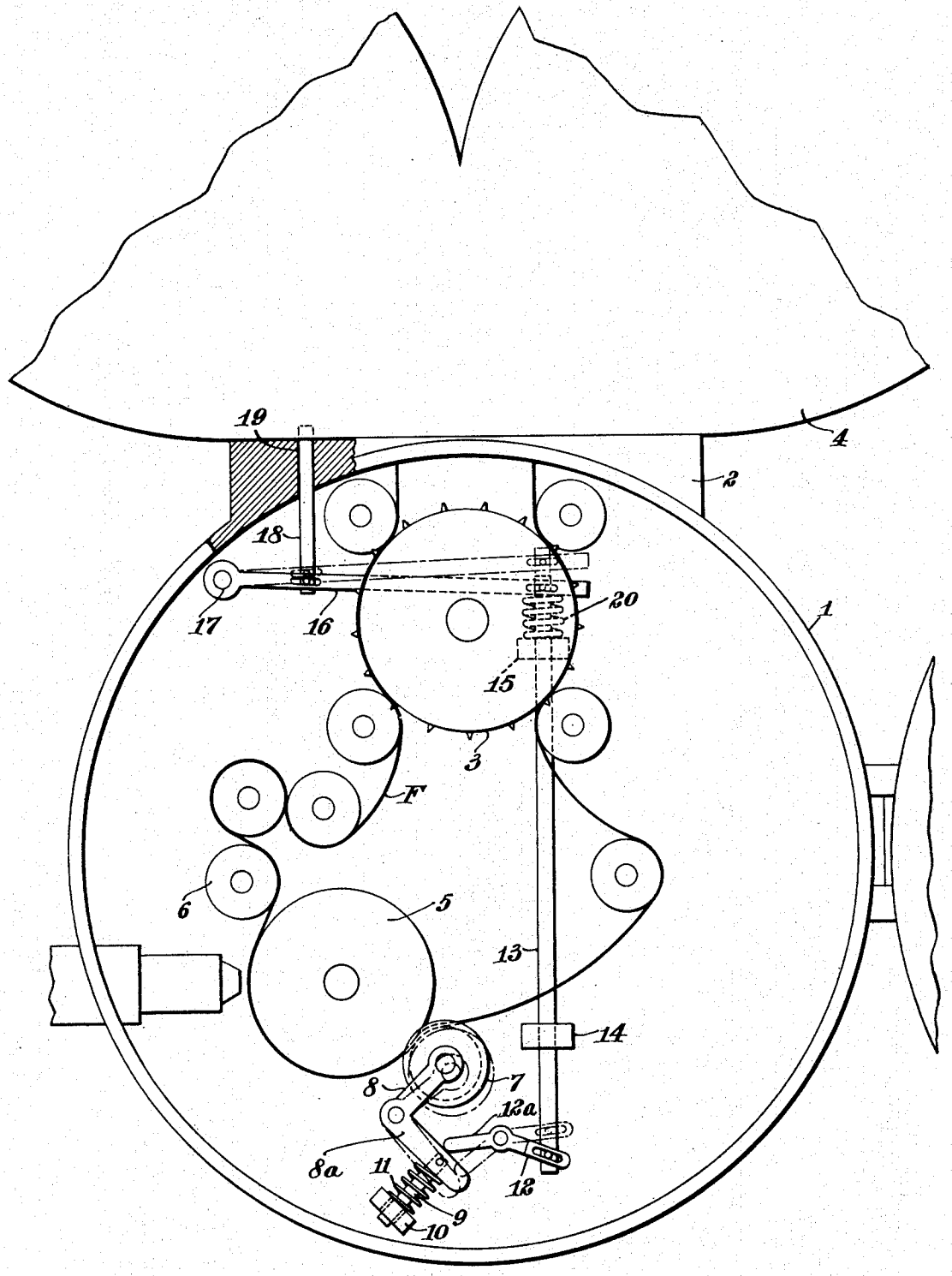
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PHONOGRAPHIC APPARATUS

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PHONOGRAPHIC APPARATUS

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6 Claims. (Cl. 271—2.3)

This invention relates to apparatus for either recording sound on a moving film or reproducing sound from such a film, and more particularly to the mechanism by means of which the film is maintained in proper operating condition at the recording or reproducing station, as the case may be.

Specifically, my present invention constitutes an improvement upon the apparatus shown in U. S. Patent No. 1,899,571. In this patent, there is shown a recorder including a drum at the recording station over which the film passes under tension, being held in contact therewith by a pressure roller. Among the features of the recorder as used in practice is an arrangement whereby the aforesaid pressure roller is automatically brought into engagement with the drum when the door of the recorder is shut, so that the operator will not be able to run the film through unless the pressure roller is in proper engagement with the drum. Since, however, the door is kept shut even when the recorder is not in use so as to keep dust and other foreign matter from collecting therein, the pressure roller is practically at all times in engagement with the drum. This eventually results in flattening of portions of the rubber or other resilient tire on the pressure roller and renders it unfit for use.

The primary object of my invention is to provide an improved method of insuring proper engagement of the pressure roller with the drum when the recorder is in use, which method will be free from the disadvantages pointed out above.

