H. N. GRIESINGER.

BRAKE MECHANISM FOR SOUND REPRODUCING MACHINES.

APPLICATION FILED MAY 16, 1912.

1,043,420.

Patented Nov. 5, 1912.

2 SHEETS—SHEET 1.

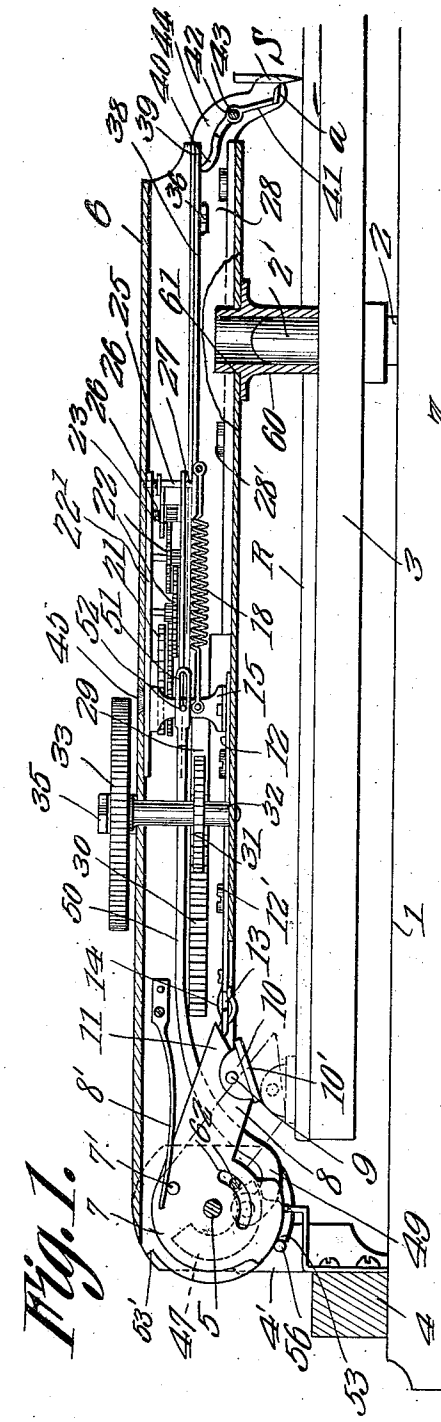

Fig. 1.

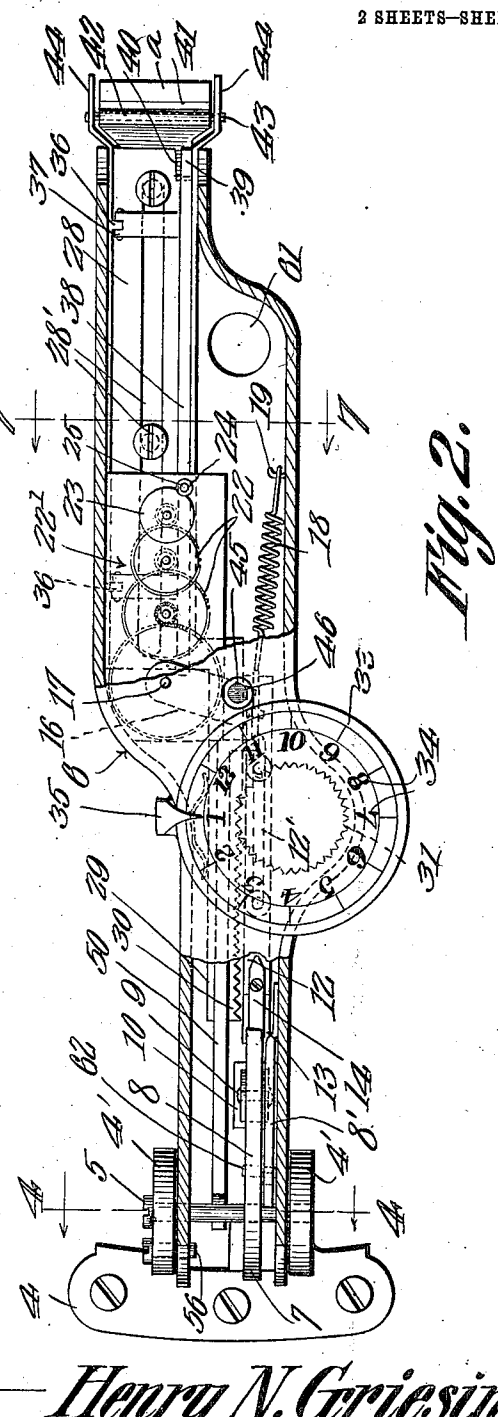

Fig. 2.

