F. E. BROWN.

AUTOMATIC STOP FOR TALKING MACHINES.

APPLICATION FILED SEPT. 24, 1917.

1,280,384. Patented Oct. 1, 1918.

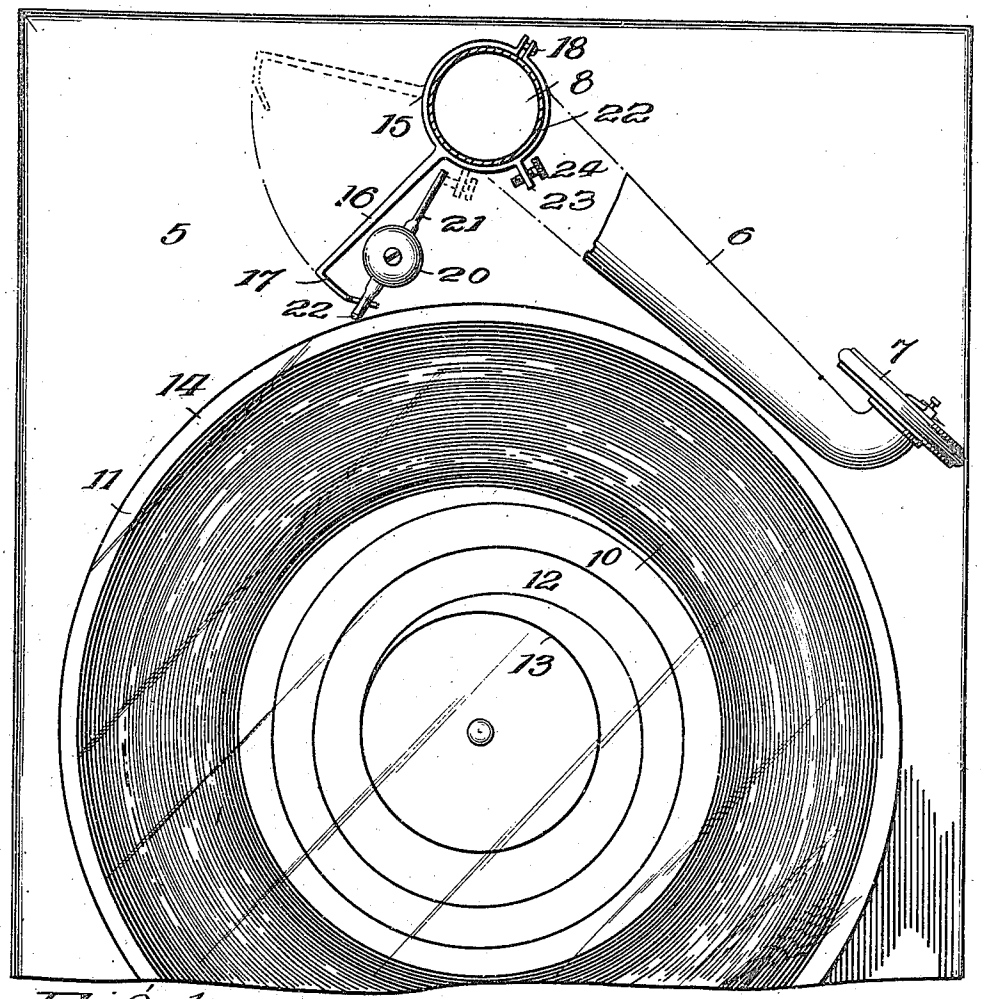


FIG. 1.

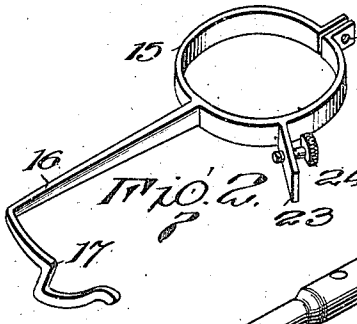


FIG. 2.

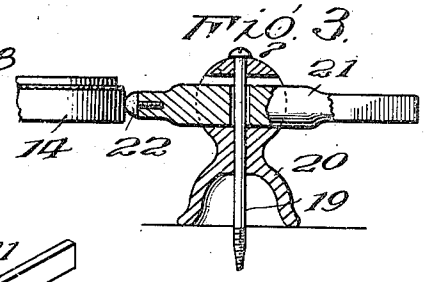


FIG. 3.

FIG. 4.

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AUTOMATIC STOP FOR TALKING-MACHINES.

1,280,384. Specification of Letters Patent. Patented Oct. 1, 1918.

Application filed September 24, 1917. Serial No. 192,955.

To all whom it may concern:

Be it known that I, FREDERICK E. BROWN, a citizen of the United States, residing at Winona, in the county of Winona and State of Minnesota, have invented certain new and useful Improvements in Automatic Stops for Talking-Machines, of which the following is a specification.

This invention relates to improvements in stops for talking machines, and more particularly to automatically operated stops adapted for use in connection with talking machines of the disk type.

One of the objects of the present invention is to provide a simple, practical and automatically operated stop adapted to to easily and quickly arrest the rotation of the disk supporting table at the completion of the rendering of any record.

A further object is to provide a device of the above general character having relatively few parts which will be inexpensive to manufacture and may be readily applied to machines now in general use.

