No. 891,106. PATENTED JUNE 16, 1908.

J. P. SESSEMAN.

MUSIC LEAF TURNER.

APPLICATION FILED DEC. 6, 1907.

2 SHEETS—SHEET 1.

FIG. 6

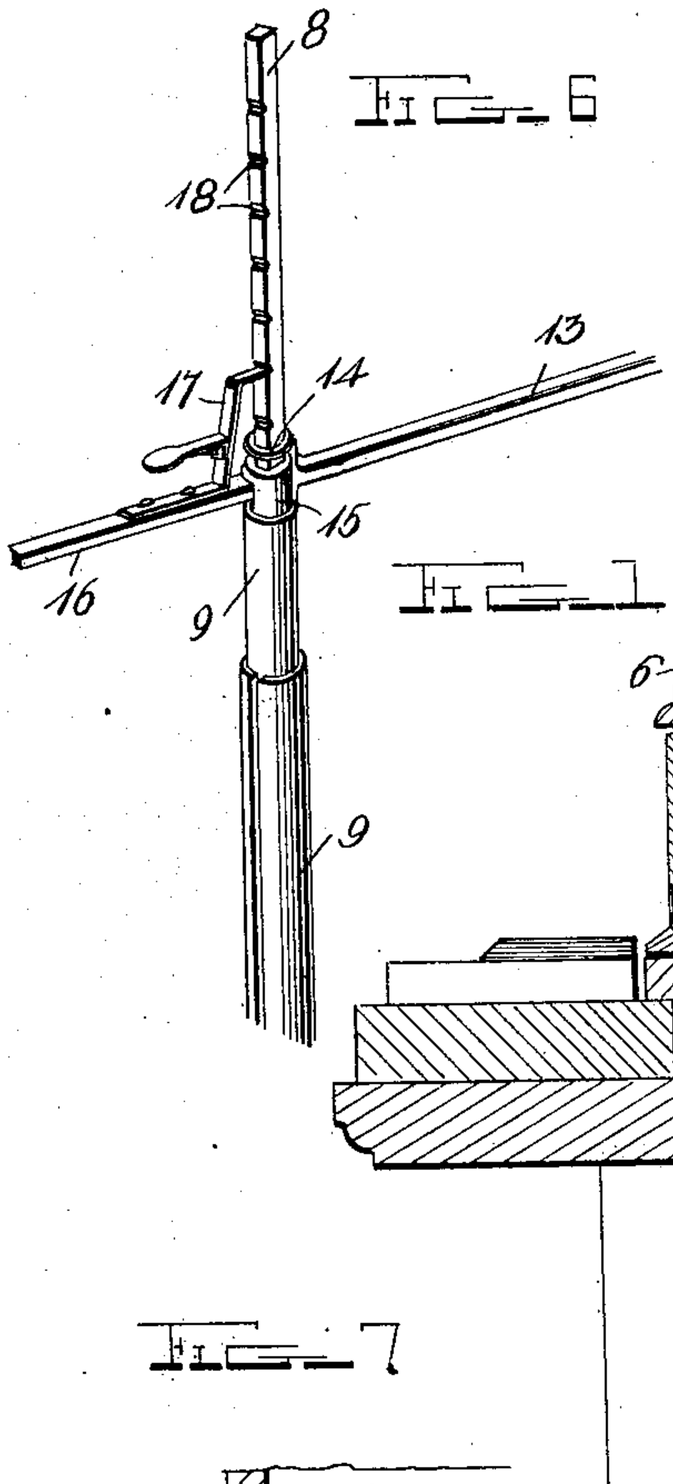


FIG. 1

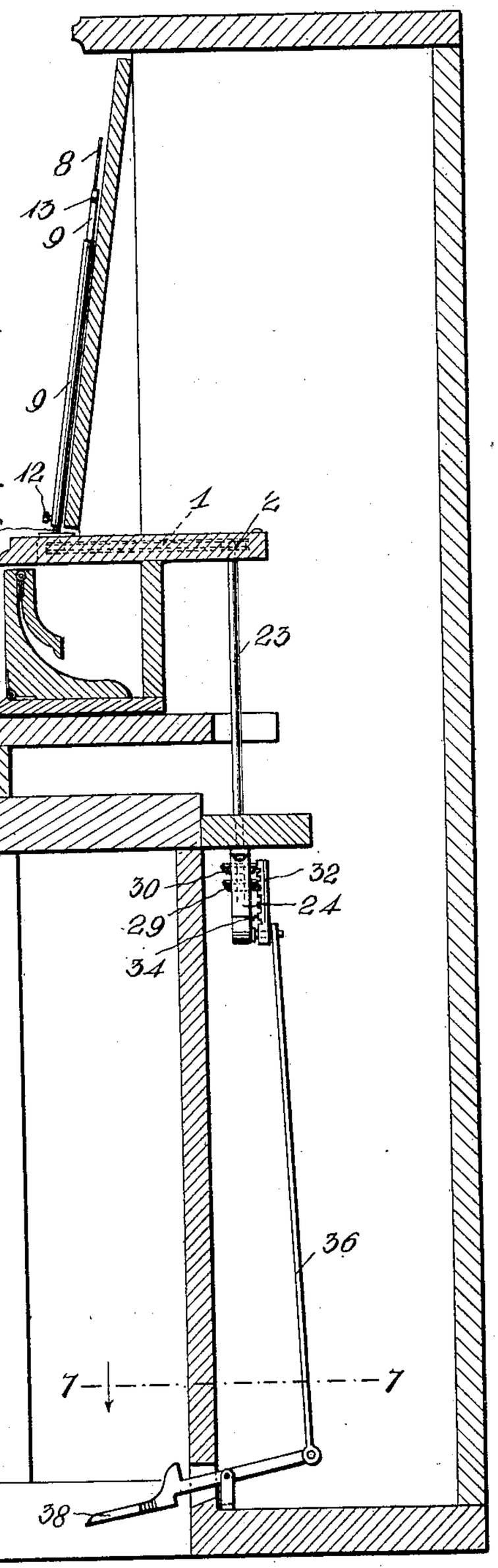
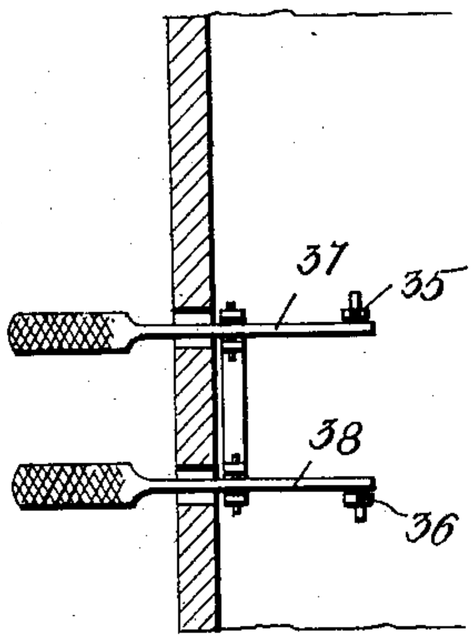


