

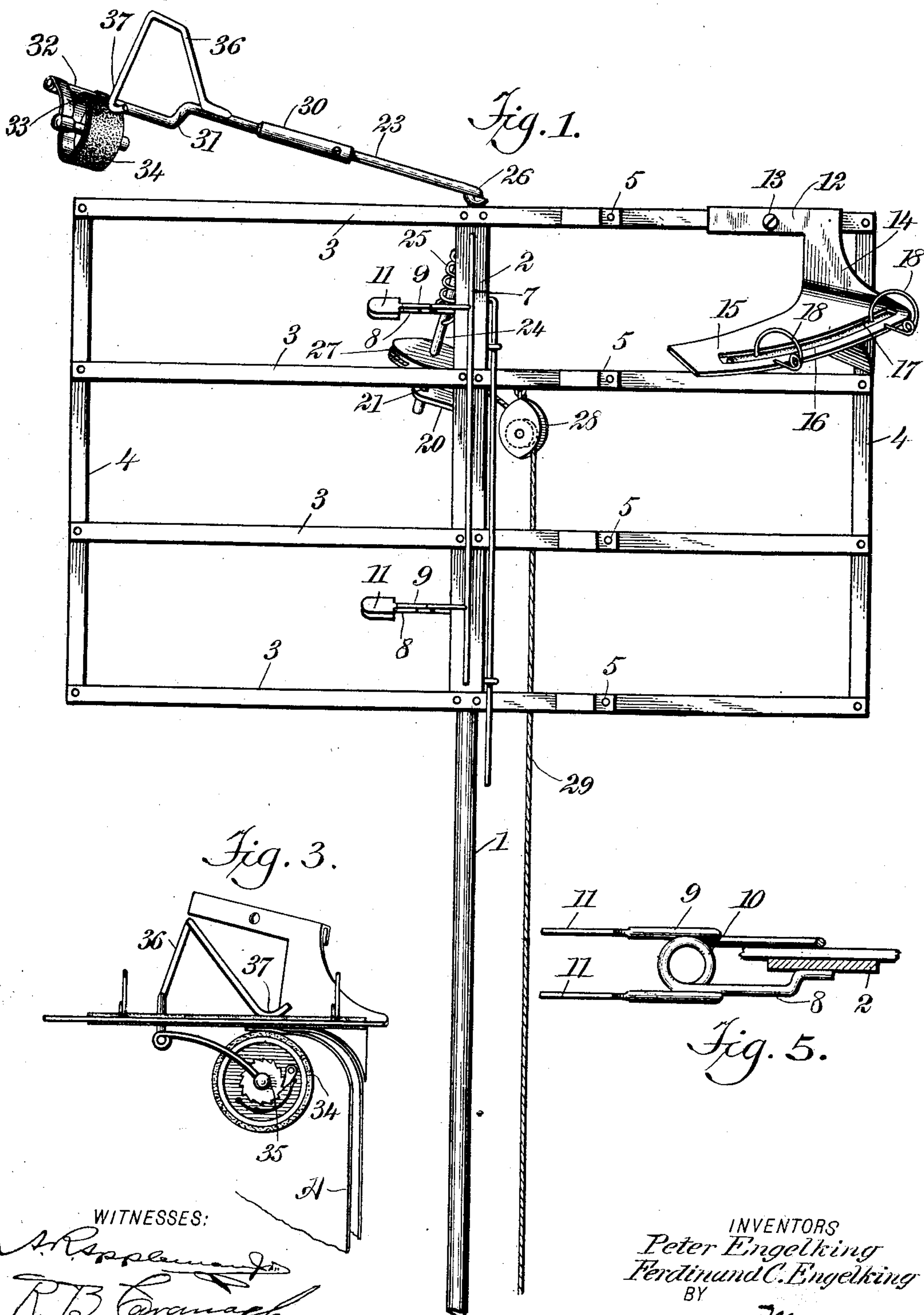
No. 749,667.

PATENTED JAN. 12, 1904.

