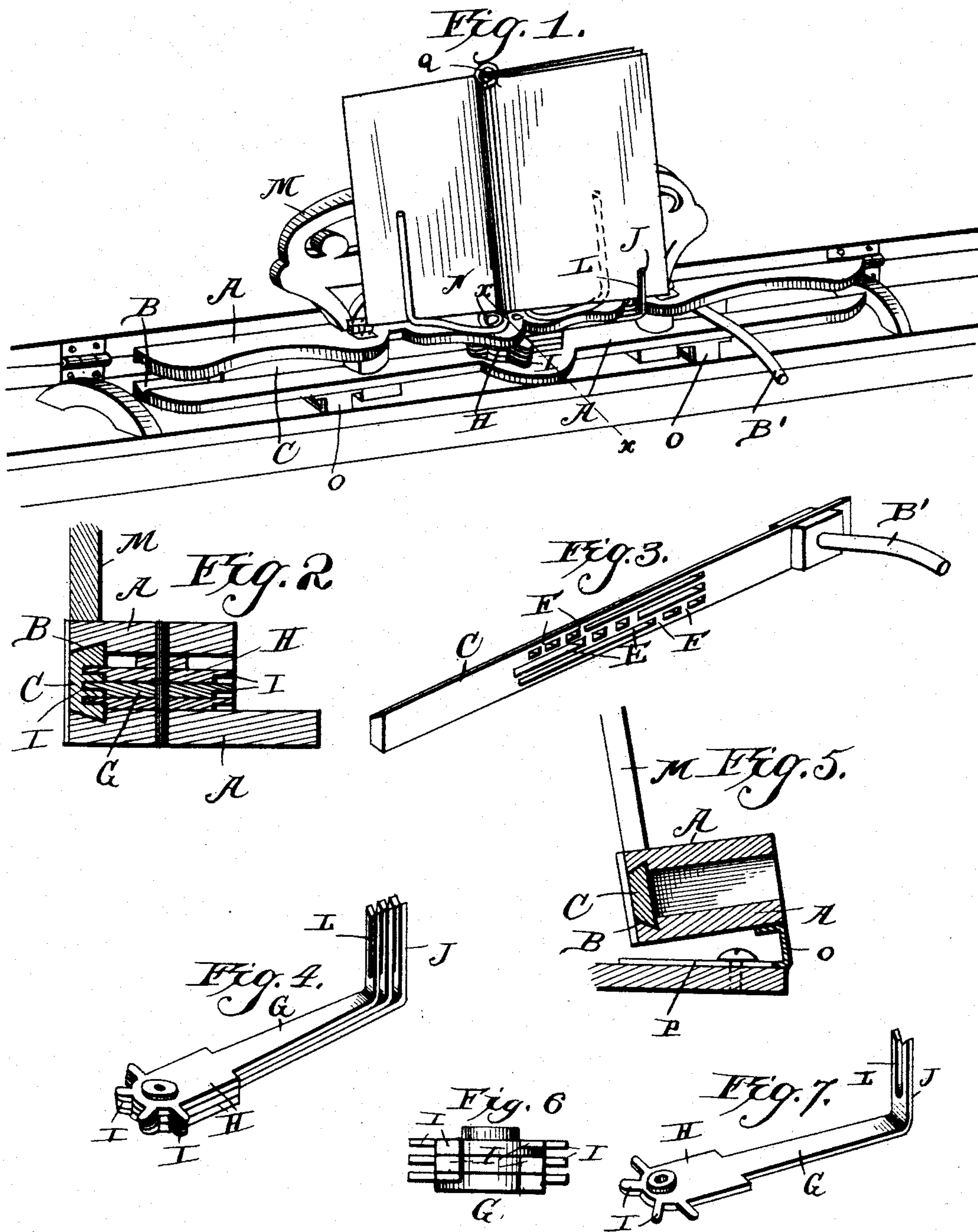


(No Model.)

L. N. FRYMIRE & F. S. DERR.
MUSIC LEAF TURNER.

No. 411,431.

Patented Sept. 24, 1889.



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS N. FRYMIRE AND FULLER S. DERR, OF WATSONTOWN, PENNSYLVANIA.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 411,431, dated September 24, 1889.

Application filed February 16, 1889. Serial No. 300,118. (No model.)

To all whom it may concern:

Be it known that we, LOUIS N. FRYMIRE and FULLER S. DERR, citizens of the United States, residing at Watontown, in the county of Northumberland and State of Pennsylvania, have invented new and useful Improvements in Music-Leaf Turners, of which the following is a specification,

Our invention relates to improvements in music-leaf turners; and it consists in certain novel features, hereinafter described and claimed.

The object of our invention is to provide a device by which the music-leaves can be turned quickly by the operator without causing a break in the music.

In the accompanying drawings, which fully illustrate our invention, Figure 1 is a perspective view of our improved music-leaf turner, showing it in operative position. Fig. 2 is a vertical cross-section on the line $x x$ of Fig. 1. Fig. 3 is a detail perspective view of the sliding operating-bar. Fig. 4 is a detail perspective view of the swinging levers, and Fig. 5 is a detail view showing the manner of securing the device to a piano or an organ. Fig. 6 is an end view looking at the toothed end of the levers. Fig. 7 is a detail view of one of the levers.

