

1,103,138.

Patented July 14, 1914.



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UNITED STATES PATENT OFFICE.

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MUSICAL-INSTRUMENT ROLL-ADJUSTER.

Patented July 14, 1914. Specification of Letters Patent. Application filed September 9, 1912. Serial No. 719,310.

To all whom it may concern:

1,103,138.

Be it known that I, ROBERT A. GALLY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State

5 of Ohio, have invented certain new and use-ful Improvements in Musical - Instrument Roll-Adjusters, of which the following is a specification.

Former devices of this nature have used 10 numerous parts, causing more friction and lost motion than desirable.

In the present structure great simplicity, accuracy, and ease of operation are attained.

In the drawings, Figure 1 is a front view of a roll box of a self-playing musical in-15 strument controlled by a perforated music sheet, including the spindles for carrying and propelling said sheet, and the regulator 20 for adjusting the widthwise position of said

sheet; Fig. 2 is a detail sectional view of the regulator; and Fig. 3 is a detail view of the stop screw of the regulator.

The usual perforated music-sheet 1 has 25 perforations 2 adapted to pass over and coincide with the corresponding apertures 3 of the tracker bar 4. Such sheets 1 are commonly mounted on a removable spool as 5 which when inserted in the apparatus is

30 carried by two spindles 6 and 7. One of these spindles as 6, usually has a spring as 8 bearing it against the spool as 5 and so holding both spindles and the spool in oper-

ative connection together. At the far end 35 of the opposite spindle 7 a check or regula-tor is required, preferably of some adjust-able form, and a special form regulator 9, 10 is now shown. The regulator 9, 10, consists of a shaft 10 having an arm 9 at an

- 40 angle thereto, the outer end of said arm being flattened at its part 11 opposite the end of spindle 7 which bears against face 11 and so checks and regulates the longitu-dinal position of spindle 7, spool 5 and
- spindle 6 as they are pressed to the right 45 by spring 8. The arm 9 is guided by its two other flattened faces 12 right angled to face 11, by a slot or guide 13 in hub 14 or like guide adjacent to the end of spindle 7.
- 50 The shaft part 10 of the regulator is guided at two positions of its length, as by a perforated arm 15 and a hole 16 in the roll box side 17. The longitudinal adjustment of the regulator 10, 9, and consequent shift of 55 spindle 7 and the speel 5 and music sheet 1

is by means of a threaded end 18 on the regulator shaft 10, which is engaged by a thumbscrew or nut 19 which is internally threaded to match the threaded end 18 of the regulator shaft 10 which enters it. The 60 inner end of the thumbscrew 19 bears against the inner face of the end of roll box 17 or other convenient bearing, so that the turning of the thumb-screw 19 to right or left will draw the shaft 10 to the left, or 65 release it to the right, respectively, the inner end of the thumb-screw 19 being constantly held to its end bearing on box 17 when a music-sheet is in use by reason of the pressure of spring 8 through parts 6, 5, 7, 9 and 70 10. This pressure of spring 8 makes certain the travel to the right of regulator 10, 9, when thumb-screw 19 is turned lefthanded.

To check the leftward throw of the regu- 75 lator 10, 9, to its proper limits, the length of the internally threaded hole in thumbscrew 19 is made such as to check the rightward turning of thumb-screw 19 and the consequent leftward travel of regulator 10, 80 9, as the end of regulator shaft 10 is stopped in said hole of thumb-screw 19. It is preferable to reduce the diameter of the outer end 20 of the threaded part of the regulator shaft 10, to avoid any binding in the imper- 85 fectly cut end threads in the thumb-screw 19. To limit the leftward turning of thumb-screw 19 and consequent rightward travel of regulator 10, 9, a stop-screw 21 is passed through a loose hole 22 in the head 90 of thumb-screw 19, and engaged in a tapped hole in the axis of the regulator shaft 10. This stop-screw 21 has a head 23 set at such distance away from shaft 10 and head of thumb-screw 19 as to stop the leftward 95 turning of thumb-screw 19 at the proper limit. It is preferable to reduce the diameter of the end 24 of the thread of this screw 20 so that the screw may lock to its 100 inward position in shaft 10 without damaging its end as would be the case if threaded at the point. The original adjusting of this regulator is by filing the end of shaft 10 to determine the leftward travel limit of the regulator 10, 9, and to file the end 24 of the stop screw 21 to determine the rightward travel of the regulator 10, 9.

The foregoing described structure and operation will enable the operator thereof to always regulate the music-spool 5 and its 110

music-sheet 1 so that the perforations 2 of music-sheet 1 will "track" or coincide with the corresponding apertures 3 of the trackerbar 4. This regulator may be applied to 5 any other spindle of a music-sheet pro-pelling apparatus, or other modifications made and yet be subject to,-

What I claim as my invention:

1. A music - roll adjuster comprising a 10 spindle, a regulator having a shaft, and an arm rigid with said shaft and at a right angle thereto, the part of said arm away from the shaft bearing against the outer end of said spindle, screw-threads on a part of 15 said shaft away from said angle arm, and screw-means mounted on said threaded part of said shaft and adapted to adjust said regulator in the axial direction of its shaft, and a bearing against which said screw 20 means bears at the face of said bearing away from said arm, and through which bearing said shaft extends.

2. A music-roll adjuster comprising a spindle, a regulator having a shaft, and an 25 arm rigid with said shaft and at an angle thereto, the part of said arm away from the shaft bearing against the outer end of said spindle, screw-threads on a part of said shaft away from said angle arm, and screw-means 30 mounted on said threaded part of said shaft and adapted to adjust said regulator in the axial direction of its shaft, a casing; and a bearing in said casing against which said screw-means bears at the face of said casing 35 away from said arm, and through which bearing said shaft extends.

3. A music-roll adjuster comprising a spindle, a regulator having a shaft, and an arm rigid with said shaft and at a right 40 angle thereto, the part of said arm away from the shaft bearing against the outer end of said spindle, and screw-means mounted on

said shaft at its end away from its right angle arm and adapted to adjust said regulator in the axial direction of its shaft, said screw 45 means consisting of a threaded end of the shaft, a thumb-screw internally threaded and mounted on said threaded end of the shaft, and a stop attached into that same end of said shaft and extended through a free 50 hole in said thumb-screw, and having a head exterior to and larger than said hole, and po-sitioned at the limit of the normal longitudinal travel of said shaft.

4. A music-roll adjuster comprising a 55 shaft having a threaded end, a thumb-screw internally threaded and mounted on said threaded end of the shaft, said shaft having longitudinal adjustment relatively to said thumb-screw and a stop attached into that 60 same end of said shaft and extended through a free hole in said thumb-screw and having a head exterior to and larger than said hole, said stop fixed at a position having its head at a distance from said thumb-screw when 65 said shaft is at its extreme outward position longitudinally of said thumb-screw.

5. A music - roll adjuster comprising a shaft having a threaded end, a thumb-screw internally threaded and mounted on said 70 threaded end of the shaft, said shaft having longitudinal adjustment relatively to said thumb-screw and a screw-stop attached into that same end of said shaft and extended through a free hole in said thumb-screw and 75 having a head larger than said hole, said stop fixed at a position having its head at a distance from said thumb-screw when said shaft is at its extreme outward position longitudinally of said thumb-screw.

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