(No Model.) 3 Sheets—Sheet 1.

C. W. HERGENROEDER.

MUSIC LEAF TURNER.

No. 265,602. Patented Oct. 10, 1882.

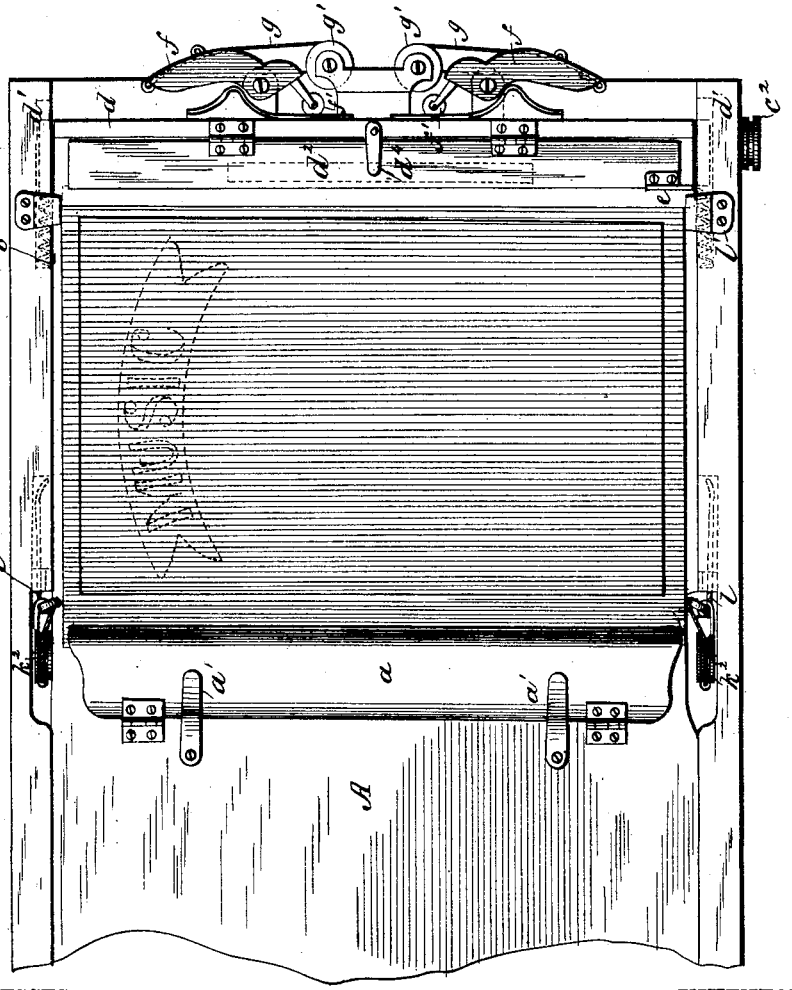

Fig. 1.

WITNESSES:

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A. G. Sypne

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BY Munn & Co

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(No Model.) 3 Sheets—Sheet 2.

