

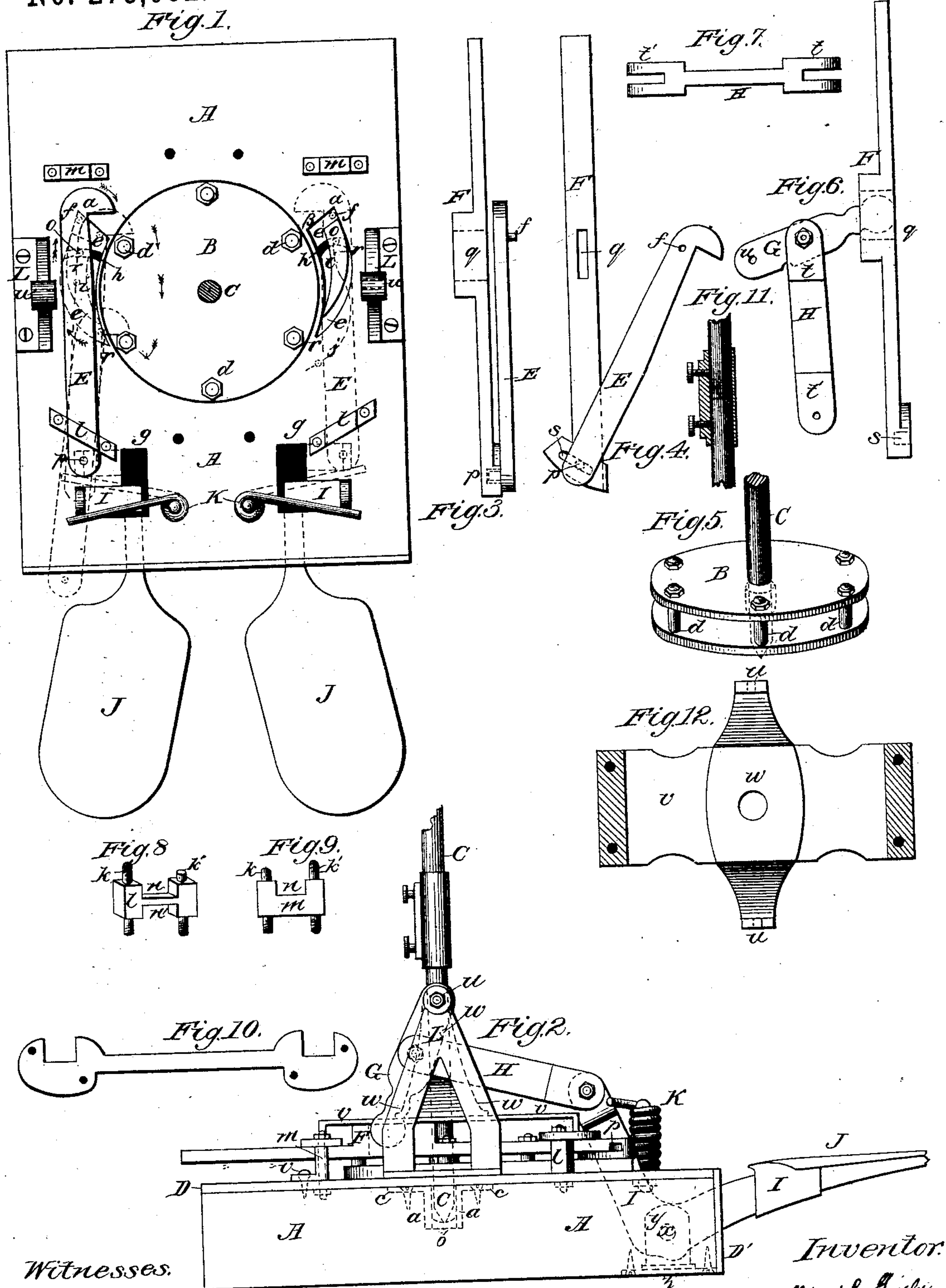
(No Model.)