FIG. 7



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2

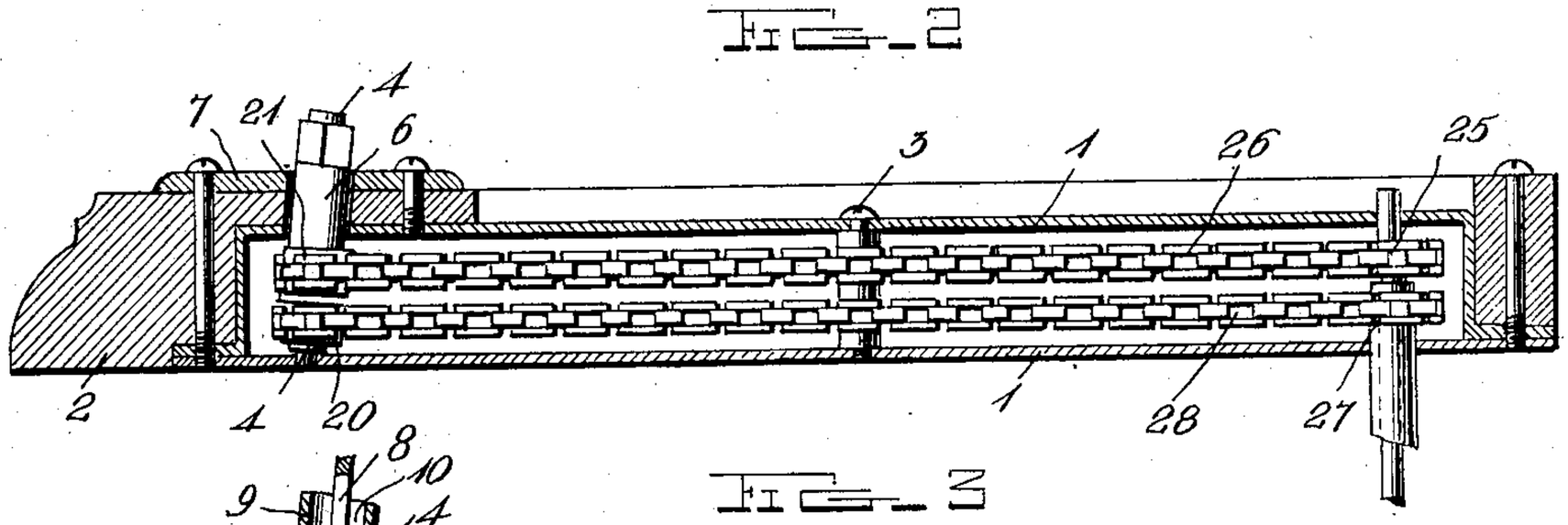

Fig. 3

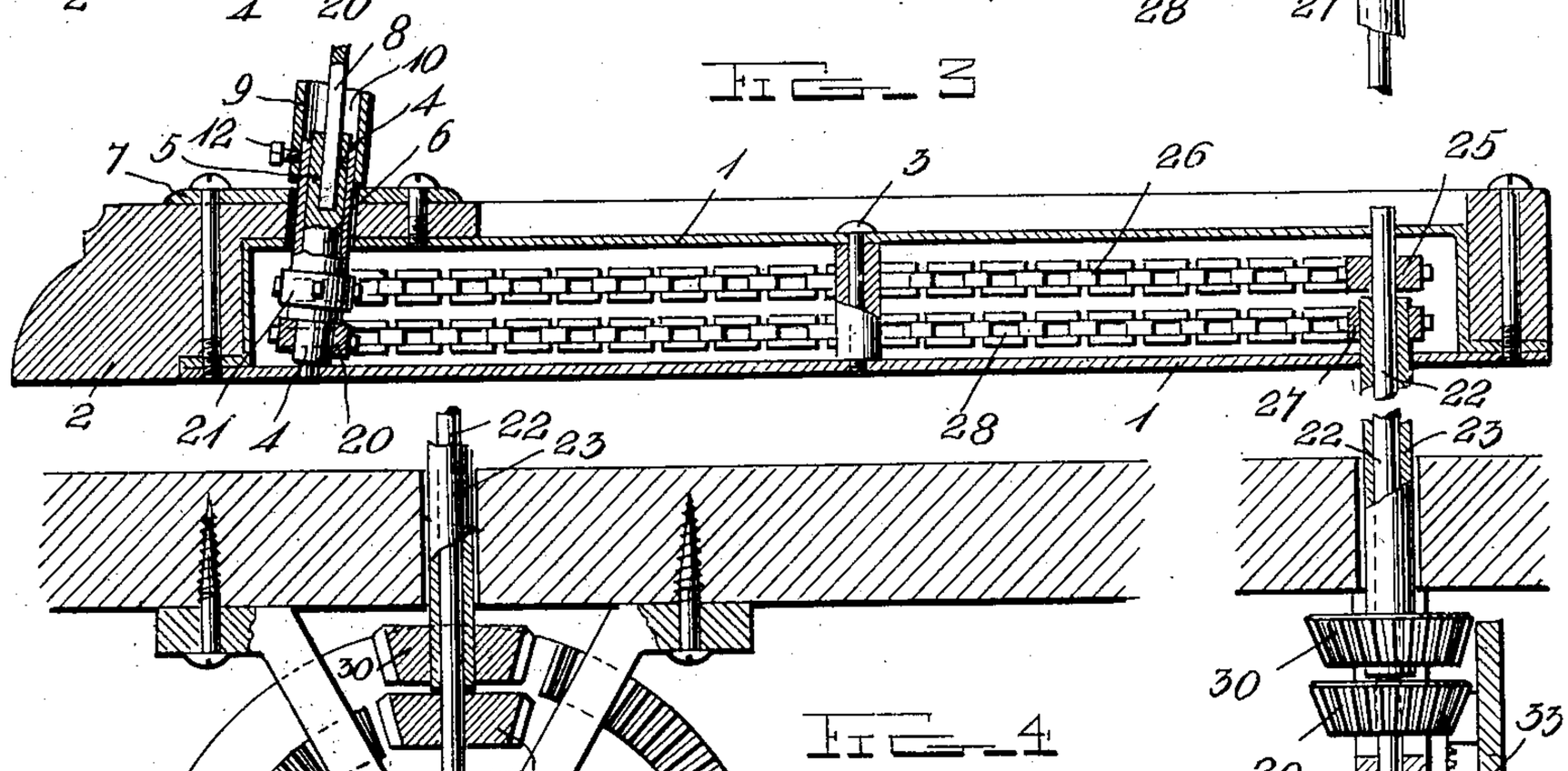

Fig. 4

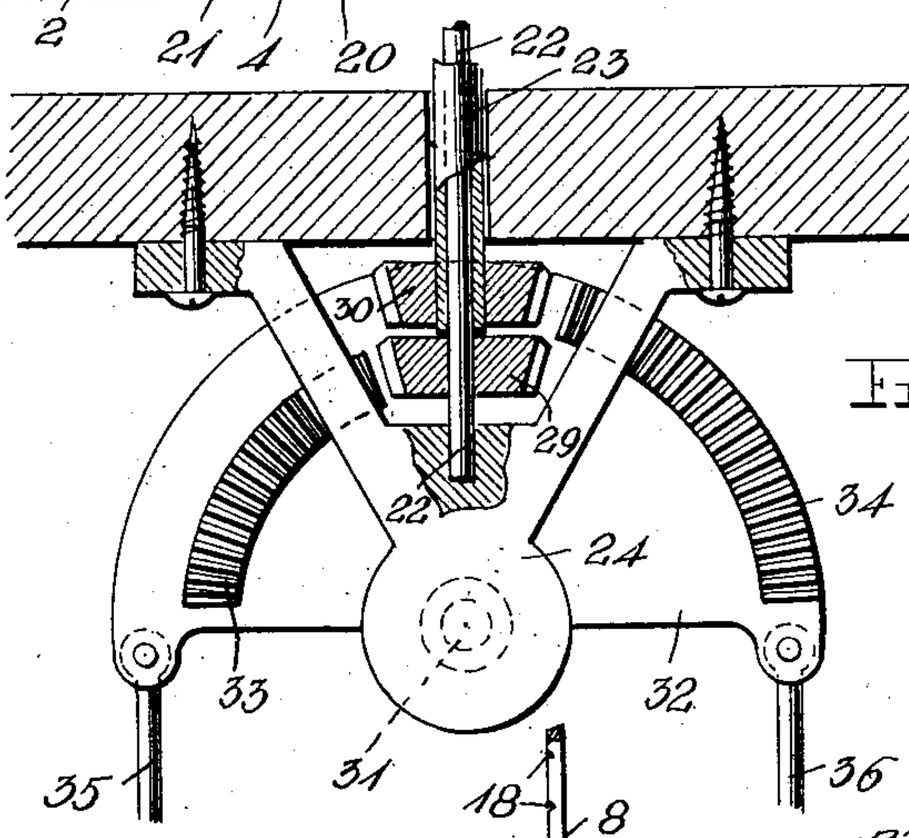

Fig. 2a

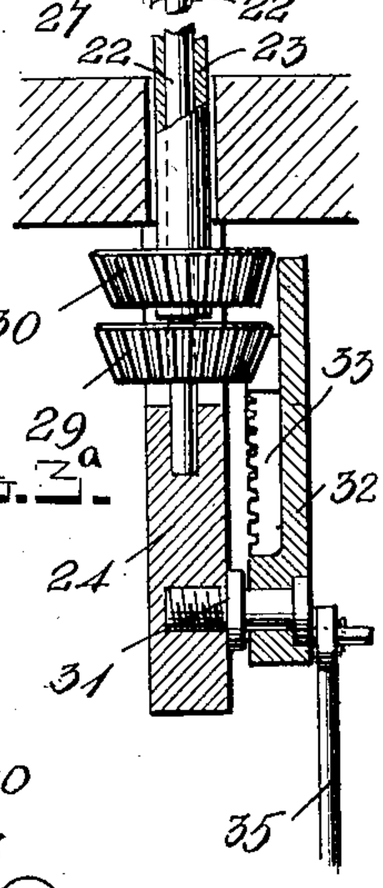

Fig. 6

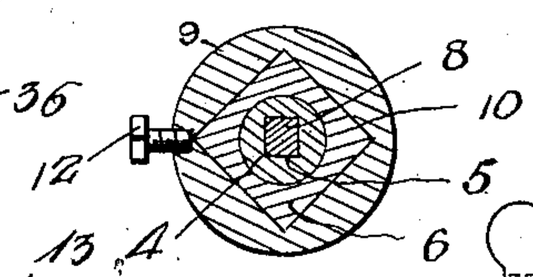

Fig. 5

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UNITED STATES PATENT OFFICE.

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MUSIC-LEAF TURNER.

No. 891,106. Specification of Letters Patent. Patented June 16, 1908.

Application filed December 5, 1907. Serial No. 405,256.

To all whom it may concern:

Be it known that I, JOSHUA P. SESSEMAN, a citizen of the United States, residing at Forest Grove, in the county of Washington and State of Oregon, have invented certain new and useful Improvements in Music-Leaf Turners; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in music leaf turners.

The object of the invention is to provide a music leaf turner adapted to be attached to a piano and to be operated by means of pedals engaged by the feet of the player, thereby leaving the hands entirely free for playing.

With this object in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be fully described hereinafter and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical sectional view through a piano showing the application of the invention thereto; Fig. 2 is a detail sectional view through the music supporting shelf showing the arrangement of a portion of the operating mechanism; Fig. 3 is a similar view through the same parts and through the operating mechanism arranged therein; Fig. 3^a is a sectional view through