

No. 658,208.

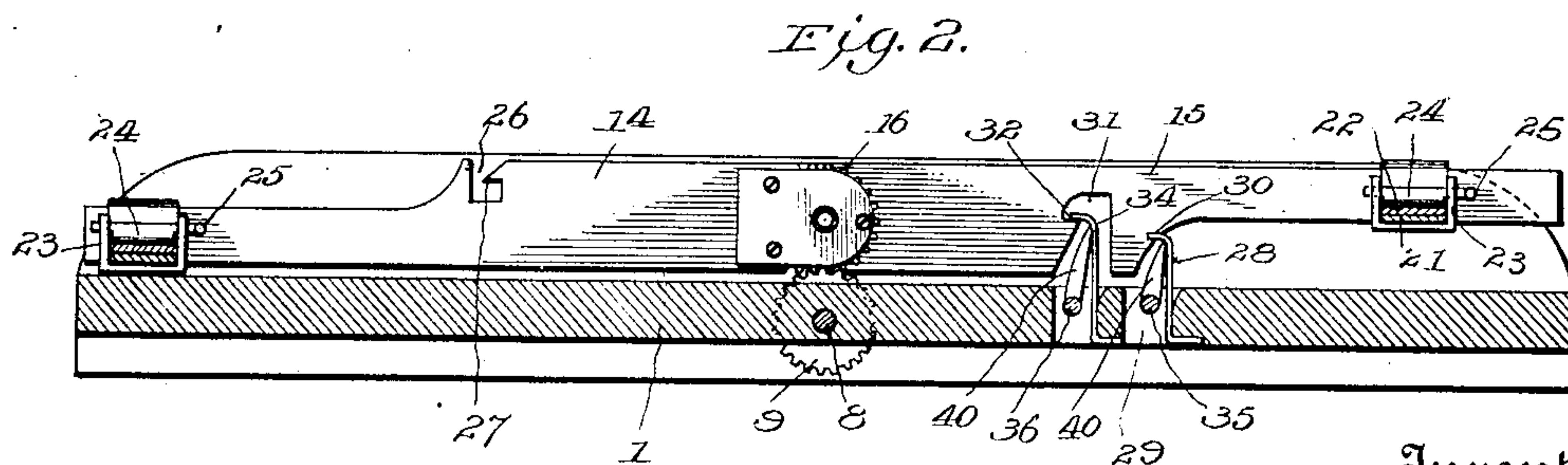
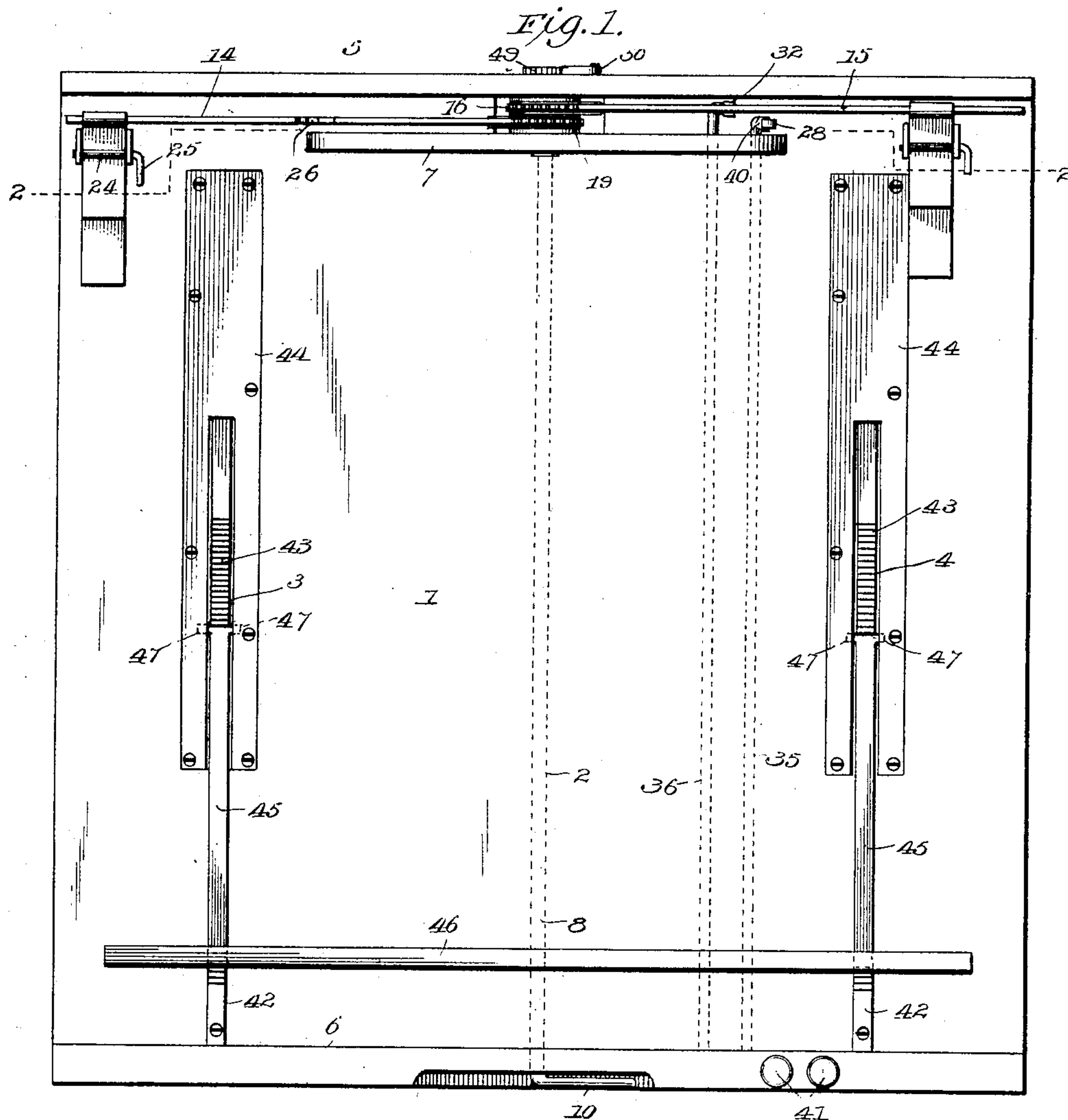
Patented Sept. 18, 1900.