P. & F. C. ENGELKING.
MUSIC LEAF TURNER.
APPLICATION FILED JAN. 12, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:
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R. B. Cramagh

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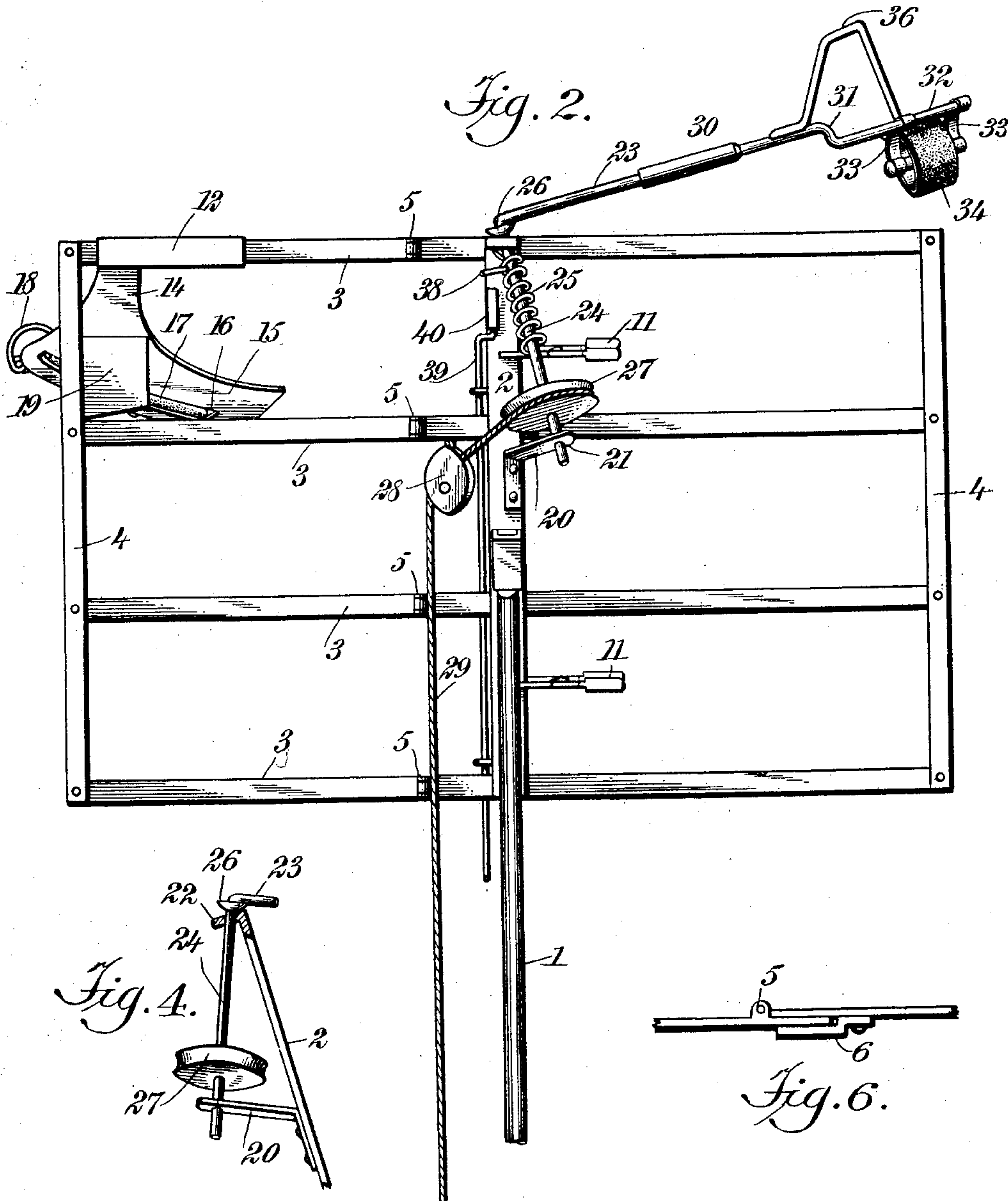
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UNITED STATES PATENT OFFICE.

