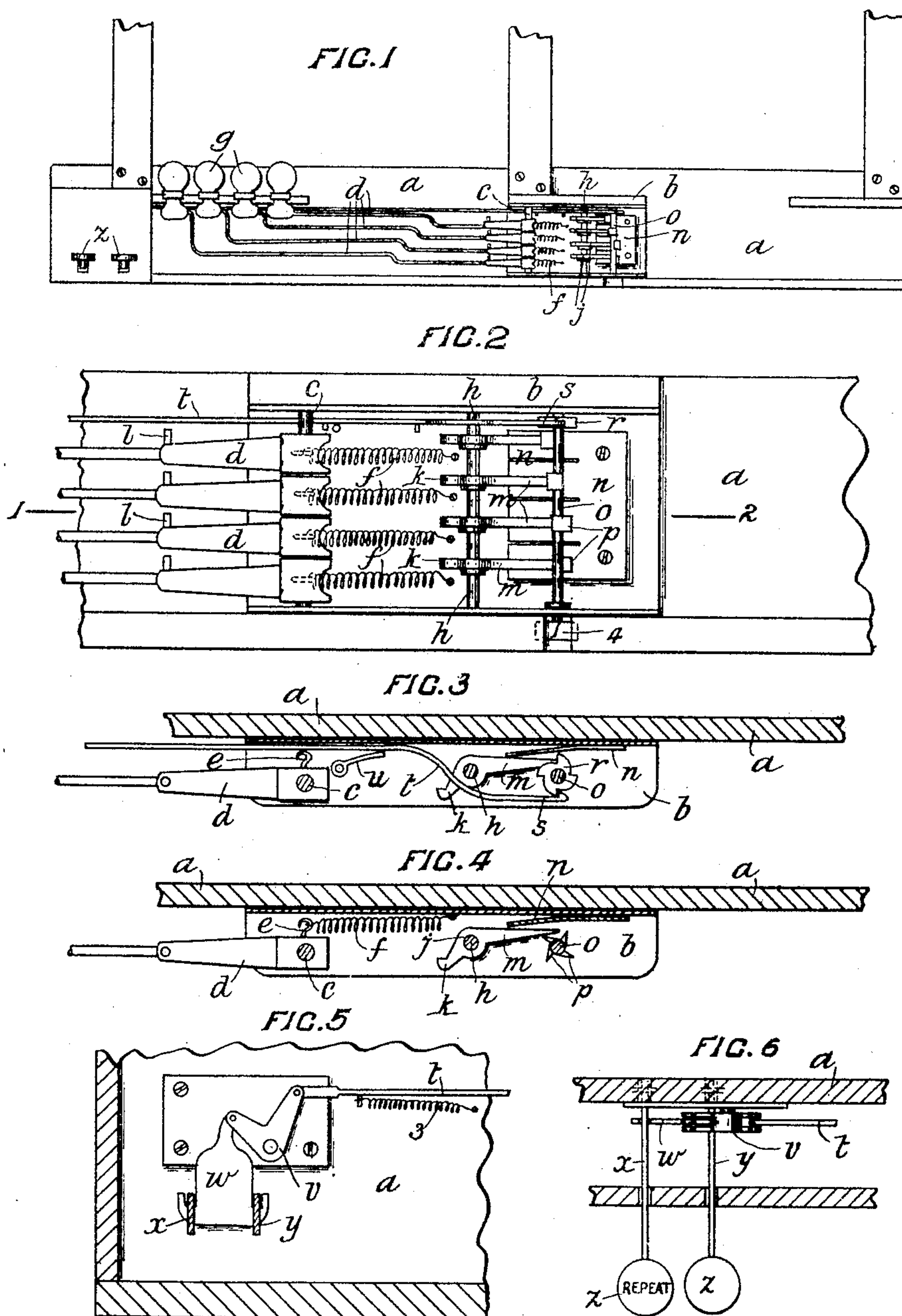


G. S. BUDGE.
MUSIC LEAF TURNER.
APPLICATION FILED MAY 24, 1904.



Witnesses

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MUSIC-LEAF TURNER.

