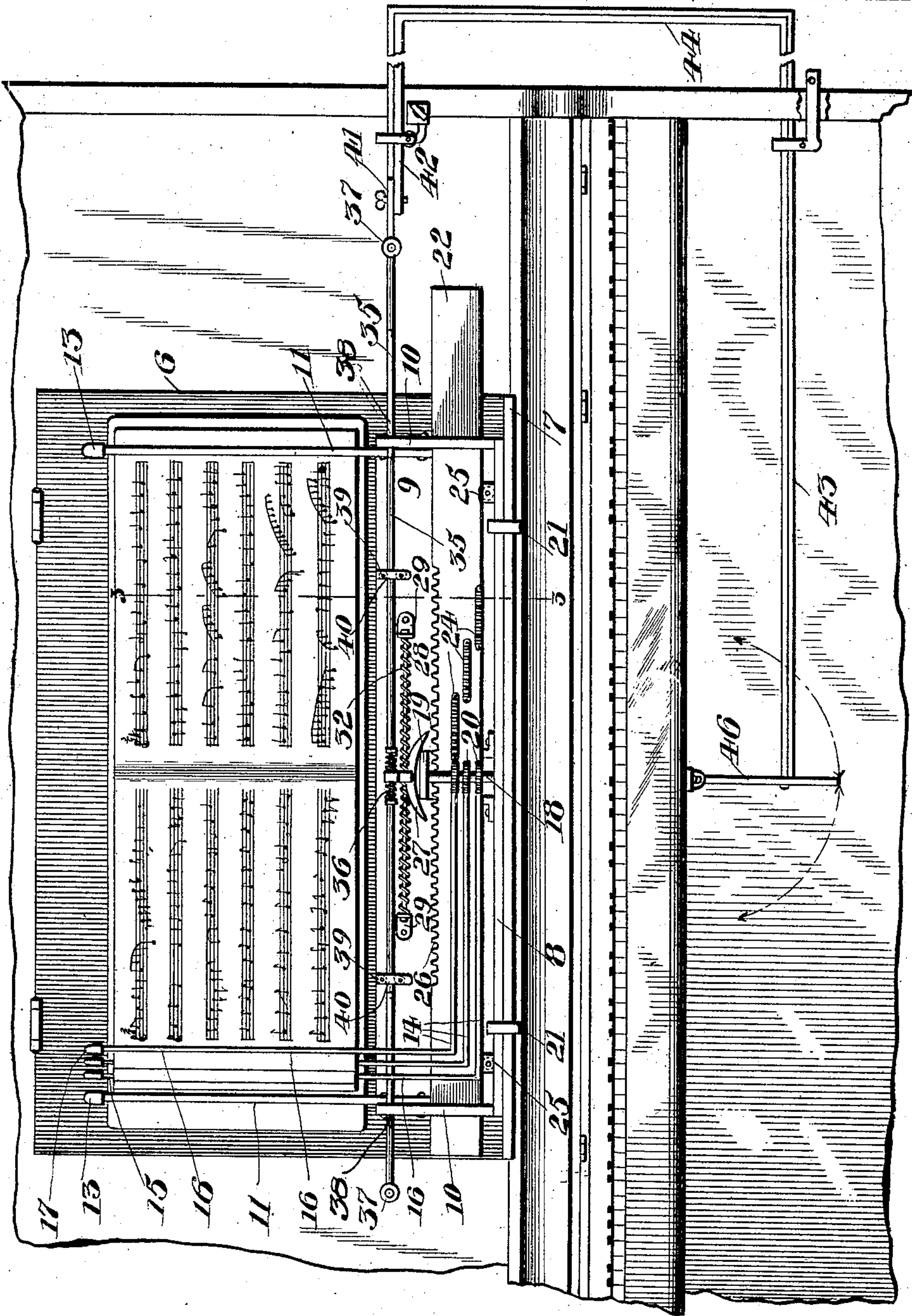


No. 848,599.

PATENTED MAR. 26, 1907.

F. W. McNEIL.
MUSIC LEAF TURNER.
APPLICATION FILED JUNE 9, 1906.

2 SHEETS—SHEET 1.



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Fig. 1.

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2 SHEETS—SHEET 2.