C. W. HERGENROEDER.

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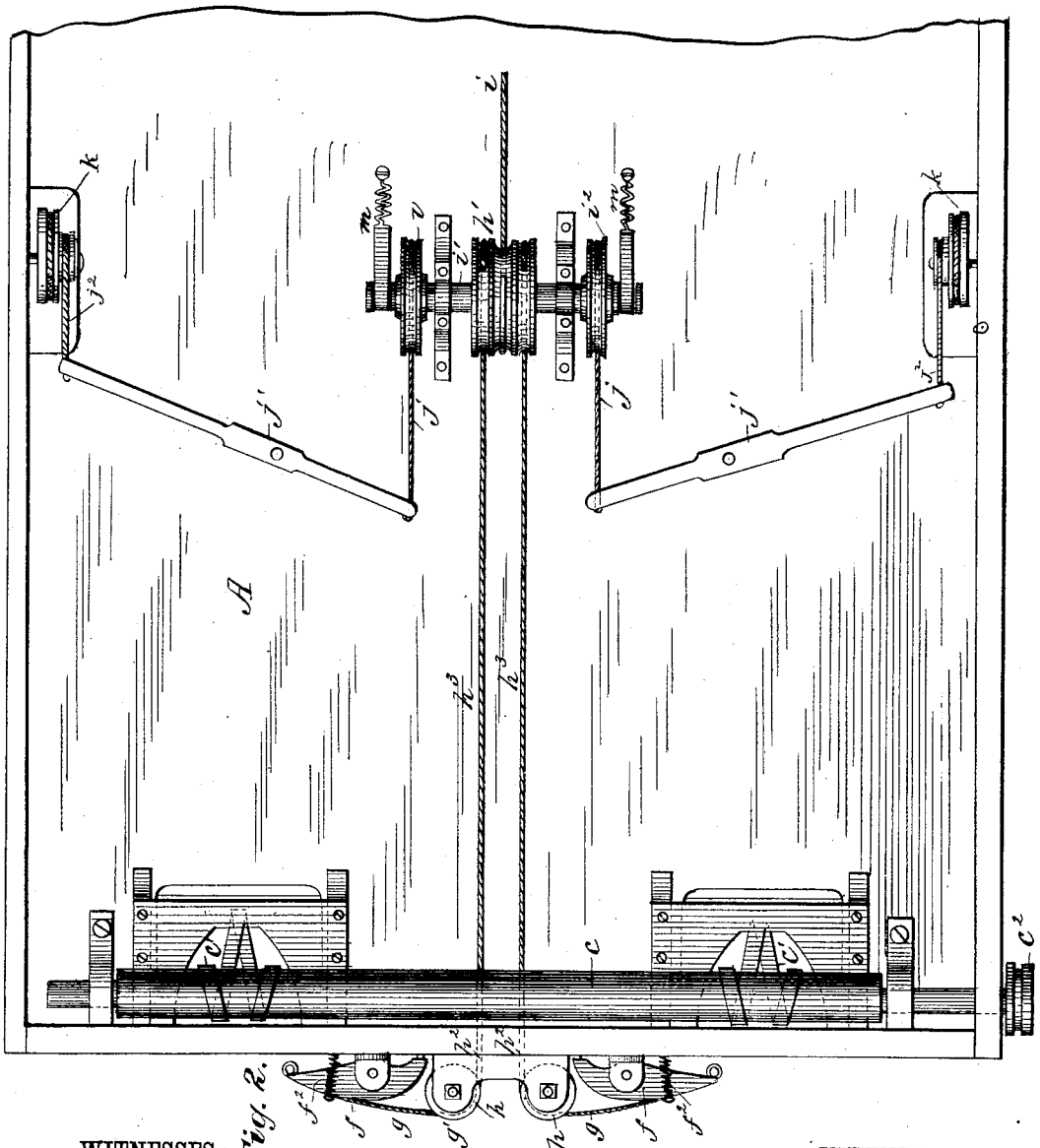

Fig. 2.

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(No Model.) 3 Sheets—Sheet 3.

C. W. HERGENROEDER.

MUSIC LEAF TURNER.