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To all whom it may concern:

Be it known that I, GEORGE SYMONS BUDGE, a subject of the King of Great Britain, residing at Devonport, Auckland, in the Colony of New Zealand, have invented a new and useful Improved Music-Leaf Turner; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention relates to means whereby the leaves of music may be automatically turned over. The means devised are such that any of the leaves may be turned back by hand, so as to allow of any portion of the music being repeated and then again released, so as to be automatically turned over without interfering with the order of turning of the other leaves.

The appliances employed in carrying out the invention's purpose consist of a number of arms loosely mounted one above the other upon a common spindle secured within a frame. The free ends of these arms are provided with clips by means of which the sheets of music may be attached thereto. The arms are connected to springs the tendency of which is to keep them normally turned over to the left. Catches are provided to the right of the arm-spindle, by means of which the arms may be held. Means are provided whereby the arms may be released and their springs allowed to draw them and the sheets to which they have been attached over one by one, as desired by the player. In order, however, that the invention may be properly understood, reference will be made to the accompanying sheet of drawings, in which—

Figure 1 is a front elevation of the whole of the appliance. Fig. 2 is a detail elevation, on an enlarged scale, of the arms at their pivoted ends and the means for retaining and releasing them. Fig. 3 is a plan view of Fig. 2. Fig. 4 is a sectional plan taken on the line 1 2 of Fig. 2. Fig. 5 is a front elevation of the mechanism that is used for operating the releasing means. Fig. 6 is a plan of the same.

a is a base-plate to which the various appliances are attached and which is adapted to be fixed to the music-rest of pianofortes in such a manner as to allow of the music-sheets resting near its top edge. Secured near the center of the base-board *a* is a frame *b*, that carries a vertical spindle *c*. Upon this spindle are loosely mounted the arms *d*, the boss of each of which is provided with a short inward extension-piece *e*, (see Fig. 4,) to which one end of a helical spring *f* is secured, the other

end of such spring being fastened to the back of the frame *b*. The free ends of the arms *d* extend horizontally along the base-board and are made of such a length that each one shall project beyond the end of the one immediately above it. To the extremities of each one is secured a spring-clip *g*, so designed as to be adapted to grip tightly upon the bottom edge of a music-sheet placed within it. These clips are so disposed that they shall lie in a row alongside each other, in the manner shown in Fig. 1.

The tendency of the springs *f* is to keep the arms *d* normally drawn over to the left-hand position shown in the drawings, so that by attaching a sheet to one of the arms and turning such arm upon the spindle *c* across to the other side and then releasing it the arm and the sheet to which it is attached will be turned back to the normal position by the tension of the spring *f*.

Secured within the frame *b* on the right-hand side of the spindle *c* is another vertical spindle *h*. Upon this spindle are loosely mounted a number of lever-catches *j*. These catches correspond in number with that of the arms *d* and are each formed with an outwardly-extending portion *k*, the extremity of which is formed with a tooth adapted to engage with a small pin *l*, projecting upward from the arm *d*. The levers *j* are also provided with extension-pieces *m*, that extend along against the face of the frame *b*. Secured upon the face of this frame are a number of flat springs *n*, the ends of which bear outward against the under sides of the extension-pieces *m* and tend to keep the extension-pieces *k* normally turned inward. When the arms *d* are thus turned across to the right-hand position, the pins *l* will engage against the top of the corresponding extension-pieces *k*, will push such slightly aside, so that they may pass behind the teeth, and will then be caught by such teeth and the arms held from turning back.

The appliances employed for releasing the arms from engagement with the catches consist of a vertical spindle *o*, mounted in the frame above the extension-pieces *m*. This spindle is formed with a number of pallets *p* projecting from its face, such pallets being adapted to engage with and depress the extension-pieces *m* as the spindle is revolved. The number of pallets correspond to the number of catches and the number of arms used, and they are so arranged in relation to each

other that they will engage with each of the extensions *m* in turn as the spindle is revolved through a full revolution, beginning with the top ones and ending with the bottom one.

