

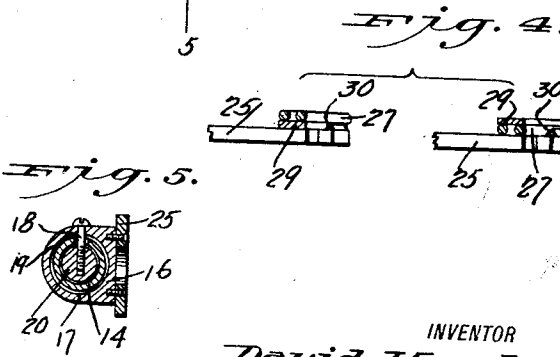
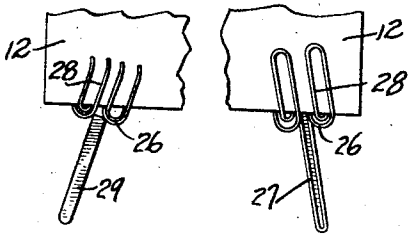
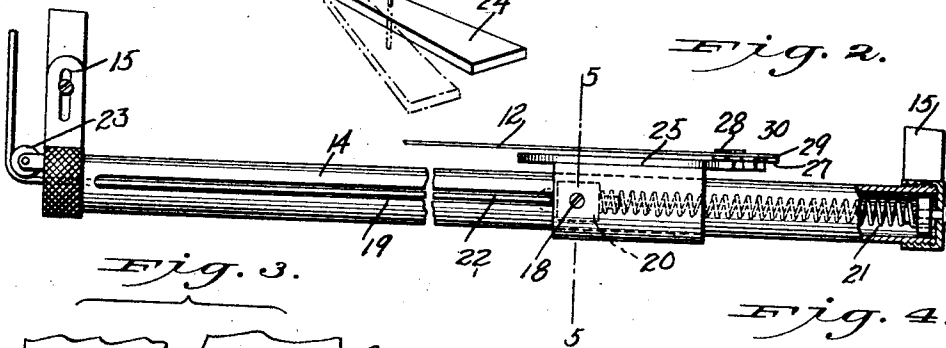
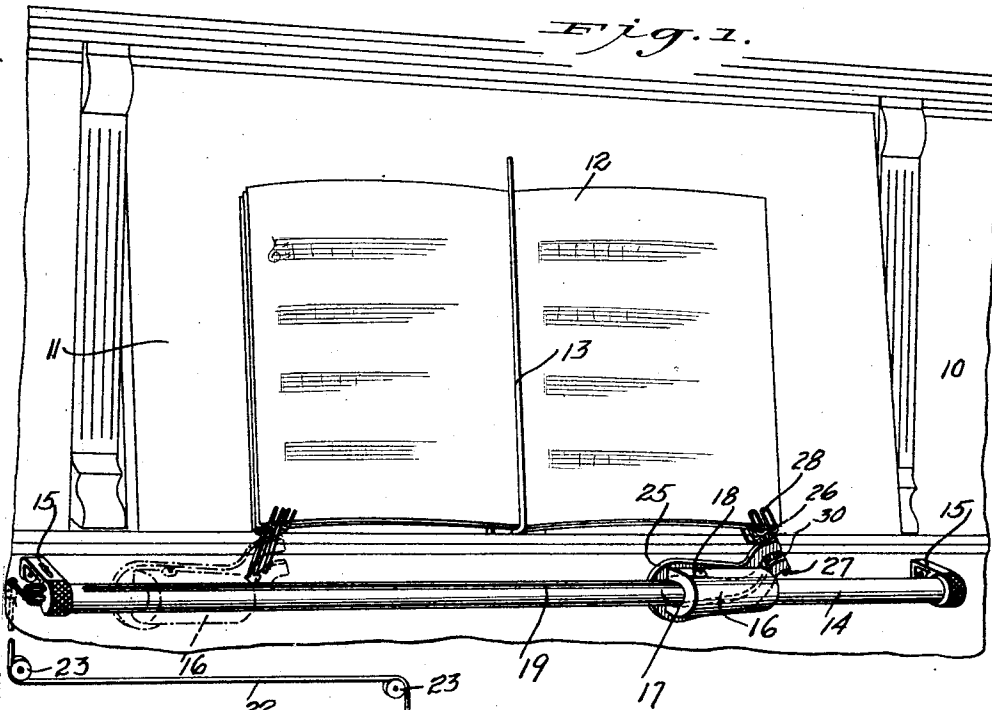
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LEAF TURNER

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UNITED STATES PATENT OFFICE.

DAVID HOECKE, OF GREENWICH, CONNECTICUT.

LEAF TURNER.

Application filed November 2, 1921. Serial No. 512,240.

To all whom it may concern:

Be it known that I, DAVID HOECKE, a citizen of the United States, and a resident of Greenwich, in the county of Fairfield and State of Connecticut, have invented a new and Improved Leaf Turner, of which the following is a full, clear, and exact description.

This invention has relation to mechanical leaf turners, the same being especially designed as a music leaf turner.

The invention contemplates and seeks as one of its principal objects to provide a mechanical means for successively turning leaves or sheets whereby musicians, public speakers, or the like, will be relieved of the necessity of turning the same by hand.

As a further object the invention contemplates a sheet turning mechanism which may be readily applied to a piano, music stand, pulpit, or the like, for effecting the mechanical turning of sheets or pages by an actuating means in the form of a pedal or push button which will effectively turn the sheets singly or successively at the will of the operator.

More specifically the invention contemplates a magnetic means for effecting the turning of the sheets together with a novel clip associated with the leaves which operates when the sheet is turned to destroy or break the magnetic force for effecting the release of the magnetic turning means.

