

June 19, 1923.

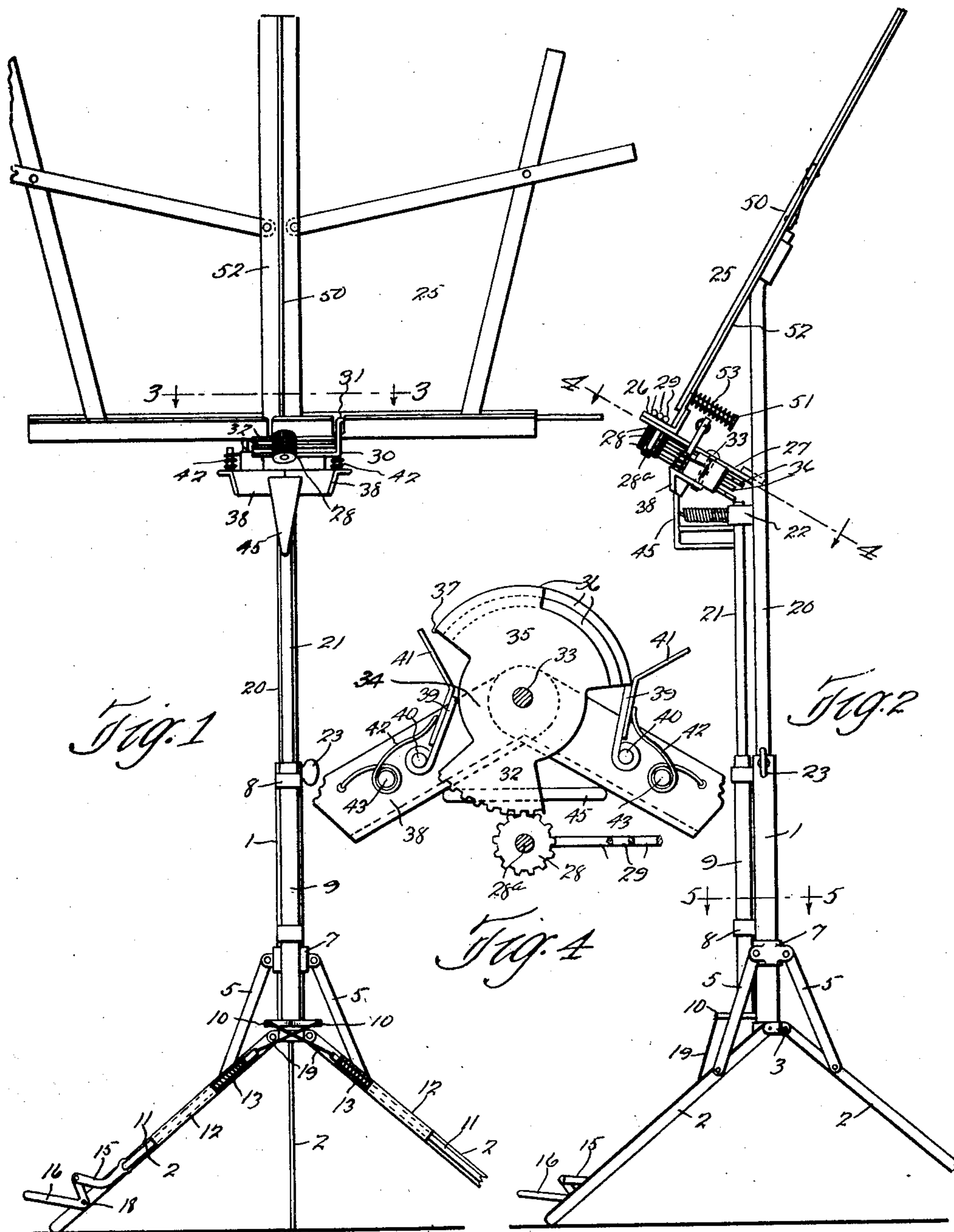
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S. TRACHTENBERG

