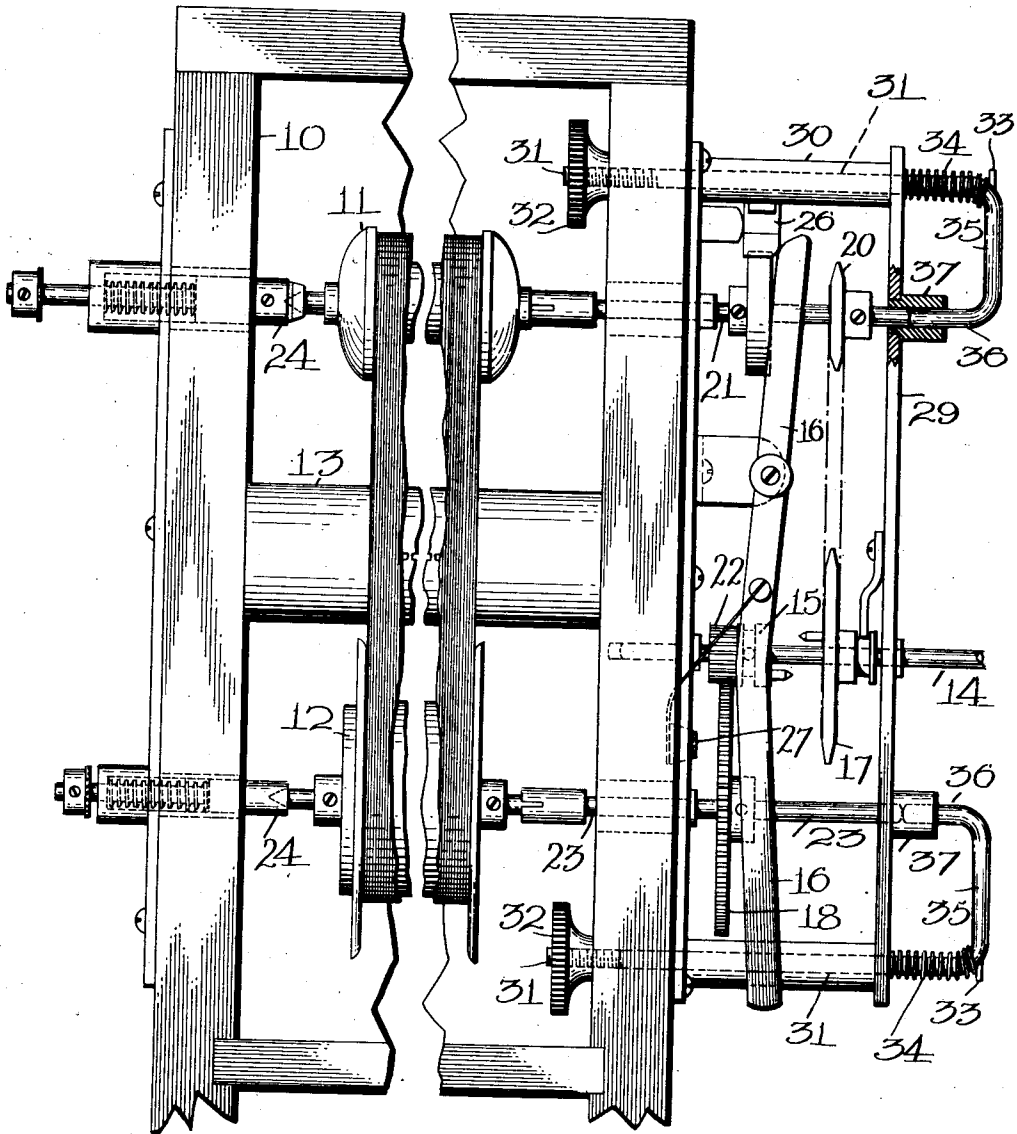


A. NORDEEN & A. KRELL.
 SPOOL OPERATING DEVICE FOR MUSICAL INSTRUMENTS.
 APPLICATION FILED SEPT. 26, 1910.

1,089,721.

Patented Mar. 10, 1914.



Witnesses:

C. F. Mearns
 W. S. Regan.

Inventors:
 August Nordeen
 Albert Krell
 by attorneys

Southgate & Southgate.

UNITED STATES PATENT OFFICE.

AUGUST NORDEEN AND ALBERT KRELL, OF CONNERSVILLE, INDIANA, ASSIGNORS TO
KRELL AUTO-GRAND PIANO CO. OF AMERICA, OF CONNERSVILLE, INDIANA, A
CORPORATION OF INDIANA.

SPOOL-OPERATING DEVICE FOR MUSICAL INSTRUMENTS.

1,089,721.

Specification of Letters Patent.