E. W. EATON.
MUSIC LEAF TURNER.

(Application filed Jan. 18, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

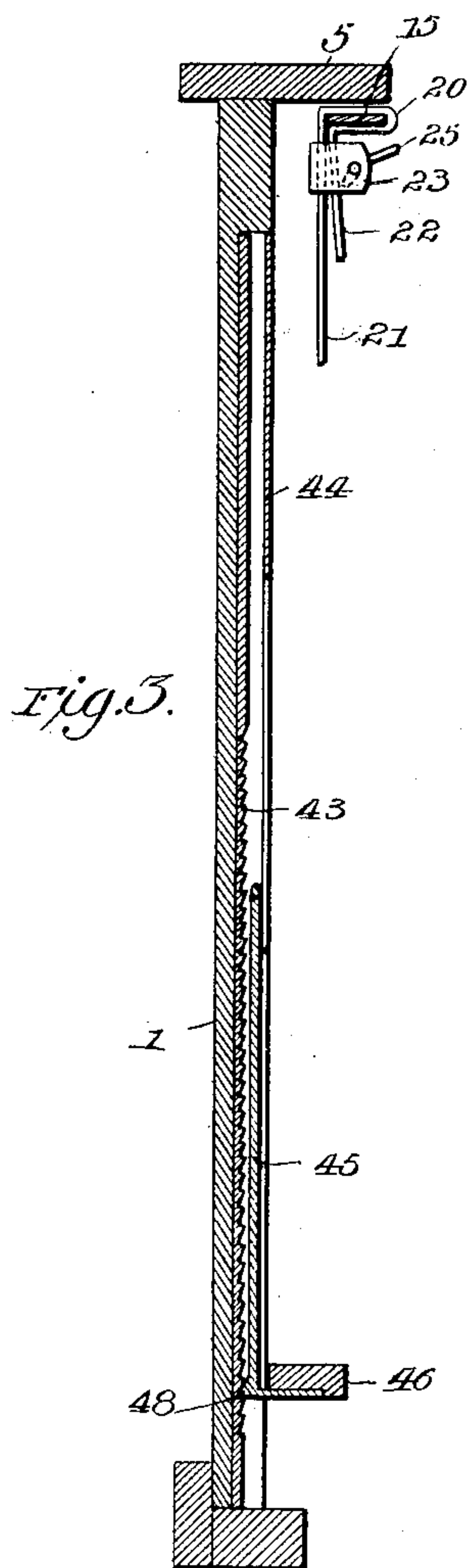


Fig. 3.