MUSIC LEAF TURNER

Filed Nov. 7, 1921

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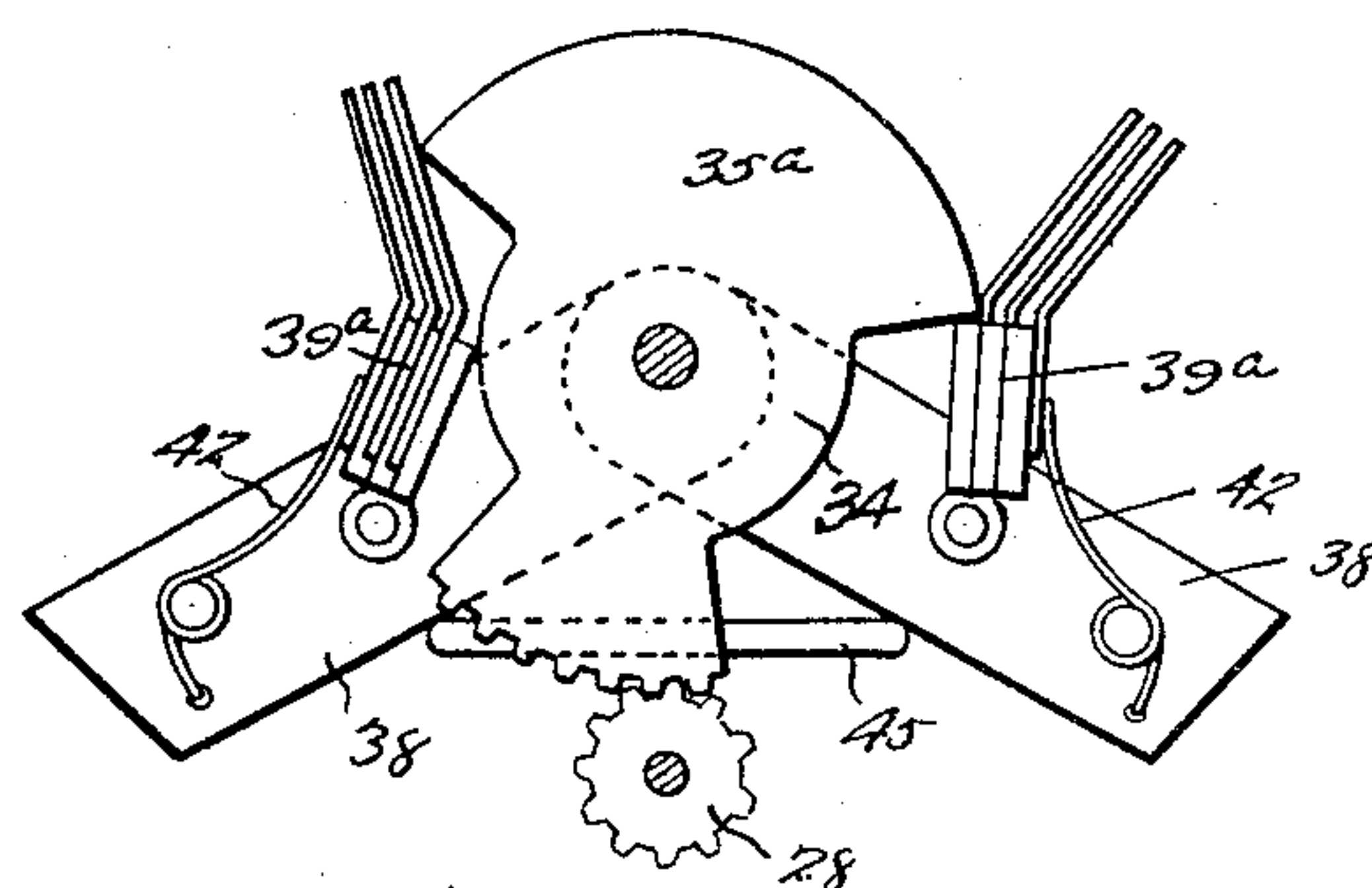
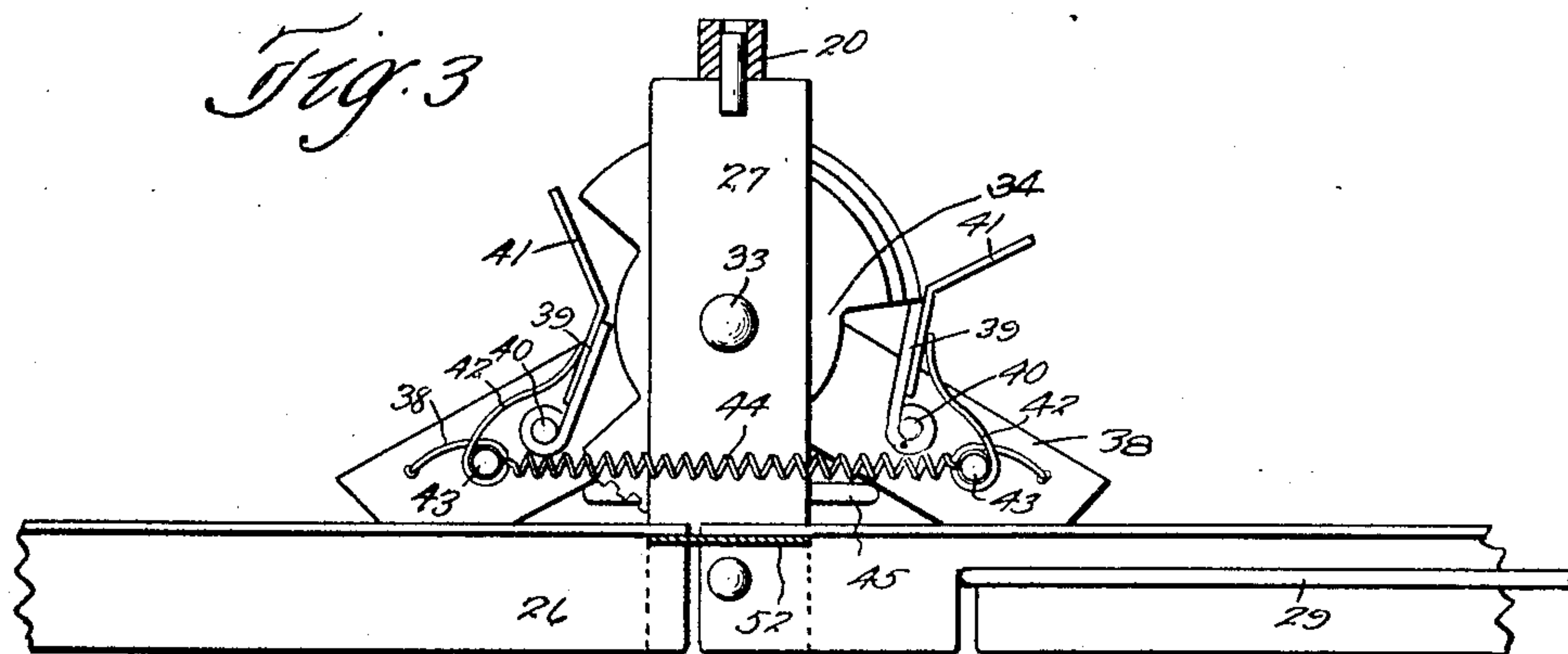
