed Dec. 2, 1922 5 Sheets-Sheet 3

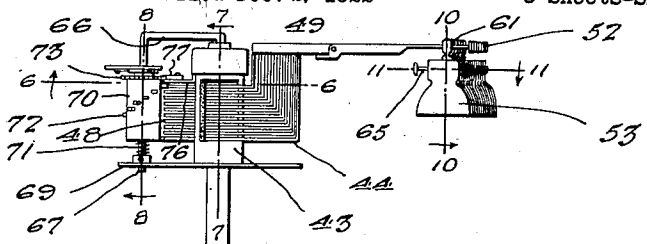


Fig. 3.

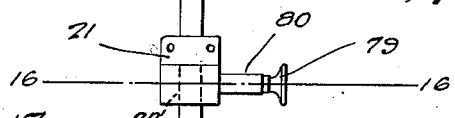
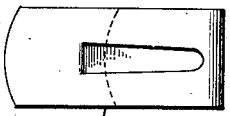


Fig. 17.



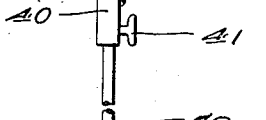


Fig. 4.

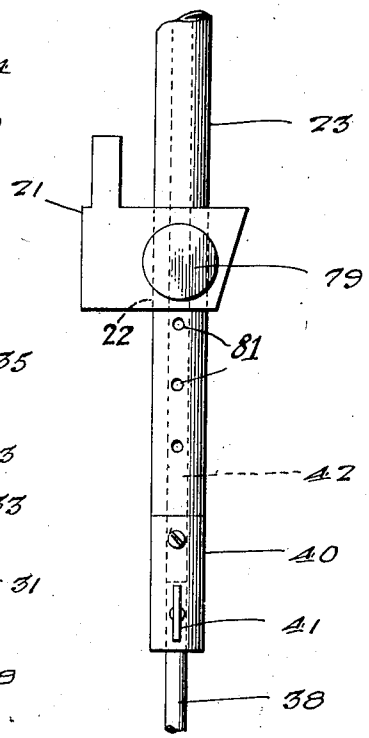
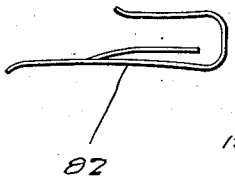
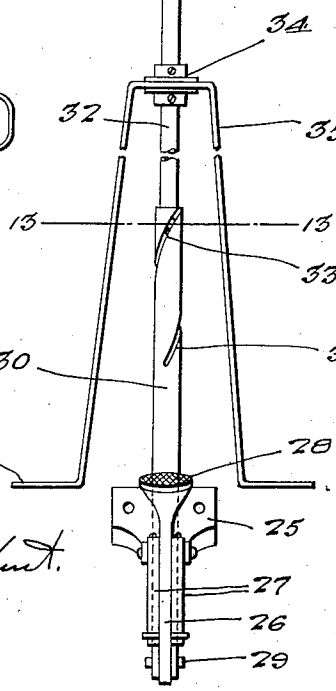


Fig. 18.





