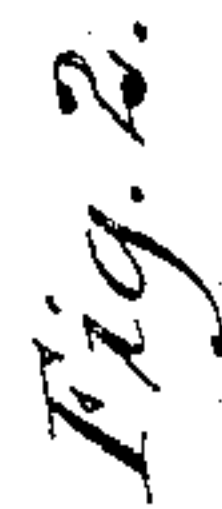


SPEED CONTROLLING DEVICE FOR NOTE SHEETS.

Patented Sept. 15, 1908.

898,762.



WITNESSES

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SPEED-CONTROLLING DEVICE FOR NOTE-SHEETS.

No. 898,762.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed May 5, 1906. Serial No. 315,412.

To all whom it may concern:

Be it known that I, HERMANN MEYER, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county and State of New York, have invented a new and Improved Speed-Controlling Device for Note-Sheets, of which the following is a full, clear, and exact description.

10 The invention relates to self-playing musical instruments in which a note sheet unwinds from one roller and winds up on another, and passes over a tracker board for controlling the sounding and other devices.

15 The object of the invention is to provide a speed controlling device, more especially designed for causing the note sheet to travel at a uniform speed by rotating the winding up roller at a speed decreasing in proportion as the note sheet winds up on the winding up roller, thus compensating for the increase in peripheral speed by the increasing thickness of the note sheet roll on the winding up roller.

25 A further object of the invention is to provide a simple means for permitting the operator to readily set the device to a desired speed as called for by the music on the note sheet.

30 The invention also consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

35 A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views.

40 Figure 1 is a side elevation of the improvement, and Fig. 2 is an enlarged sectional side elevation of the sectional rod of the speed adjusting device.

45 In self-playing pianos and like instruments, the speed of the note sheet increases in proportion to the increase of the size of the note sheet roll formed on the winding up roller, without an increase in the speed of the latter, its driving gear and motor. Now, in order to overcome this defect and to reduce the speed of the winding up roller in proportion to the increase of the note sheet roll, the arrangement presently described in detail is made. The note sheet A unwinds from a roller B, and after passing over the tracker board C winds up on the winding up roller D,

the said rollers B and D being journaled in the frame E of the instrument and connected by the driving gears B', D' with the pneumatic motor F of any approved construction, the said gears being preferably, however, such as are fully shown and described in the application for Letters Patent of the United States for an automatic self-playing piano, No. 272,499, filed by me August 3, 1905, and the said pneumatic motor is preferably of the construction such as shown and described in the Letters Patent of the United States for a driving device for music sheets, No. 765,503, granted to me July 19, 1904.

70 The pneumatic motor F has its suction pipe F' connected with a speed regulating valve G provided with a chamber G' connected with the main suction chamber of the instrument, and the said chamber G' is connected with a chamber G² by a graduated port G³ controlled by a slide valve G⁴ having its stem G⁵ extending to the outside of the valve G to connect by a link G⁶ with one end of a lever H fulcrumed at H' on the frame E of the instrument. A spring I presses the lever H for normally holding the valve G⁴ in an adjusted open position to allow the air to be drawn from the pneumatics of the motor F by way of the pipe F', the valve G and the main suction chamber of the instrument. The free end of the lever H is pivotally connected with a rod J mounted to slide on the frame E and carrying a button J' adapted to be engaged by the note sheet A at the winding up roller D, so that when the note sheet A is wound up on the winding up roller D and the note sheet roll thereon increases in size, it is evident that the note sheet causes a gradual downward sliding of the rod J, whereby a swinging motion is given to the lever H for the latter to gradually close the valve G⁴ over the port G³ to reduce the suction for the pneumatic motor F, to decrease the speed thereof in proportion as the note sheet roll increases on the winding up roller D. Now, it is evident that as the speed of the winding up roller D gradually decreases, the speed of the note sheet A remains uniform. It will also be noticed, that by having the button J' engaging the note sheet at the winding up roller D, it exerts sufficient friction on the note sheet to insure a regular rewinding of the note sheet on the rewinding roller B, without any tendency of the note sheet to run faster from the winding up roller D and to unwind faster than desired.

As illustrated in the drawings the rod J is preferably made in two sections J², J³, screwing one on the other, so as to allow of lengthening and shortening the rod J to permit the operator to set the valve G⁴ previous to starting the machine, and with a view to run the note sheet at the speed called for by the music on the note sheet.

From the foregoing it will be seen that the device is very simple and durable in construction, and can be readily applied to the instruments as now constructed.

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

1. In a self-playing musical instrument, the combination of a winding mechanism having a winding up roller for the note sheet, a pneumatic motor for driving the said winding mechanism, a motor valve for controlling the speed of the motor, a compensating device having a lever connected with the said motor valve, and a rod mounted to slide and connected with the said lever, the rod having a button for engagement with the note sheet at the winding up roller.

2. In a self-playing musical instrument, the combination of a winding mechanism having a winding up roller for the note sheet, a pneumatic motor for driving the said wind-

ing mechanism, a motor valve for controlling the speed of the motor, a compensating device having a lever connected with the said motor valve; and a rod made in sections adjustably connected with each other, one end of the rod being connected with the said lever and the other end being adapted to be engaged by the note sheet at the winding up roller.

3. In a self-playing musical instrument, the combination of a winding mechanism having a winding up roller for the note sheet, a pneumatic motor for driving the said winding mechanism, a motor valve for controlling the speed of the motor, a compensating device having a lever connected with the said motor valve, a rod mounted to slide and connected with the said lever, the rod having a button for engagement with the note sheet at the winding up roller, and a spring connected with the compensating device, for holding the said button in frictional contact with the note sheet.

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

HERMANN MEYER.

Witnesses:

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