Witnesses

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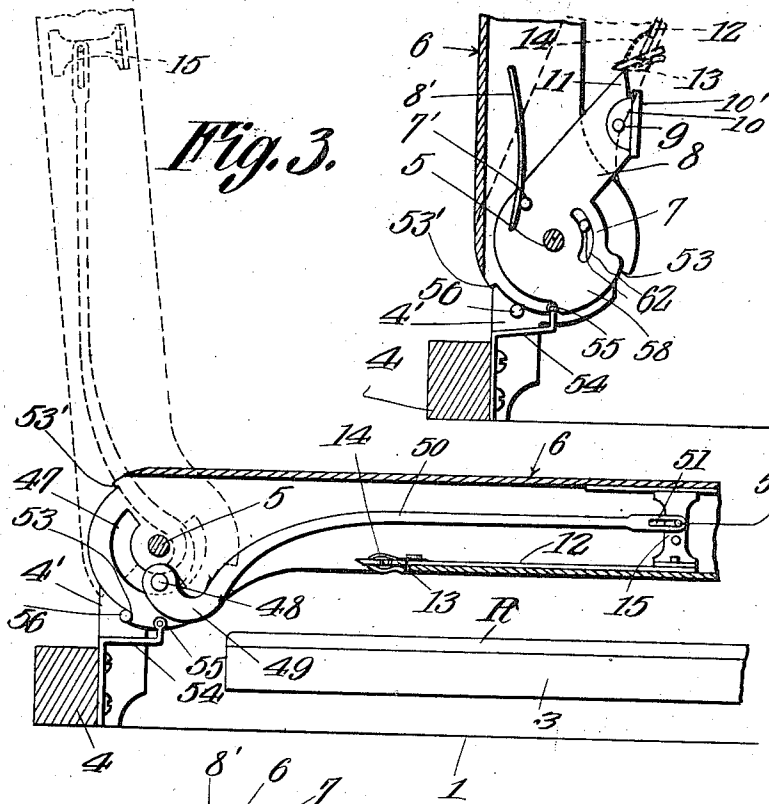

Fig. 3.

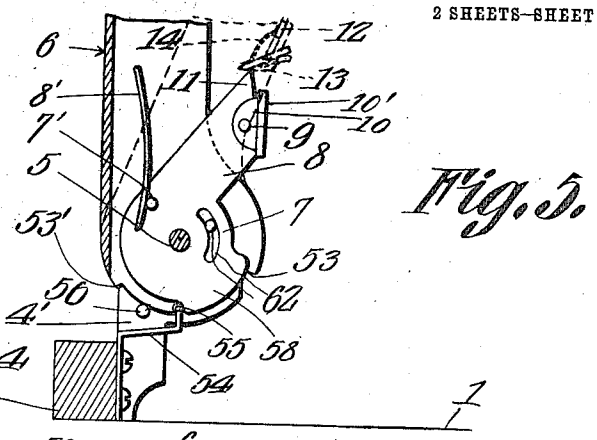

Fig. 5.

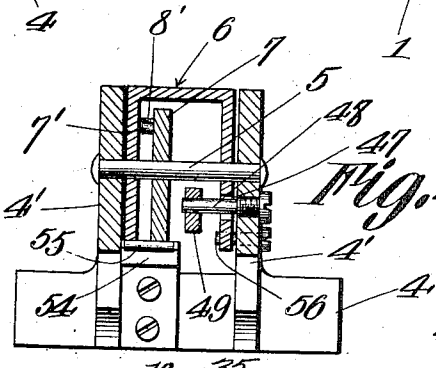

Fig. 4.

