No. 742,233. PATENTED OCT. 27, 1903.

C. C. REINHARDT.

ACTUATING MECHANISM FOR PHONOGRAPHS OR SIMILAR EXHIBITORS.

APPLICATION FILED MAR. 25, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

FIG. 1.

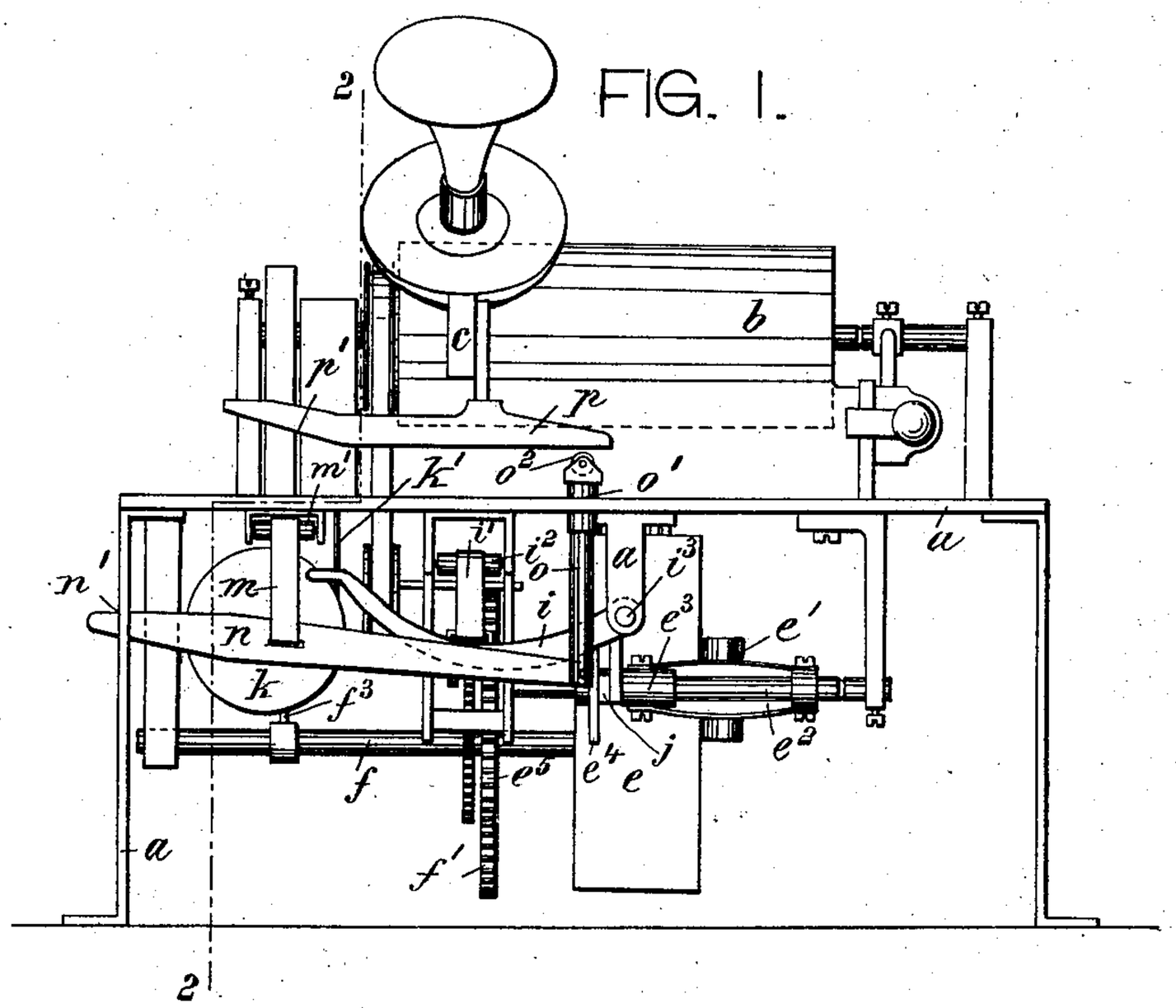
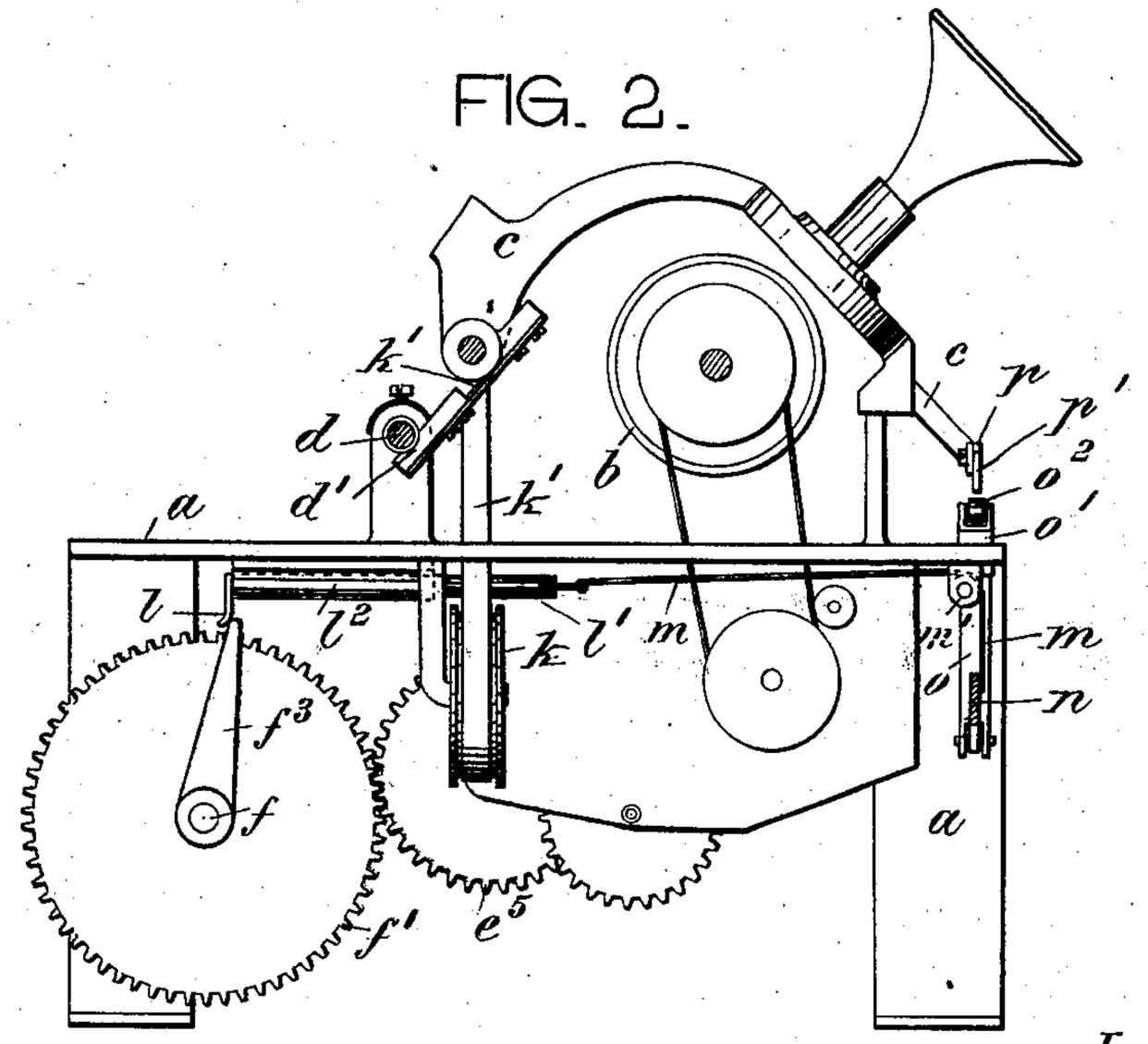