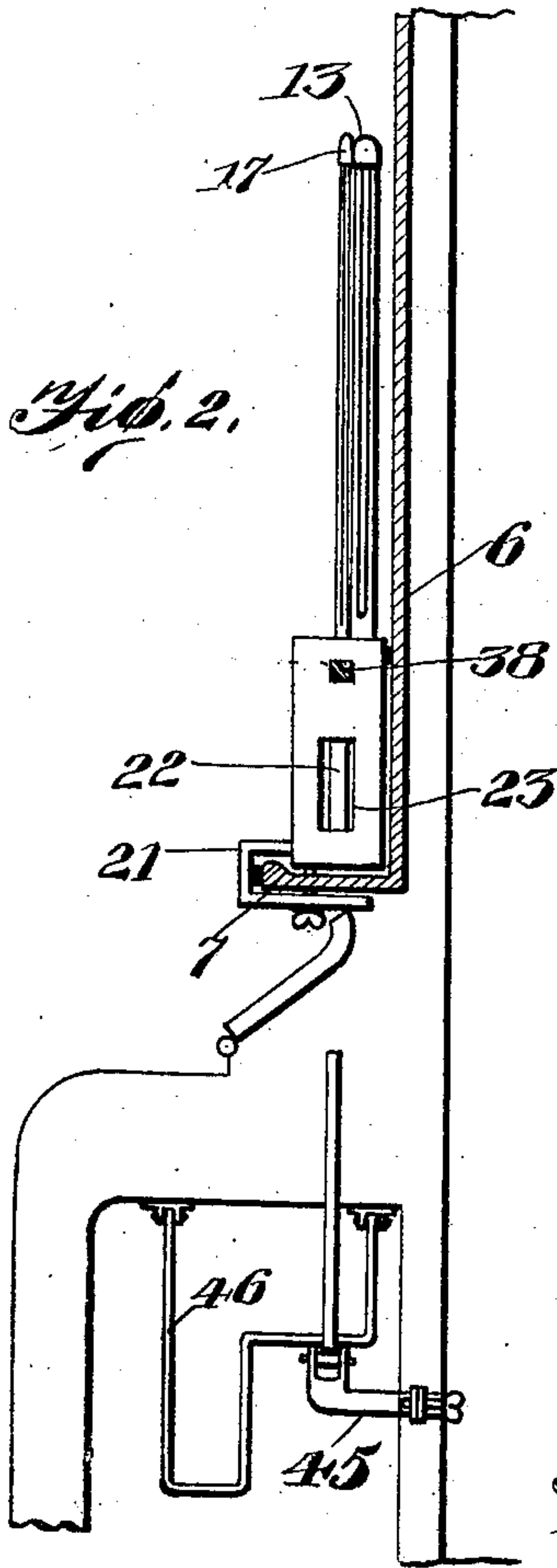


Fig. 2.