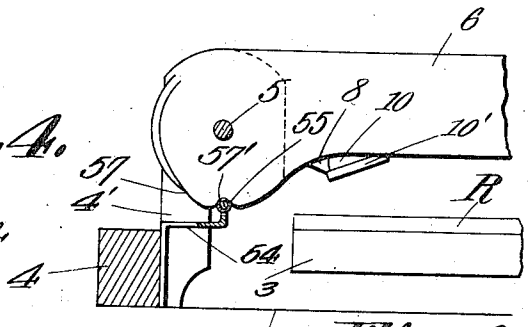

Fig. 6.

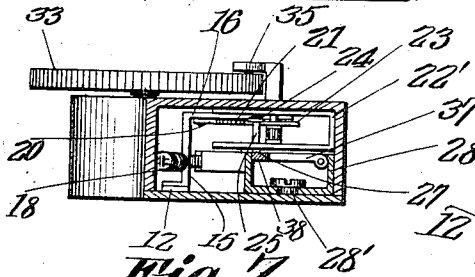

Fig. 7.

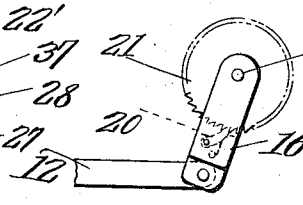

Fig. 8.

Witnesses

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UNITED STATES PATENT OFFICE.

HENRY N. GRIESINGER, OF MOUNT CARMEL, PENNSYLVANIA.

BRAKE MECHANISM FOR SOUND-REPRODUCING MACHINES.

1,043,420. Specification of Letters Patent. Patented Nov. 5, 1912.

Application filed May 16, 1912. Serial No. 697,724.

To all whom it may concern:

Be it known that I, HENRY N. GRIESINGER, a citizen of the United States, residing at Mount Carmel, in the county of Northumberland and State of Pennsylvania, have invented a new and useful Brake Mechanism for Sound-Reproducing Machines, of which the following is a specification.

The present invention relates to improvements in brake mechanisms for sound reproducing machines, the primary object of the invention being the provision of a member connected to and carried by the frame or base of the machine and so positioned as to be movable to and from and above the record and record retaining platform of the machine, said member being provided with a brake actuating mechanism controlled due to the engagement thereby with the stylus, said engaging point being adjustable so as to regulate the distance the stylus is permitted to travel before the record and platform is stopped, a resetting device being carried by said member for the brake shoe and actuated to "set" position as the member is moved away from the record.

A further object of the present invention is the provision of a brake mechanism for sound reproducing machines, adapted to be positioned in operable relation to any disk sound reproducing machine, the said mechanism being provided with a novel form of brake lock having a releasing mechanism disposed in the path to be engaged by the stylus of the reproducer at any desired point upon the record.

A still further object of the present invention is the provision of a resetting mechanism for the brake shoe carried by a member movable to and from record engaging position which as the member is moved from the record after having stopped the record and platform will be automatically reset for the next operation.

A still further object of the invention is the provision of a supporting member connected to and carried by the base of the reproducing machine and movable to and from the position above the record and carrying a longitudinally adjustable stylus engaging trigger which regardless of the adjustment is operably connected to a spring actuated brake shoe, the brake shoe being reset upon the movement of the member away from the record.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawings—Figure 1 is a longitudinal sectional view through the brake mechanism carrying casing with the parts in the position they assume before the record and platform is stopped, dotted lines indicating the position of the brake shoe when released to stop the record. Fig. 2 is a top plan view of the complete attachment with a portion of the casing in section to show the mechanism carried thereby. Fig. 3 is a view of the pivoted arm adjacent to its pivotal point showing particularly the means for resetting the brake shoe releasing mechanism, dotted lines indicating the position when said mechanism is being reset. Fig. 4 is a section on the line 4—4 of Fig. 2, said section, however, being taken through the complete mechanism. Fig. 5 is a detail view of the supporting portion of the carrying member showing the position of the brake shoe during the resetting thereof. Fig. 6 is a view similar to Fig. 5, with the casing in elevation to show the cushioning connection when in operable relation. Fig. 7 is a section taken on line 7—7 of Fig. 2. Fig. 8 is a detail view of the brake shoe lock.