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MUSIC TURNER

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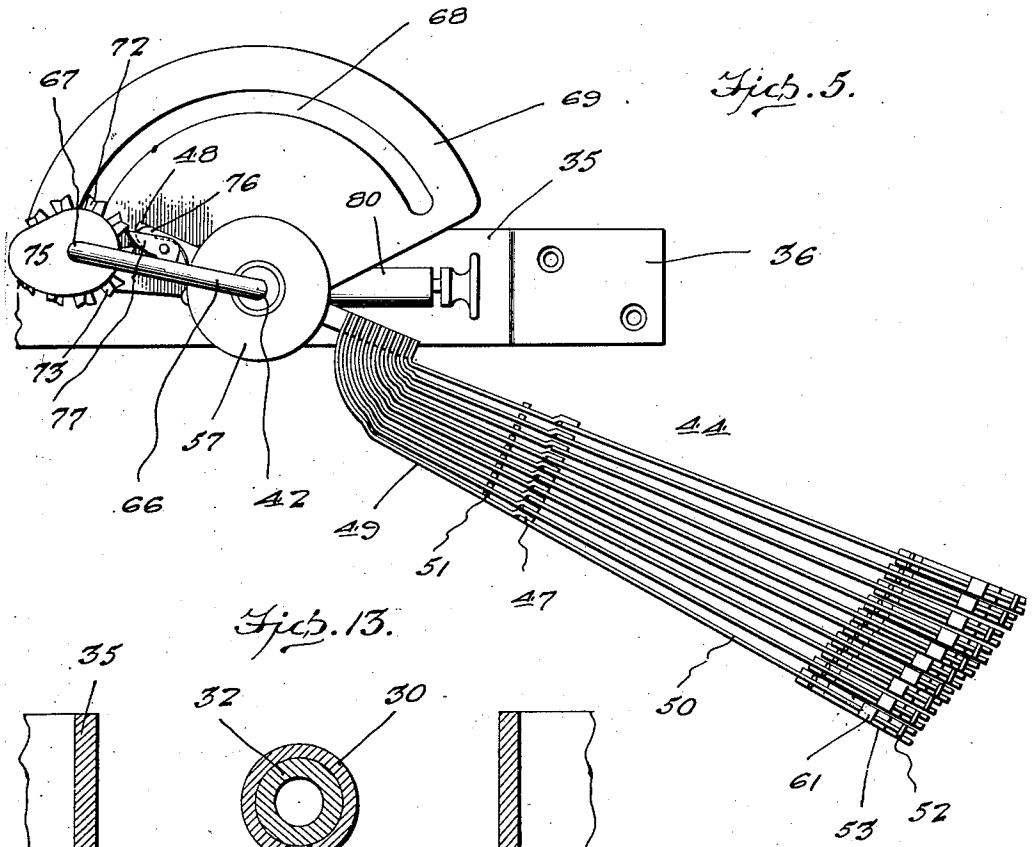


Fig. 5.

Fig. 13.

Fig. 14.

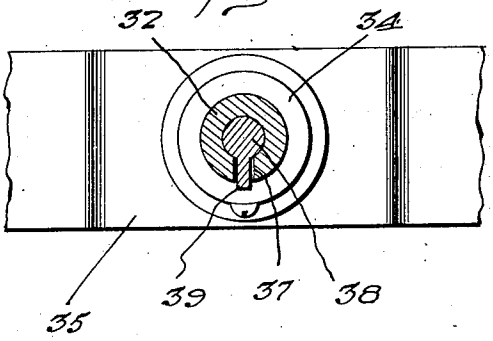
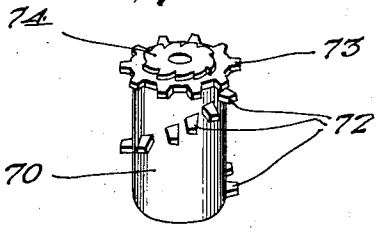


Fig. 15.



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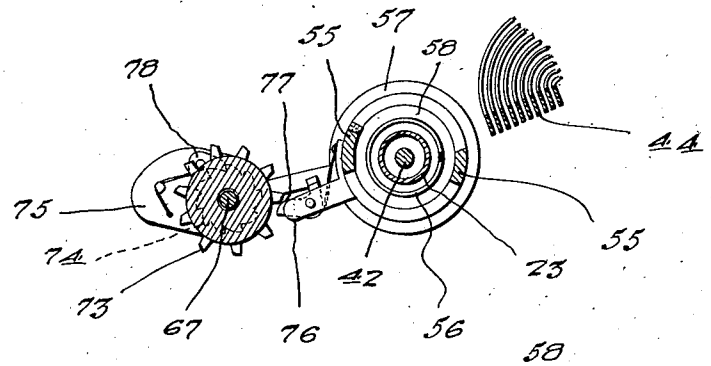
Oct. 18, 1927. 1,646,353

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MUSIC TURNER

Filed Dec. 2, 1922 5 Sheets-Sheet 5

Fig. 6.