PETER ENGELKING AND FERDINAND C. ENGELKING, OF PETERS, TEXAS.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 749,667, dated January 12, 1904.

Application filed January 12, 1903. Serial No. 138,747. (No model.)

To all whom it may concern:

Be it known that we, PETER ENGELKING and FERDINAND C. ENGELKING, citizens of the United States, and residents of Peters, in the
5 county of Austin and State of Texas, have invented a new and Improved Music - Leaf Turner, of which the following is a full, clear, and exact description.

This invention relates to certain novel and
10 useful improvements in music-leaf turners, and has particular application to a device of the class described which shall be capable of automatically engaging with a sheet or leaf of music and shall turn or fold over the same
15 without interfering with the performer.

One of the principal objects of our invention is to construct a music-leaf turner which may be used in connection with any sort of a musical instrument, such as a piano or a violin, and which shall be positive in its operation and shall have the parts so correlated that the music will be turned sheet by sheet.

We have also in view so constructing certain parts of our improved device that any
25 sized sheet may be accommodated in the turner and the frame of the latter may be folded in order to enable the same to be easily handled when being transported or carried from place to place.

With these and other objects of similar end in view our invention consists in the peculiar construction, combination, and arrangement of parts, as is described in this specification, delineated in the accompanying drawings, and
35 set forth in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

40 Figure 1 is a view in front elevation of a device embodying our improvement. Fig. 2 is a rear view of the same. Fig. 3 is a detail view of the music-retaining plate, also showing the grasping-roller of the device in cooperation therewith. Fig. 4 is a detail view of a portion of the crank or axle arm and the disk rigid therewith. Fig. 5 is an enlarged detail top view of a portion of the music-clamping means, and Fig. 6 is a detail edge
50 view of one of the folding or adjustable joints.

Referring now to the accompanying drawings in detail, the numeral 1 designates the main standard of our improved turner, upon which standard is mounted a rectangular frame or top portion comprising a main central vertically-arranged bar 2, having attached there-
55 to the longitudinal parallel cross-bars 3, being connected at each of the other ends to vertical side bars 4. In order that this frame may be folded into compact form for convenience in transportation, we have provided the horizontally-parallel bars with hinges 5,
60 it being understood that the bars 3 are formed of two separate pieces hinged together, one portion slightly overlapping the other, as is clearly seen in Fig. 6, and these bars are held in position of longitudinal alinement through the medium of a pivoted clamp 6. When this clamp is moved out of parallelism with the bars, the latter may be folded or doubled upon
70 the hinges.

The sheets or pages of music are held centrally on the rectangular frame through the medium of a rod 7, extended vertically and centrally of the main bar 2, this bar 7 being
75 adapted to be held in contact with the face of the bar 2 by means of the spring-clips clearly shown in Figs. 1 and 5. As will be seen, each of these clips is formed of a spring-arm, as at 8, which is fastened to the rear portion of the
80 bar 2, and a second similar arm, as at 9, secured to the rod 7, a coil-spring, as at 10, being interposed between the arms 8 and 9. At their free ends the said arms are provided with flattened or widened surfaces, as at 11 11,
85 which serve as finger-grasping plates. When these plates are pressed toward each other, the rod 7 will be moved upward from the bar 2, and when the finger-clips are released the spring will draw the rod back into contact
90 with the aforementioned bar 2. It will therefore be seen that the music may be quickly and securely clamped into position on the rack. When the leaf or sheet has been clamped on the rack, as described, the upper ends of said
95 leaves are folded or turned under a retaining-plate 12, slidably mounted, preferably upon the upper bar 3, and held in any position of adjustment through the medium of a set-screw, as at 13. This plate, which for the sake of
100

convenience may be called an "angle-plate," is formed of any suitable material, such as sheet metal, and comprises a downwardly-extended gradually-widened arm 14 and a downwardly-inclined outwardly-extended slightly-concave shoe or plate 15, having a slot, as at 16, formed therein, within which slot lies a roll or bar, as at 17, which is preferably covered with material such as rubber, the said bar being suspended or retained in position by the medium of spring-arms 18 18. A supporting-plate, as at 19, is secured at one end to the back of said shoe or plate 15 and at its opposite end is fastened to the adjoining side bar 4 of the rectangular frame.