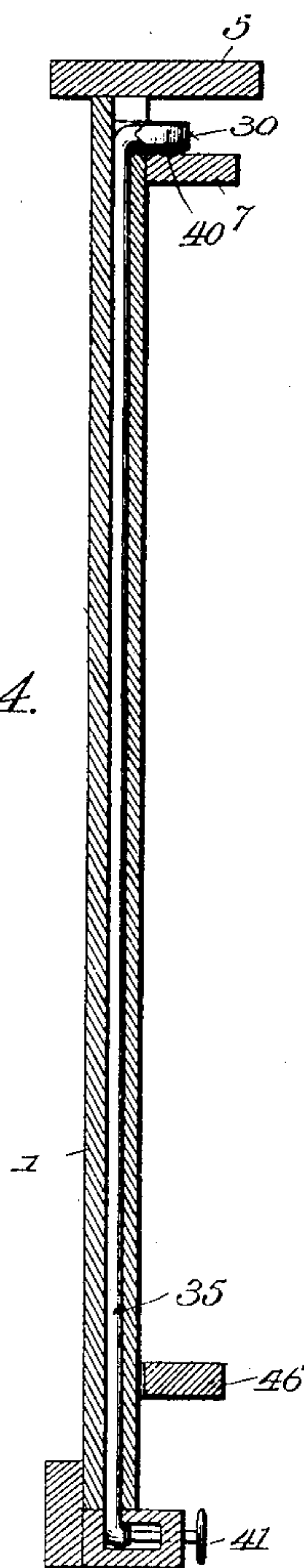


Fig. 4.