With the above recited and other objects in view, the invention resides in the novel construction set forth in the following specification, particularly pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that the right is reserved to embodiments other than those actually illustrated herein to the full extent indicated by the general meaning of the terms in which the claims are expressed and by variations in the phraseology of the same.

In the drawings—

Figure 1 is a perspective view of the leaf turner applied to a piano.

Fig. 2 is a fragmentary enlarged plan view thereof, parts being broken away and shown in section.

Fig. 3 is a collective view illustrating in elevation the clip applied to the sheet and the position of the same after and before the turning thereof.

Fig. 4 is a collective view illustrating

horizontal sections through the clip and disclosing the manner in which the magnet operates in connection therewith.

Fig. 5 is a transverse sectional view taken approximately on the line 5—5 of Fig. 2.

Referring to the drawings by characters of reference, 10 designates a piano provided with the usual supporting panel 11 for sheet music designated at 12. The invention includes a spring arm 13 which is secured in any desired manner at its lower extremity to the supporting panel 11 to dispose the same at the center of the sheet music at their point of folding. The turning means for the leaves consists of a tubular member 14 supported at its opposite extremities in a horizontal position immediately below the panel 11 by adjustable brackets 15 secured to the piano or other support for the sheet music in any desired manner. A sliding block 16 having a longitudinal bore 17 is mounted on the tubular member 14 and is maintained against relative rotation with respect thereto by a pin 18 projecting through a longitudinal slot 19 in the tubular member. An inner block 20 is disposed within the bore of the tubular member 14 and is secured to the inner projecting end of the pin 18. A coiled contractile spring 21 is arranged within the tubular member and is secured respectively at its opposite ends to the inner block 20 and one extremity of the tubular member for normally effecting the movement of said sliding block toward said extremity thereof. A flexible cable 22 is secured to the opposite side of the inner block 20 and the same extends through the opposite extremity of the tubular member 14 where it is trained over pulleys or rollers 23 and connected at its opposite end to a pedal 24. A horseshoe magnet 25 is secured to the inner face of the block and the terminals thereof are directed upwardly at an angle. A metallic clip 26 is attached to the lower and outer corner of each page or leaf of the sheet music and each clip comprises a shank 27 and attaching head 28 adapted to grip the sheet for associating the clip therewith. The shank has secured to one side thereof an insulating strip 29. In applying the clips to the sheets the shanks are disposed to project at an angle therefrom coincident with the angle of the terminals of the magnet. One of the magnetic terminals, preferably the lower one is provided with a rearwardly

dispersed hook or bill 30, the purpose of which will be hereafter set forth.

In use and operation of the device when the sheet music is arranged in position and retained by the spring tongue 13 with the clips attached thereto, the device is ready for operation. In this instance the sheets are arranged at the right hand side and the insulated strip of the clip shank disposed inwardly. The sliding block under the action of the spring is drawn toward the right hand terminal of the tubular member 14, the pin 18 coacting with the end of the slot 19 to limit its movement in this direction, thereby disposing the terminals of the magnet 25 in approximate registry with the clip, the hooked terminal or bill 30 extending over the shank 27 of the clip of the uppermost leaf or page. The magnetic force of the magnet acts on the clip of the uppermost leaf and when the operator depresses the pedal 24 or otherwise exerts a pull on the flexible cable 22 the sliding block 16 is moved toward the left against the action of the spring 21 thereby moving the clip of the uppermost leaf and the leaf therewith. When the sliding block 16 has moved a sufficient distance to complete the turning of the leaf, the clip 26 will have completed a half turn to dispose the insulated strip of the shank outward whereby to break the magnetic force of the magnet and effect the release of the same from the clip. When the operator releases the pedal 24 the sliding block 16 under the action of the spring 21 will move toward the right hand end of the tubular member 14 until the pin 18 again engages the right hand end of the slot 19. The terminals of the magnet will then be disposed in registry with the clip of the uppermost right hand leaf to again coact therewith for effecting the turning of said leaf, the bill or terminals 30 assisting the magnetic action in the initial turning movement of the leaf. The brackets 15 are made adjustable to accommodate the device for use in connection with books as well as sheet music whereby the magnet will properly coact therewith. It will thus be seen than an extremely simple and inexpensive means has been provided for successively

effecting the turning of leaves mechanically by the utilization of a magnet and clip for coupling the sheet with the turning mechanism.

I claim:

1. In a leaf turning device, the combination with a leaf supporting means, of a member mounted for transverse sliding movement with respect to the leaves, manual means for effecting the sliding movement of the member in one direction, means for returning said member in the opposite direction to normal position, and interengageable magnetic means provided respectively on the transverse sliding member and the leaves for coupling the leaves for movement with the sliding member when manually actuated.

2. In a leaf turning device, the combination with a leaf supporting means, of a transverse supporting element disposed below said leaf supporting means, a member mounted thereon for sliding movement, means connected with said member for manually moving the same in one direction, means for normally returning said member to a normal position in the opposite direction, a magnet carried by said member, and an element attached to each leaf adapted upon contact of the magnet therewith to couple the leaves for movement with the sliding member when manually actuated.

3. A leaf turning device comprising in combination with a leaf supporting means, a hollow tubular element disposed transversely below the leaf supporting means and having a longitudinal slot therein, a slide block on said tubular member having a portion extending through said slot, an actuator, a flexible connection between said actuator and the portion of the slide block extending through the slot, a spring connected to said portion of the slide block and the opposite end of the tubular member for normally holding said block at one end, a magnet carried by said block, and an element carried by each leaf adapted upon contact of the magnet to couple the leaves with the block for movement therewith.

DAVID HOECKE.