In carrying out our invention we employ the parallel horizontal base plates or bars A A, which are provided in their opposing faces, near their rear edges, with the dovetailed grooves B B, in which the sliding operating rod or bar C is mounted. This operating-bar is provided at one end with a small forwardly-projecting handle B', which can be given a slight blow by the performer in order to move the rod, and thereby operate the device, as will be hereinafter more fully referred to. The sliding bar is further provided in its front side with a series of longitudinal grooves E, and at proper points of these grooves we form the rack-teeth F, as clearly shown. These teeth and grooves are adapted to engage the swinging levers in the operation of the device, as will be hereinafter set forth.

The swinging levers G are pivotally mounted between the parallel base-bars A A at the

center of the same, and are provided at their inner ends with the enlarged portions H, having curved inner edges arranged concentrically with the pivot-pin and provided around said edges with the teeth I, which are engaged by the grooves and teeth of the sliding bar. The outer ends of the swinging levers are bent upward, as shown, to form the vertical arms J, which are provided with longitudinal slots L, in which the lower edges of the leaves or sheets of music are inserted, as clearly shown in Fig. 1. If so desired, these vertical arms may be provided with spring-clasps to secure the music, and the levers may be made extensible, so as to be adjusted to the width of the page or sheet. Any desired number of these levers may be employed, and the grooves in the sliding bars correspond in number to the number of the said levers. The teeth of the sliding bar are so arranged that one series of teeth will cease to act on the swinging lever just before the next adjacent series of teeth would begin to act on the next adjacent lever if the motion of the bar were continuous, and the teeth are further arranged so that each series of teeth will engage a separate lever, and when the device is operated move the said lever from one side of the music-holding rack to the other side. In order to prevent the sliding bar being moved so far as to operate more than one lever at a time, we make the teeth on the sliding bar thicker than the grooves are wide, and also make some of the teeth on each lever thicker than the remaining teeth, so that when these thicker teeth contact the motion of the bar will be arrested.

The music-rack M is secured to the upper base-bar A in the usual manner, and on the said base-bar we secure the springs N, which are adapted to clamp the book to the rack.

To the under side of the lower base-bar A we secure the depending brackets O, which are provided with the longitudinal notches or open-ended slots P, adapted to engage headed studs or screws on the piano or organ to secure the device in position.

The manner of securing the device in position is obvious. The ends of the brackets O are engaged under the heads of the screws

or studs, and the device is then slid backward, thus securing the holder in position on the piano, as will be readily understood.

In practice the music-sheets are secured
 5 together at one of the upper corners by a ring Q, and are then placed upon the music-rack in the usual manner, and the lower edges of the sheets are engaged by the vertical arms at the outer ends of the swinging
 10 levers. When the bottom of the page or sheet has been reached, the performer gives a slight blow to the handle of the sliding rod, causing the said rod to move endwise, as will be readily understood, and thereby cause
 15 one of the swinging levers to rotate and turn the leaf. As the said lever is rotated or swung around the grooves in the sliding bar above the plane of said lever will slip over the teeth of the remaining levers, and
 20 as a very slight blow is given the sliding bar the motion of the said bar will be arrested after the first lever has been swung completely around by the tooth of the next adjacent lever engaging the end of the correspond-
 25 ing groove in the bar. When the bottom of the next page has been reached, another blow is given the bar and the said page turned in a similar manner. The levers cannot be rotated out of their successive order, as the
 30 teeth of the rack-bars are arranged in successive series, as shown and before described, and the thicker teeth of the levers cannot enter the grooves of the sliding bar, but can only be acted upon by the rack-teeth of said
 35 bar.

From the foregoing description it will be seen that we have provided an extremely simple music-leaf turner, which can be easily operated, and by which the leaves will be turned
 40 rapidly and properly, so that the music can be played continuously without any stops or breaks. When sheet-music is being used, the ring Q is employed to hold the several sheets together and prevent them falling
 45 as each sheet is turned. When the music is

being played from a book, however, this ring is unnecessary.

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

1. The combination of the horizontal parallel base-bars having longitudinal grooves near their rear edges, the swinging levers pivoted between said base-bars and having rack-teeth on their inner ends, and the sliding bar fitted in the grooves in the base-bars, and provided with longitudinal grooves and rack-teeth, the grooves slipping over the teeth on the levers and the teeth acting on the same to operate the levers, as set forth. 50 60

2. The combination of the base-bars, the levers pivoted between the same and provided with rack-teeth on their inner ends, and having their outer ends bent upward and provided with vertical longitudinal slots, and the single sliding bar fitted between the base-bars and provided with grooves and rack-teeth to operate the levers, as set forth. 65

3. The combination of the series of levers having rack-teeth on their inner ends, some of the rack-teeth being thicker than the others, and the sliding bar provided with a series of longitudinal grooves and rack-teeth adapted to engage the teeth of the levers, the grooves being adapted to slip over the thinner teeth of the levers, as set forth. 70 75

4. The music-leaf turner provided on its under side with the brackets O, as set forth.

5. In a music-leaf turner, the ring Q, adapted to secure the sheets of music together, as set forth. 80

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

LOUIS N. FRYMIRE.
 FULLER S. DERR.

Witnesses:

SIMPSON SMITH,
 S. M. MILLER.