Another object of my invention is to provide an improved method of controlling the pressure roller so that it will be independent of the door but will, nevertheless, automatically assume proper engagement with the drum when the apparatus is set up for recording.

A further object of my invention is to provide improved controlling mechanism for the pressure roller which will permit facile threading of the film.

Still another object of my invention is to provide improved mechanism for controlling the pressure roller in such a manner that its useful life will be lengthened.

In accordance with my invention, I provide a control device for the pressure roller which is actuated and itself controlled by the film magazine. The arrangement is such that when the magazine is mounted in place on the recorder, it automatically effects the release of the pressure roller from a normally locked position out of contact with the drum whereupon the pressure roller is forced into engagement with the drum and maintained there until the magazine is removed.

The novel features which I consider characteristic of my invention are set forth with particularity in the appended claims. The invention itself, however, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment, when taken in connection with the accompanying drawing in which the single figure shows a front view of the recorder with my invention applied thereto.

Referring to the drawing, there is shown a casing 1 provided with a film magazine support 2 and containing a driving sprocket 3 which feeds a film F from and back to a magazine 4 mounted on the support 2. In its passage through the recorder, the film F passes around a drum 5 under tension, being held in engagement with the drum by means of a roller 6 and a pressure roller 7, the latter being rubber tired and pressing the film directly against the drum 5.

The roller 7 is mounted on a pivoted bell crank lever 8 to the arm 8a of which is connected a pin 9 free to slide in a guide member 10 on the casing 1. A compression spring 11 tends constantly to urge the lever 8 in a counterclockwise direction so that the roller 7 is urged into drum engaging position, as shown in solid lines in the drawing. A second bell crank lever 12 has connected thereto a link member or rod 13 which is slidably mounted in a pair of guide members 14 and 15 and is connected to a lever 16 pivoted at 17 to the casing 1. A pin 18 is pivotally connected to the lever 16 and extends through a slot 19 in the magazine support 2, being constantly urged upwardly above the top surface of the support 2 by a compression spring 20 interposed between the guide 15 and the lever 16.

Normally, that is when the magazine is removed from the support 2, the spring 20, which is stronger than the spring 9, forces the lever 16 and the pin 19 upwardly to the raised position shown in dot-dash lines. The rod 13 is, of course, also raised causing the bell crank 12 to turn counterclockwise to its dot-dash line position, whereupon the free arm 12a thereof, which is in engagement with the arm 8a of the bell crank 8, forces the latter to move in a clockwise direction against the action of spring 9, thus moving the roller out of drum engaging position and into the dot-dash line position illustrated. However, when the magazine 4 is fastened to the support 2, the pin 19 is depressed and with it the lever

16, rod 13 and bell crank 12, all against the action of the spring 20. This allows the bell crank 8 to move counterclockwise under the influence of the spring 9 and the pressure roller 7 is thus brought into drum engaging position.

It will be apparent from the foregoing description that I have provided a simple, yet positive, method and means for controlling the pressure roller by the film magazine. Although I have shown only one modification of my invention, many other modifications and changes will readily suggest themselves to those skilled in the art. I desire, therefore, that my invention shall not be limited except insofar as is necessitated by the prior art and by the spirit of the appended claims.

I claim as my invention:

1. In phonographic apparatus of the type employing tape records, an operating station, a tape support at said station, means adapted to maintain a tape in engagement with said support, a removable tape holder, and means controlled by said holder for rendering said first named means effective to maintain the tape in engagement with said support.

2. In phonographic apparatus of the type employing tape records, an operating station, a tape support at said station, means movable out of and into tape engaging position and adapted, in the latter position, to maintain a tape in engagement with said support, a removable tape magazine, and means controlled by said magazine for moving said first named means into tape engaging position when the magazine is mounted in operating position in the apparatus.

3. In phonographic apparatus of the type employing tape records, an operating station, a tape support at said station, means movable out of and into tape engaging position and adapted, in the latter position, to maintain a tape in engagement with said support, a removable tape magazine, and means controlled by said magazine for moving said first named means into tape engaging position when the magazine is mounted in operating position in the apparatus, said last named means including means for moving said first named means out of tape engaging position when said magazine is removed from operating position.

4. In film phonographic apparatus, a drum, a pressure roller adapted to maintain a film in engagement with said drum, means urging said roller into drum engaging position, means adapted to lock said roller out of drum engaging position against the action of said first named means, and means for rendering said last named means effective to lock said roller out of drum engaging position.

5. In film phonographic apparatus, a drum, a pressure roller adapted to maintain a film in engagement with said drum, a removable film magazine, means for locking said roller out of drum engaging position when said magazine is removed from the apparatus, and means controlled by said magazine and operated thereby when the magazine is mounted in the apparatus for rendering said locking means ineffective to lock said roller out of drum engaging position.

6. In film phonographic apparatus, a drum, a movable pressure roller adapted to maintain a film in engagement with said drum, means urging said roller into drum engaging position, a removable film magazine, means for locking said roller out of drum engaging position against the action of said first named means when said magazine is removed from the apparatus, and means controlled by said magazine and operated thereby when the magazine is mounted in the apparatus for rendering said locking means ineffective to lock said roller out of drum engaging position whereby said first named means is rendered effective to move said roller into drum engaging position.

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