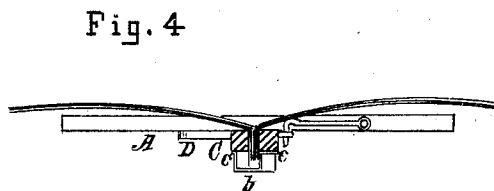
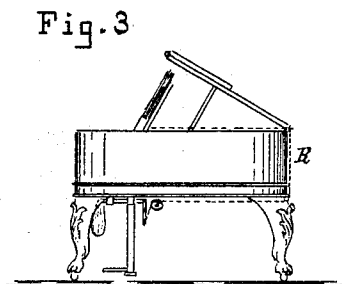
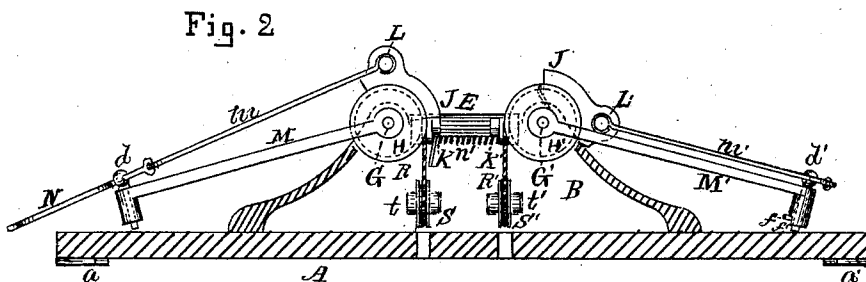
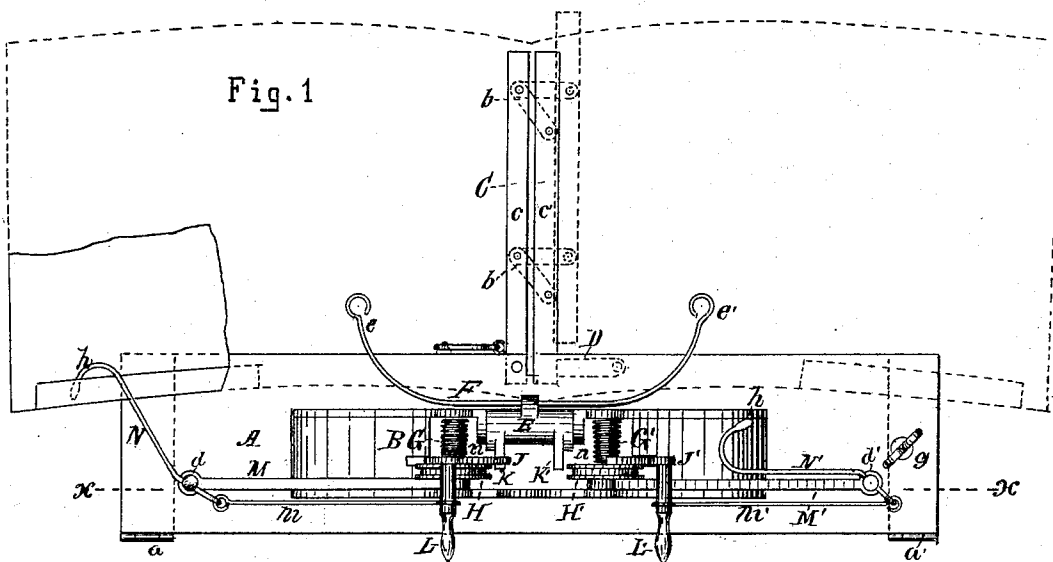


C. P. BROWN.
MUSIC LEAF TURNER.

No. 178,106.

Patented May 30, 1876.



WITNESSES=

Julius Wilde
A. H. Sherburne

INVENTOR=

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UNITED STATES PATENT OFFICE.

CYRIL P. BROWN, OF HUDSON, MICHIGAN, ASSIGNOR OF ONE-HALF HIS
RIGHT TO WHITING G. PRESS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN MUSIC-LEAF TURNERS.

Specification forming part of Letters Patent No. 178,106, dated May 30, 1876; application filed
December 9, 1875.

To all whom it may concern:

Be it known that I, CYRIL P. BROWN, of Hudson, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Machines for Turning Leaves of Music; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a general plan or top view of my said invention. Fig. 2 is a longitudinal section taken on the line *xx* drawn through Fig. 1. Fig. 3 is an end elevation, and Fig. 4 is a cross-section, of the book-rest detached.

Similar letters of reference indicate like parts in the several figures of the drawing.