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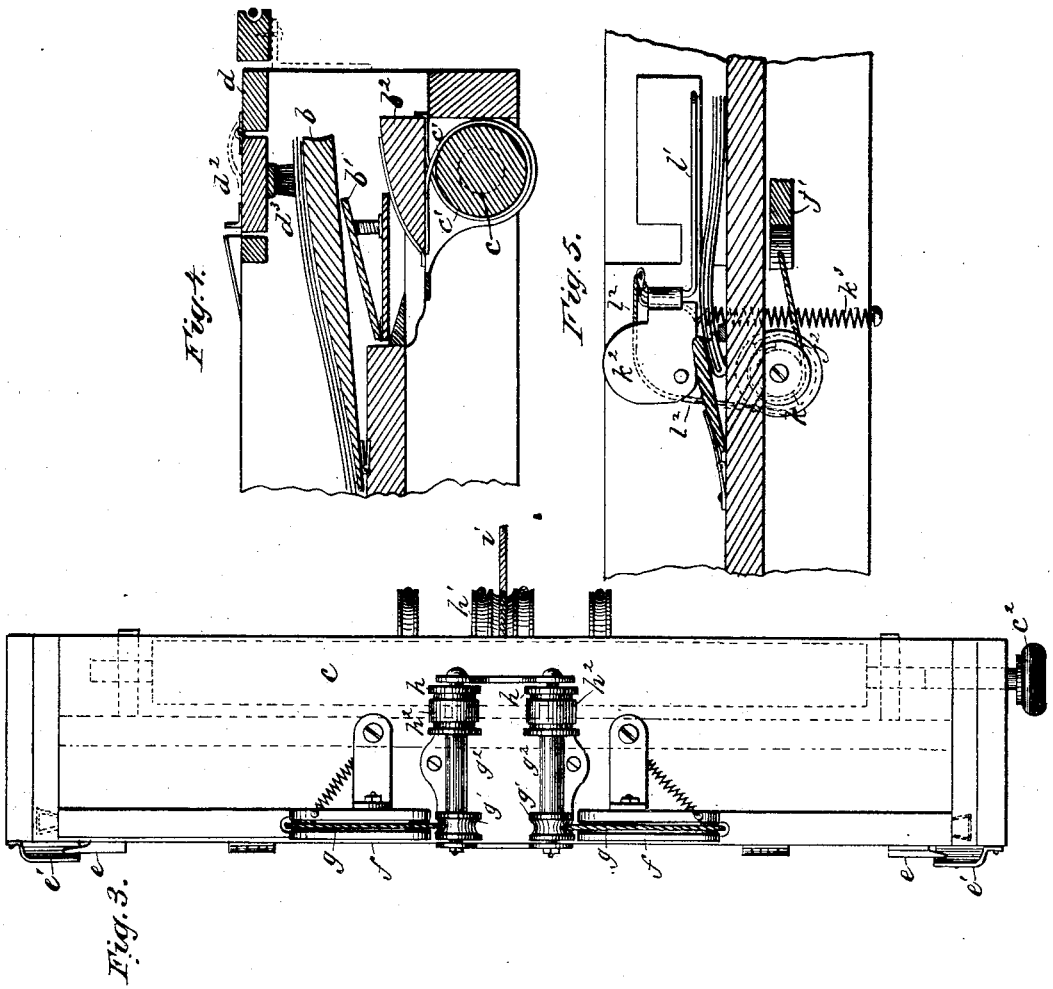

Fig. 4.

Fig. 5.

Fig. 3.

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UNITED STATES PATENT OFFICE.

CHRISTIAN W. HERGENROEDER, OF BALTIMORE, MARYLAND.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 265,602, dated October 10, 1882.

Application filed January 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN WILLIAM HERGENROEDER, of the city of Baltimore, in the State of Maryland, have invented a new and useful Improvement in Music-Leaf Turners, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates to devices for turning the leaves of sheet-music; and it consists of a stand for holding the sheets or book and a train of gearing connected to a pedal, by which suitable mechanism for turning the leaves shall be operated, as hereinafter described.

In the drawings, Figure 1 is a plan view of the device, partly broken away. Fig. 2 is a bottom view, partly broken away. Fig. 3 is an end view, and Figs. 4 and 5 are detail views, in section.

The stand or holder A, upon which the sheet-music is placed in the manner shown in Fig. 1, is provided with a transverse strip, *a*, at the center, which is hinged to the stand and held in contact therewith by springs *a'*, whereby the sheets shall be firmly held at one edge.

