

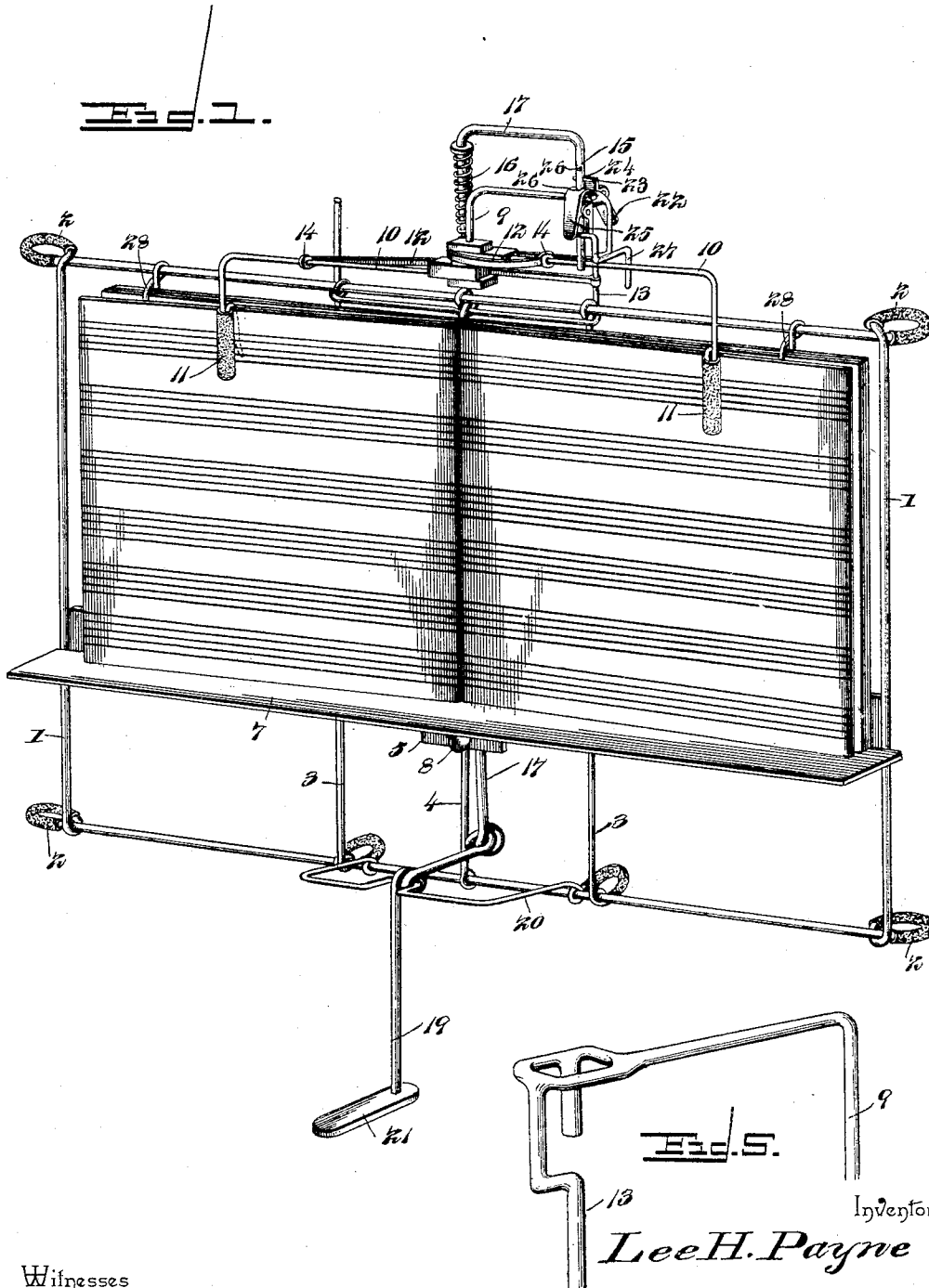
(No Model.)

2 Sheets—Sheet 1.

L. H. PAYNE.  
MUSIC LEAF TURNER.

No. 581,081.

Patented Apr. 20, 1897.