FIG. 2.



Witnesses:
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Edward Ray

Inventor:
Charles C. Reinhardt
by his attorney
Arthur O'Brien

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NO MODEL. 2 SHEETS—SHEET 2.

FIG. 3.

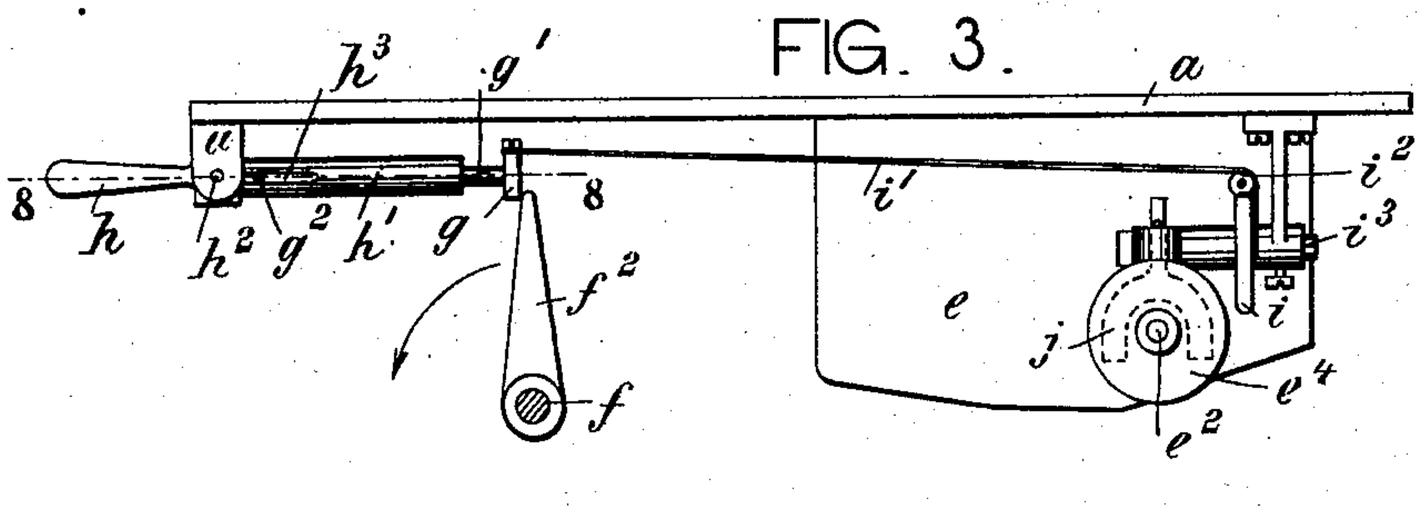


FIG. 4.

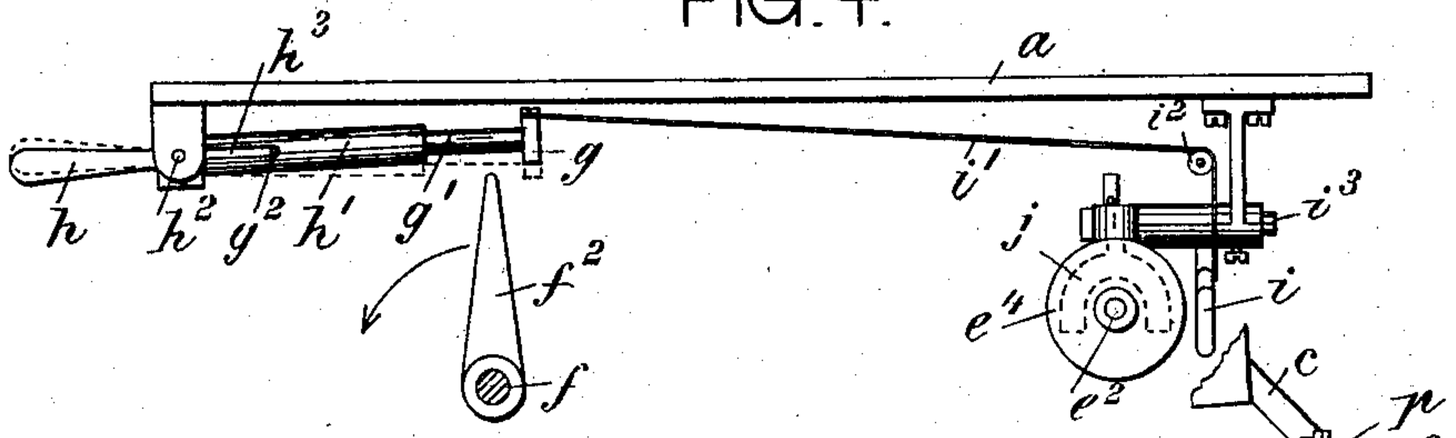


FIG. 6.