The right-hand end of the stand is provided with a hinged leaf, *b*, which rests upon one or more spring-supports, *b'*, consisting of two thin strips of wood or metal connected together at one end in a flexible manner and held apart at the other by a suitable spring, as shown in Fig. 4, so as to have the form of a wedge.

The supports *b'* are adapted to be raised or lowered by one or more wedge-shaped blocks, b^2, which are connected to a roller, *c*, in the under side of the stand by means of flexible strips *c'*, which are passed around the roller, crossed at the top, and secured to opposite ends of the blocks in such manner that as the roller is turned by means of the knob c^2 on one end thereof the blocks will be moved to and from underneath the supports, and thus cause the leaf *b* to rise or fall. Upon the leaf *b* rests the sheet-music, with the free edges thereof between said leaf and a turning device, consisting of a frame, *d*, having a rib, *d'*, at each end, adapted to slide in a suitable mortise in the stand against the tension of a spring arranged in the mortise.

In the center of the sliding frame is hinged a strip, d^2, having a stiff brush, d^3, secured to its under surface, which brush is held in contact with the sheet of music by a button, d^4, in contact with the upper surface of the said strip. At the ends of the hinged strip are projections *e*, which pass under deflecting-guides *e'*, attached to the stand A in such manner that as the frame *d* moves against the tension of its springs the strip will be pressed down and the brush held in closer contact with the upper sheet of music, to cause the latter to slip over the sheet underlying it in the act of being turned.

As soon as the projections *e* pass beyond the guides *e'* the action of the spring-supports *b'* will cause the strip and brush to fly up and release the sheet, and as the sliding frame returns to its normal position the projections will pass back above the guides to hold the brush out of contact with the remaining leaves of the music until it is in position to turn another leaf. This part of the device, which performs only the first step in the act of turning a leaf, is operated by the following-described mechanism:

At the right-hand end of the stand A are pivoted two levers, *f*, having friction-rollers *f'* attached to their inner or shorter ends, which rollers are adapted to move along a curved track formed on the adjacent edge of the sliding frame *d* in such manner that the levers will press the said frame out of its normal position to operate the brush d^3 in the manner above described.

The outer or longer ends of the levers are provided with retaining-springs f^2, against which the levers are operated, and the said ends are connected by means of cords *g* to rollers *g'* upon the upper ends of shafts g^2, while the said rollers are operated to wind the cords *g* and draw the levers against the tension of their retaining-springs by means of rollers *h*, secured to the lower ends of shafts g^2, as shown in Fig. 3, and connected to the pulley *h'* by means of bands h^2, attached to their peripheries and wound thereon, and the cords h^3, which are connected to the bands h^2 and the periphery of the said pulley. A cord, *i*, which is to be connected to a pedal, is so attached to

the pulley h' that when it is drawn by pressure upon the pedal it will cause a sufficient oscillation of the pulley to unwind the bands h^2, and thus communicate motion to the shafts g^2, by which the cords g are wound upon their rollers and the desired movement given to the levers to operate the sliding frame and its brush.

Upon each end of the shaft i', which carries the pulley h', is secured a pulley or roller, i^2, as shown in Fig. 2, to the periphery of which is attached a cord, j, connected to a lever, j', pivoted to the bottom of the stand.

The two levers j' are arranged with their longer ends outward toward the upper and lower edges of the stand, respectively, and are provided with cords j^2, attached to said ends, and fastened to the smaller upper part of rollers k, journaled in openings k' in the stand.

On the larger part of rollers k are fastened cords l^2, which pass to the upper surface of the stand. At the upper and lower edges of the stand, on the upper side, are pivoted levers k^2, so arranged that they shall be allowed to oscillate in a plane at right angles to the surface of the stand. These levers are made short, and are pivoted near one end to suitable supports, while the opposite end of each is provided with a retaining-spring, k^3, as shown in Fig. 5, to hold the lever in its normal position.

