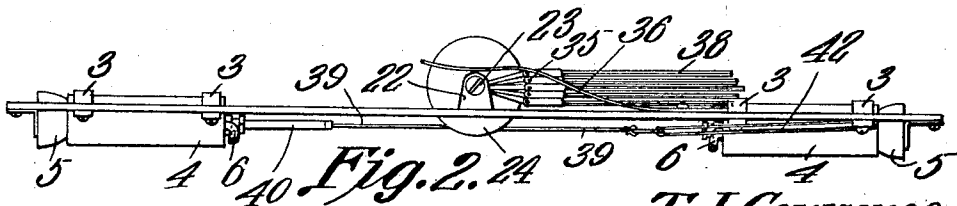


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Patented Oct. 17, 1911.



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MUSIC LEAF TURNER.
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1,006,437.

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2 SHEETS—SHEET 2.

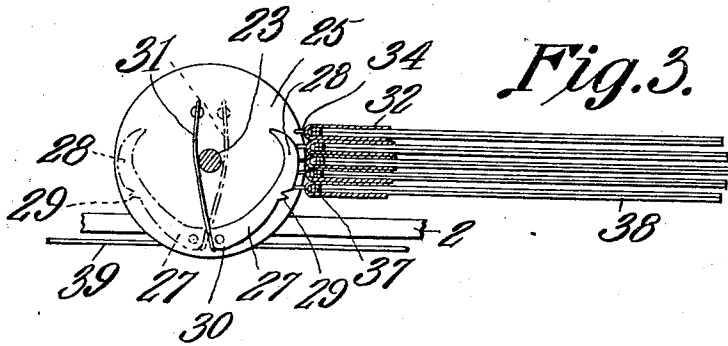


Fig. 3.

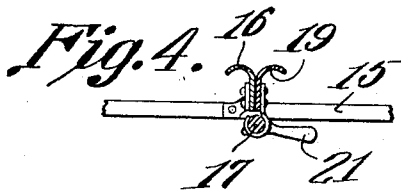


Fig. 4.

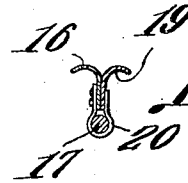


Fig. 5.

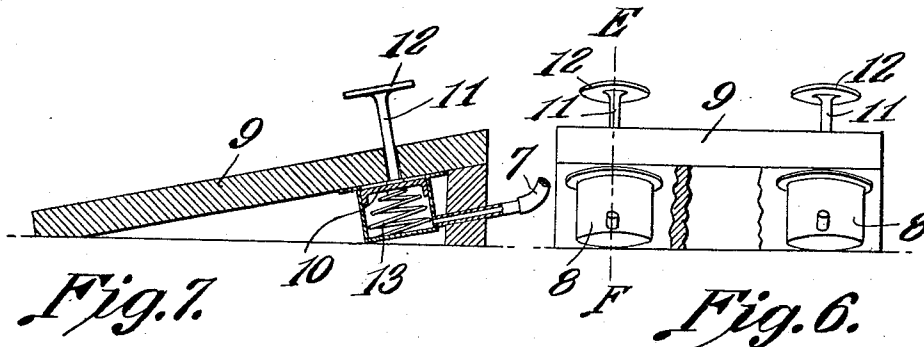


Fig. 7.

Fig. 6.

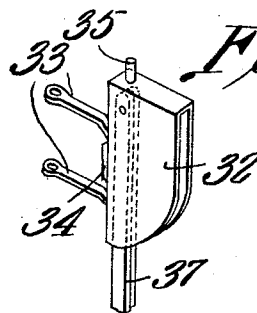


Fig. 8.

Witnesses

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MUSIC-LEAF TURNER.

1,006,437.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, TOMMY J. CONVERSE, a citizen of the United States, residing at Bellingham, in the county of Whatcom and State of Washington, have invented a new and useful Music-Leaf Turner, of which the following is a specification.

This invention relates to music leaf turners, one of its objects being the provision of simple means whereby air, under pressure, can be utilized for turning the sheets successively either to the right or to the left, the mechanism employed being simple durable and compact in construction and accurate in operation.

A further object is to provide a novel form of sheet or leaf engaging device which insures the proper turning of the sheet or leaf without danger of tearing or otherwise mutilating it and without obscuring any of the printed matter upon the sheet.