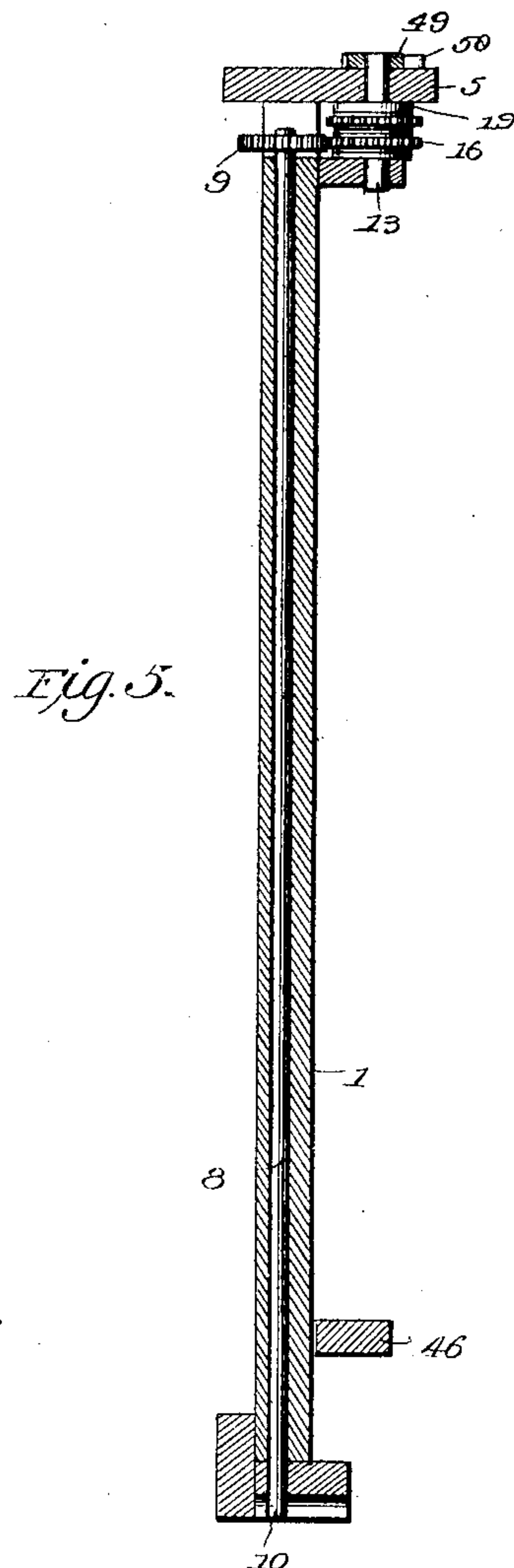


Fig. 5.

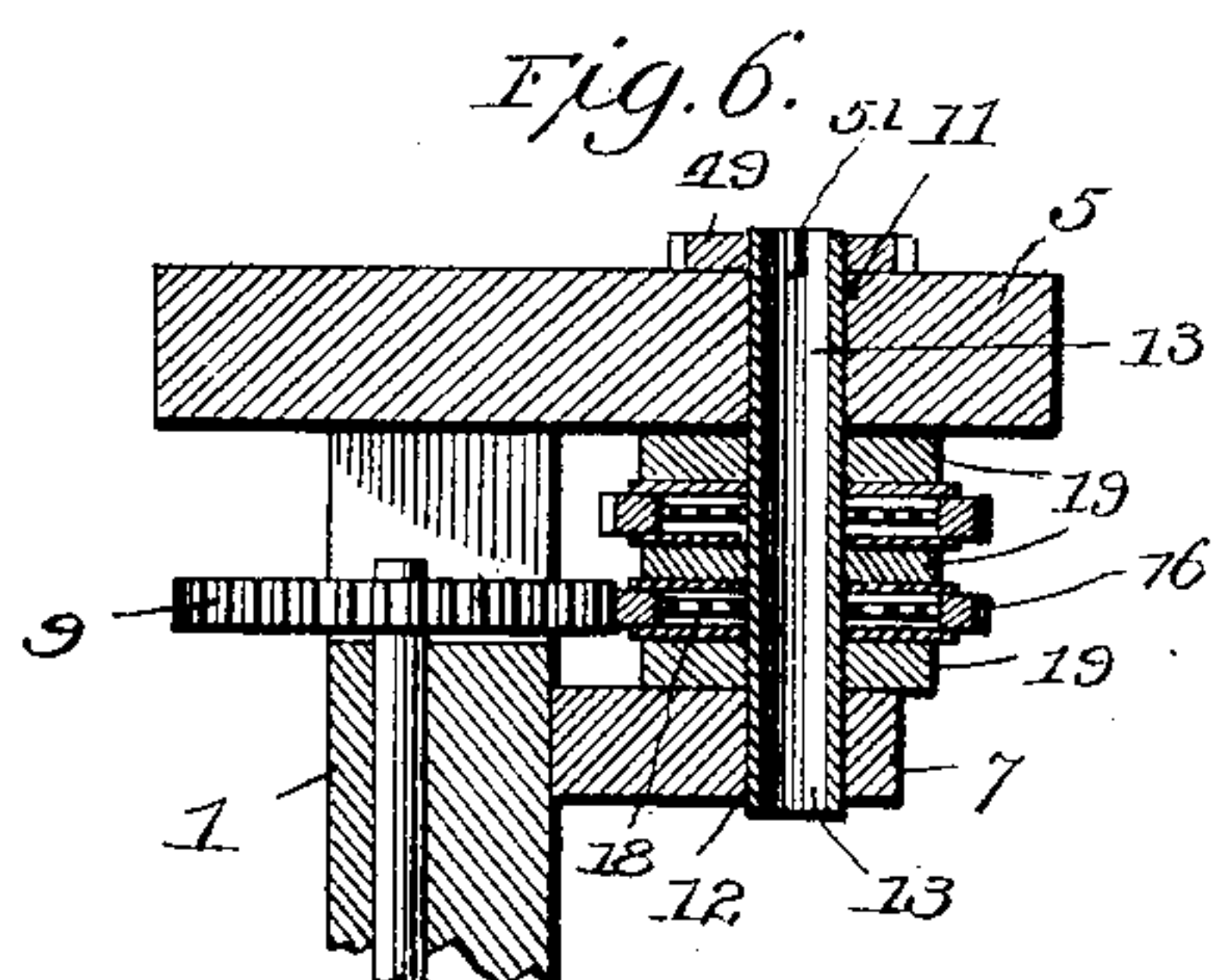


Fig. 6.