To the free end of each lever k^2 is hinged an arm, l, adapted to move in a plane at right angles to that of the lever; and this arm is so bent that the cord l^2, which is attached to its upper end, after being passed along a groove in the lever k^2, shall, when drawn by the mechanism above described, cause the said arm to move in a plane parallel to the surface of the stand until it is drawn to a position at right angles to the lever k^2, where its movement will be stopped by contact with the lever. In passing to the last-named position the arm l will have entered the space between two leaves of the music caused by the action of the brush d^3, which tends to make the upper leaf rise or arch above the leaf underlying it, and thus the second step in the act of turning a leaf is accomplished. By increasing the pressure on the pedal the cord l^2 will cause the lever k^2 to complete half a revolution about its pivot, carrying the arm l over with it, and thus complete the act of turning a leaf. When the lever k^2 is allowed to return to its normal position by the action of its retaining-spring, the arm l, which is to be connected to the said spring, will likewise be drawn to its normal position in a recess provided therefor.

The shaft i' on the under surface of the stand is provided with two retaining-springs, m, formed of spiral springs and bands, which are secured to the surface of the stand and connected to the shaft, so as to be wound thereon when the pedal is operated to turn the main pulley h'. The action of these springs will cause the pulley and its connections to return to their normal position after they have been moved to turn a leaf of the sheet-music.

It will thus be seen that there are three separate steps or movements in the act of turning a leaf, and that all are accomplished by the same movement of the pedal, only increased pressure upon the pedal being required to complete the successive steps.

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

1. A music-leaf turner consisting of a stand, a sliding brush adapted to arch a leaf, two hinged arms for passing under the arched leaf at the upper and lower edges thereof, and suitable gearing for operating said parts, substantially as shown and described.

2. A music-leaf turner consisting of a stand or holder having a device for clamping the sheets at one edge, a sliding brush arranged above the free edges of the sheets, two arms arranged at the upper and lower edges of the stand, an oscillating lever connected to each arm, having retaining-springs and cords by which they shall be operated, and a train of levers, pulleys, and cords connecting said parts, substantially as shown and described.

3. A music-leaf turner consisting of a stand having a hinged leaf at one end, forming a part of the holder, a suitable device for raising or lowering said leaf, a sliding frame arranged above said leaf and carrying a brush, and a deflecting-guide for pressing the brush down upon the music-sheet, in combination with hinged arms and oscillating levers carrying said arms, arranged at the upper and lower edges of the stand, near the center thereof, and a train of gearing connecting said parts and operated by a pedal, substantially as shown and described.

4. In a music-leaf turner, the combination of a stand having a hinged leaf, a wedge-shaped springing device supporting the leaf, a wedge-shaped block or blocks connected to a roller by crossed flexible strips or bands, so as to be moved to and from under the said supports, and a sliding frame arranged above the said leaf, carrying a stiff brush and having retaining-springs, and means for deflecting the brush, and oscillating levers having friction-rollers which are adapted to move along curved tracks or cams on the adjacent edge of the sliding frame, and which levers are provided with retaining-springs and connected by cords to a train of pulleys, substantially as shown and described.

5. In a music-leaf turner, the combination, with the sliding frame and the levers by which it is operated, of rollers connected to the said levers by cords, and which are adapted to wind the cords, a pulley arranged underneath the stand and connected to shafts of said rollers by cords or strips which are wound upon them, and a cord connecting the pulley to a pedal or other device for operating the pulley, substantially as shown and described.

6. In a music-leaf turner, the combination, with the stand and the pulley secured thereto, and retaining-springs connected to the shaft of said pulley, of supplemental pulleys secured to said shaft, two levers pivoted to the under surface of the stand and connected by cords both to the said levers and to the hinged arms, and their carrying-levers on the upper surface of the stand, substantially as shown and described.

CHRISTIAN W. HERGENROEDER.

Witnesses:
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FR. HORN.