Witnesses

*E. H. Stewart*  
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By *W. H. S.* Attorneys,

*Chas. H. Payne*

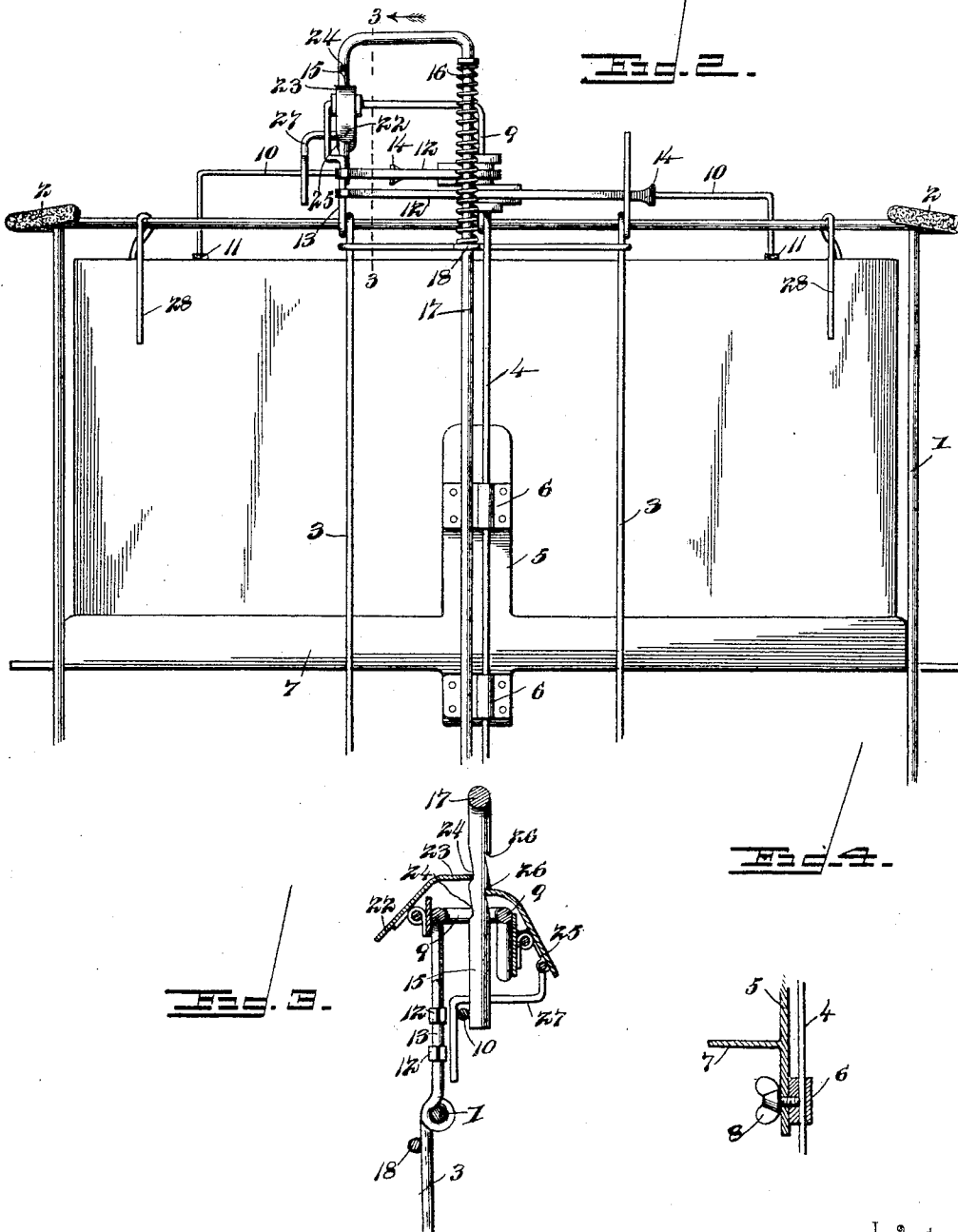
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Inventor

Lee H. Payne

Witnesses

*E. H. Stewart*  
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*C. H. [Signature]*

# UNITED STATES PATENT OFFICE.

LEE H. PAYNE, OF HURDLAND, MISSOURI.