2 Sheets—Sheet 1.

W. H. GEISLER.  
MUSIC LEAF TURNER.

No. 273,062.

Patented Feb. 27, 1883.



Witnesses.

Carl Wenzel  
Geo. D. Zudenbender

Inventor.

Wilhelm Heinrich Geisler

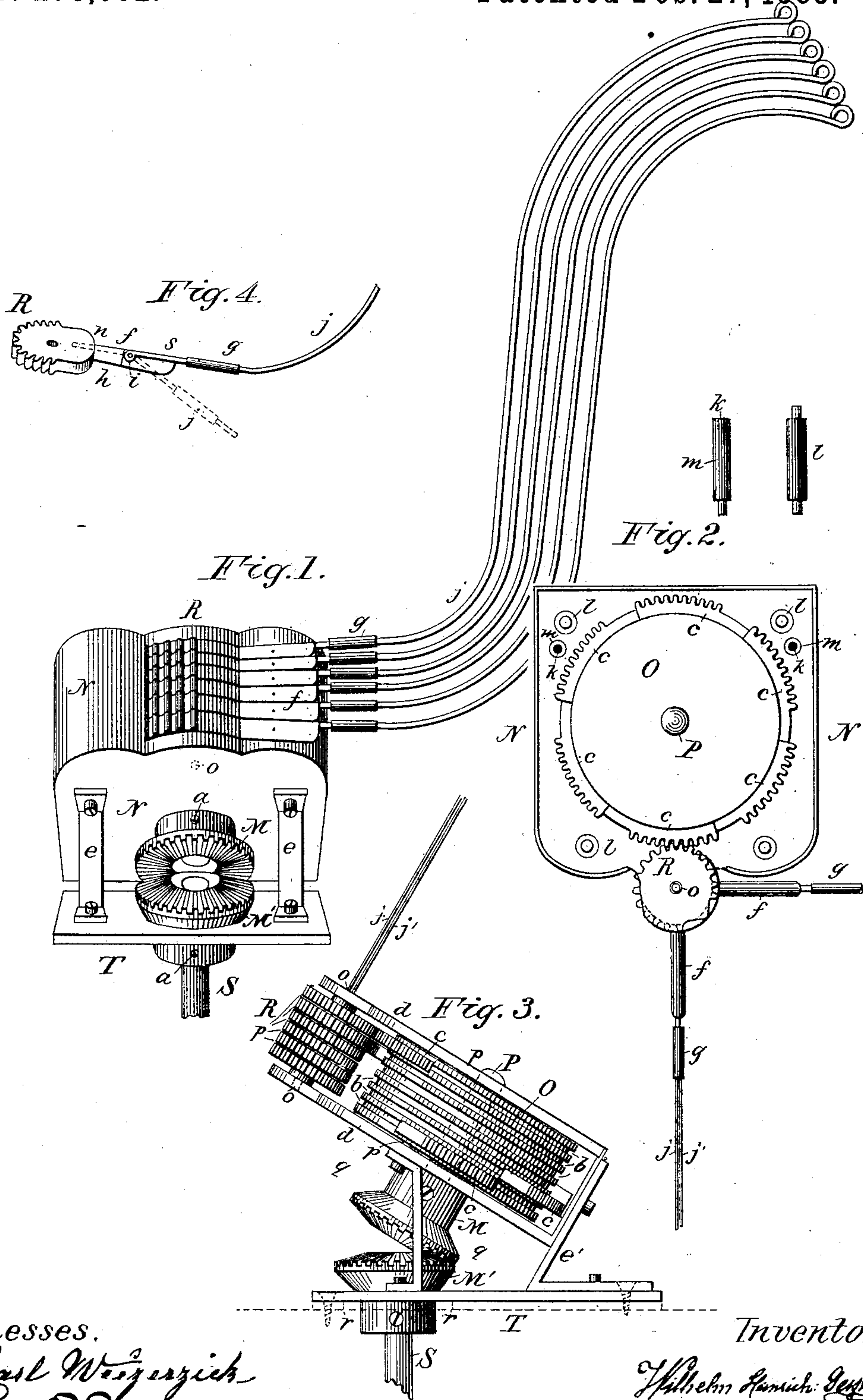
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Carl Wierzycki  
Geo. F. Budekewitz

Inventor.

