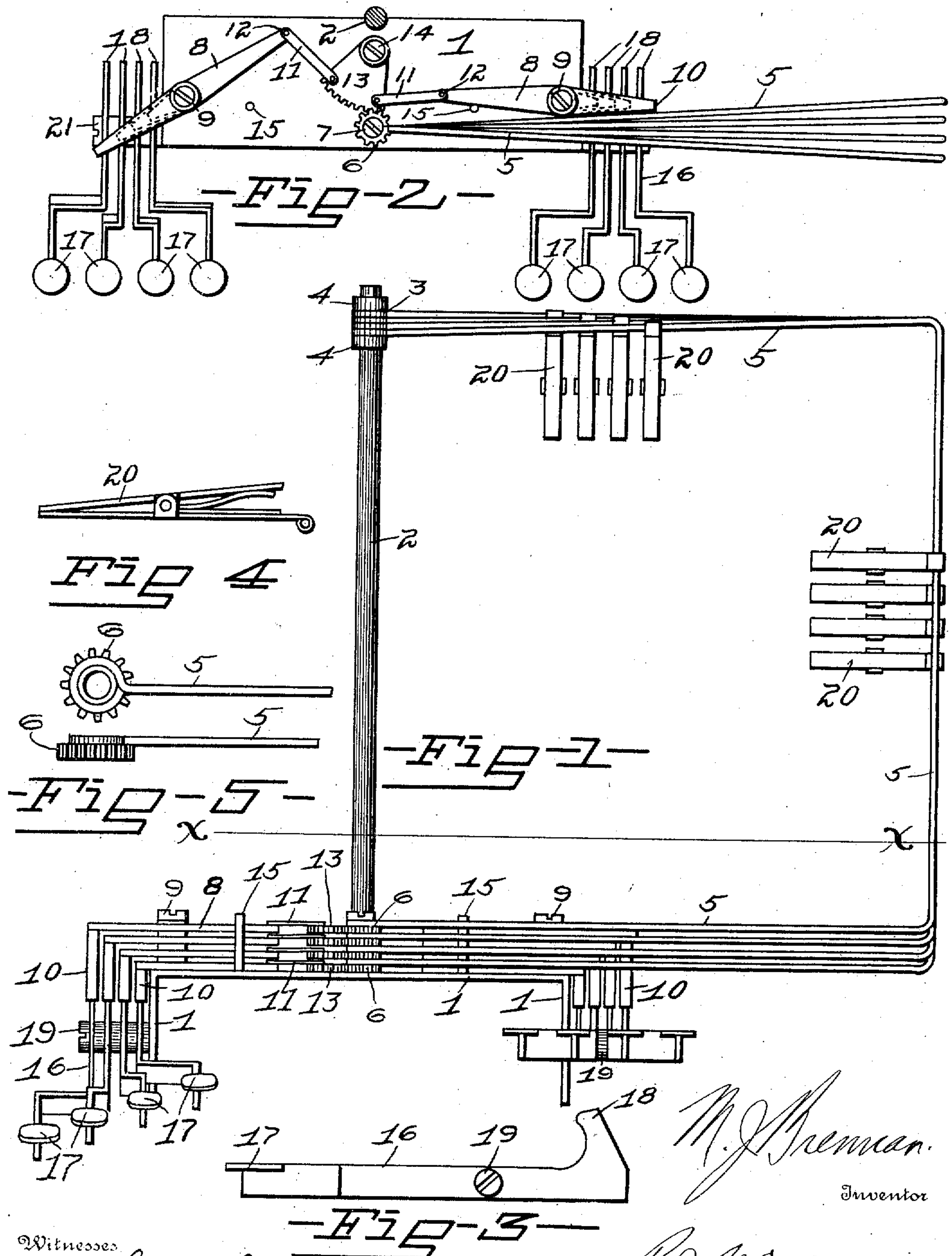


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LEAF TURNER.

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LEAF-TURNER.

No. 816,068.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MARTIN J. BRENNAN, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Leaf-Turners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it ap-
10 pertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in sheet-turners adapted for turning music or other leaves.

The object of the invention is to provide a sheet-turner which is simple in construction and which is operated with little effort by the performer or operator.

Preceding a detailed description of the invention reference is made to the accompanying drawings, of which—

Figure 1 is a front elevation of my improved sheet-turner. Fig. 2 is a section on the line $x x$ of Fig. 1 looking downwardly. Fig. 3 is a detached detail view of one of the keys. Fig. 4 is a detached view of one of the sheet-clamps. Fig. 5 is a detail view of one of the spur-wheels and the connected end of one of the frames or racks.