## MUSIC-LEAF TURNER.

SPECIFICATION forming part of Letters Patent No. 581,081, dated April 20, 1897.

Application filed April 10, 1896. Serial No. 586,988. (No model.)

*To all whom it may concern:*

Be it known that I, LEE H. PAYNE, a citizen of the United States, residing at Hurdland, in the county of Knox and State of Missouri, have invented a new and useful Music-Leaf Turner, of which the following is a specification.

My invention relates to music-leaf turners, and has for its object to provide a construction and arrangement of parts whereby a plurality of leaves of either book or sheet music may be turned successively without requiring the movement of the performer's hand from the keyboard of an instrument, the successive operations of the device being accomplished by the successive depressions of a single key which is adapted to be located contiguous to the keyboard of the instrument.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a music-leaf turner constructed in accordance with my invention with the turning-arms engaged with the leaves of a book. Fig. 2 is a rear view, partly broken away, of the same. Fig. 3 is a vertical transverse section on the line 3 3 of Fig. 2 to show the means for limiting the movement of the holding-pin. Fig. 4 is a detail vertical section of a portion of the rack to show the means for securing the rest at its different adjustments. Fig. 5 is a detail view in perspective of that portion of the frame or rack by which the releasing device for the turning-arms is supported.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The frame or rack of the leaf-turner consists of a boundary-wire 1 or its equivalent, provided at its angles with rearwardly-extending loops or projections 2, which are preferably covered or padded to prevent marring the finish of the instrument to which the device is applied, and the upper and lower sides of the frame or rack are connected by the vertical brace rods or wires 3 and by a central guide-rod 4. Mounted upon this guide-rod is a slide 5, having keepers 6, (shown in Fig.

2,) and the slide carries a book-rest 7, which may be secured at any desired elevation to suit the size of the book or sheet by means of a set-screw 8, which is threaded in an enlargement contiguous to the lower end of the slide and impinges at its rear end against the guide-rod.

Fulcrumed upon a central spindle 9 are the turning-arms 10, any desired number of which may be employed, said turning-arms being provided at their outer extremities with leaf-clasps 11, preferably clothed or padded to prevent marring the leaves. These turning-arms are provided with actuating plate-springs 12, which are secured at one end to an upright 13, and are provided at their free ends with guide-eyes 14, which slide upon the turning-arms, the intermediate portions of said springs extending around the hubs of the turning-arms and bearing against the rear sides thereof.

The means which I employ for securing the turning-arms in their operative positions include a reciprocatory holding-pin 15, which operates in a plane parallel with the common spindle of the turning-arms, and hence is adapted to engage one or more of the turning-arms, according to its position. In other words, when the turning-arms are in their operative positions in engagement with the holding-pin they are arranged in a common vertical plane, with the first arm to be released arranged contiguous to the extremity of the holding-pin, whereby upon retracting said holding-pin the first arm will be released without affecting the others. In this way the arms may be successively released by a longitudinal movement or retraction of the holding-pin in one direction. This holding-pin is extended to occupy a position in engagement with the turning-arms by means of an actuating-spring 16, which is preferably coiled around an operating or connecting rod 17, attached to or formed integral with its upper end, said operating or connecting rod extending through a guide-eye 18 contiguous to the rear side of the rack and being pivotally connected at its lower extremity to a key-lever 19. This key-lever is mounted upon a forwardly-extending bracket 20 contiguous to the lower side of the rack and is fitted at its front extremity with a key 21, which is

adapted to be located contiguous to the key-board of the instrument to which the apparatus is applied.

It will be seen that the depression of the key will cause the upward movement of the operating or connecting rod against the tension of the actuating-spring, and hence the retraction of the holding-pin to release a turning-arm.

In order to prevent a greater retraction of the holding-pin at one operation than is sufficient to release one turning-arm, I employ a brake 22, having a shoe 23, which is arranged in frictional contact, preferably, with the rear side of the holding-pin, and is adapted to engage one of a series of beveled notches 24, formed therein, said notches being sufficient to slightly obstruct the movement of the holding-pin when engaged by the shoe of the brake without completely locking said holding-pin against movement. Thus when the key-lever is depressed the holding-pin yields freely until one of its notches is engaged by the brake, when the additional resistance checks further movement in time to prevent the release of a second turning-arm. The subsequent depression of the key-lever is not obstructed, however, sufficiently to involve difficulty in releasing the succeeding turning-arm.