Another object is to provide a leaf engaging member which can be readily moved into or out of operative position.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings: Figure 1 is a rear elevation of the music leaf turner, the air forcing means being removed and one of the cylinders and the buffer adjacent thereto being shown partly in section. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is an enlarged section through the heads of the leaf engaging devices and showing one of the turning arms and its sheave. Fig. 4 is a section on line A—B Fig. 1, said figure being on an enlarged scale. Fig. 5 is a section on line C—D Fig. 1, said figure being on an enlarged scale. Fig. 6 is a rear elevation of the air forcing means used in connection with the mechanism shown in Fig. 1. Fig. 7 is a section on line E—F Fig. 6, the pedal and its stem being shown in elevation. Fig. 8 is a perspective view of one of

the heads and of portions of the hangers connected thereto.

Referring to the figures by characters of reference 1 designates a frame having a cross strip 2 adjacent the top thereof and which is connected to the top of the frame by connecting strips 3. Secured to these connecting strips and adjacent the sides of the frame are cylinders 4 the outer ends of which are open and have buffers or cushions 5 projecting thereinto, said buffers being attached to the sides of the frame. The inner ends of the cylinders are provided with inlet pipes 6 connected, as by means of flexible tubes 7, to cylinders 8 supported by an inclined foot board 9 which is shown in Figs. 6 and 7. Each of these cylinders 8 has a piston 10 from which extends a stem 11. A head 12 is arranged at the upper end of the stem and constitutes a pedal. Springs 13 are located within the cylinders 8 and serve to support the pistons 10. It will be apparent, therefore, that when one of the pedals 12 is depressed, air will be forced from the cylinder thereunder into one of the cylinders 4 and, when the other pedal is depressed, air will be forced from its cylinder to the other cylinder 4.

Longitudinally extending strips 14 are secured to the bottom of frame 1 and to the cross strip 2 and are connected, adjacent their ends, by cross strips 15. A clamping member 16 is arranged parallel with the strips 14 and is attached to the middle portions of the cross strips 15, this clamping member being fixed relative to the cross strips and being bowed transversely, as indicated particularly in Figs. 4 and 5. A rod 17 is mounted for rotation within brackets 18 secured to the cross strips 15 and has a clamping strip 19 fixedly attached to it and which is of the same transverse contour as the clamping member 16, the two strips 16 and 19 being held normally in contact by means of springs 20 which embrace the said strips as shown. The two clamping strips 16 and 19 are bowed in opposite directions so that the outer or free edge portions diverge, thus forming curved or rolled backings for the leaves or sheets when they are turned to the right or to the left by means of the mechanism hereinafter described. A handle 21 extends from rod 17 and by means thereof the rod can be

readily rotated so as to cause the movable clamping member 19 to swing away from the strip 16. Springs 20, as heretofore stated, operate to bind the two clamping members 16 and 19 together under normal conditions.

Ears 22 extend forward from the middle portions of the cross strip 2 and the top of frame 1 and have a pivot pin 23 mounted within them. Upper and lower sheaves 24 and 25 respectively are loosely mounted upon this pivot pin and are spaced apart by means of washers 26 or the like. The upper face of the lower sheave has an arcuate shifting arm 27 pivotally connected to it and having a terminal runner 28, there being an engaging tooth 29 back of the heel of the runner but, with said runner, projecting beyond the convex edge of the arm. The pivoted end of the arm is enlarged, as indicated at 30, and is constantly contacted by a spring 31 secured at one end to the sheave and serving to press the runner 28 outwardly toward the periphery of the sheave. The upper sheave 24 is similar in all respects to the sheave 25, the arm 27 thereon, however, being pivotally mounted upon the lower face of the sheave and being extended in a direction opposite to that in which the other arm 27 is extended. Longitudinally channeled heads 32 are connected to the pivot pin 23 by means of ears 33, these heads being designed to swing in arcs about the sheaves 24 and 25 and the ears 33 of the various heads being normally nested, as shown particularly in Fig. 1, so that the various heads may lie close together when extended either to the right or to the left of the pivot pin. Each head has a lip 34 extending therefrom and between its ears 33, said lip projecting between the sheaves 24 and 25 and being contacted by the runner 28 of the adjacent arm 27. All of the lips have their free ends disposed on a line concentric with the pin 23 and when the sheaves are set in motion, the runners 28 are adapted to travel along the free ends of the lips in the manner hereinafter set forth and as will be apparent by referring to Fig. 3. Lugs 35 extend upwardly from the heads 32 and a spring 36, which is attached to the cap of the frame 1, bears against the outermost lug so as to hold it, and its head 32, pressed back toward the frame, whether the heads are extended to the right or to the left of the pivot pin. This arrangement of parts has been illustrated in Fig. 2. Each head 32 has two separate hangers 37 pivotally mounted in the upper portion thereof and each hanger is provided at its lower end with a wing 38 of celluloid or other transparent material. It will be apparent that either of the hangers can be swung upwardly within the head so as to bring the wings above the upper edge of the sheet to