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# UNITED STATES PATENT OFFICE.

WILLIAM H. GEISLER, OF BROOKLYN, NEW YORK.

## MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 273,062, dated February 27, 1883.

Application filed March 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. GEISLER, a citizen of the United States of America, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Machine for Turning Over the Leaves of Music, of which the following is a specification.

My invention relates particularly to that class of music-leaf turners operated by the feet by means of pedals; and the object of my invention is to construct a machine which is simple but at the same time more efficient in its operations than those heretofore in use, and this result I attain by the mechanism illustrated in the accompanying drawings, to which reference is hereby made as forming a part of this specification, similar letters referring to similar parts.

In these drawings, Table I, Figure 1, is a detailed top view of the lower part or pedal mechanism of my machine, the supports, slides, and drivers being removed. Fig. 2 is a general side view of the same part. Fig. 3 is a side view of the hooks and slides. Fig. 4 is a detailed view of the same. Fig. 5 is perspective view of the wheel. Fig. 6 is a detailed view of the slides and drivers; and Figs. 7, 8, 9, 10, 11, and 12 are each detailed sectional views.

In Table II, Fig. 1 is a general front view of the upper part or leaf-turning mechanism of my machine in the perspective. Fig. 2 is a top view of the same. Fig. 3 is a detailed side view of the same part, showing the mode of operation of said upper part; and Fig. 4 is a detailed perspective view of the pinions and hinges to which are attached the leaf-turning wires.

My invention substantially comprises two distinct mechanisms—Tables I and II—the lower conducting the movements of the upper, and the latter turning over the leaves of the music, and these I construct in the manner described below, which I declare to be a full, clear, and exact description thereof.

In Table I, Figs. 1 and 2, A is a block of wood, near the center of which I insert a socket, *a b*, Fig. 2, made of a short tube, *a*, having in its lower end a disk of steel, *b*, the upper surface of which is slightly concaved, to re-

ceive the beveled point of the shaft C of the wheel B, Fig. 5, revolving in such socket, which socket is soldered in the plate *c*, and this plate I set into a groove in the upper surface of the block A, and secure it with screws.

The wheel B, Fig. 5 above spoken of, I construct of two circular plates joined by six bolts, *d*, at equal distance apart and from the center, their ends being thinner than their middle body, and threaded, the lower ends screwing in screw-holes in the lower plate and the upper ends passing through holes in the upper plate corresponding with the screw-holes in the lower, and which upper plate is then secured by nuts screwing on such bolts. Through the center holes in these plates I affix the shaft C, previously spoken of, on which shaft, between the plates of the wheel B, is a metal ring (see Fig. 5) soldered to such shaft and plates to strengthen said wheel.

On the wooden block A, I secure a metal plate, D, Fig. 2, in which is an annular aperture sufficiently wide to permit the lower plate of the wheel B to revolve in it, and the said plate being so thick that its upper surface is even with that of such lower plate of the wheel B, and on both sides of this opening are two smaller ones, *e e*, (Fig. 1,) under which are riveted other small plates, thus forming two grooves, in each of which is a movable guide, *r r*, turning on a pivot, *i*, fastened in the center of the grooves *e e*. *g g* are two other rectangular openings extending through the block A, which openings and two similar ones cut in the plate D', Fig. 2, secured to the end of such block, serve as guides, in which move the pedal-arms I, hereinafter referred to.