Referring to the drawings, the numeral 1 designates the base or casing of a sound reproducing machine, which has projecting therefrom the usual vertical shaft or post 2 which carries the record holding platform 3 and is provided with the usual projecting end 2′ around which the record R is centered.

The present brake mechanism is adapted

to be connected to any form of disk machine and is provided with the supporting casting 4, which carries the two upstanding and parallel journaling lugs 4′, a pin or shaft 5 being carried by said lugs 4′ and constituting the pivot for the vertically swinging casing or arm 6, which carries the complete mechanism as will presently appear.

Mounted for movement upon the pin 5 within the pivotal end of the casing 6 is a disk 7 which is provided with the arm 8, said arm 8 having pivotally connected thereto by means of the pin 9, the swinging brake shoe carrying plate 10 which is provided with the soft tread or brake 10′ disposed to be placed into and out of engagement with the upper surface of the record R as clearly illustrated in Fig. 1. A pin 7′ is carried by the disk 7 and is normally engaged by the spring 8′, so that the brake shoe is normally held toward and in engagement with the record R as indicated in dotted lines Fig. 1. The projecting end 11 of the arm 8 is so positioned as to provide an abutting means to retain the brake shoe in elevated position during the rotation of the record, as will presently appear.

Mounted longitudinally of and within the casing 6 and capable of a longitudinal movement therein, is a plate 12, which by means of the screw and slot connection 12′ is properly secured to the casing and has pivotally connected to the inner end thereof a catch 13, whose spring 14 normally holds the same downwardly and in rigid connection to provide a lock for the reduced end 11 of the brake shoe carrying arm 8 to hold under normal conditions, the brake shoe and arm in the elevated position as shown in Fig. 1

Connected to the forward end of the plate 12 within the casing 6, is a depending lug 15 which is carried by the arm 16, said arm 16 being pivoted at 17 so as to have a swinging movement toward and from the forward end of the casing 6 and thus control the position of the catch 13 relatively to the brake shoe. The spring 18 has one terminal connected to the lug 15, while the other terminal is connected at 19 to the inner wall of the casing 6, and thus under normal conditions exerts a tension to pull the plate 12 and lug 15 forwardly so that the catch 13 will be thrown out of engagement with the reduced end 11 of the brake shoe carrying arm 8, to permit the spring 8′ to cause the brake shoe to be moved downwardly as indicated in dotted lines Fig. 1.

In order to lock the arm 16 and consequently the plate 12 in the position as shown in Fig. 1, so that the brake shoe will be held upwardly and out of engagement with the record R, a spring actuated pawl 20 is carried by the arm 16 and is disposed in the path to engage the teeth of the locking wheel 21, which is controlled through the medium of the train of gears 22 carried by the casing 22′ upon the under side of the top of the casing 6. A disk wheel 23 is connected to the train of gears 22 and constitutes the locking wheel of the train of gears to, when the brake shoe is in elevated position, normally hold the arm 16 locked against the tension of the spring 18, as clearly shown in Figs. 1 and 2. The disk wheel 23 is held against movement by means of the braking disk 24 mounted upon the vertically slidable shaft or rod 25 mounted in the casing 22′ and normally held downwardly into braking position by means of the coil spring 26, which surrounds the shaft 25 the lower end 27 of the said shaft 25 being projected below the casing and in the path to be engaged by the releasing mechanism, as will presently appear.

Mounted for vertical or longitudinal sliding movement within the free end of the casing 6 is the stylus actuated releasing mechanism 28 of the device, the same being mounted by means of the slot and screw connection 28′ to the bottom of the casing 6 and having connected to the rear portion thereof, the arm or rod 29 upon the edge of which is provided the teeth 30. The teeth 30 are in engagement at all times with the teeth of the gear 31 keyed upon and rotatable with the vertical shaft 32 journaled within the casing 6. Upon the upper end of the shaft 32 is keyed a milled disk 33 which is provided with the dial numbers 34 which in conjunction with the stationary pointer 35 carried by the casing 6, indicates at a glance, the consequent projection or retraction of the outer free end of the device 28, these numbers indicating the various grooves within the record adjacent to the usual plain portion formed concentrically of the record, so that the rotation of the record may be halted at any desired point before the passage of the stylus S out of the grooves upon such plain portion.