In connection with the above-described brake mechanism I also employ a clutch 25, consisting of a spring-actuated pawl which is adapted to bear frictionally against the front side of the holding-pin to engage one of a series of shouldered notches 26, formed therein, the notches for engagement by the pawl being beveled in the opposite direction to those which are provided for engagement by the brake-shoe, and hence serving to obstruct the downward or forward movement of the holding-pin. Hence when the device is operated sufficiently to release a turning-arm the holding-pin is locked and held from returning to its fully-extended position by means of the clutch, and therefore the successive operations of the key-lever are approximately of uniform extent, said lever being held after each movement in the position it occupied at the moment of releasing the turning-arm.

In order to release and allow a partial extension of the holding-pin as the turning-arms are successively brought into operative position after engagement with the leaves of the book or sheet, I employ a trip-arm 27, which depends in the path of said turning-arms contiguous to the holding-pin, and is adapted to be repressed by said arms, said trip-arm being attached to the pawl of the clutch. Hence when a turning-arm is swung to the operative position at the right of the rack and is pressed against the trip-arm the pawl is disengaged from the notch in the holding-pin, and the holding-pin is advanced by means of its actuating-spring to engage said turning-arm, but it is held from further

extension by the engagement of the pawl with the succeeding notch of the holding-pin. Thus the arms are successively engaged by a step-by-step movement of the holding-pin as they are turned to their positions at the right of the rack.

It will be understood that the notches which are formed in the holding-pin for engagement, respectively, by the brake-shoe and clutch are spaced apart a distance corresponding with the interval between the horizontal planes of contiguous turning-arms, inasmuch as said distance between the horizontal planes of the turning-arms regulates the extent of advance or return movement of the holding-pin necessary to engage or release a turning-arm.

Attached to the upper side of the rack are stationary clasps 28, adapted to engage the back of the book or sheet, or that portion of the composition which does not include the leaves to be turned.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a music-leaf turner, the combination of an open frame or rack constructed of a continuous rod looped at its corners to form rearwardly-extending projections and having the loops clothed or padded to prevent marring the instrument to which the device is applied and against which the loops bear, a book-supporting rest mounted for adjustment upon the frame or rack, turning-arms provided with means for engaging leaves, and means for actuating the turning-arms, substantially as specified.

2. In a music-leaf turner, the combination with a frame or rack, of coaxial spring-actuated turning-arms, a reciprocatory holding-pin mounted for movement parallel with the axis of the turning-arms and provided with an actuating-spring whereby it is extended to engage said arms, said pin being provided at one side with a series of beveled notches and at the opposite side with a series of correspondingly-spaced shouldered notches, means for retracting the holding-pin to successively release the arms, a clutch engaging the shouldered notches to secure the pin against subsequent advancement after each retraction, and a spring-actuated brake having its shoe arranged in frictional contact with the pin to successively engage said beveled notches and thereby retard the retraction of the holding-pin at intervals to prevent excessive movement thereof, substantially as specified.

3. In a music-leaf turner, the combination with a frame or rack, of coaxial spring-actuated turning-arms, a reciprocatory holding-pin adapted to intersect the paths of the turning-arms and provided with an actuating-

spring whereby it is extended to intersect  
said paths, means for retracting the holding-  
pin against the tension of its actuating-spring,  
a clutch adapted to lock the holding-pin suc-  
cessively at different points of its retraction  
5 whereby a step-by-step movement may be  
imparted thereto, and a trip-arm arranged in  
the paths of the turning-arms and adapted  
to be engaged successively thereby to release  
10 the holding-pin and allow a step-by-step ex-

tension thereof as the turning-arms are suc-  
cessively brought into operative relation with  
the holding-pin, substantially as specified.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in 15  
the presence of two witnesses.

LEE H. PAYNE.

Witnesses:

J. LAWRENCE CANNON,  
L. J. CANNON.