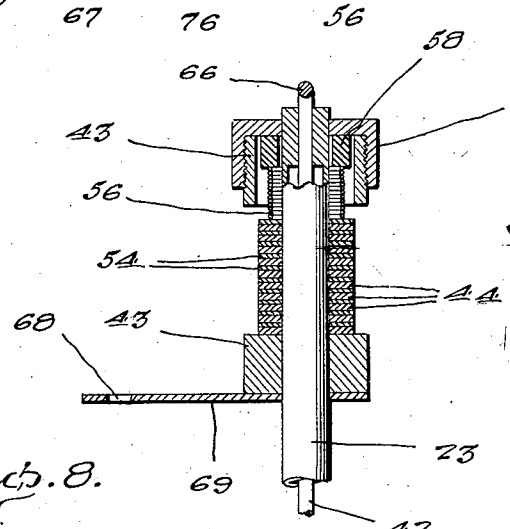


Fig. 7.

Fig. 8.

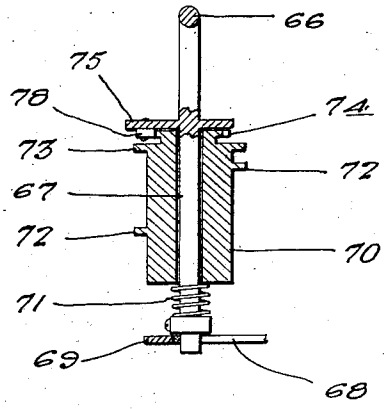
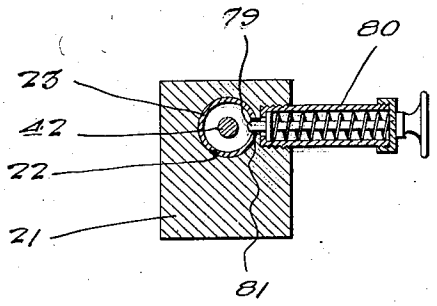


Fig. 16.



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UNITED STATES PATENT OFFICE.

FREDERICK MENDELSSOHN ELVEY, OF WIMBLEDON, SURREY, ENGLAND.

MUSIC TURNER.

Application filed December 2, 1922. Serial No. 604,546.

This invention relates to improvements in music leaf turners and has for an object the provision of a hand operated device which may be attached to a piano or music stand, whereby a player may turn the leaves or sheets one at a time, without interference with playing.

Another object of the invention is the provision of a music leaf turner which may be secured within a piano without interference with its tonal qualities or with tuning, the device being normally housed within the piano and capable of being readily and quickly moved into position for use.

Another object of the invention is the provision of a novel form of music leaf clamp, which will readily grip and hold a leaf, but which may be quickly released when desired.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is a front elevation of a piano with the invention in position for use.

Figure 2 is a vertical sectional view through the front portion of the piano with the invention in normal position.

Figure 3 is a front elevation of the invention per se.

Figure 4 is a side elevation of a part of the same.

Figure 5 is a top plan view.

Figure 6 is an enlarged sectional view on the line 6—6 of Figure 3.

Figure 7 is a section on the line 7—7 of Figure 3.

Figure 8 is a section on the line 8—8 of Figure 3.

Figure 9 is a detail perspective view of one of the horizontally movable leaf arms.

Figure 10 is a section on the line 10—10 of Figure 3.

Figure 11 is a section on the line 11—11 of Figure 3.

Figure 12 is a detail perspective view of one of the leaf clamps.

Figure 13 is a section on the line 13—13 of Figure 3.

Figure 14 is a section on the line 14—14 of Figure 3.

Figure 15 is a detail perspective view of the rotatable arm actuating head.

Figure 16 is a section on the line 16—16 of Figure 3.

Figure 17 is an elevation of one of the music leaf clips.

Figure 18 is a plan view of the same.

Referring in detail to the drawings, like characters of reference denote corresponding parts throughout the several views.