Patented Mar. 10, 1914.

Application filed September 26, 1910. Serial No. 583,743.

To all whom it may concern:

Be it known that we, AUGUST NORDEEN and ALBERT KRELL, citizens of the United States, residing at Connerville, in the county of Fayette and State of Indiana, have invented a new and useful Spool-Operating Device for Musical Instruments, of which the following is a specification.

This invention relates to a combination tracking and transposing device and individual gear movement for operating the music and take-up spool of a musical instrument, shifting them to the right or left and regulating the positions thereof.

The principal object of the invention is to provide a simple, inexpensive, and easily operated form of adjusting device substantially all in one piece for either or both of the spools operable from within the box, whereby they can be moved longitudinally either a slight or a great amount to provide for the necessary adjustment.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing which is a front view of a tracker-box and connected mechanism with a preferred form of this invention applied thereto.

The invention is shown as applied to a musical instrument having a tracker box 10 for the music spool 11, take-up spool 12 and tracker 13. A driving shaft 14 is operated in any usual way and provided with the usual movable clutch 15 operated by a lever 16 so as to connect the shaft 14 either with a wheel 17 or a wheel 18. As is well understood in this art the wheel 17 is connected with a wheel 20 by a sprocket chain or the like which is located on a spindle or support 21 with which the music spool 11 is connected. These connections are for rewinding. When the clutch 15 is in the position shown, a pinion 22 thereon meshes with the gear 18 on a spindle or support 23 which supports one end of the take-up spool 12. In this position the parts are ready for the ordinary winding which takes place when the music is being played. The two spools are supported by the two spindles 21 and 23 respectively at one end and at the other end they are supported by spring-pressed supports 24 which normally press the music spools toward the first named

spindles. As is well understood in this art the operating lever 16 has spring-pressed brakes 26 and 27 adapted to stop either spindle when the power is thrown off. This lever of course is so arranged that when the parts are in position for the ordinary winding or rewinding, one brake is off and the other is on. These parts are well understood in this art.

In order properly to adjust either or both of the spools the extension 29 with which the tracker-box is usually provided is constructed with two hollow posts or guides 30, one at the top and the other at the bottom. Through these and also through the frame of the tracker-box and the extension pass two rods 31. Each rod is screw threaded at the inner end and provided with an adjusting nut 32 for operating it, located in a convenient position inside the tracker-box. The rod extends outwardly beyond the extension and near its end is provided with a pin 33 or the like, between which and the extension 29 is a coiled spring 34 for normally forcing the rod outwardly and keeping the adjusting nut 32 in contact with the inner wall of the frame of the tracker-box. From the end of the rod it projects transversely upwardly or downwardly to form an arm 35 on which is an end 36 parallel with the rod and projecting into a bearing 37 on the extension 29 for the end of the spindle.

It will be seen that the adjustment of the rod 31 is exceedingly simple and that the wall of the box does not have to be screw-threaded. Also in one direction the rod is moved positively and in the other by the spring 34. The adjustment of the rod moves the end 36 which engages the end of the spindle or support for one end of the spool, and moves it positively inwardly when the rod 31 is moved positively. When the rod 31 is moved in the opposite direction by the spring 34 the spring-pressed support 24 at the other side of the tracker-box will assist in moving the spool to the right so that the spindle will follow up the end 36 of the rod. It will be seen therefore that while the mechanism is exceedingly simple, the adjustment is equally simple. No special knowledge is required to perform all the necessary adjustments.

While we have illustrated and described

a preferred embodiment of the invention, we are aware that many modifications can be made therein by any person skilled in the art without departing from the scope
 5 of the invention as expressed in the claim; therefore we do not wish to be limited to all the details of construction herein shown and described, but

What we do claim is:—

10 In a device of the character described, the combination of a frame or casing having a bearing at one side provided with a smooth passage therethrough, a pair of reciprocal supports for the ends of a spool
 15 arranged parallel with said passage, yielding means for constantly pressing said supports toward the side of the casing in which said passage is located, a rod having a screw threaded end extending into said pas-
 20 sage and arranged parallel with said sup-

ports and of U-shaped form at the end, one side of the U-shaped rod having an end projecting inwardly toward said supports, and bearing on the end of one of them, a
 25 spring for normally forcing said U-shaped rod in the same direction in which the supports are urged by said yielding means, and a nut on the inner end of said screw-threaded portion of the rod for positively
 30 forcing it in the opposite direction, said nut being located on the inside of said casing.

In testimony whereof we have hereunto set our hands, in the presence of two subscribing witnesses.

AUGUST NORDEEN.
 ALBERT KRELL.

Witnesses:

MAZIE E. MILLER,
 HELEN B. DAVIS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."