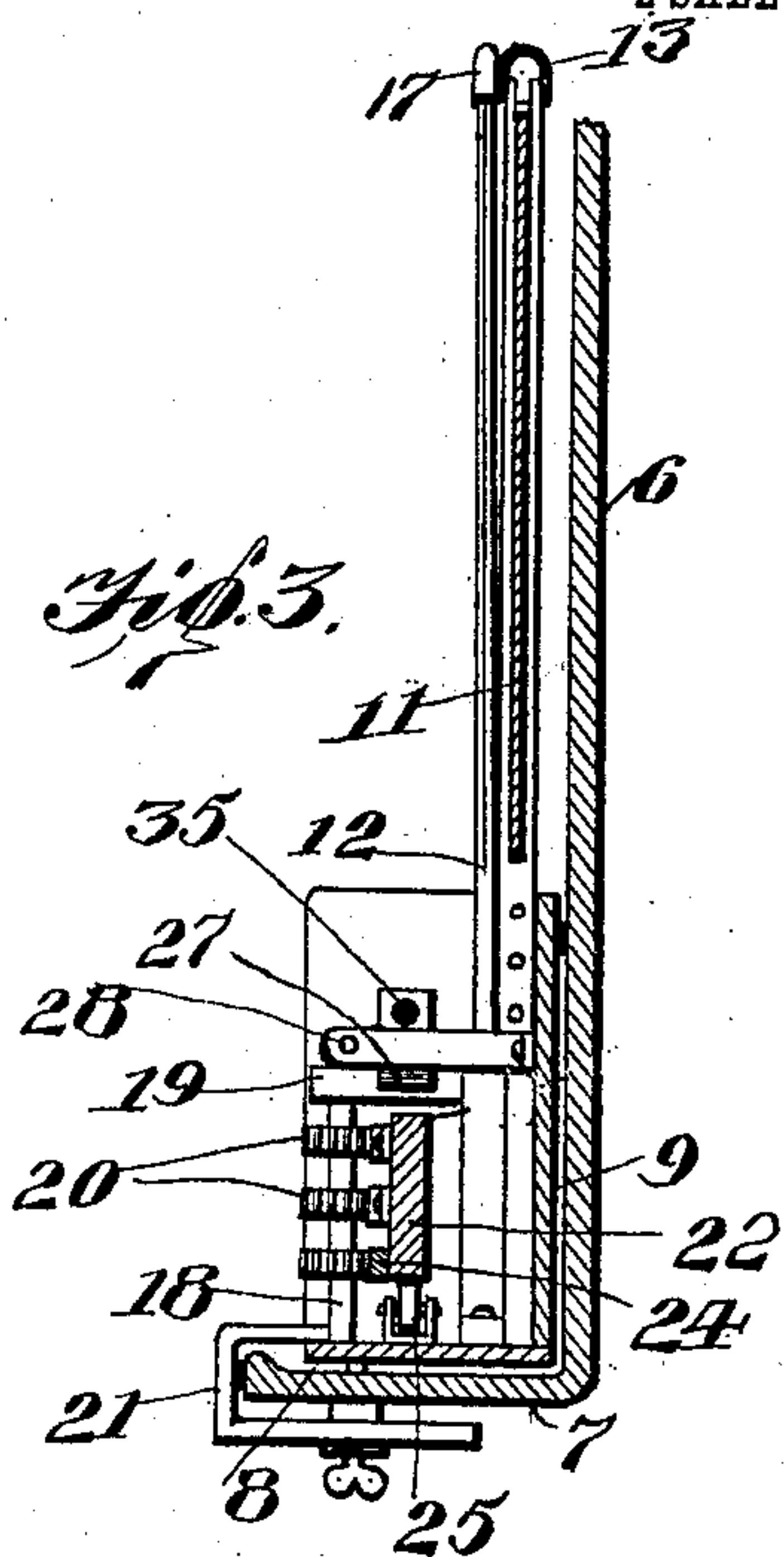


Fig. 3.