The grooves *e e*, Fig. 1, with their movable guides *r r*, conduct the movements of the hooks *E E*, these hooks being actuated by pressure of the foot on one of the pedals *J J*, and moving in the manner indicated by the arrows in Fig. 1, being guided by the pegs *f f*, screwed in their under sides, which start from *a*, sliding against the upper ends of the guides *r r* to the point B, then down to the point *p*, and then back to the point *a*, the hooks *E E* in their descent catching on one of the bolts *d* of the wheel B, above mentioned, and causing such wheel to turn one-sixth around, the pegs *f f* passing in their course between the sides



of the grooves *ee* and the guides *rr*, the latter permitting them to pass, and then being immediately forced back to their former position by the springs *j* (see Fig. 1, dotted line) pressing against the pegs *o*, screwed in the under surface of such guides, which pegs slide in the grooves *h* in the plates fastened under the grooves *ee*. The hooks *EE* slide in the guides *l*, Figs. 1 and 8, at *n'*, secured to the plate *D* on the block *A*, and have in their lower ends another peg, *p*, screwed in the upper surface of such hook, which slides in the grooves *s* in the lower ends of the slides *F*, Figs. 3 and 4, which slides rest in the guides *l*, before referred to, at *n*, and in the guides *m*, Figs. 1 and 9, and are held in place by ties, Fig. 10 showing the one to be placed on the oblique guides *ll*, Fig. 8, the ties to be placed on the guides *m*, Fig. 9, being plain oblong bars of metal, having each two holes for the insertion of the rods *k* and *k'*, which ties are secured by nuts screwing on the screw-rods *r* of such guides, and in the rectangular grooves *q* of the slides *F* move the drivers *G*, Figs. 2 and 6, connected by bolts and nuts with the cross-head *t*, of the arms *H*, said drivers moving freely between a central support, Fig. 12, and *v* and *w*, Fig. 2, constructed of two pieces—a base support, *v*, and top stand, *w*—soldered together, and standards *LL*, Figs. 1 and 2, fastened to the plate *D* on the block *A* on bolts which I insert through holes *u* in such standards, drivers, and central support and secure with nuts on the outside and the other cross-heads, *t'*, of the arms *H*, connect with the pedal-arms *I*, to which are attached the pedals *JJ*, each of which pedal-arms turns on a pin, *x*, Fig. 2, between two supports, *y*, riveted to plates *z*, let into the block *A* and fastened with screws, the supports being fixed in the rectangular apertures *g* in said block. Upon pressing with the foot on one of the pedals *J*, attached to the pedal-arms *I*, these pull with them the arms *H*, which connect with the drivers *G*, these moving the slides *F*, and the latter moving the hooks *E*, which turn the wheel *B* in the way above described. The foot being then raised, the several parts will be forced back to their former position by the reciprocating pressure of two strong spiral springs, *K*, Figs. 1 and 2, pressing against the pedal-arms *I*. The dotted lines seen over the latter in Fig. 1 merely illustrate the movements made by such pedal-arms, the dotted lines representing them as they appear when held by the said impetus of the spiral springs *K*, and the real illustrations representing them as they appear when the pedals *J* are pressed upon with the foot.

In Table II, *M* and *M'*, Figs. 1 and 3, are two bevel-wheels gearing in each other, the upper one, *M*, revolving on the shaft *P*, Figs. 2 and 3, forming the axis of the wheel *O* in the metal box *N*, to which it is fastened by a screw, *a*, Fig. 1, and the lower bevel-wheel, *M'*, revolving in a circular bearing in the horizontal plate *T*, being fastened on such plate by a ring, *r*,

secured with screws on its nave under said plate. On the surface of the wheel *O* are turned six grooves, *b*, in which I solder six sets of cogs, *c*, one above the other, following in regular rotation, which cogs gear in the teeth of the pinions *R*, which turn on a rod, *o*, affixed in the bottom plate, *d'*, of the box *N*, the upper end of which rod passes through the cover *d* of said box, its end being threaded for the reception of a nut by which it is secured, and in the pinion *R*, are screwed the hinges *f* with their wires *j* and *j'*. Between each of the pinions *R*, the bottom plate, *d'*, and cover *d* of the box *N*, previously mentioned, and the wheel *O* is a washer, *p*, to prevent the parts from rubbing against each other.