- 5 When the extension-pieces *m* are thus depressed, the extensions *h* will be turned out of engagement with the pins *l* of the arms *d*, so that such arms will be free to be turned across to the normal position.
- 10 Upon the top end of the spindle *o* is secured a ratchet-wheel *r*, (see Fig. 3,) the number of teeth in which correspond also to the number of arms *d*. Engaging with the teeth of this ratchet-wheel *r* is a pawl *s*, that is connected
- 15 to the end of a rod *t*, extending in suitable guides along the face of the base *a*. The pawl is kept in engagement with the ratchet-wheel by means of a spring *u*, bearing against the outer face of the rod *t*.
- 20 Pivoted against the face of the base *a* near its left-hand end is a bell-crank lever *v*, (see Figs. 5 and 6,) one arm of which is connected to the rod *t*, while the other arm is hinged to the top of a loosely-hung lever-plate *w*. This
- 25 plate is provided with a rest on each of its sides, in which rest arms *x* and *y*, that are hinged at their inner ends to the base *a*. These arms extend outward and are each provided with finger-pieces *z* on their free ends.
- 30 By depressing the arm *y* the plate *w* will be pulled down and will turn the bell-crank lever *v*, so that a longitudinal motion will be given the rod *t*, causing its pawl to engage with and partially revolve the ratchet *r* and spindle *o*.
- 35 When the pressure is released, the spring *3*, secured to the rod *t*, and the base *a* will draw back the rod to its normal position, so that the pawl shall slip over and engage with the next tooth in the ratchet-wheel.
- 40 Should it be desired to repeat the music on any of the pages, to turn such page the arm *x* is depressed. This will only give enough movement to the rod *t* to turn the pallet *p* on the spindle *o* enough to release the desired
- 45 arm *d*. When the rod *t* is thus drawn back by the spring *3*, its pawl shall not be given enough movement to slip over the next tooth of the ratchet-wheel. Thus the arm released may be turned back again to be caught by its
- 50 catch and may then be again released by pressing upon the arm *y* in the manner before described. The remaining leaves of the music may then be turned in their proper order.
- 55 To the bottom end of the spindle *o* is secured a small cylinder *4*, the peripheral face of which is marked with numerals corresponding to the positions of the pallets *p*. This cylinder is mounted within a recess formed in the frame
- 60 *b* and the front of which is opened enough to

show each numeral on the cylinder. The number of the sheet turned may thus be indicated.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In music-leaf turners, a vertical base-plate, a vertical spindle mounted in front thereof, a number of arms loosely pivoted one above the other on such spindle, spring-clips on the free ends of such arms, springs connected to the arms so as to keep them normally turned over to one side, catches mounted upon a vertical rod upon the other side of the spindle and formed with outwardly-extending tooth portions adapted to engage with and retain the arms when turned across, and with tail extensions, springs between the face of the base-plate and the extensions and pressing such outward, a vertical spindle mounted in front of the extensions and formed with pallet projections upon it, which, as the spindle is rotated, are adapted to engage with and press upon the tail extensions of the catches in turn, and means whereby such spindle may be intermittently rotated, and for varying the degree of movement thereof, substantially as specified.

2. In music-leaf turners, a vertical base-plate, a vertical spindle mounted in front thereof, a number of arms loosely pivoted one above the other on such spindle, spring-clips on the free ends of such arms, springs connected to the arms so as to keep them normally turned over to one side, catches mounted upon a vertical rod upon the other side of the spindle and formed with outwardly-extending tooth portions, and with tail extensions, a vertical spindle mounted adjacent the extensions and formed with pallet projections upon it, a ratchet-wheel secured upon the top of the pallet-spindle, a sliding rod extending longitudinally along the base-plate, a pawl on the end of the sliding rod engaging with the teeth of the ratchet-wheel, a bell-crank lever pivoted to the base-plate one arm of which is connected to the sliding rod, a hanging plate suspended from the other arm of the bell-crank lever, depressions formed on each edge of the hanging plate and finger-pieces hinged to the base-plate and resting in each depression, said finger-pieces giving the rod different degrees of movement, substantially as herein specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE SYMONS BUDGE.

Witnesses:

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WILLIAM J. LAWSON.