Mounted for transverse swinging movement within the device 28 through the medium of the hinges 36—37 is the longitudinal plate 38 which is disposed to, at all times when raised abut the lower end 27 of the vertical rod 25 and thus move the braking disk 24 out of engagement with the brake wheel or disk 23 of the retarding mechanism mounted in the casing 22′. This releasing bar or plate 38 is of such a length that a portion thereof will always be below the lower end 27 of the vertically slidable releasing rod 25 so that regardless of the position of the device 28 within the casing 6, the said releasing plate or bar 38 will always be in operable relation to the same.

The forward end 39 of the bar 38 is

positioned to be above the reduced bar actuating lip or lug 40 of the bar actuating device 41, which is provided with the transverse sleeve 42 journaled upon the pin 43 between the two spaced arms or lugs 44 carried by the forward free end of the longitudinally adjustable device 28. Secured upon the lower forward edge of the bar releasing device 41, is a strip *a* of rubber which is disposed in the path to be engaged by the stylus S carried by the usual sound reproducing device (not shown) of the sound reproducing machine, so that the pressure thereof against the strip *a* will actuate the device 41 to lift the lip or lug 40 and consequently the bar 38. This bar 38 will elevate the pin or rod 25 and thus release the gear escapement 22, releasing the arm 15 to the action of its spring, so that the plate 12 unlocks the brake shoe. This stops the record and the record carrying platform of the machine.

In order to visually indicate the position of the lever 16 so that the operator will know when the brake shoe is properly set and out of engagement with the record R, the aperture 45 is provided in the casing 6, while a target indicator 46 is carried by the upper face of the arm 16, as clearly shown in Fig. 2.

In order to provide a means for resetting the plate 12 as the casing 6 is moved away from the record R, a segmental slot 47 is provided in one side of the supporting casing 6 near the pivoting pin 5 and has projected therethrough the pin 48 which is connected to one of the lugs or posts 4′, said pin having disposed upon its inner end within the casing 6, the curved end 49 of the setting lever 50, whose forward end is slotted, as at 51, to engage the pin 52 connected to and carried by the lug 15. It will thus be seen that when the parts have assumed the dotted line position in Fig. 1 and the casing 6 is raised from such position to the dotted line position in Fig. 3, that the setting lever 50, due to the said swinging movement from its stationary position relatively to the pin 48 will cause the arm 16 to be moved from the position as shown in full lines Fig. 3 to dotted line position therein, the brake shoe carrying disk 7 being moved during this operation from the dotted line position, as shown in Fig. 1 to the full line position by means of the pin and slot 62, so that the reduced end 11 will be placed in engagement with the trigger or lock 13, thus simultaneously resetting the brake shoe and the lever 16, which due to its pawl 20 will engage the teeth of the gear 21 and be locked in the position as shown in Fig. 2. Thus when the casing 16 is lowered above the record R, the brake shoe will be placed above and out of contact with the record and the parts will be reset, the indicator or target 46 indicating at a glance that the plate 12 is in the proper position for actuation by the stylus S.

By means of the cam edge 57 and depression 57′ carried by one portion of the casing 6 near the pivotal point thereof, the roller 55 carried upon the spring 54 is at the proper time depressed and removed from engagement with the shouldered portion of the actuating lug 58 of the disk 7 this being accomplished after the reduced end 11 of the arm 8 has been engaged by the spring catch 13 of the plate 12 or when the parts are moved from the position, Fig. 5, to the position, Fig. 6. Thus by holding the roller 55 out of engagement with the disk 7, the brake shoe may be properly actuated when released, the same being thus free to the action of the spring 8′.

In order to limit the up and down swinging movement of the casing 6, a pin 55 is carried by one of the lugs 4′ and is positioned to engage one or the other of the shoulders 53 or 53′ of the casing 6, as clearly shown in Fig. 3, thus retaining the casing so that the same will not be permitted to fall upon the record R when in lower position and limiting the upward movement so that the casing will lean outwardly beyond the perpendicular line and thus be held against falling toward the record.