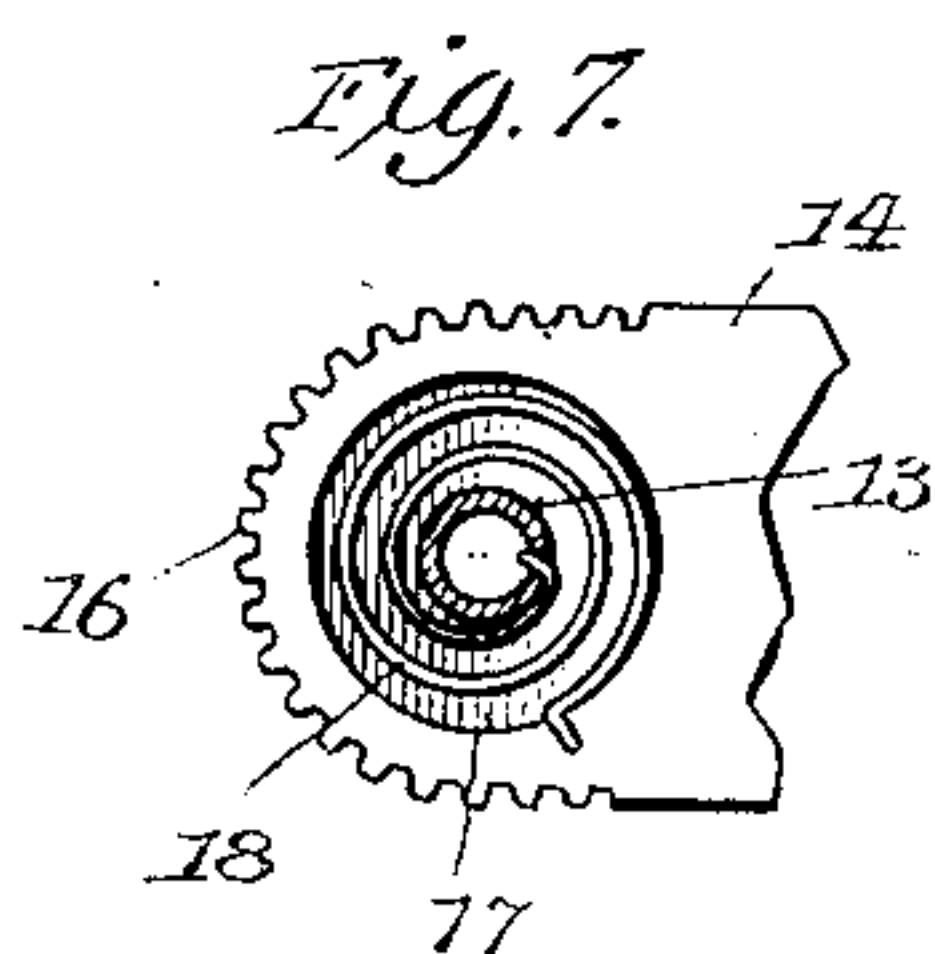


Fig. 7.