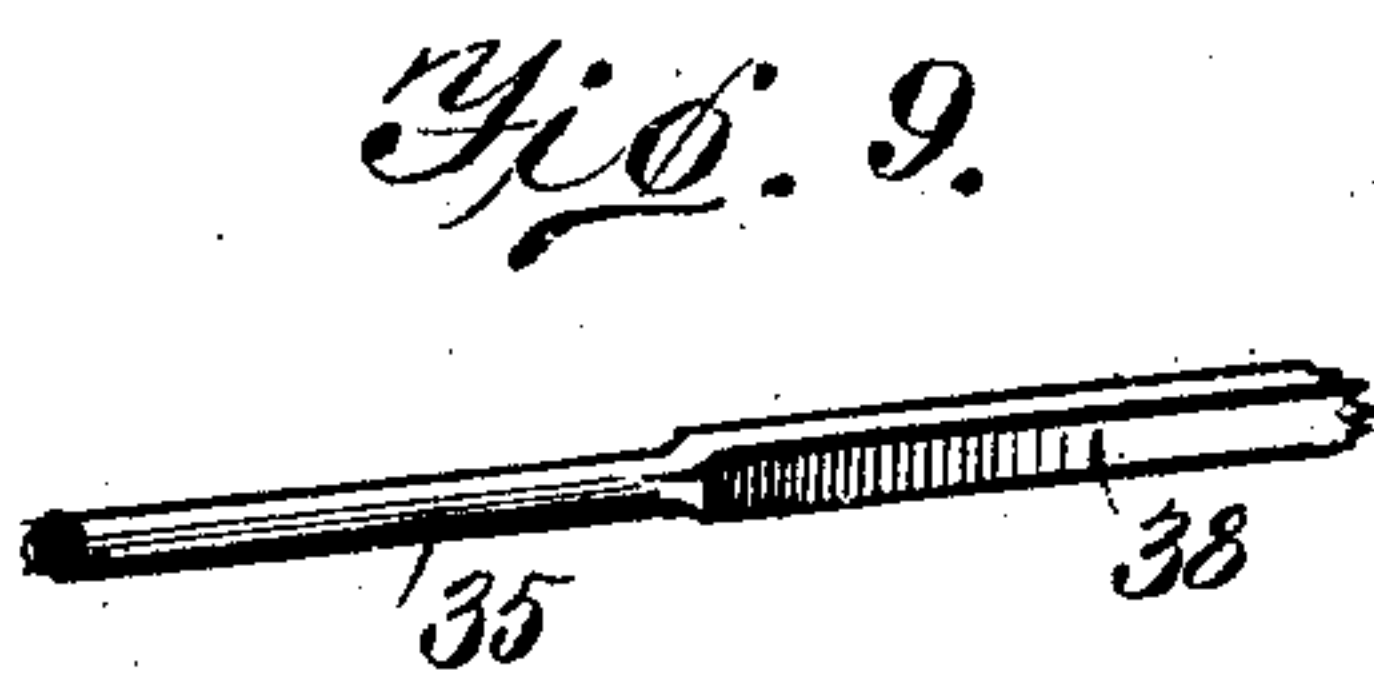


Fig. 5.

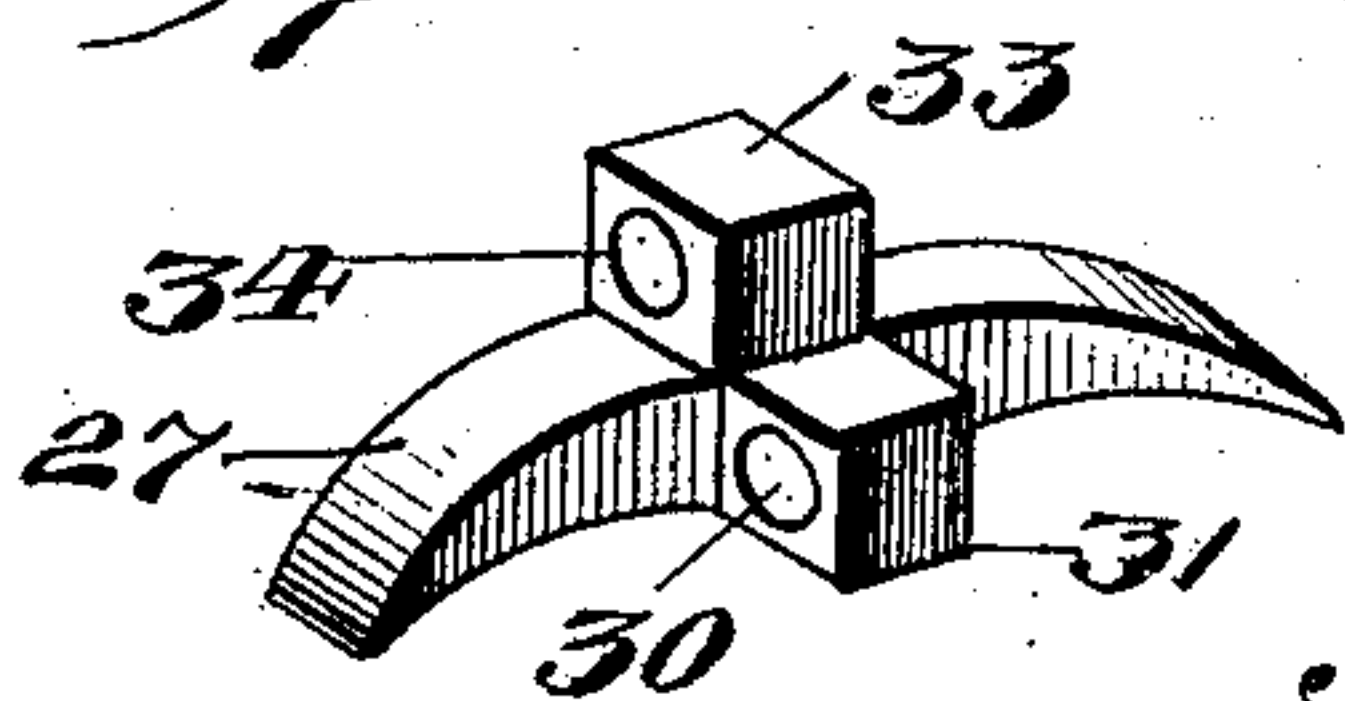


Fig. 7.