the means for actuating the main operating shafts; Fig. 4 is a front view, partly in section of the parts shown in Fig. 3^a; Fig. 5 is a sectional view of the upper ends of the leaf turning shafts showing the manner in which the leaf turning arms are connected thereto; Fig. 6 is a perspective view of the parts shown in Fig. 5; Fig. 7 is a detail sectional view on the line 7—7 of Fig. 1, showing a plan view of the operating pedals. Fig. 8 is a detail sectional view through the lower ends of the arm operating shafts 8 and 9, and the upper ends of the stub shaft 4 and short tubular shaft 6.

In the embodiment of the invention I provide a flat rectangular casing, 1, which is arranged in the center of the piano and extends rearwardly into the same and is seated in a recess formed therefor in the usual music supporting strip 2 of the piano. The outer end of the casing 1 is disposed below and immediately in front of the fall board. The casing comprises upper and lower longitudinally disposed metal plates, the outer ends of the upper plate being bent down to form the ends of the casing or frame 1. The upper and lower plates of the casing are spaced apart and suitably connected midway between their ends by a bolt, 3, around which is arranged a spacing sleeve.

In the upper and lower plates of the casing 1, adjacent to their outer ends are formed bearing apertures in which is revolubly mounted a short stub shaft, 4, in the upper end of which is formed a squared socket, 5. Around the shaft 4 and loosely mounted thereon and in the bearing apertures of the casing 1 is a short tubular shaft or sleeve, 6, the upper end of which is squared and projects