The hinges *f*, I make of thin sheet metal bent in the form of an inverted *U*, in one end of which I solder a piece of metal, *h*, and in this fasten a screw-rod, *n*, as seen in Fig. 4, which screws in the pinions *R*, as aforesaid, and at *i*, I affix a pin, on which is hinged a short piece of wire, *s*, on which is soldered a joint, *g*, and in this I fasten the two flat wires *j* and *j'*, between which the leaves of the music are to be inserted, which can be conveniently done by bending all the wires down and then inserting the leaves of the music between them one by one.

The box *N* is supported by four standards or legs, *e* and *e'*, (see Fig. 3,) the height of which and the breadth of the nave or hub of the bevel-wheel *M* may be diminished with advantage to the dotted line *q q*, this lessening the space occupied by the machine.

*l* and *m*, Fig. 2, are six little posts, on which rests the cover *d*, fitting in a groove in the casing of the box *N*, the four posts *l* passing through holes in such cover, which is secured by screws screwing in the screw-holes *k* of the posts *m*, the axis *P* of the wheel *O* projecting through and revolving in a central hole in such cover. The posts *l* and *m*, above referred to, are affixed in the bottom plate, *d'*, of the said box *N*.

The upper machine is supported in the manner shown by the dotted line in Fig. 3, the note rack being placed just above the machine. Having affixed the upper machine, it is then connected by a rod, *S*, Figs. 1 and 3, passing through the center of the lower bevel-wheel, *M'*, and secured by a screw, *a*, screwing in a screw-hole in such rod, which connects with the shaft *C* of the wheel *B* of the lower machine, Table I, by means of a coupler, (seen in Figs. 2 and 11,) and the whole machine is then in working order, each pressure of the foot upon one of the pedals *JJ* of the lower machine causing the wheel *B* to rotate either to the right or left, which movement is communicated by means of the vertical rod *S* and the bevel-gearing *M* and *M'* to the wheel *O* of the upper machine, and this turns the pinions *R*, to which are attached the hinges *f* and wires *j* and *j'*, the latter turning the leaves of the music inserted between them.



My invention is applicable to any ordinary note-stand, and especially to pianos. When affixed to the latter, however, a hole must be drilled through the case for the insertion of the rod S, hereinbefore described, the upper machine being adjusted so as to make the note-rack come just above the box N, and the lower machine being affixed to a lyre or other suitable support, similar to that to which the pedals of a piano are fastened, about one inch, but not less, above the ground. The number of leaf-turners might also be increased, if desirable, to ten, (this being about the highest average number of leaves met with in a piece of music,) which may be done by increasing the number of bolts *d* of the wheel B to that number, and diminishing the size of the grooves *e e* on either side of said wheel to about two-thirds ( $\frac{2}{3}$ ) of their original length of the pedal movement, and by increasing the number of grooves *b* and sets of cogs *c* of the wheel O and pinions R, with their appurtenances, also from six to ten of the upper or leaf-turning mechanism; but then the size of said grooves *b*, sets of cogs *c*, and pinion R should be di-

minished so as not to require enlargement of the metal box N of said upper mechanism.

Now, what I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the pedal movement or lower part of my machine, consisting of a rotating wheel, B, hooks E, the movements of the latter being guided by the grooves *e e* and movable guides *r r*, slides F, drivers G, arms H, and pedal-arms I, on which are pedals J, the said hooks E catching against one of the bolts *d* of the said wheel B and causing it to turn with the upper or leaf-turning mechanism, the motion of the said wheel B being transmitted by the vertical rod S and the bevel-gearing M and M' to the wheel O, on which are cogs *c*, gearing in the teeth of the pinions R, to which are fastened the hinges *f* and wires *j j'*, between which the music-leaves are to be inserted, all as hereinbefore substantially described.

W. H. GEISLER.

Witnesses:

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KARL WECZERZIEK.