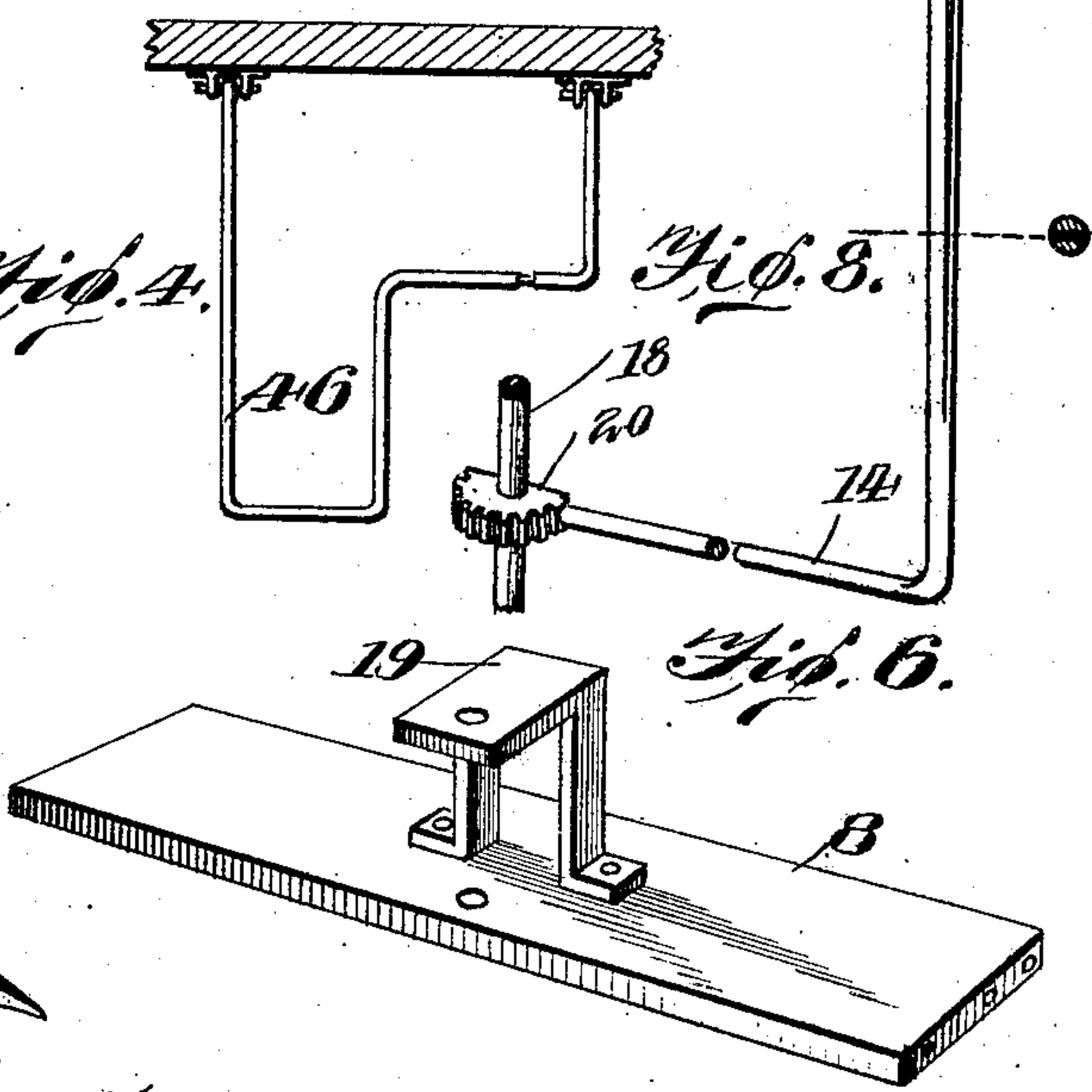
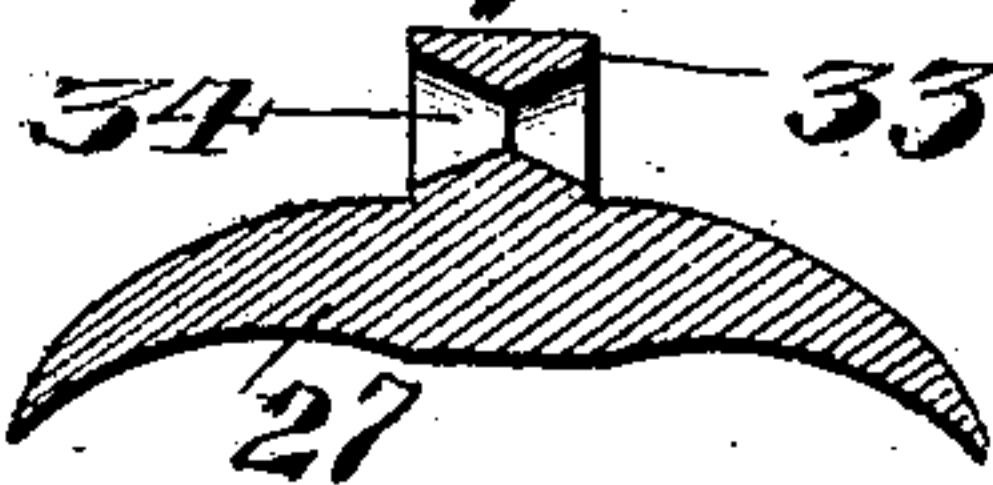