In illustrating the invention, use is made of a piano, but with slight modifications of the attaching means, the invention is equally well adapted for use in connection with a music stand. In the illustration about to be described, the reference character 20 indicates the top front panel of a piano to which is secured the top bracket 21 of the device, the latter being provided with a vertically disposed opening 22 therethrough within which is secured a bearing sleeve 23. Secured to the lower front board or panel 24 between the pedals is a bottom bracket 25 and pivotally mounted between spaced ears formed on this bracket is a foot pedal 26. The outer end of this pedal is held in normally elevated position by means of flat springs 27 and this outer end carries a foot engaging portion 28. The opposite end of the pedal 26 is slotted and connected to this slotted end by means of a pivot pin 29, is the lower end of a sleeve 30, having a spiral groove 31 therein.

Extending into the sleeve 30 is the lower end of a tubular member 32 and extending from this member is a stud 33 which enters the spiral groove 31 and as the tubular member 32 is swiveled as shown at 34 in a stationary bearing bracket 35, this tubular member will be rotated by a longitudinal movement of the sleeve 30. The bearing bracket 35 is of inverted substantially U-shape and is provided with attaching ears 36.

The upper end of the tubular member 32 is longitudinally slotted as shown at 37 and extending within the upper end of this member is a connecting rod 38, whose lower end is provided with a stud or key 39 which operates in the groove 37. This permits of independent vertical movement of the rod 38 and at the same time provides means whereby rotary movement of the tubular member 32 will rotate the rod 38.

The upper end of the rod 38 is removably secured within one end of a coupling member 40 by means of a set screw 41 and this coupling member serves as a connection be-

tween the rod 38 and the lower end of a rod 42 which has a bearing in the sleeve 23. The upper end of the bearing sleeve 23 has secured thereon a head 43 within which are pivotally mounted the inner ends of leaf turning arms 44. These arms are rotatably mounted upon the upper end of the bearing sleeve 23 and for this purpose include enlarged portions 45, having openings 46 therein which receive the sleeve. The arms 44 further include inner and outer sections which are pivotally connected together as shown at 47 and the enlarged portion 45 is included in the inner section of the arm. This inner section further includes an inner horizontal portion 48 and an outer horizontal portion 49, of which the outer section forms a continuation. This outer section is indicated at 50 and as stated, is pivotally secured to the outer end of the inner section and is capable of vertical movement, movement in one direction being limited by means of a stop 51, whereby the outer section 50 and the portion 49 of the inner section may be arranged in horizontal alignment.

The outer section 50 of each of the arms 44 is provided with a reduced extremity having a head or stop 52 at its outer end and slidingly mounted upon the reduced extremity of each of the arms is a leaf engaging clamp 53. The inner sections of the arms 44 are arranged upon the bearing sleeve 23 in superimposed relation and are spaced apart by spacing washers 54 so as to permit of free independent pivotal movement. The head 43 within which the inner sections of the arms move is cut away to provide opposite stops 55, whereby movement of the arms is limited. The upper end of the bearing sleeve 23 is surrounded by a coiled spring 56 which provides sufficient frictional engagement between the arms and spacing washers as to prevent accidental movement of the arms. The upper end of the head 43 is fitted with a removable cap 57 which has a threaded engagement with said head and bears against a washer 58. This washer in turn bears against the upper end of the spring 56 and forces the latter downward upon the arms 44.

The clamps 53 are adapted to grip the music sheets and for this purpose comprise a pair of members 59 which are pivotally connected together as indicated at 60. The clamps 53 each have swiveled thereto a coupling member 61 which has a sliding engagement upon the outer reduced end of the section 50 of the arm 44, a shoulder 44′ formed at the inner end of this reduced outer section serving to limit the sliding movement of the clamp in one direction, while the head 52 serves to limit the sliding movement of the clamp in an opposite direction. The clamps 53 have their lower edges normally separated by means of a spring 62, while the opposite or upper ends of the members 59 are provided with inwardly extending projections 63 which are adapted to be engaged by a lug 64 carried by a longitudinally movable actuating pin 65. When this pin is moved longitudinally, its lug 64 will engage between the projections 63 and force the upper ends of the members 59 apart, against the action of the spring 62 so that the lower edges of these members will be forced into clamping engagement. When the pin 65 is moved in an opposite direction, the members 59 will be released and the spring 62 will act to separate the lower clamping edges of the members.