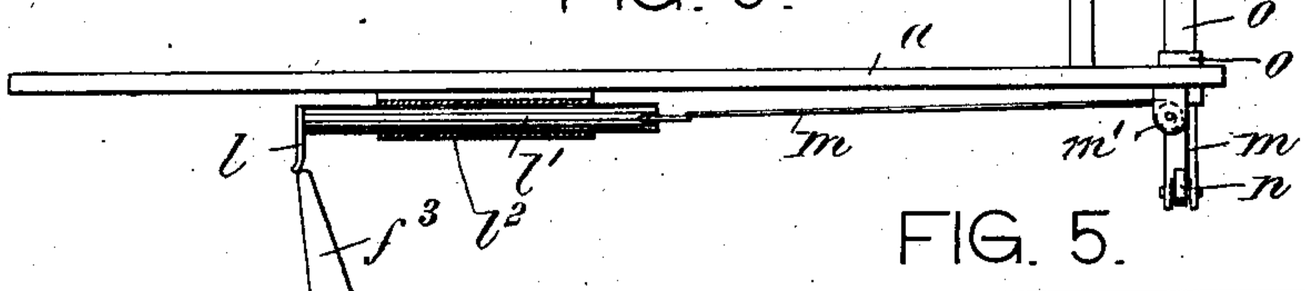


FIG. 5.

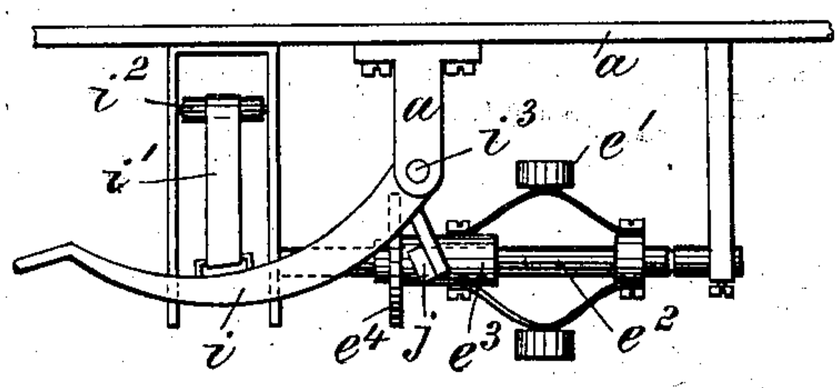


FIG. 8.

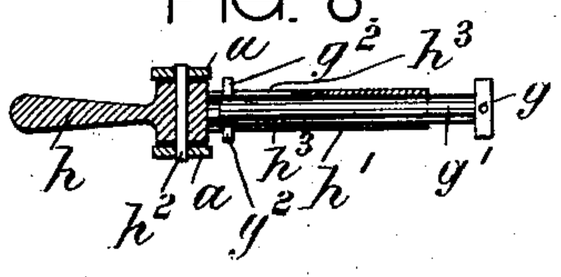
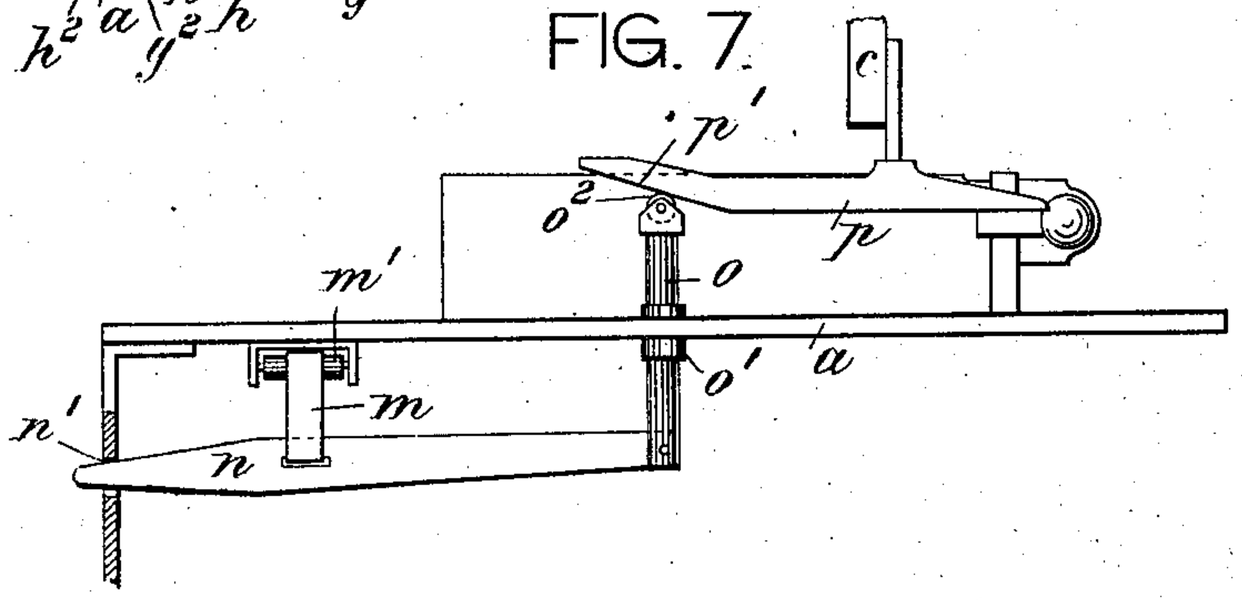