In order to remove the sheets of music one at a time from beneath the plate, we employ a traveling arm, which is clearly shown in Figs. 1 and 2. A bracket 20 is secured approximately centrally at the rear of the bar 2 and is provided with an aperture 21 at its free end, and at the extreme upper end of the said bar 2 is arranged an apertured outwardly-extended bracket 22. A crank-arm comprising a relatively long portion 23 and a somewhat-shorter stem portion 24, bent at right angles to the part 23, is movably or swingably held in these brackets, the short portion of the arm being extended through the same in such manner that the right-angle bend or joint 24 of the crank-arm is contiguous to the upper bracket 22, the arrangement of the said brackets and arm being such that the axis of the crank-arm is at an inclination.

A spiral tension-spring 25 is coiled around the stem portion 24 of the crank-arm and exerts pressure in such direction that the arm is normally thrown into contact with the plate 15. A wearing block or washer 26 is arranged on the crank-arm at the upper bracket. In order to move the crank-arm in an arc away from the plate, we employ at the lower end of the stem 25 a grooved disk 27, and to one of the cross-bars 3 (preferably the one adjacent to said disk) we secure a pulley 28. A wire or rope 29 of any suitable character lies in the groove of the disk 27 and passes between the cheeks of the pulley 28 and extends to a position near the floor, said cord preferably having a treadle (not shown) secured at its free end, so that the device may be operated by one of the feet of the performer. It will therefore not be necessary to have the playing or the performance interrupted by stopping to turn the music by hand.

The relatively long arm 23 is formed of two portions, one telescoping on the other, as shown at 30, so that the length of the arm may be varied or adjusted to suit any sized page. The outer end of the arm is provided with a slight bend, as at 31, and to the free end portion 32 is secured, through the medium of springs 33 33, a wheel, as at 34, provided with a pawl-and-ratchet mechanism 35, the said wheel being preferably covered with rubber,

cloth, or similar material to enable the same to frictionally engage with the music-sheet. A bent spring contact-arm, as at 36, is secured to the elongated portion of the crank-arm adjacent to the bend 31 and bears against or contacts with a rubber-covered wheel at a point 37.

From the above description, taken in connection with the accompanying drawings, the construction and operation of our improved device will be readily apparent.

The sheets of music are first clamped beneath the central bars, as described, and as they are opened outward flat against the rectangular frame the upper right-hand corners of the sheets are turned or bent outwardly beneath the sheet or plate portion 15, as is clearly shown in Fig. 3. The spiral tension-spring on the stem of the crank-arm normally holds said arm and its sheet-engaging device in frictional contact with the plate and with the sheets thereunder, and the spring-arm 36 rests upon the upper surface of the plate 15, the ratchet-wheel being beneath the plate. The ratchet permits the wheel to turn or move while the gripping device is moved into contact with the plate or toward the extreme right-hand corner thereof; but when the rope or cord is pulled downward to swing the arm into the position shown in Fig. 1 the roller will be prevented from revolving by the pawl-and-ratchet mechanism and the sheet will be held securely between the arm 36 and the said roller.

To the stem portion 24 of the crank-arm is secured an outwardly-extended pin 38, which when said crank-arm is turned on its inclined axis will strike against the back of the bar 2 and prevent the arm from swinging or traveling too far away from the leaf-retaining plate. As the arm reaches a certain point of travel away from the plate the leaf edge it holds will be disengaged by the arm pulling away from the same as it continues its path of travel, and said leaf will fall upon the opposite side from the plate; but should it be desired to repeat the music appearing on the leaf which is to be moved away from the plate a rod 39, carrying at its upper end a block 40, may be moved or shifted upward until said block is between the pin 38 and the back of the bar 2, and the path of travel of the arm will be shortened to such an extent that the leaf will not be disengaged therefrom.