From the foregoing description, taken in connection with the drawings it is evident that the present attachment may be attached to any form of disk sound reproducing machine, and that it carries all of the mechanism for stopping the record R and its platform 3 at any desired position, such point of stoppage being governed by the projection of the rubber stop *a* relatively to the stylus S, and that also although the same has been shown as being capable of a movement vertically to and from the record R.

When assembling the present attachment, the removable sleeve 60 is employed to fit upon the upper end of the platform supporting shaft 2′, the same having its upper end so positioned as to register with the aperture 61 of the casing 6, and thus support the casing at the proper elevation above the record carrying platform 3 during the securing of the casting 4 to the base or casing 1 of the machine. After the same has been properly attached, the sleeve 60 is removed and the device is ready to be operated.

What is claimed is:

1. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having an arm movable to and from a position above the rotating member, a spring actuated brake shoe carried by the arm, means to set the brake shoe as the arm is moved

away from the rotating member, and means disposed in the path of and to be engaged by the traveling member to actuate the last means to release the brake shoe to stop the rotating member.

2. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having an arm movable to and from a position above the rotating member, a spring actuated brake shoe carried by an arm, means to set the brake shoe as the member is moved away from the rotating member, and longitudinally adjustable means carried by the arm and to be disposed in the path of and to be engaged by the traveling member to actuate the last mentioned means to release the brake shoe.

3. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member actuated by the traveling member, and having a rigid support an arm mounted to the support and disposed for movement to and from a position above the rotating member, a spring actuated brake shoe carried by the arm, a latch for locking the brake shoe carried by the arm, a trigger carried in the outer end of the arm and disposed in the path of and to be engaged by the traveling member to release the latch and brake shoe, and means carried by the arm for setting the latch when said arm is moved away from the rotating member.

4. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member actuated by the traveling member, and having a support, an arm pivoted to the support and disposed for movement to and from a position above the rotating member, a spring actuated brake shoe carried by the arm, a latch for locking the brake shoe carried by the arm, a trigger carried in the outer end of the arm and disposed in the path of and to be engaged by the traveling member to release the latch and brake shoe, said latch and trigger being longitudinally adjustable relatively to the arm, and means carried by the arm for setting the latch when said arm is moved away from the rotating member.

5. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having a support, an arm pivotally connected to the support for movement to and from a position above the rotating member, a spring actuated brake shoe pivoted to said support and in braking relation to the rotating member, a longitudinally slidable plate for locking the brake shoe out of engagement with the rotating member, and a means carried by the arm to be engaged by the traveling member to release the plate to permit the brake shoe to engage the rotating member.

6. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having a support, an arm pivotally connected to the support for movement to and from a position above the rotating member, a spring actuated brake shoe pivoted to said support and in operable relation to the rotating member, a longitudinally slidable plate carried by the arm for locking the brake shoe out of engagement with the rotating member, and a longitudinally adjustable means for engagement with the traveling member mounted in the arm and in co-active relation with the sliding plate to release the plate and the brake shoe when engaged by the traveling member.

7. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having a support, an arm, a member pivotally connected to the support for movement to and from a position above the rotating member, a spring actuated brake shoe pivoted to said support and in operable relation to the rotating member, a longitudinally slidable plate mounted in the arm and for locking the brake shoe out of engagement with the rotating member, a longitudinally adjustable means engageable by the traveling member mounted in the pivoted arm and in co-active relation with the sliding plate to release the plate and the brake shoe, when engaged by the traveling member, and an indicating mechanism for indicating the projection of the last mentioned means.

8. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having a support, an arm pivotally connected to the support for movement to and from a position above the rotating member, a spring actuated brake shoe pivoted to said support and in operable relation to the rotating member, a longitudinally slidable plate carried by the arm for locking the brake shoe out of engagement with the rotating member, means engageable by the traveling member for releasing the plate to permit the brake shoe to engage the rotating member, and means carried by the arm for resetting the longitudinally slidable plate and brake shoe as the pivoted arm is moved away from the rotating member.

9. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having a support, an arm pivotally connected to the support for movement to and from a position above the rotating member, a spring actuated brake shoe pivoted to said support and in operable relation to the rotating member, a longitudinally slidable plate carried by the arm for locking the brake shoe out of engagement with the rotating mem-

ber, a longitudinally adjustable means engageable by the traveling member mounted in the pivoted arm and in co-active relation with the sliding plate to release the plate and the brake shoe, when engaged by the traveling member and means carried by the arm for resetting the longitudinally slidable plate and brake shoe as the pivoted arm is moved away from the rotating member.

10. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, having a support, an arm pivotally connected to the support for movement to and from a position above the rotating member, a spring actuated brake shoe pivoted to said support and in operable relation to the rotating member, a longitudinally slidable plate carried by the arm for locking the brake shoe out of engagement with the rotating member, a longitudinally adjustable means engageable by the traveling member mounted in the pivoted arm and in co-active relation with the sliding plate to release the plate and brake shoe when engaged by the traveling member, an indicating mechanism for indicating the projection of the traveling member engaging means, and means carried by the arm for resetting the longitudinally slidable plate and brake shoe as the pivoted arm is moved away from the rotating member.

11. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member comprising a support, a pivoted casing connected to said support and movable to and from a position above the rotating member, a longitudinally slidable plate mounted in the casing, a trigger mounted in the outer end of said plate and disposed in the path to be engaged by the traveling member, a spring actuated brake shoe mounted in the casing, a longitudinally slidable catch mounted in the casing and disposed to engage the brake shoe to retain the same in elevated position and against the tension of its spring, spring actuated means for releasing said catch from the brake shoe, means mounted in the casing for locking the same against the tension of the spring, and a releasing bar mounted in the longitudinally adjustable plate and in co-active relation with the trigger, whereby the brake shoe is released when the trigger is engaged by the traveling member.

12. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member comprising a support, a pivoted casing connected to said support and movable to and from a position above the rotating member, a longitudinally slidable plate mounted in the casing, a trigger mounted in the outer end of said plate and disposed in the path to be engaged by the traveling member, a spring actuated brake shoe mounted in the casing, a longitudinally slidable catch mounted in the casing and disposed to engage the brake shoe to retain the same in elevated position and against the tension of its spring, spring actuated means for releasing said catch from the brake shoe, means mounted in the casing for locking the same against the tension of the spring, a releasing bar mounted in the longitudinally adjustable plate and in co-active relation with the trigger, whereby the brake shoe is released when the trigger is engaged by the traveling member, and means for indicating the projection of the longitudinally slidable plate and the trigger.

13. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member, a support comprising a pivoted casing connected to said support and movable to and from a position above the rotating member, a longitudinally slidable plate mounted in the casing, a trigger mounted in the outer end of said plate and disposed in the path to be engaged by the traveling member, a spring actuated brake shoe mounted in the casing, a longitudinally slidable catch mounted in the casing and disposed to engage the brake shoe to retain the same in elevated position and against the tension of its spring, spring actuated means for releasing said catch from the brake shoe, means mounted in the casing for locking the same against the tension of the spring, a releasing bar mounted in the longitudinally adjustable plate and in co-active relation with the trigger, whereby the brake shoe is released when the trigger is engaged by the traveling member, means for indicating the projection of the longitudinally slidable plate and the trigger carried by the casing, and means mounted in the casing for resetting the brake shoe and catch during the movement of the casing away from the rotating member.

14. The combination with a rotating member and a traveling member, of a brake mechanism for the rotating member comprising a support, a pivoted casing connected to said support and movable to and from a position above the rotating member, a longitudinally slidable plate mounted in the casing, a trigger mounted in the outer end of said plate and disposed in the path to be engaged by the traveling member, a spring actuated brake shoe mounted in the casing, a longitudinally slidable catch mounted in the casing and disposed to engage the brake shoe to retain the same in elevated position and against the tension of its spring, spring actuated means for releasing said catch from the brake shoe, means mounted in the casing for locking the same against the tension of the spring, a releasing bar mounted in the longitudinally adjustable plate and in co-

active relation with the trigger, whereby the brake shoe is released when the trigger is engaged by the traveling member, means for indicating the projection of the longitudinally slidable plate and the stylus engaging trigger, means mounted in the casing for resetting the brake shoe and catch during the movement of the casing away from the rotating member, and means for releasing the brake resetting means after the brake shoe has been locked against its spring.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY N. GRIESINGER.

Witnesses:

WILLIAM HANSOM,

F. W. MAGRADY.

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