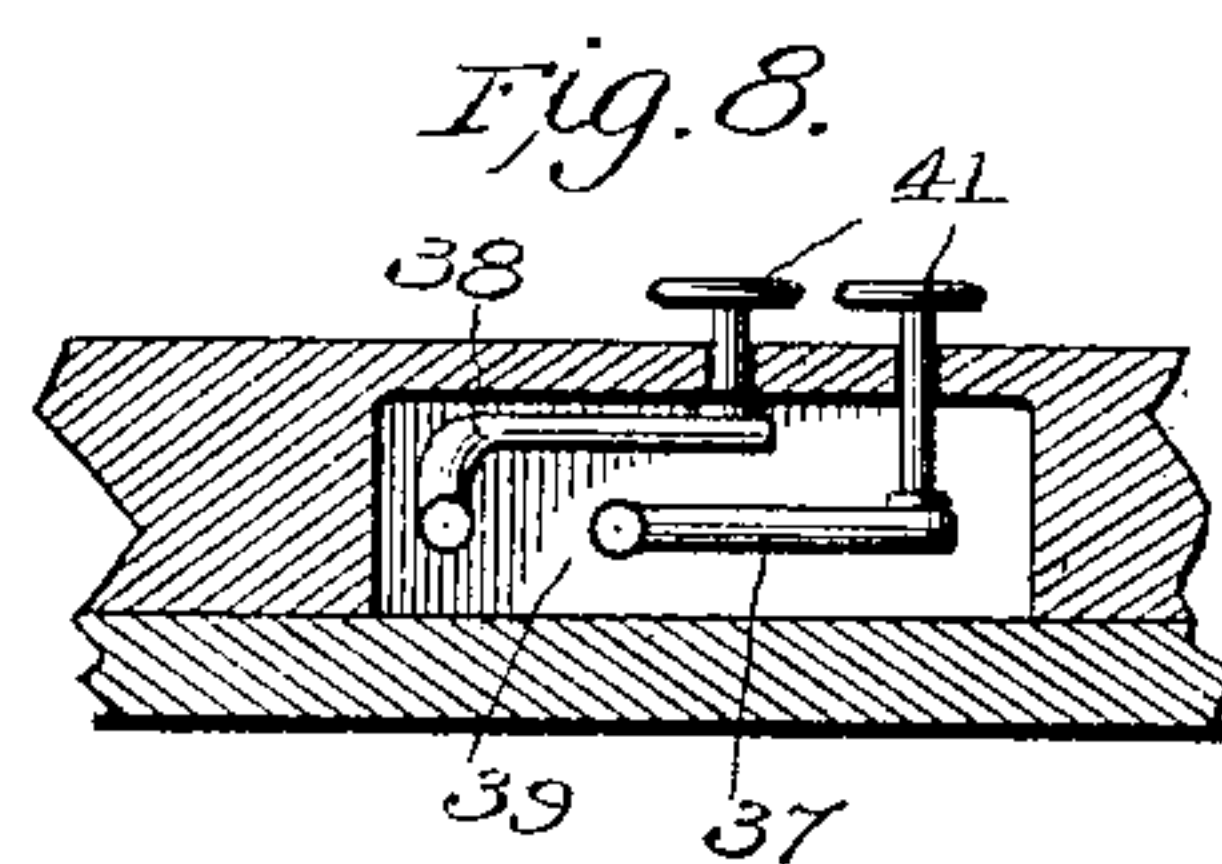


Fig. 8.

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UNITED STATES PATENT OFFICE.

ETHAN W. EATON, OF SOCORRO, TERRITORY OF NEW MEXICO, ASSIGNOR
TO JOSEPH I. EATON, NESTOR P. EATON, EDWARD C. EATON, WILLIAM J.
EATON, AND ROBERT EATON, OF SAME PLACE.

MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 658,208, dated September 18, 1900.

Application filed January 18, 1900. Serial No. 1,894. (No model.)

To all whom it may concern:

Be it known that I, ETHAN W. EATON, a citizen of the United States, residing at Socorro, in the county of Socorro and Territory of New Mexico, have invented certain new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

My invention relates to music-leaf turners, the object being to provide a device of this character which may be readily operated by pressing a key or keys with the finger and which will support the sheet of music adjustably.

The construction of the improvement will be fully described hereinafter and defined in the appended claims, in connection with the accompanying drawings, which form a part of this specification.

In the drawings, Figure 1 is a front elevation of a music-leaf turner embodying the invention. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a vertical section through one of the side bars of the leaf-supporting rack. Fig. 4 is a vertical section showing one of the rods for securing and releasing the pivoted arms carrying leaf-engaging clamps. Fig. 5 is a vertical section showing the gearing and rod for returning the pivoted arms to their normal positions after they have been released by their springs. Fig. 6 is a vertical section, on an enlarged scale, through the gearing on the retracting-shaft. Fig. 7 is a horizontal section showing one end of one of the clamp-carrying arms and its operating-spring, and Fig. 8 is a vertical section showing the bent lower ends of the rods for throwing the clamp-carrying arms and their operating-keys.

