

(No Model.)

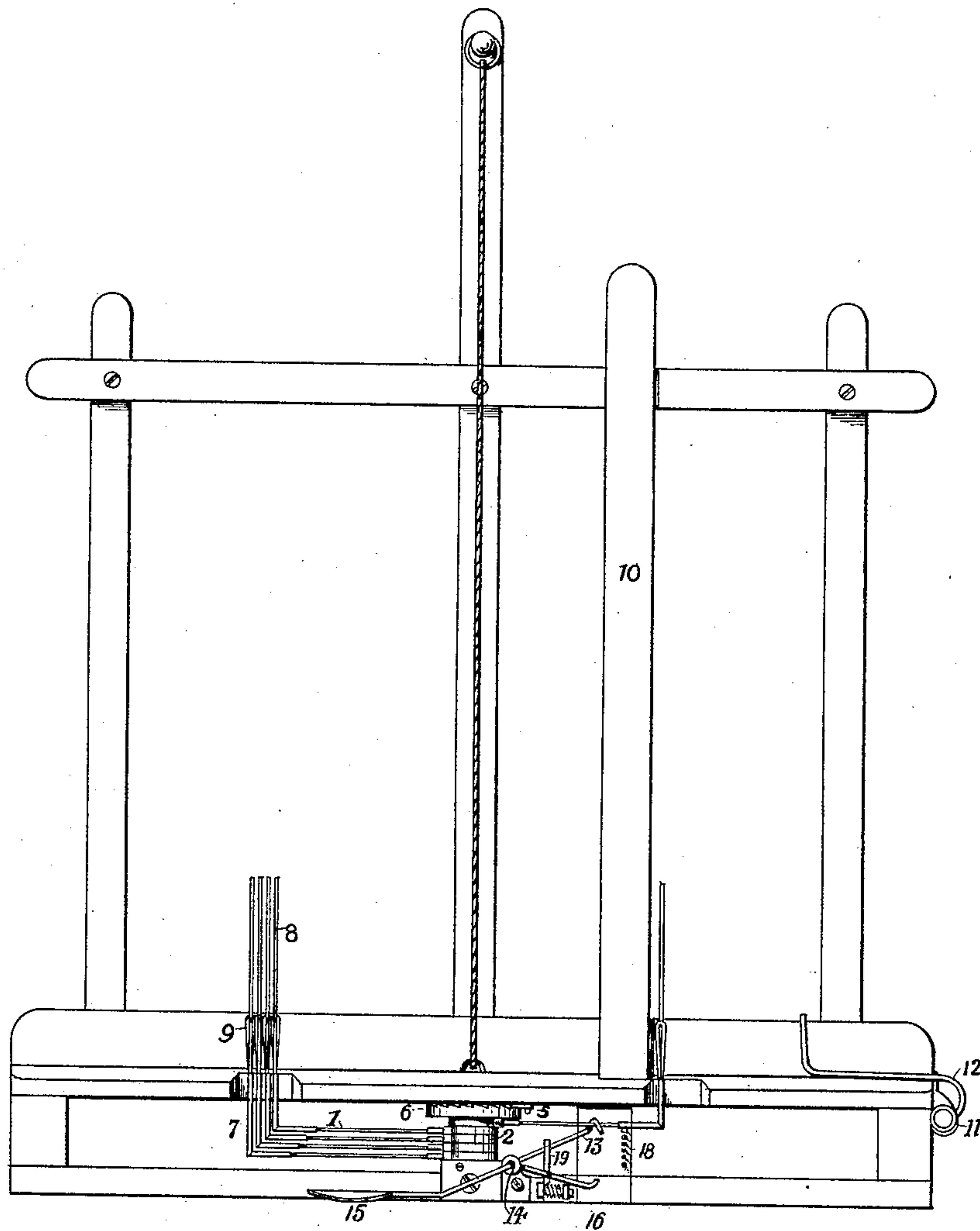
2 Sheets—Sheet 1.

E. RICHARDSON.

APPARATUS FOR TURNING LEAVES OF MUSIC, &c.

No. 523,008.

Patented July 17, 1894.



— Fig. 1. —

WITNESSES.

Robt. F. Drury
Bernard E. Drury

INVENTOR.

Ebenezer Richardson

(No Model.)

