

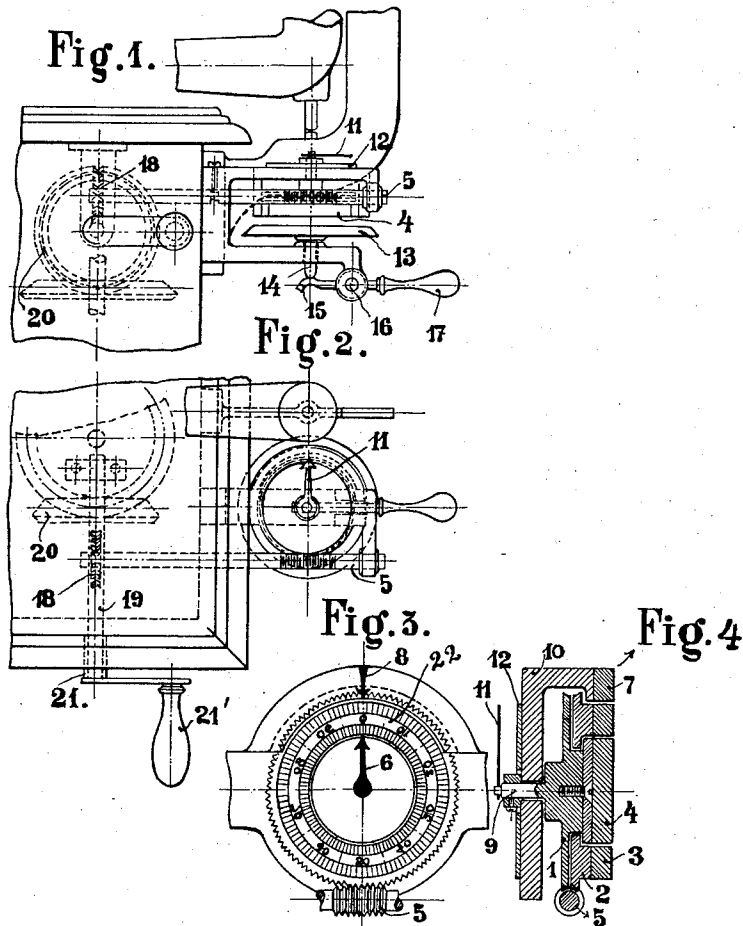
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MECHANISM FOR COUNTING AND RECORDING THE USE OF SOUND REPRODUCING RECORDS.

APPLICATION FILED MAY 6, 1912.

1,060,504.

Patented Apr. 29, 1913.



Witnesses:-

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# UNITED STATES PATENT OFFICE.

IWAN SCHMURKIN, OF MOSCOW, RUSSIA.

MECHANISM FOR COUNTING AND RECORDING THE USE OF SOUND-REPRODUCING RECORDS.

1,060,504.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed May 6, 1912. Serial No. 695,559.

*To all whom it may concern:*

Be it known that I, IWAN SCHMURKIN, a subject of the Emperor of Russia, residing at No. 74 Wherny, Torgowy Rjady, Moscow, Russia, have invented certain new and useful Improvements in Mechanisms for Counting and Recording the Use of Sound-Reproducing Records, of which the following is a specification.

The invention relates to machines such as sound reproducing machines having a counter connected thereto.

In the exploitation of sound reproducing machines it is often desirable to hire out the records from which the said machines reproduce the sounds, instead of disposing of the records by sale outright.

The present invention has for its object a mechanism for counting and recording the number of times such records have been used on sound reproducing machines fitted with such mechanism and the means whereby the counter is operated.

The mechanism for counting and recording the number of times the records are used can be fitted to every sound reproducing machine, and the owner having a subscription depot for the hire of these machines and their records can hire such to customers in any locality without regard to distance or time, in view of the fact that the construction of the counting mechanism and the system of controlling the same are such as allow of the payment for the hire to be transmitted by post or other available transmission means.