In a detail description of the invention similar reference characters indicate corresponding parts.

1 designates a metallic base-plate which may be permanently attached to the front of a piano or other place—for example, to a stand—or it may be attached to a suitable board which may be supported in the front of a piano or stand without being attached. This plate 1 has projected vertically therefrom a post or upright 2, to the upper end of which is movably secured the upper horizontal arms of a series of frames or racks 5. The ends of these upper portions of said racks are formed with eyes 3, which fit over the upper end of the post 2 and are inclosed between lower and upper collars 4. The lower horizontal arms or portions of these frames 5 are each attached to spur-wheels 6, the number of said spur-wheels being in accordance with the number of frames. Each one of these frames supports a sheet of the music or other sheet which is held in position by clips

20, said clips being fixed to suitable parts of the frames. The frames turn one at a time from the position shown in Fig. 1 to a position on the left of the post 2. The following is the mechanism by means of which said frames are turned. 13 designates a series of segment-gears which correspond to the number of spur-wheels 6 and engage with said spur-wheels. These segment-gears 13 are loosely mounted on a shaft 14, which projects from the base-plate 1 parallel with the pinion-shaft 7. Connected with each of said segment-gears 13 and on each side are link-levers 8 and 11, which are pivoted at 12, the link-levers 8 being pivoted individually upon shafts 9, which project from the base-plate 1. The outer ends 10 of the levers 8 project down at right angles and in line with the ends 18 of the key-levers 16, there being one of such key-levers 16 for each of the link-levers 8. The forward ends of the key-levers 16 terminate in finger-pieces 17, and each series of said levers or keys are fulcrumed upon a common shaft 19. The inner or actuating ends 18 of these key-levers act as cams when each key is depressed and by engaging with the projected ends of the levers 8 cause said levers to move upon their pivots 9 and to impart movement to the individual segment-gears 13.

As shown in Fig. 2, the leaf-frames 5 are in position for the reading of the music or sheet, and as each page is finished it is moved to the left of the post 2 by depressing each one of the finger-pieces 17 of the keys 16. 15 designates stop-pins which prevent the levers 8 and 11 from breaking joints in but one direction. As shown in Fig. 2, the key-levers 16 are bent so as to clear each other and to present the finger-pieces 17 in alinement and in a convenient position to be touched by the performer or operator when each page or sheet has been rendered. When each of the frames or racks have been turned in the manner described, they may be bodily moved backward to the position shown in Fig. 1, or they may be singly moved backward by depressing each one of the key-levers 16 on the left of the post 2. As the racks or frames 5 are shown in Fig. 1 they are in a position for the performer or operator to turn the frames to the left, it being understood that the first sheet is attached to the first frame, the next sheet is attached to the next frame, and so on, according to the number of pages.

The device as shown illustrates four frames or racks; but this number may obviously be increased, if desired.

It is thought from the above description
5 that the operation of the device is too appar-
ent to require a minute description; but it
will be understood that each frame or rack is
given independent movement through its
spur-wheel 6 from one of the segment-gears
10 13, said segment-gears being oscillated in op-
posite directions through the link-levers 8
and 11, which in turn are operated from the
key-levers 16.

Having described my invention, I claim—

15 1. In a leaf-turner, a series of individual
racks or frames upon which the sheets are
held, an upright post to which the upper ends
of said racks or frames are loosely connected,
a series of pinions to which the lower ends of
20 said racks or frames are fixed, a correspond-
ing series of actuating-gears engaging said
pinions, a corresponding series of angular
keys having cam-surfaces on their rear ends,
and a corresponding series of levers inter-
25 posed between said keys and said actuating-

gears, whereby separate and independent
movement may be imparted to said racks or
frames from said keys.

2. In a leaf-turner, a series of individual
racks or frames, means for attaching leaves 30
to said frames, an upright post to which the
upper ends of said racks are operatively con-
nected, a pinion attached to the lower end of
each of said racks, an oscillating gear engag-
ing each of said pinions, said oscillating gears 35
being grouped upon a common shaft, a series
of key-levers of angular form and having
their rear ends provided with tapering sur-
faces, a series of angular levers having their
outer ends turned down in the paths of the 40
rear ends of said key-levers, and a series of
short links connecting said angular levers
with the oscillating gears.

In testimony whereof I affix my signature
in presence of two witnesses.

MARTIN J. BRENNAN.

Witnesses:

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