My invention has for its object to provide a machine for turning the leaves of music-books; and to that end it consists in the several parts of the machine, as will be more fully understood by the following description and claims:

In the drawing, A represents the bed of the machine, and B the case supporting the operating parts. Permanently attached to the lower surface of the bed are hinges *a a'*, which are secured to the name-board of the instrument in such a manner as to allow the machine to fold under the cover of the instrument when the latter is closed. C is the book-rest pivoted to the lower surface of the bed, and so arranged as to fold under the same, or to admit of being turned to a right angle therewith, and secured in a fixed position, as shown in Fig. 1. This rest consists of two parallel bars, *c c'*, connected one to the other by means of cross-bars *b b* so arranged as to allow the bars *c c'* to be moved toward or from each other, the object of which is to provide a means of securing or binding loose sheets when used. D is a button pivoted to the lower surface of the bed, and so arranged as to bear against the bar *c'*, compressing the latter against the bar *c* when the button is turned to the proper position. E is a longitudinal rock-shaft, journaled in suitable bearings attached to the inner side of case B. F is a curved wire permanently attached at its center to the shaft E, and extend-

ing outward therefrom, forming arms *e e'*, adapted to bear upon the leaves of the book when the shaft is at rest. G G' are transverse shafts journaled to the sides of the case, and so arranged as to admit of an easy rocking movement. H H' are pulley-wheels mounted on the respective shafts G G', and arranged to revolve upon them. Permanently attached to the side of the wheels H H' are projecting lugs J J', adapted to engage the projecting arms K K' on the shaft E when a rotary movement is imparted to the wheels H H'. L L' are crank-pins permanently secured to the lugs J J', and projecting at a right angle therefrom. M M' are longitudinal arms, mounted at one end on the respective shafts G G', and so arranged as to admit of a free tilting movement. *d d'* are vertical rock-shafts journaled in the outer end of the arms M M'. Permanently secured within the lower end of each of the rock-shafts *d d'* is a stop-pin, *f*, so arranged as to come in contact with a lug, *f'*, on the lower surface of the arm, by which means the shafts are prevented from making a complete revolution. N N' are arms permanently attached to the upper end of the rock-shafts *d d'*, as shown in Fig. 1. The ends of these arms opposite to the shafts are bent in a proper shape to form a finger, *h*, adapted to pass under a loop on the upper surface of the leaves of the book. *m m'* are connecting-rods, attached at one end to the ends of their respective arms N N', and at the other end to the crank-pins L L'. Mounted upon and around each of the shafts G G' is a coiled spring, *n*, one end of which is attached to the case, and the other to the lug on the wheel H H'. Mounted upon and around the shaft E is a coiled spring, *n'*, one end of which is attached to the wall of the case, by which means the arms *e e'* are made to bear firmly on the leaves of the book. S S' are pulley-wheels, journaled on bearings *t t'* attached to the wall of the case. These wheels are arranged transversely across the case, and in the same plane vertically with the periphery of the wheels H H'. R R' are the adjusting-cords, which are attached separately to the wheels H H'. These cords pass over and partially around the wheels; thence under the wheels S S' and over the instrument;

thence around under the same, and are attached to any suitable device by which they may be operated by the foot or knee of the person playing the instruments. Permanently secured within the bed A is a set-screw, *g*, adapted to bear upon the upper surface of the lower portion of the hinge *a'*, by which means the bed, and consequently the book-rest, is adjusted to any required angle.

The operation of my invention is as follows: The bed A, being properly secured to the name-board of the instrument, and the book-rest C adjusted to a right angle with the edge of the bed, the book is then opened and placed upon the rest, allowing its lower edge to rest upon the bed and against the case, the arms *e e'* of the machine pressing on the upper surface of the leaves. To adjust or turn the leaves to the right the person pulls down on the cord R, imparting a rotary movement to the wheel H and to the lug J. This motion is communicated to the rock-shaft *d* by the connecting-rod *m* until the stop-pin *f* engages with the lug *f'*, imparting a vibratory movement to the arm N, causing the finger *h* to take under the loop on the leaf, and by a further rotary movement of the wheel H the lug J is brought in contact with the arm K, imparting a rocking movement to the shaft E, lifting the arms *e e'* from the leaves of the book, while, at the same time, the arm M, and with it the arm N, is lifted by the connecting-rod *m*, and the leaf is turned. The person playing the instrument then loosens the cord, when the springs *n* and *n'* of the shafts

G and E force the several parts of the machine back to their normal position, when a second leaf may be turned. To turn the leaves to the left the person playing the instrument pulls down on cord R', imparting a rotary movement to the wheel H', moving its co-operating parts, as previously described. To operate the machine by hand, the operator applies power to the crank-pins L L', which is communicated to the operating parts of the machine, producing the same operation.

I do not claim the loops attached to the leaves of the book, as the same is made the subject-matter of a separate application of even date herewith.

Having thus described my invention, I claim—

1. The shaft E, carrying the arms *e e'* and K K', in combination with the lugs J J' and mechanism to operate the same, as and for the purpose specified.
2. The arm N, adapted to pass under the loop on the leaves of the book, in combination with the connecting-rod *m*, arm M, shaft G, and crank-pin L, as specified.
3. In combination with the bed A and mechanism for turning the leaves, as described, the folding book-rest C, as specified.

The above specification of my invention signed by me this 2d day of December, 1875.
CYRIL P. BROWN.

Witnesses:

J. T. WHIPPLE,
N. H. SHERBURNE.