2 Sheets—Sheet 2.

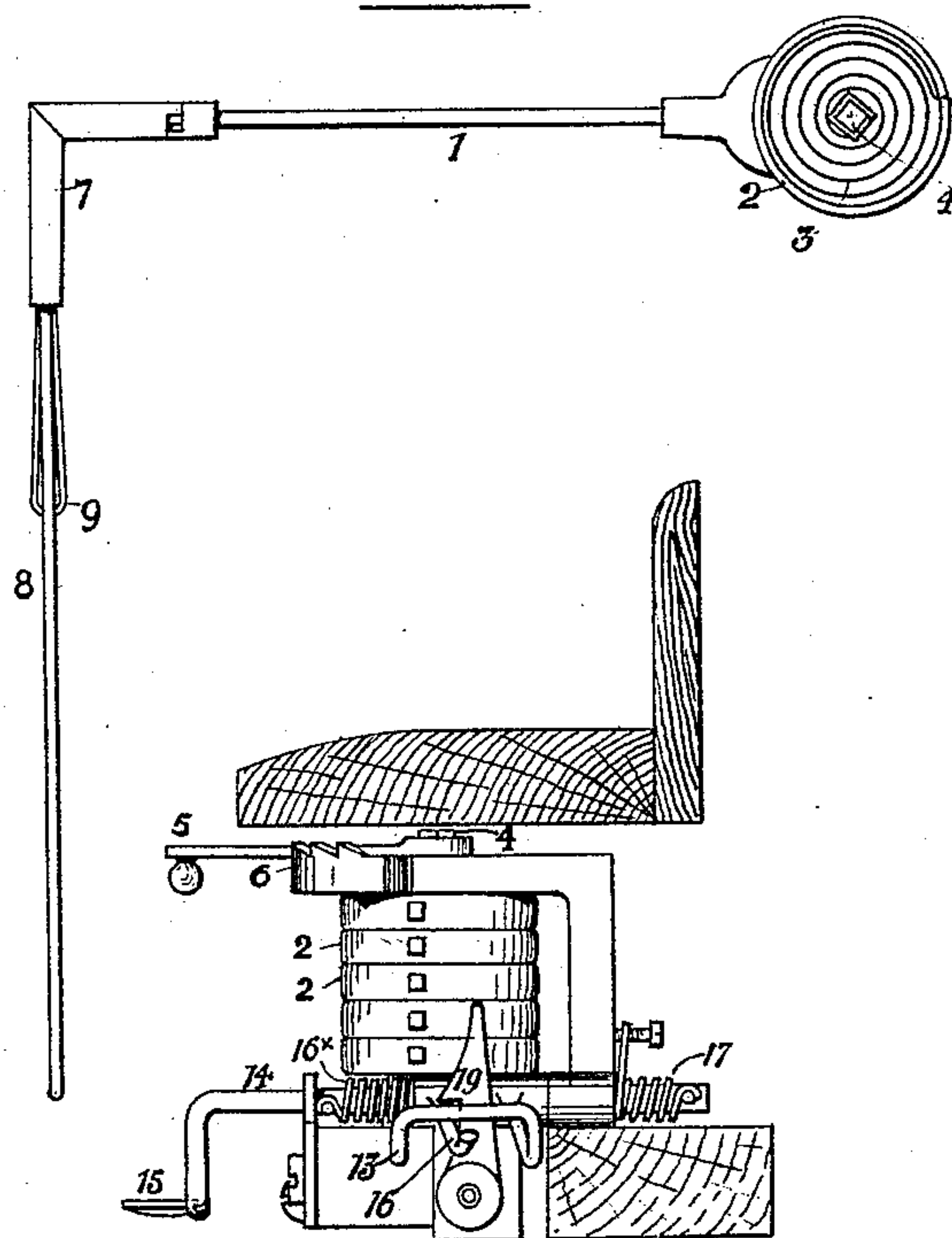
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