above the upper plate of the casing 1. The upper end of the tubular shaft 6 and the upper end of the stub shaft 4, in which is formed the socket, 5, are further braced by means of an apertured bearing plate, 7, which is secured to the upper side of the music leaf supporting strip, 2.

Adapted to be engaged with the socket 5 in the upper end of the shaft 4 is an upwardly projecting arm-supporting shaft, 8, which is preferably rectangular in cross section and is adapted to project upwardly in front of and parallel to the desk of the piano. Around the shaft 8 is arranged a tubular shaft or sleeve, 9, in the lower end of which is formed a squared socket, 10, which is adapted to be engaged with the squared upper end of the short tubular shaft 6 in the casing 1 and to be detachably held in engagement therewith by a set screw, 12. The tubular shaft, 9, is preferably formed in two sections, the upper section of which is adapted to telescopically engage the lower section, thereby providing means whereby said tubular shaft may be lengthened or shortened when desired. On the upper end of the inner section of the tubular shaft 9 is secured a right-angularly projecting leaf supporting arm, 13, on the inner end of which is formed a right-angularly projecting apertured ear, 14, which extends over the upper end of the shaft 8. On the shaft 8 between the ear 14 and the upper end of the tubular shaft, 9, is mounted a short sleeve 15, the bore of which is squared to fit the squared shaft 8, with which the sleeve 15 is slidably engaged. On the sleeve 15 is rigidly secured a second right-angularly projecting leaf supporting arm, 16, which is adapted to