A further object is to provide a device of the first above general character which will be neat in appearance and so constructed, positioned and arranged as to stop at the end of any record irrespective of its length and without requiring the previous setting or adjusting of the device to that record.

Other objects will be in part obvious from the annexed drawing, and in part indicated in connection therewith by the following analysis of this invention.

This invention accordingly consists in the features of construction, combination of parts and in the unique relations of the members and in the relative proportioning and disposition thereof, all as more completely outlined herein.

To enable others skilled in the art so fully to comprehend the underlying features thereof that they may embody the same by the numerous modifications in structure and relation contemplated by this invention, a drawing depicting a preferred form has been annexed as a part of this disclosure, and in such drawing like characters of reference denote corresponding parts throughout all the views, in which

Figure 1 is a plan view showing such parts of a talking machine and sound-producing mechanism as are necessary to understand the application of the present invention thereto;

Fig. 2 is a perspective view of a portion of the mechanism shown in Fig. 1;

Fig. 3 is a vertical sectional view taken through the brake mechanism;

Fig. 4 is a detail perspective view of the brake device.

Referring now to the drawing in detail, 5 represents the top of a box or casing containing the talking machine mechanism and provided with a tone arm 6 carrying a sound box 7 at its free end—all of well-known construction. The tone arm is pivoted to swing about a central support 8 and the needle carried by the sound box is adapted to coact with grooves 10 in a record disk 11. The grooves 10 end in a spiral having a plurality of higher pitch turns 12 terminating in a central circle 13 of relatively small diameter. This disk record is supported upon a revoluble table 14 driven by any suitable mechanism in the usual manner. The final turns may be traced on any record by means of a correspondingly cut celluloid form.

Mounted upon the central support 8 of the tone arm is a band 15, shown more clearly in Fig. 2, provided with a projecting arm 16 terminating in a lateral hook 17. This is clamped in adjusted position by means of a screw 18 and swings with the tone arm as shown by dotted position adjacent the edge of the table 14. Also adjacent this table 14 is a screw stud 19 carrying a member 20 supporting a pivotally mounted brake arm 21 capable of rotation about the pin 19 whereby a rubber stop 22, at one end, may be brought into engagement with the disk table 14 and thereby act as a brake to arrest rotation thereof. This brake arm 21 is capable of slight vertical movement on its support 20 whereby it may move out of braking position when engaged by hook 17.

Mounted upon the band 15 and movable therewith is a lug 23 carrying an adjustable set screw 24, the parts being so positioned and arranged that as the tone arm swings in normal operation toward the left this adjusting screw 24 will at the completion of the record coact with the free end of the brake lever 21 and urge the opposite end, or brake shoe 22, into engagement with the peripheral edge of the table 14.

The operation of this device is substantially as follows: The disk record 11 is placed upon the rotating table 14 in the usual manner and the tone arm with the sound box positioned at the outer edge there-

of and the machine started. On completion of the record the needle will be carried into the spiral grooves 12 and thereby rapidly move the tone arm relatively toward the left to bring the setscrew 24 carried thereby into engagement with the free end of the brake lever 21. This causes the brake shoe 22 to engage the edge of the rotating table and as the tone arm is prevented from moving in the opposite direction, because the needle remains in the circle 13, the rotation of the table will soon be brought to rest. The parts remain in this position until the tone arm is moved toward the right to the position shown, in which position the hook 17 engages the brake lever and holds the same in breaking position until the sound box is again moved to starting position whereby the record may be re-played unless another record has been substituted therefor. This device may be used either by itself or in connection with the usual stop mechanism as desired.

It will thus be seen from the above that the present invention is directed to a simple, practical and reliable stop for talking machines of neat appearance and one which will be reliable, efficient and automatic in its operation. It also possesses certain automatic starting features for as the tone arm is swung over to starting position the brake is automatically released.

I realize that considerable variation is possible in the details of construction and arrangement of parts without departing from the spirit of my invention, and I therefore do not intend to limit myself to the specific form shown and described.

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

1. In combination with a talking machine having a pivoted tone arm, a disk support and a record, an automatic stop therefor, comprising a pivotally mounted brake lever, and a member carried by the tone arm adapted in one position of the tone arm to engage one end of said lever to force the opposite end into engagement with the disk support and a second member carried by the tone arm and adapted to hold said brake lever in such engagement in the reverse position of the tone arm.

2. In combination with a talking machine including a pivoted tone arm, a disk support and a record terminating in a plain spiral groove of high pitch; a hook carried by the tone arm, a stop carried by and movable with the pivoted end of the tone arm, a pivotally mounted brake lever normally held in braking position by said hook when the machine is at rest and adapted to be moved into engagement with the disk support when the needle carried by the sound arm approaches the center of the record.

3. In combination with a talking machine including a pivoted tone arm, a disk support and a record terminating in a plain spiral groove of high pitch; holding means carried by the tone arm, a stop operating device carried by and movable with the tone arm, a stop consisting of a pivotally mounted brake lever normally held in braking position by said holding means when the machine is at rest and adapted to be moved into released position thereby when the machine is started and again moved into contact with the disk support when the needle carried by the sound arm approaches the center of the record, and means whereby the stop operating device carried by said sound arm may be adjusted to stop the machine at any desired point.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK E. BROWN.

Witnesses:
ELSIE SEIDLITZ,
W. J. SMITH.