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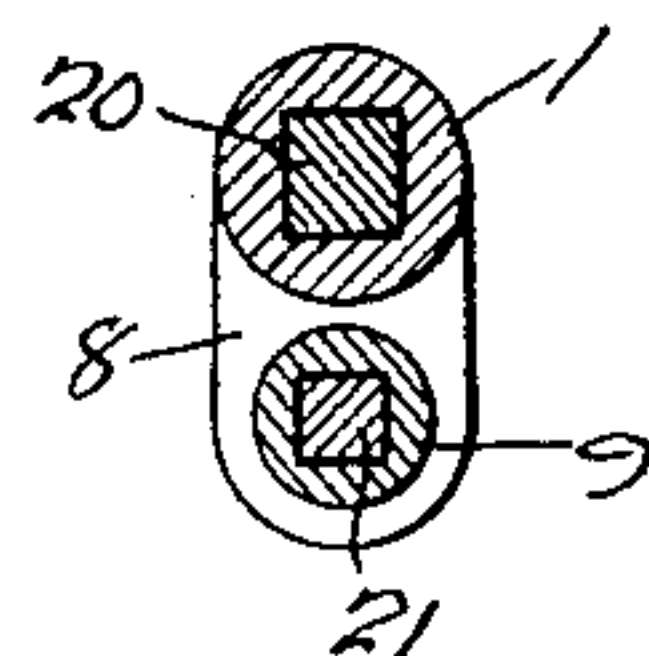
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*Fig. 6*