be turned in one direction or the other by means of the shaft 8 which engages the sleeve, 15, as hereinbefore described. On the upper side of the arm 16, adjacent to its inner end is mounted a spring pawl or dog 17 which is adapted to engage one of a series of notches, 18, formed in the adjacent side or edge of the shaft, 8, thus providing means whereby the arms, 13 and 16, are held at the desired elevations for supporting the leaves or sheets of music. The arms 13 and 16 are provided adjacent to their outer ends with suitable clips, 19, which are adapted to be engaged with the upper edges of the sheets or leaves of music.

On the lower end of the stub shaft 4, within the casing 1, is fixedly mounted a sprocket gear pinion, 20, while on the lower end of the short tubular shaft, 6, is fixedly mounted a sprocket pinion, 21. In the inner end of the casing, 1, are pivotally mounted the upper ends of two main operating shafts, 22 and 23, the shaft 23 being of tubular form and adapted to receive the shaft, 22, which works loosely therein. The lower end of the shaft, 22, is loosely mounted in a bracket, 24, secured to a portion of the framework of the piano. On the upper end of the shaft, 22, in the casing, 1, is fixedly mounted a sprocket gear pinion, 25, which is connected by a sprocket chain, 26, with the sprocket gear 21, on the lower end of the tubular stub shaft, 6, at the opposite end of the casing, 1. On the upper end of the tubular shaft, 23, within the casing, 1, is fixedly mounted a sprocket gear pinion, 27, which is connected by a sprocket chain, 28, with the sprocket gear pinion, 20, on the lower end of the stub shaft, 4, at the opposite end of the casing.

On the shaft, 22, adjacent to its lower end is fixedly mounted a bevel gear pinion, 29, while on the lower end of the tubular shaft, 23, is fixedly mounted a bevel gear pinion, 30. Pivotally mounted on the stub shaft, 31, in the lower portion of the bracket, 24, is a segmental plate, 32, on which is formed an inner segmental rack, 33, and an outer segmental rack, 34. The segmental plate, 32, is adapted to be oscillated on the shaft, 31, to bring first one and then the other of the racks, 33 and 34 into engagement with the bevel gear pinions, 29 and 30, on the lower end of the shafts 22 and 23, whereby first one and then the other of said shafts is rotated. When the rack 33 is brought into engagement with the gear 29 to rotate the shaft, 22, the motion of said shaft will be imparted through the gear 25, sprocket chain, 26, and gear, 21, to the tubular stub shaft, 6, thereby turning said shaft and the tubular shaft, 9, on the upper end of which is mounted the leaf supporting arm, 13, thereby swinging said arm, 13, in one direction or the other and turning the leaf to which the arm is connected. When the rack 34 is brought into engagement with the gear, 30, the latter, together with the tubular shaft, 23, will be turned thereby and the movement of said shaft 23 will be imparted through the gear, 27, sprocket chain 28 and gear 20 to the stub shaft, 4, thereby turning the same and the shaft, 8, which is connected thereto, as clearly shown in Fig. 3 of the drawings. The shaft 8, having mounted thereon, near its upper end, the leaf supporting arm, 16, the latter will turn by the movement of said shaft in one direction or the other, thus turning the leaf to which the arm is connected.

The segmental plate, 32, has connected to its opposite lower corners operating rods, 35 and 36, the lower ends of which are pivotally connected to the inner ends of operating pedals, 37 and 38, which are suitably mounted in the lower portion of the piano frame and project therefrom in position to be engaged by the feet of the player.