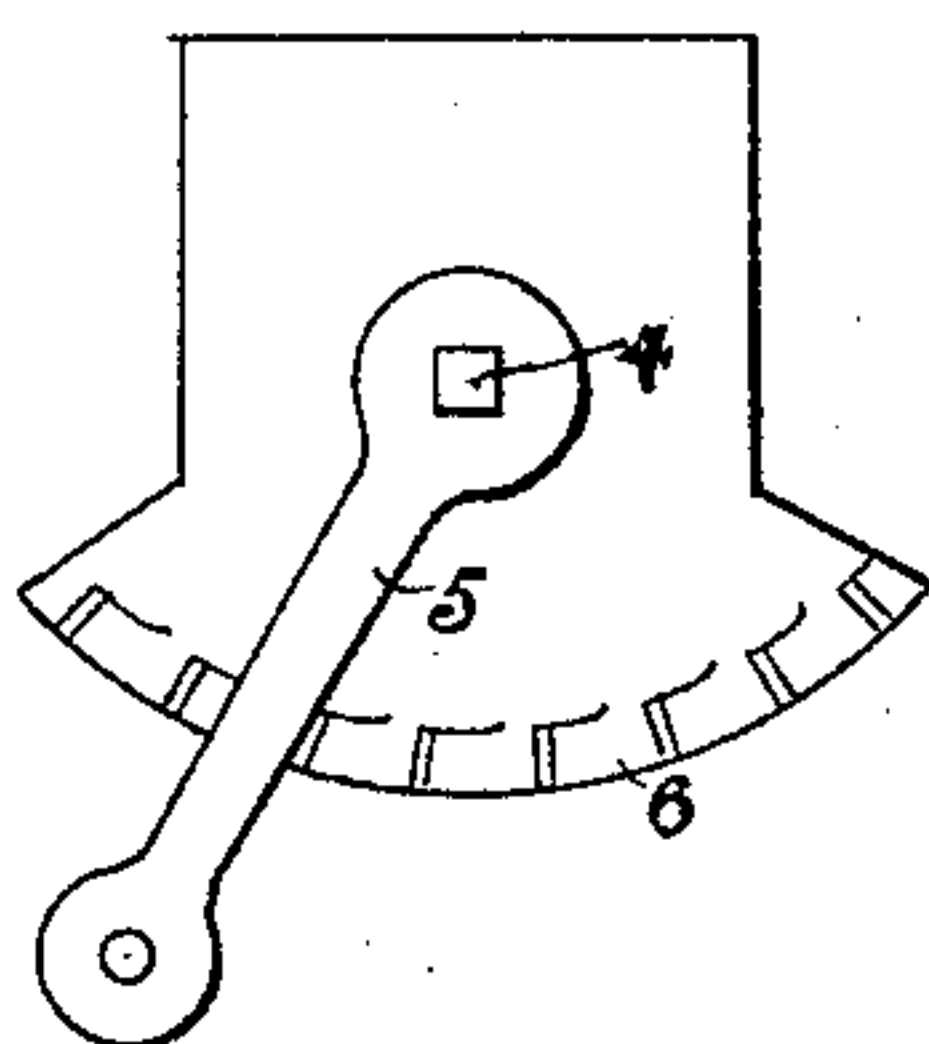
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— Fig. 2. —