While we have herein shown and described one particular embodiment of our invention, it is of course to be understood that we do not limit ourselves to all the precise details of construction shown herein, as there may be modifications and variations in some respects without departing from the spirit of the invention or sacrificing any of the advantages thereof.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A music-sheet turner comprising a frame for supporting the music-sheets, means mounted on the frame for holding portions of said sheets curved or bent, means for grasping the said curved or bent portions of the sheets, said means comprising an arm, a roller, and a finger on said arm, tension devices normally holding the arm in such position that the roller and finger are in contact with the sheets, and means for actuating the arm to turn the sheets one at a time, substantially as set forth.

2. In a music-sheet turner, the combination of means for holding a sheet in an open position with a portion of said sheet curved or bent, said means consisting of a curved angle-plate, and means for grasping the curved or bent portion of the sheet and turning the same, substantially as set forth.

3. In a music-sheet turner, the combination with means for supporting a sheet, of means for curving a portion of said sheet, a spring-tensioned arm, grasping devices carried by said arm, such devices including a roller, and a spring bearing against the roller, and means for swinging the arm against the tension of the spring, such means including a disk on the arm, and a rope or cord connected with said disk, substantially as set forth.

4. In a music-sheet turner, the combination with means for supporting a sheet, of means for holding said sheet in a curved or bent position, said means consisting of a downwardly-inclined angle-plate, an arm, a grasping device carried by said arm and normally frictionally engaging with the sheet, and means for swinging the arm upon its axis to turn said sheet, substantially as set forth.

5. A music-sheet turner, comprising a frame, spring-pressed means for securing a music-sheet thereto, means for bending or curving a portion of said sheet, an arm mounted on said frame and having its axis inclined, a grasping device carried by said arm, means for holding said grasping device normally in contact with the sheet, and means for actuating the arm to move the grasping device away from the sheet-curving means, thereby turning said sheet, substantially as set forth.

6. A music-sheet turner, comprising a folding frame, adapted to support a music-sheet, means for imparting a curve or bend to the sheet, said means comprising a plate secured to the frame, a crank-arm secured to said frame and movable around an inclined axis, grasping devices carried by said arm, means for normally holding the grasping devices in contact with the curved portion of the sheet, and means for swinging the arm away from the plate, substantially as set forth.

7. A music-sheet turner comprising a folding frame adapted to support a music sheet, means for imparting a curve or bend to the sheet, said means consisting of a plate secured to said frame, a crank-arm secured to said frame and movable around an inclined axis, grasping devices carried by said arm, said devices comprising a roller and a spring-arm contacting with said roller, a spring for normally pressing the roller and arm in contact with the sheet, means for swinging the arm away from the plate to turn the sheet, and means for limiting the movement of the arm away from said plate, substantially as set forth.

8. A music-sheet turner comprising a frame for supporting a music-sheet, a curved plate adjustably mounted thereon, said plate having a slot therein, a spring-held roller lying in said slot, a crank-arm on said frame, a ratchet-roller and a spring-arm forming a grasping device normally held on said plate, means for swinging said arm away from the plate, said means comprising a grooved disk on the arm, a pulley on the frame, and a rope lying in the groove of the disk and passing through the pulley, and means movable on the frame for limiting the movement of the arm away from the plate, substantially as set forth.

9. A music-sheet turner comprising a frame adapted to support a sheet or leaf, means for imparting a curve or bend to the sheet, said means consisting of a plate secured to said frame, a crank-arm secured to said frame and movable around an inclined axis, and grasping devices carried by said arm, said devices comprising a roller, a spring-arm contacting with said roller, and a spring for normally pressing the roller and arm into contact with the sheet, substantially as set forth.

10. A leaf-turner comprising a sheet-supporting frame, means for imparting a curve or bend to the sheet, said means consisting of a curved plate mounted on the frame, said plate having a slot therein, a spring-supported roller lying in said slot, a sheet grasping and carrying means movable on the frame, and means for moving said grasping and carrying means to and from the plate, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

PETER ENGELKING.
FERDINAND C. ENGELKING.

Witnesses:

JULIUS C. ENGELKING,
HERMANN ENGELKING.