be engaged, and can subsequently be permitted to swing downwardly so as to contact with opposite faces of the sheet. By connecting the hangers to the upper portions of the heads 32, these hangers, when swung downwardly between the sides of the heads, will be drawn together so as to positively clamp upon the leaf or leaves therebetween. Each of the sheaves 24 and 25 has a cord, preferably of metal, wrapped therearound as indicated at 39, one end of the cord being attached to the rod 40 of a piston 41 located in one of the cylinders 4 while the other end of the cord is connected to a spring 42 which, if desired, can be in the form of a rubber band, this spring pulling upon the cord so as to hold it taut under all conditions.

In using the apparatus, the sheets to be turned are placed in proper succession between the wings 38 connected to the respective heads so that each sheet will be located between the two wings of one head. These wings are brought into position between the sheets by swinging them downwardly in the manner hereinbefore described. After the various sheets have been properly placed, the wings and heads are all turned to the left of the apparatus where they are held by the spring 36 pressing against the outermost lug 35. Under normal conditions the sheaves 24 and 25 are so positioned that the arms 27 are arranged with their pivots directly back of the pin 23. It is of course to be understood that the leaves to be turned are held at their inner or back edges in the clamp made up of the strips 16 and 19. To turn the first sheet to the right, the proper pedal 12 is depressed and air is forced by its piston 10 through the pipe connection to one of the cylinders 4 and thus actuates the piston 41 so as to cause it to pull on cord 39 and rotate the sheave to which the cord is connected. Runner 28 on the arm 27 carried by this sheave slides along the lips 34 and, as it leaves the outermost lip or, in other words, the lip of the front head 32, spring 31 will swing the runner outwardly and thus bring the tooth 29 into engagement with said outermost lip. Obviously, therefore, further rotation of the sheave will result in the movement of said outermost head therewith and, consequently, the turning of the sheet connected to it. The piston 41 comes into contact with the buffer 5 as soon as the sheave has made a one half revolution. When the pedal 12 is released, spring 13 returns to its normal position and air is thus withdrawn from the cylinder 4 and the piston permitted to return to its normal position under the action of the spring 42. The sheave 25 will therefore be rotated in the opposite direction and the tooth 29 will withdraw from engagement with the lip and the shifted head 32 will be

retained by the end portion of the spring 36. Arm 27 will thus be brought back to its initial position and when the said pedal is again depressed, the foregoing operation 5 will be repeated. To swing the leaf back to the left of the apparatus, the other pedal 12 is depressed thus setting in motion the other sheave and the arm carried thereby, said arm coöperating with the outermost 10 head at the right of the apparatus to move it back to its initial position at the left.

What is claimed is:—

1. A music leaf turner including channeled heads mounted for rotation about a 15 common axis, hangers pivotally mounted within the upper portions of the heads, said hangers being disposed in pairs, the walls of the channels constituting means for binding the hangers together when suspended 20 from the heads, and means under the control of the operator for successively moving the heads about said axis.

2. A music leaf turner including longitudinally channeled heads mounted for rotation 25 about a common axis, a pair of hangers pivotally mounted within the upper portion of each head, said hangers being normally held together by the walls of the channels in the heads, means under the control 30 of the operator and movable in one direction about said axis to engage and shift one of the heads, and elastic means placed under

stress during such movement and constituting means for returning said head moving means to its initial position. 35

3. A music leaf turner including channeled heads mounted for rotation about a common axis, a pair of hangers pivotally mounted within each head, the hangers of each pair being normally clamped together 40 by the walls of the channel in which the hangers are mounted, leaf engaging wings extending laterally from the hangers, said wings being transparent, upstanding projections upon the heads, yielding means for 45 engaging the projections to hold the heads in either of two positions, means mounted for rotation about said axis for engaging and shifting the heads one at a time during successive movements of said means in one 50 direction, mechanism under the control of the operator for shifting said means in said direction, and an elastic element for automatically returning said means to its initial position subsequent to each of said move- 55 ments.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

TOM J. CONVERSE.

Witnesses:

C. F. NOLTE,
W. McVICCAR.