Fig. 4.

Fig. 8.

Fig. 6.

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UNITED STATES PATENT OFFICE.

FRED W. McNEIL, OF ST. LOUIS, MISSOURI.

MUSIC-LEAF TURNER.

No. 848,599.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed June 9, 1906. Serial No. 321,034.

To all whom it may concern:

Be it known that I, FRED W. McNEIL, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented
5 a new and useful Improvement in Music-Leaf Turners, of which the following is a specification.

This invention is a music-leaf turner which may be operated either by hand or by the
10 knee; and the object of the invention is to provide a simple and inexpensive device by which the leaves may be turned either to the right or to the left by a musician using either a knee-lever or one of the provided handles.

15 The device comprises a plurality of pivoted arms having clamps to hold the leaves and provided at their pivot with segmental pinions which are successively engaged by racks carried by a sliding bar which is actuated by a pawl upon the movement of an operating-rod to either the right or the left.

The invention is illustrated in the accompanying drawings, in which—

25 Figure 1 is a front elevation of the device as applied to a piano. Fig. 2 is an end view thereof. Fig. 3 is a vertical section on line 3 3 of Fig. 1. Fig. 4 is a detail in side view of the knee-lever. Fig. 5 is a perspective view of the pawl. Fig. 6 is a perspective view of
30 the frame or base in which the swinging arms are mounted. Fig. 7 is a longitudinal section through pawl 27. Fig. 8 is a perspective view of one of the leaf-turning arms, and Fig. 9 is a side view of a sliding rod.

35 In the drawings, 6 indicates the music-board of the piano, to the shelf 7 of which the device is attached. The supporting-frame in which the movable parts are mounted has a base-board 8, a back board 9, and end
40 pieces 10, forming a frame open at the front and at the top. At the rear end corners of the frame are uprights 11, which are rounded and split from the top down to a point just above the ends 10, as indicated at 12. These
45 posts receive, in the split portions thereof, the cover or backing of the music book or sheets and are provided at the top with thimbles 13, which when placed over the split ends and pressed down clamp the cover or unused
50 leaves and hold the book or piece of music in place.