The reference-numeral 1 designates a board or frame, of rectangular shape, formed with a central vertical recess 2, and at opposite sides of said central recess 2 with recesses 3 and 4.

5 and 6 designate cross-bars or flanges secured, respectively, to the upper and lower edges of the board 1, and 7 is a bracket or cleat secured to the board near the upper flange 5 and parallel thereto.

Within the central recess 2 is arranged an

oscillating shaft 8, supported in bearings in the lower cross-bar 6 and bracket 7. Upon the upper end of the shaft 8 is mounted a gear-wheel 9, and the lower end of said shaft is bent to form a crank-handle 10.

The upper cross-bar 5 and bracket 7 are formed with aligned openings 11 and 12, serving as bearings for an arbor 13, upon which are mounted loosely a plurality of lever-arms. I show in the drawings two of these arms 14 and 15, each formed at its inner end with an opening for the passage of the arbor 13 and rounded, as shown best in Fig. 7, and formed with gear-teeth 16. The under surface of each of the arms 14 and 15 is formed with an annular recess 17, surrounding the arbor, and within said recess is arranged a coil-spring 18, one end of which is secured to the arbor and the other to the arm, as shown in Fig. 7. The inner ends of the arms 14 and 15 are separated from each other and from the cross-bar 5 and bracket or cleat 7 by washers 19.

Upon the outer free end of each of the arms 14 and 15 is arranged a clamp, of any suitable construction, adapted to engage a leaf of music. The clamps shown in the drawings are laterally adjustable to engage sheets of different widths, and each comprises a strip of sheet metal bent upon itself to form a loop or keeper 20, embracing the arm and clamp-ing-jaws 21 and 22, a U-shaped yoke 23, riveted to the jaw 22, and a cam 24, mounted in bearings in the yoke 23 and having a finger-piece or lever 25.

The edge of the lever-arm 14 is formed with a notch 26, having a shoulder 27 adapted to be engaged by a spring-catch 28, secured at one end within a recess 29 of the frame and hooked at its outer free end 30. The edge of the arm 15 is formed with a notch 31, having a shoulder 32. The shoulder of the notch 31 is adapted to be engaged by a spring-catch 34, similar to the catch 28, but longer than the latter.

35 and 36 designate crank-shafts arranged within parallel recesses formed in the board 1 and provided at their lower ends with cranks 37 and 38, located within a recess 39 in the

lower cross-bar 6. The upper end of each of the crank-shafts is provided with a finger 40, arranged to bear against the spring-catches 28 and 34, as shown in Fig. 2, to disengage
 5 said catches from the shoulders 27 and 32 of the clamp-carrying arms 14 and 15. Each of the cranks 37 and 38 is provided with a key or press-button 41 for operating the crank-shaft.

10 Within each of the recesses 3 and 4 is secured a bar 42, formed for a part of their length with rack-teeth 43. Over each of the recesses 3 and 4 is secured a longitudinally-slotted plate 44, and within the slots thereof
 15 are guided parallel bars 45, secured at their lower ends to a horizontal bar 46, serving as a rest or rack for a sheet of music. The upper ends of the bars 45 are provided with projecting lugs 47, which engage the under
 20 surfaces of the slotted plates 44 to retain the bars in position and guide them in their movement. The lower ends of the bars 45 are formed with beveled projections 48, (see Fig. 3,) which serve as pawls to engage the
 25 teeth of the bars 42 and support the rack 46 at any adjusted position.