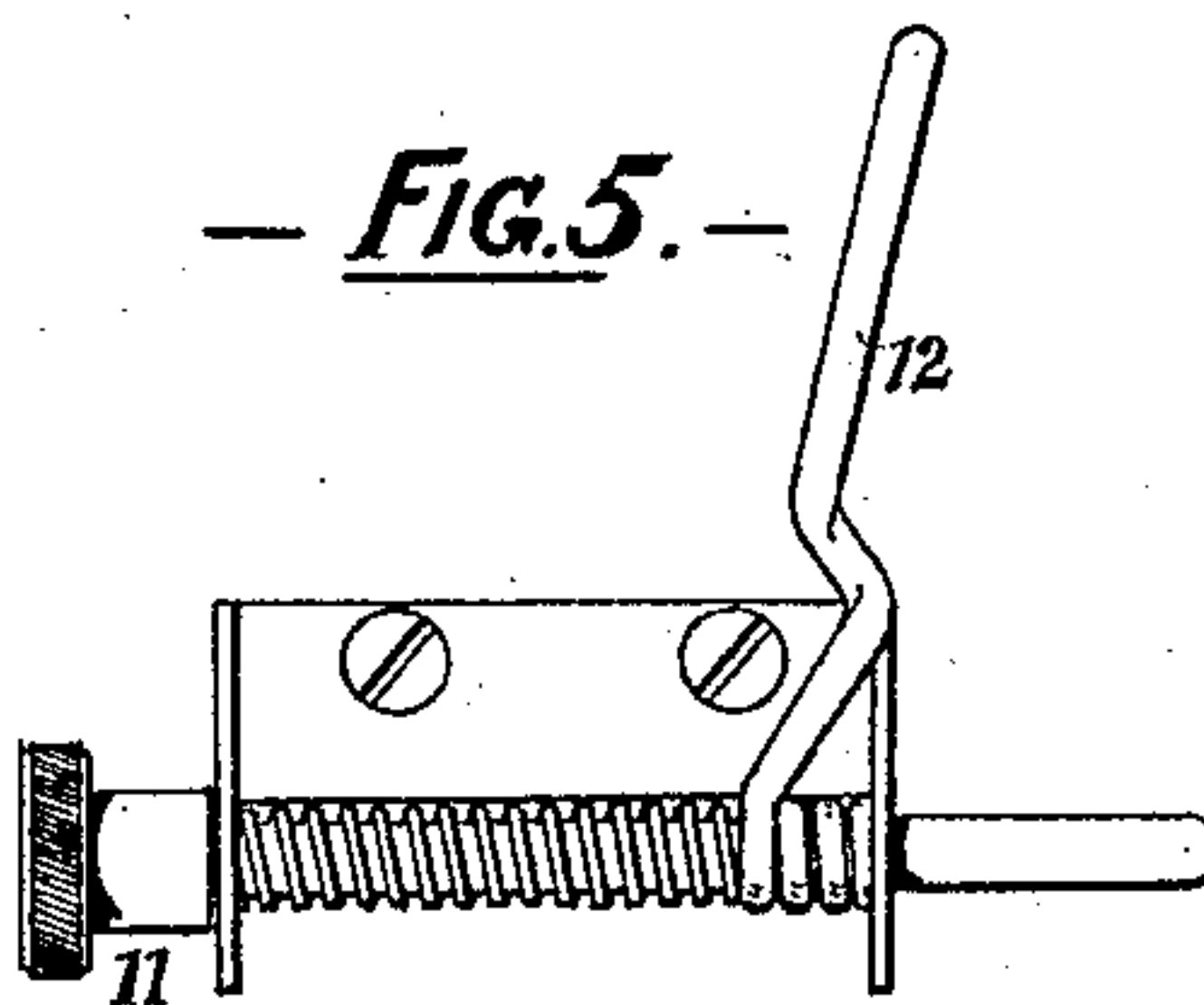


— Fig. 3. —

— Fig. 4. —



— Fig. 5. —



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UNITED STATES PATENT OFFICE.

EBENEZER RICHARDSON, OF SHEFFIELD, ENGLAND.

APPARATUS FOR TURNING LEAVES OF MUSIC, &c.

SPECIFICATION forming part of Letters Patent No. 523,008, dated July 17, 1894.

Application filed February 14, 1894. Serial No. 500,124. (No model.) Patented in England May 6, 1893, No. 9,059.

To all whom it may concern:

Be it known that I, EBENEZER RICHARDSON, a subject of the Queen of Great Britain, and a resident of Sheffield, in the county of York, England, have invented certain new and useful Improvements in Apparatus for Turning Leaves of Music and other Leaves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention has been patented in England, May 6, 1893, No. 9,059.

This invention relates to improvements in apparatus for turning over music leaves, and other leaves, whether placed upon the music holder of a pianoforte or upon orchestral or other like stands.

The invention is illustrated in the annexed sheets of drawings, in which—

Figure 1, is an elevation of the complete apparatus; Fig. 2, a plan of spring-box and finger, showing spring; Fig. 3, a side elevation of escapement mechanism; Fig. 4, a plan of segmental rack, and regulating lever; Fig. 5, a side elevation of spring bolt, or cover holder.

It consists broadly speaking of a number of leaf-turning fingers held together in a frame and actuated by coiled springs, which press them from right to left, combined with mechanism by which they can be retained at the right hand side, and be released in rotation, either by hand or by foot motion.

There may be any required number of fingers, and the frame preferably made, of wood, may be made of metal or of other material.

Each turning finger consists of a horizontal arm 1, supported by a spring case 2, containing a coiled spring 3, the outer end of which is secured to the case 2, and the inner end to a spindle 4, which passes through the whole series of spring cases and forms the fixed point of resistance for the springs, and is provided with a short lever at the top marked 5, by which it can be turned part of a revolution, so as to regulate the reactive power of the springs, and thus either increase or decrease the speed at which the levers may be turned. The lever or handle 5, is retained, by engaging with the teeth of a segmental rack 6.