The pivoted arms which turn the leaves have each a horizontal lower portion 14 and a vertical portion 15 at the outer end, the upper part of which vertical portion is split, as
55 at 16, Fig. 8, similarly to the split portion 12

of the stationary posts to receive a leaf, which is clamped therein by rubber thimbles 17 at the top. These rubber thimbles also serve to prevent marring the music-board of the
60 piano if it should be struck by the arms. The inner ends of the arms 14 are pivoted upon a bolt 18 between the bottom board 8 and an overhanging forwardly - projecting bracket
65 19, which is secured to said board, and said ends also have mutilated pinions thereon, as shown at 20. The arms are located one above the other on the pivot-bolt and may be spaced apart by washers, if necessary. The pivot is at the middle of the frame, and
70 the arms decrease in length, so that they will swing within each other and also within the end pieces of the frame. The frame is fixed to the music-board by clamps 21, and all parts in contact with the wood of the piano
75 are preferably faced with rubber to prevent marring.

The arms are operated by means of a sliding bar 22, which works lengthwise in guide-openings 23 in the end pieces 10, and this bar
80 has on its face a succession of racks 24, so arranged as to successively engage the series of segmental pinions 20 on the arms. The racks correspond in number and position to the pinions, and it is obvious that as the bar
85 is slid one way or the other the racks will engage the pinions and throw the arms accordingly. The bar travels on rollers 25 on the base-board.

To produce the lengthwise movement of
90 the bar 22, it is provided on its upper edge with a rack 26, which may be engaged by either end of a double-ended pawl 27, which may be tilted and shifted in either direction to engage the rack and move the bar. The
95 pawl is supported at its front side by means of a small rod 28, which is fixed at its ends to brackets 29 on the back board 9. The rod extends loosely through a hole 30 in a lug 31 on the front side of the pawl, and the hole is
100 tapered out at both ends, so that the pawl may tilt to throw either of its ends down to engage the rack. Springs 32, coiled around the rod on both sides of the lug, tend to hold the pawl at middle or disengaged position.
105 On the upper side the pawl has a similar lug 33 with similar hole 34 therethrough, and extending through this hole is an operating-rod 35, springs 36 being coiled around the rod on each side of the lug to allow the play or free-
110 dom of movement necessary to permit the pawl to tilt.

The rod 35 extends across the frame, extending at the ends through holes in the end pieces 10 of the frame, and beyond said pieces it is provided with forwardly-extending handles 37, by which the rod may be shifted by either hand of the operator. One end of the rod is squared, as at 38, and the guide-hole is correspondingly squared. Otherwise the rod is preferably round. It slides between rollers 39, carried by brackets 40 on the backboard 9.

For knee operation the end of the rod 35 is connected by a detachable joint at 41 to the upper horizontal arm 42 of a frame which has a lower horizontal arm 43, these arms being joined by a vertical connection 44. The frame is preferably made of angular metal sufficiently strong to stand the strain and extends out beyond the end of the piano, being supported by a bracket 45, clamped to the end piece of the piano. The inner end of the arm 43 extends under the keyboard-shelf of the piano and is detachably connected to a lever 46, suspended from said shelf. The lever is conveniently formed and located to receive pressure in either direction by the knee and when so moved shifts the rod 35 accordingly. When said rod is shifted, the effect in consequence of the manner in which the pawl 27 is supported is to first depress one end of the pawl to engagement with the rack 26 and then to move the bar 22 far enough to turn one arm and leaf. On re-

lease the spring 32 returns the pawl and shifting rod to middle position for the next operation. In consequence of the symmetrical construction the device may be operated either way to turn the leaves either to the right or the left.

I claim—

In a music-leaf turner, the combination with a supporting-frame, a pivot or shaft arranged centrally thereon, a series of right-angular arms and pinions to which they are attached, said pinions being rotatable on the shaft, a bar which is arranged behind the pinions and slidable in guides, its upper edge being toothed and its front side provided with a series of racks duly spaced from each other and adapted to engage the aforesaid pinions successively, a double-ended pawl pivoted on the frame in position for engagement with the slidable rack-bar, a rod 35 arranged on the frame parallel to the rack-bar and above the pawl with which it is slidably connected, springs applied to said rod on each side of the pawl-shank, and a second rod 28 arranged below the first-named rod, and spiral springs encircling said rod each side of the pawl, whereby the latter is held normally in balanced position or out of engagement with the rack-bar, substantially as described.

FRED W. McNEIL.

Witnesses:

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