*Fig. 5*

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## UNITED STATES PATENT OFFICE.

SAMUEL TRACHTENBERG, OF CLEVELAND, OHIO.

MUSIC-LEAF TURNER.

Application filed November 7, 1921. Serial No. 513,355.

*To all whom it may concern:*

Be it known that I, SAMUEL TRACHTENBERG, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Music-Leaf Turners, of which the following is a specification.

This invention relates to music leaf turners, and has for its principal object to provide an improved device which can be operated by a pedal, the foot of the player furnishing the power necessary to turn the leaves in succession. The device is of that type in which the individual arms which turn the leaves are carried by a series of pinions which are turned by segmental racks, these racks being operated by suitable connections to the pedal referred to. One pedal may be used to turn the leaves one way, and another pedal to return the same.

The invention will be more fully understood from the following description and the accompanying drawings in which Fig. 1 is a front elevation of a music stand showing the device applied thereto. Fig. 2 is a side elevation. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a section on the line 4—4 of Fig. 2. Fig. 5 is a section on the line 5—5 of Fig. 2. Fig. 6 is a section similar to Fig. 4 of a modification.

Although shown applied to a music stand the device can by slight modification be applied to a piano or other musical instrument, or in fact any supporting structure for the parts to be described.

In the embodiment shown, 1 indicates a hollow stand having legs 2 pivotally mounted as at 3 to the lower end thereof, with pivoted braces 5 connected to a sliding collar 7 on the standard, this being the base construction of an ordinary folding music stand. Mounted in bearing supports 8 on the standard 1 is a hollow shaft 9 the upper end of which extends to position even with the top of the stand 1, and the lower end of which has crank arms 10 attached thereto. Rods 11 are slidably mounted in brackets 12 on two of the legs 2 and are held in normal position by springs 13. The lower end 14 of each rod 11 is connected by a link 15 to a pedal 16 which has the form of a bent lever, pivoted at 18 to the leg 2. To the upper end of each rod 11 is attached one end of a cord 19 the other end of which is attached

to one of the arms 10, the cords crossing each other as shown in Fig. 1. When either pedal is pressed down by the foot of the player the connections described will cause the shaft 9 to make a part turn one way or the other.

Telescopically mounted in the standard 1 is a square rod or extensible standard 20, and telescopically mounted in the shaft 9 is a squared extension shaft 21, said shaft 21 being supported by a bearing 22 on the support 20. A set screw 23 fastens the support in the position desired. The upper end of the standard 20 supports a music rack 25 which is of the usual folding construction, having an angle 26 at the lower edge upon which the music leaves rest. A rearwardly projecting arm or plate 27 is fastened to the under side of the angle 26, and supports the mechanism for turning the leaves, said mechanism being actuated by the pedals 16 as will appear.

The turning mechanism consists of a series of pinions 28 mounted on a shaft 28<sup>a</sup> carried by the plate 27, said gears having a corresponding series of swinging arms 29 fastened thereto and projecting outwardly therefrom, and bent upwards at 30 and then outwardly as at 31 to position above the angle 26, and each arm may carry a clip or device for attaching the same to the selected leaf. Meshing with each gear 28 is a segmental rack 32. Said racks being pivotally mounted on a shaft 33 depending from the plate 27. The segmental racks 32 are formed at one side of plates 34, said plates having at the opposite side, extensions 35 which are respectively stepped at opposite edges, as seen at 36 and 37. The top plate has the shortest step of one set and the longest step of the other set; the bottom plate has the longest step of the other set, and the middle plate has intermediate steps of both sets.