The operation of the mechanism constructed as above described is as follows: When the arms 14 and 15 are engaged by their
 30 spring-catches 28 and 34, which is their normal position, the clamps carried by said arms each engage a leaf of the music, the clamp of the lower arm 14 engaging the first sheet to be turned. Then by pressing upon the key
 35 of the crank-shaft 35 said shaft is rocked, causing its finger 40 to release the catch 28, when the coil-spring 18, arranged within the recess 17 of the arm 14, throws said arm over, carrying with it the leaf of the music-sheet.
 40 The arm 15 and as many others as may be employed are operated in like manner, thus enabling a performer to turn his music by the mere pressing of a key. To return the arms to their normal position, the crank-handle 10 of the shaft 8 is turned, causing the
 45 gear-wheel 9 on said shaft, which meshes with the teeth of the lower arm 14, to move said arm to the right, and the contact of the arm 14 with the clamp of the arm 15 raises the
 50 latter also and carries it back into engagement with its spring-catch.

The rack 46 may be readily adjusted vertically to accommodate music-sheets of varying size by raising the pawls 48 out of engagement with the rack-teeth and sliding the
 55 rack downward, or it may be moved upward freely over the inclined surfaces of the teeth, as will be obvious.

I preferably provide the upper end of the
 60 arbor 13 with a fixed ratchet-wheel 49, adapted to be engaged by a spring-pawl 50, secured to the upper cross-bar 5, and within the upper end of the arbor is a central cross-bar 51, adapted to be engaged by a key or implement
 65 to wind or tension the springs 18.

While the construction above described and illustrated in the drawings is a practical

embodiment of the invention, I would have it understood that I do not restrict myself to all of the details here shown and described, 70 but reserve the right to make all such modifications and variations in the details of construction as may properly fall within the scope of my invention, as defined in the following claims. 75

I claim—

1. In a music-leaf turner, the combination with a board or frame; of a plurality of pivoted spring-controlled levers; clamps carried thereby; spring-catches engaging said levers; crank-shafts for releasing said catches; keys for turning said shaft; and a shaft geared to one of said levers for returning the lever to their normal position. 80

2. In a music-leaf turner, the combination 85 with a board or frame; of an arbor supported at the upper end of said frame; a plurality of levers pivotally supported upon said arbor, and recessed adjacent thereto; coil-springs within said recesses secured at one 90 end to the arbor and at their opposite ends to the walls of the recesses; clamps on the ends of said levers; spring-catches for engaging the levers; means operated by a push-key for releasing said catches, and means for 95 reengaging the levers with their catches comprising a shaft geared to one of said levers.

3. In a music-leaf turner, the combination with a board or frame, of an arbor supported at the upper end of the frame; a plurality of 100 spring-controlled levers supported on said arbor; adjustable clamps on the free ends of the levers; spring-catches for engaging the levers; means for releasing the catches; and means for reengaging the levers with their 105 catches comprising a shaft geared to one of said levers.

4. In a music-leaf turner, the combination with a board or frame, of an arbor supported at the upper end of the frame; a plurality of 110 spring-controlled levers supported on said arbor; adjustable clamps supported upon said levers; spring-catches for engaging the levers; means for releasing said catches, comprising crank-shafts carrying fingers bearing 115 upon said catches; and means for reengaging the levers with their catches, comprising a rock-shaft geared to one of said levers, and provided with a handle.

5. In a music-leaf turner, the combination 120 with a board or frame, of an arbor supported in bearings at the upper end of the frame; a plurality of spring-controlled levers loosely mounted on said arbor, each of said levers being formed on its inner edge with a should- 125 dered notch; spring-catches for engaging said shoulders; means for releasing said catches; and means for turning the levers back into engagement with their catches.

6. In a music-leaf turner, the combination 130 with pivoted spring-controlled clamp-carrying levers; catches for engaging said levers; releasing means for said catches; a rock-shaft geared to one of said levers to reengage the

levers with their catches; and a vertically-adjustable rack for supporting a sheet of music.

7. In a music-leaf turner, the combination with pivoted spring-controlled levers; of
5 clamps adjustably secured to the free ends of said levers; catches for engaging said levers; means for releasing said catches; a rock-shaft geared to one of said levers; a vertically-adjustable music-supporting rack, comprising
10 parallel arms provided with pawls and a

transverse bar secured thereto; guides for said arms; and rack-bars secured to the frame adapted to be engaged by said pawls.

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

ETHAN W. EATON.

Witnesses:

A. E. HOWELL,
E. L. SMART.