The shaft 42 extends upwardly through the head 43 and is provided with a laterally extending arm 66 from the outer end of which there extends a downwardly projecting extremity or end 67 which is substantially parallel with the shaft 42 and provides a vertically disposed arm. The arm 67 has its lower end operating within a bearing slot 68 provided in a horizontally arranged plate 69, which is carried by the head 43. Rototably mounted upon the arm 67 is a cylindrical member or hub 70 which is yieldably supported upon a spring 71 carried by the arm 67. The cylindrical member 70 is provided with spirally arranged teeth 72 and these teeth are positioned to engage the inner ends of the arms 44 so as to move the arms horizontally. The cylindrical member 70 has secured thereto a toothed wheel 73 and a ratchet wheel 74, the latter rotating beneath a plate 75 which is rigidly secured upon the arm 67.

Extending from the head 43 is an arm 76 upon which there is pivotally mounted a spring actuated dog 77 which is located in the path of the ratchet wheel 74 and when so engaged will act to move the ratchet wheel one tooth, a spring actuated dog 78 carried by the plate 75 serving to hold the ratchet wheel against retrograde movement.

Normally, the arms 44 are arranged beneath the top or lid of the piano, but when it is desired to use the device, the arms are moved upward above the upper edge of the front of the piano by sliding the rod 38 within the tubular member 32. When raised to a sufficient height, the bearing sleeve is clamped or held within the upper bracket 22 by means of a spring actuated pin 79 which operates in a barrel 80. This barrel extends laterally from the top bracket 21 and the inner end of the pin 79 is adapted to engage one of a plurality of openings 81 provided in the sleeve 23, these openings permitting of sufficient adjustment to properly position the arms 44 for engagement with the upper edges of the music sheets. The clamps 53 are then engaged with the upper edges of the sheets, the outer or cover

pages being first clamped to the music rack by suitable means, such as clamps 82, illustrated in Figures 17 and 18 of the drawings. All of the arms 44 are then positioned to the right and when it is desired to turn the first leaf, the pedal 26 is pushed downward. This will raise the sleeve 30 and through the pin and slot engagement between the sleeve and the tubular member 37 the shaft 42 will be rotated. This will move the arm 67 in the arc of a circle and cause the foremost tooth 72 of the cylindrical member 70 to engage the inner end of the foremost arm 44 to move this end from left to right and consequently move the outer or clamp carrying end of the arm 44 from right to left so as to carry the first page or sheet of music from right to left. When the pedal 26 is released the springs 27 will cause the sleeve 30 to move downward so as to rotate the shaft 42 in an opposite direction and cause a reverse arcuate movement of the arm 67. Just prior to the arm 67 reaching the limit of this reverse movement, the dog 77 will engage one of the teeth of the wheel 73 so as to rotate the cylindrical member 70 the distance of one tooth, rotation being limited by the engagement of the holding dog 78 with the ratchet wheel 74. This rotation of the cylindrical member 70 will position the next tooth 72 for engagement with the next or foremost arm 44, so that when the foot pedal 26 is again depressed, movement of the next leaf turning arm from right to left will be effected.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention what is claimed is:—

A music leaf turner comprising a substantially inverted U-shaped bracket, a tubular member swiveled within the upper portion thereof, said member being provided with a stud at one end and slotted portion at the other, a spiralled sleeve mounted for reciprocating movement adapted to receive the tubular member and stud therefor, a bracket provided with interconnecting vertically and transversely disposed bores, a bearing sleeve adjustably mounted within the vertical bore of the bracket, a rod rotatably mounted within the sleeve, a connecting rod provided with a coupling for connection with the bearing sleeve, a stud carried upon the connecting rod being received within the slotted portion of the tubular member to effect simultaneous rotation thereof, a head carried upon the upper end of the bearing sleeve, leaf turning arms pivotally mounted upon the sleeve within the head, a cylidrical member provided with spirally arranged teeth adapted to engage and move the arms horizontally, and a ratchet mechanism associated with the cylindrical member to prevent more than one arm being turned at one time.

In testimony whereof I affix my signature.

FREDERICK MENDELSSOHN ELVEY.