In the operation of the device, when it is desired to turn the leaves of the music to the right, the pedal, 37, is depressed or forced half-way down, which movement will project the operating rod, 35, upwardly, thereby turning the segmental plate, 32, to engage the rack, 34, with the gear, 30, which will turn the shaft, 23, to cause the sprocket wheel, 27, on the upper end thereof to operate the chain, 28, and the sprocket wheel, 20, on the lower end of the shaft, 4, thereby imparting movement to the shaft, 8, and the music leaf supporting arm, connected thereto, as hereinbefore described. A further downward movement of the pedal, 37, will cause the rack, 33, to be engaged with the pinion, 29, which will operate the same and the shaft, 22, the motion of which will be imparted to the tubular shaft, 9, through the sprocket gears, 25 and 21, and the chain, 26, thereby turning said shaft, 9, and the leaf supporting arm, 13, connected to the upper end thereof, which will turn the leaf connected thereto, as hereinbefore described. When it is desired to turn the leaves back to the original position, the opposite pedal, 38, is depressed in the same manner as described in the operation of the pedal, 27, thereby turning the segmental plate back in a reverse direction, which will engage the racks, 33 and 34, with the gears, 29 and 30, causing the same and the parts operated thereby to turn in a reverse direction, which will turn the leaves back to their original positions.

Having thus described my invention, what I claim as new, and desire to secure by Letters-Patent, is:

1. In a music leaf turner for pianos, inner and outer main operating shafts, means whereby said shafts are turned by the feet of the player, a plurality of leaf turning arms, inner and outer arm-supporting shafts adapted to support said leaf-turning arms, and means whereby said operating shafts are

connected with said supporting shafts to turn the same and the leaf-turning arms connected thereto, substantially as described.

2. In a music leaf turner of the character described, inner and outer main operating shafts, a beveled gear pinion on the lower end of each of said shafts, segmental operating racks adapted to engage said pinions, means whereby said segmental racks are actuated by the feet of the player, a plurality of leaf turning arms, inner and outer supporting shafts adapted to support said arms and to independently move the same to turn the leaves connected thereto, and means whereby first one and then the other of said supporting shafts are operated, substantially as described.

3. In a music leaf turner of the character described, the inner and outer main operating shafts, a beveled gear pinion on the lower end of each of said shafts, segmental operating gears adapted to engage said pinions, means whereby said segmental gears are actuated by the feet of the player, a plurality of leaf turning arms, inner and outer supporting shafts adapted to support said arms and to independently move the same to turn the leaves connected thereto, a supporting casing adapted to be arranged in the framework of the piano, inner and outer stub shafts revolubly mounted in said casing, means to detachably connect the lower end of said arm supporting shafts with said stub shafts, and sprocket gearing adapted to operatively connect the latter with said main operating shafts, substantially as described.

4. In a music leaf turner of the character described, inner and outer main operating shafts, a beveled gear pinion on the lower end of each of said shafts, segmental operating gears adapted to engage said pinions, means whereby said segmental gears are actuated by the feet of the player, a plurality of leaf turning arms, inner and outer supporting shafts adapted to support said arms and to independently move the same to turn the leaves connected thereto, a supporting casing adapted to be arranged in the framework of the piano, inner and outer stub shafts revolubly mounted in said casing, means to detachably connect the lower end of said arm supporting shafts with said stub shafts, sprocket pinions on the lower ends of said inner and outer stub shafts, sprocket gears on the upper end of said inner and outer main operating shafts, and sprocket chains to connect the gears on said main shafts with the gears on said stub shafts, substantially as described.

5. In a music leaf turner, inner and outer main operating shafts, a beveled gear pinion on the lower end of each of said shafts, a pivotally mounted segmental rack plate, inner and outer segmental racks on said plate adapted to engage said pinions, foot pedals, operating rods adapted to connect one of said pedals with one side of said segmental plate and the other pedal with the opposite side thereof, whereby said racks are turned first one way and then the other, a plurality of leaf turning arms, supporting shafts adapted to support and turn said arms, and means whereby said supporting arms are actuated by said main operating shaft, substantially as described.

6. In a music leaf turner for pianos, inner and outer main operating shafts, means whereby said shafts are turned by the feet of the player, a plurality of leaf turning arms, an inner arm supporting shaft, an outer tubular arm supporting shaft arranged around said inner shaft and formed in telescopic sections whereby the same may be extended on said inner shaft, means to adjustably connect one of said arms with said inner shaft and to hold said outer tubular shaft in its extended position, and means whereby said main operating shafts are operatively connected to said inner and outer arm supporting shafts to turn first one and then the other in either direction substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSHUA P. SESSEMAN.

Witnesses:
W. B. HAINES,
W. M. POLLOCK.