Pivotally mounted on the shaft 33 below the plates 34 are two angle members 38 which constitute pivoted pawl carriers. Each angle 38 carries on its upper side a pin 40 on which is pivotally mounted a pawl 39, each pawl having a shield 41 attached thereto which serves to prevent the pawl from engaging more than one of the steps at the same time, by contact with the outer edge of the step, as shown in Fig. 4. Springs 42 mounted around pins 43 carried by the angles 38 bear against the pawls and press



them to engagement with the steps 36 and 37 respectively. A coiled spring 44, connected between the pins 43 (see Fig. 3), tends to return the arms or angles 38 to their normal position. The respective arms 38 are actuated by means of a triangular plate or extension 45 carried at the upper end of the shaft 21. This extension plate wipes against the depending flanges of the angles 38; and when the shaft 21 is turned one way the extension 45 will wipe against one angle, and when turned the other way will wipe against the other angle, and this wiping action has the effect of swinging the angular arms 38 in proper direction to turn the plate 34 one way or the other.

The music book as a whole is held on the holder by a rod 50 the lower end of which is provided with a pin 51 extending rearwardly through the central bar 52 of the music holder; and this pin is pressed by a spring 53 so that the rod 50 is clamped against the book at the middle thereof to hold the same on the stand.

In the modified form shown in Fig. 6 the extensions 35<sup>a</sup>, instead of being stepped, are all the same size, and the pawls 39<sup>a</sup> are stepped or off-set in a series so that they will engage the extensions 35<sup>a</sup> in succession and so swing the same one at a time.

In operation, when one of the pedals is depressed it turns the shafts 9 and 21, and this swings the flared extension 45 and wipes the same against one of the angle arms 38, causing the same to swing backwardly, and the pawl 39 carried thereby will pick up the lowest or largest step 36 of the series and thereby turn the lowest plate 34 and the gear 32 carried by said plate by its engagement with the proper pinion 28 will turn said pinion and this will swing the corresponding arm 31 from one side to the other of the music holder, carrying with it the leaf attached thereto. And by repeating the operation of the pedal the pawl picks up the steps in succession and turns the successive leaves accordingly. To return the leaves, the other pedal is operated, and this turns the wiper 45 the other way, which operates the other angle arm 38 and its pawl, thereby returning the leaves in succession.

The invention is not limited to the particular form shown, but may be modified in

various ways within the scope of the following claims.

I claim:

1. In a music leaf turner the combination of a support, an upright shaft mounted thereon, pedals connected to the shaft to turn the same in either direction, two sets of oppositely swinging arms mounted on the support, and means actuated by successive turns of the shaft to swing the arms of either set successively in opposite directions, said means including pawls and a series of stepped turning parts geared to the arms respectively and adapted to be engaged in succession by the pawls respectively.

2. In a music leaf turner the combination of a swinging arm, a pawl carried thereby, a series of pivoted segment racks having stepped extensions engageable in succession by the pawl, pinions meshing with the racks respectively, and swinging leaf carrying arms carried by the pinions respectively, an upright shaft having a wiper engageable with the pawl carrying arm, and means to turn the shaft.

3. The combination with a music stand, of an upright shaft supported beside the standard of the stand, pedals connected to the lower end of the shaft to turn the same in either direction, and oppositely acting leaf turning mechanisms carried by the upper end of the stand and operatively connected to the shaft, said shaft having a wiper at the top, and each leaf turning mechanism including a pawl carrying lever engaged by said wiper.

4. In a music leaf turner the combination of a support, an upright shaft thereon, a pair of pedals connected to said shaft to turn the same in opposite directions, a wiper carried at the upper end of the shaft and a leaf turning mechanism having oppositely acting parts including a pair of levers disposed at opposite sides of the wiper respectively and engageable by opposite sides of said wiper to turn either lever and thereby turn a leaf in either direction.

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

SAMUEL TRACHTENBERG.

Witnesses:

JOHN A. BOMMARDT,  
H. A. THOMPSON.