At the outer end of the arm 1, is an elbow 7, which supports a finger 8, and leaf-holder

9, the finger may be capable of being withdrawn from the elbow or may be permanently fixed therein. The elbow may be either fixed upon the arm or may be made to slide longitudinally thereon for a short distance as preferred; it is jointed so that the part which carries the finger 8, can be turned down from the vertical to the horizontal position in one direction, which enables the paper leaf to be more readily passed over it, than would be the case if it were in a vertical position.

A strip of wood or metal 10, is placed vertically on the right hand of the center strip, for the purpose of giving a forward curve to the leaves, and prevent them from "crinkling" or bending inwardly which would be detrimental to the satisfactory action of the apparatus.

At one or both ends of the frame I fix a self adjusting spring bolt 11, fitted with a short arm 12, that can be turned either upon or from the frame and are for holding the cover, or those leaves which are not to be turned. The spring enables the arm 12, to take in and hold various thicknesses of leaves.

The turning mechanism is placed between an upper and a lower board which form part of the frame the top board upon which the sheets of music rest, being recessed as shown to receive the fingers.

When the apparatus is put into use, the finger arms 1, are turned by hand from their normal position on the left, to the opposite position on the right where they are caught and retained by the escapement mechanism. This consists of a hooked bar 13, fixed upon a rocking shaft 14, held in bearings, and having means by which it may be rocked or partially revolved, such as the trigger 15, or a connection attached to a foot pedal capable of producing the same motion. On the same shaft 14, is fitted a second bar 16, capable of a short rotary movement upon the shaft and connected with a spring 16^x which tends to throw the arm upward, the shaft 14 is connected with a spring 17, which tends to keep the bar 13, down, and the trigger raised.

To counteract the pressure put upon the finger arms 1, when turned to the right, by the bar 13, I fix a comb 18, between the teeth of which the arms pass and by which they are supported.

The action of the escapement is as follows:—

When the finger arms are turned to the right, the trigger is pressed down which raises the arm 13, the arm 16, would follow but is caught by a spring catch 19, which retains it in that position until the finger arms have got past it, when the bottom arm comes in contact with the upper part of the catch pressing it back and releasing the bar 16, which flies upward to the same height as the bar 13, in which position it forms a diagonal barrier in front of all the finger arms except the top arm. This top finger arm supports the bar 13, and as there is room between the ends of two bars to permit the finger arm to pass, it is forced forward by the reaction of its coiled spring 3, between the bars against the hook of the bar 13, ready to be released. It will be understood that the leaves have been previously placed in position, between the small wire loop or equivalent retainer 9, and the finger 8.

When the trigger 15 is pressed down, or the shaft 14, caused to rock or partially revolve by any other means, the bar 13, is raised until the top arm is free from the hooked end, when it flies round to the left carrying the leaf round with it.

The trigger being released the bar 13, drops upon the next arm, the bar 16, descending with it and thus permitting the arm to pass forward to the hook of the bar 13, as before and so on to the end.

I am aware that prior to my invention, fingers, operated by coiled springs have been used, and I therefore do not claim such broadly.

What I wish to secure by Letters Patent is—

1. In combination in a music leaf turner,

the turning fingers, the levers carrying the same, the means for operating the levers and the escapement mechanism comprising the rock shaft 14 under spring tension, the bar 13 thereon arranged to bear on the upper one of the series of levers and the retaining arm 16 on the rock shaft, the spring for forcing the said retaining arm up toward the bar 13 and the means for turning the rock shaft and lifting the bar 13, substantially as described.

2. In combination in a music leaf turner, the frame, the finger levers with operating means therefor and the escapement mechanism comprising the rock shaft, the bar 13 carried thereby the retaining arm 16, the means for placing a tension on said parts and the catch 19 for engaging the retaining arm, substantially as described.

3. In combination in a music leaf turner, the turning fingers with operating means therefor and the escapement mechanism consisting of the bar 13, the retaining arm 16, the rock shaft 14 carrying the bar 13 and serving as a bearing for the arm 16, the spring catch for engaging the retaining arm, the spring 17 for placing a tension on the rock shaft 14 with its bar 13, the spring 16^x for placing a tension on the arm 16 and the comb 18 for engaging the turning fingers, substantially as described.

In testimony that I claim the foregoing as my own I have affixed hereto my signature in presence of two witnesses, this 18th day of January, 1894.

EBENEZER RICHARDSON.

Witnesses:

ROBT. F. DRURY,
GILBERT N. DRURY.