A subscriber who has obtained on hire a sound reproducing machine fitted with the aforesaid counting and recording mechanism, and a number of records which are provided with specially shaped apertures to engage with the corresponding spindle of the sound reproducing machine, and which records he is prevented from using with other machines not fitted with the counting and recording mechanism of the present invention, and desires to renew his supply of records, presents a slip of paper bearing the registration figures of said counting and recording mechanism and pays to the owner the amount due, as determined by the difference between the last reading of the counter and that of the previous one.

The essential feature of the proposed

mechanism for counting and recording the number of times the sound records have been used, consists in the combination of a sound reproducing machine with a counter wherein at each winding up of the spring mechanism necessary to make the machine operate, automatic counting takes place and in addition a special device is provided for the purpose of recording upon a paper slip the total number of times the records have been used with the machine.

One form of this invention is illustrated by way of example in the accompanying drawings in which:—

Figure 1 is a side elevation and Fig. 2 a plan of apparatus applied according to this invention to a gramophone for recording the number of changes of the records. Figs. 3 and 4 show the counter and the stamping mechanism in elevation and cross section.

The counter counts and records each winding of the motor spring which is actuated by means of a winding handle as in the construction shown in Figs. 1 and 2. The counter consists of two concentric disks 1 and 2 (Fig. 4) provided with stamping parts 3 and 4. Each of these disks has peripheral teeth engaging with a common worm 5. The number of teeth of wheel 1 differs by one tooth as compared with the number of teeth of wheel 2 which latter is one hundred. The part 3 connected to the disk 2 forms an annular stamping die having one hundred divisions. A pointer 6 is marked on the part 4 of the disk 1. A similar pointer 8 is also marked on the stationary part 7 of the casing 10 in the upper part of which the shaft 9 of the disk 1 is rotatably mounted carrying a pointer 11. Opposite this pointer 11 a stationary dial 12 the graduations not being shown, but which correspond to the graduations on dial 22 on part 3 is provided on the casing 10 and is marked with the same divisions as the disk 2. The counter is applied to the sound reproducing machine in such a manner that its shaft 9 is vertical and the stamping faces of the parts 3, 4 and 7 are directed downward, the dial 12 and the pointer 11 being arranged face upward so as to be visible. The counter may be of any construction so long as it is convenient to use and is accessible.

Under the face of the counter on which the divisions and the pointers are marked

in relief in negative, there is arranged a pressing disk 13 the axle 14 of which can be moved up and down by means of the nose 15 of a hand lever 17 pivoted on a pin 16. A ticket or a paper strip is inserted between the stamping dies 3, 4, 7 and the disk 13. On pressing down the lever 17 impressions of the circle of divisions on the disk 3 and of the pointers 6 and 8 in their relative positions are stamped in the said ticket. The shaft of the worm 5 is provided at its other end with a worm wheel 18 which gears with a worm on a shaft 19. A crank handle 21' is mounted on the shaft 19 and serves for winding the spring of the sound reproducing machine through the medium of a toothed wheel 20. The worm on the shaft 19 and the worm gear 18 are so proportioned that by winding the spring sufficiently to play a normal record of medium size the worm 5 is rotated through one complete revolution, and consequently the disks 1 and 2 are also each rotated through one division. At each complete revolution of the disks 2, 3 and 1, 4, the latter disk overruns with its pointer 6 the disk 2, 3 by one division. By this means the pointer 8 indicates the number of times the spring of the sound reproducing machine has been wound, each winding being sufficient for playing a

record of medium size right through and being effected by a certain number of revolutions of the winding crank handle. The pointer 6 overruns the dial by one division at each revolution and indicates the hundreds of these windings.

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

A counter comprising two worm toothed wheels mounted concentrically, having a difference of one tooth in the number of teeth and provided with an indicating dial, a worm for driving the said toothed wheels, a shaft carrying said worm, means for rotating said shaft, a circular die and an annular die both mounted upon the aforesaid toothed wheels, suitably marked divisions on one of said dies, a pointer on the other die, a stationary pointer, a platform situated opposite to said dies and means to press said platform against the dies whereby a record of the indicating may be registered on a strip of paper.

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

IWAN SCHMURKIN.

Witnesses:

RIPLEY WILSON,  
CRISTIAN ERFURT.

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