FIG. 7.



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No. 742,233. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

CHARLES C. REINHARDT, OF NEW YORK, N. Y.

ACTUATING MECHANISM FOR PHONOGRAPHS OR SIMILAR EXHIBITORS.

SPECIFICATION forming part of Letters Patent No. 742,233, dated October 27, 1903.

Application filed March 25, 1903. Serial No. 149,433. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. REINHARDT, a citizen of the United States, residing at New York city, (Manhattan,) county and State of New York, have invented certain new and useful Improvements in Actuating Mechanism for Phonographs or Similar Exhibitors, of which the following is a specification.

This invention relates to improved means for starting and resetting a phonograph or similar exhibitor in a simple and reliable manner.

In the accompanying drawings, Figure 1 is a front elevation of a phonograph embodying my invention; Fig. 2, a cross-section on line 2 2, Fig. 1, showing the parts in a different position. Figs. 3 and 4 are details of the starting mechanism, showing the parts in different positions. Fig. 5 is a detail of the governor and brake; Fig. 6, an end view of the resetting mechanism; Fig. 7, a front elevation thereof; and Fig. 8 a section on line 8 8, Fig. 3.

The letter a represents the frame of a phonograph, b is the record-cylinder, and c the carriage, carrying the reproducer and engaging a worm d by a screw-block d', all as usual. The cylinder as well as the worm are rotated by a suitable spring or electric motor e, influenced by a centrifugal governor e'. This governor is mounted upon a shaft e^2 and has a slidable member e^3, which carries a brake-disk e^4. A time-shaft f is by wheels f' e^5 intergeared with the motor in such a manner that the shaft f makes one full rotation during each complete reciprocating movement of the carriage c. Upon the shaft f are mounted two radial fingers f^2 f^3, of which the finger f^2 is set largely in advance of finger f^3. The finger f^2 normally engages the inner side of the slide g, Fig. 3, which is mounted upon a stem g'. This stem is telescoped by the tubular sleeve h' of a lever h, fulcrumed to frame a at h^2 and operated in any suitable manner. Pins g^2 on stem g', engaging slots h^3 of sleeve h', limit the movement of the stem g' within the sleeve. The slide g is connected by a string or tape i', passing over idler i^2, to a lever i, fulcrumed to frame a at i^3, Fig. 5. This lever carries a bifurcated brake-shoe j, which straddles the member e^3 of governor e' and is adapted to frictionally engage the brake-disk e^4.

The operation as thus far described is as follows: Normally the finger f^2 being under the influence of the motor, pushes the slide g outward, and the latter by string i' raises the lever i, so as to hold the brake-shoe j in frictional contact with the disk e^4, and thus arrest the motor, Figs. 1 and 3. By depressing lever h the slide g is raised to clear finger f^2, Fig. 4, and liberate the lever i. This lever now descending by gravity will move the slide g across the end of finger f^2 and will simultaneously take the brake j off disk e^4, Fig. 5, and thus release the governor, so that the motor is started. The finger f^2 being clear of the slide g, permits the time-shaft f to make one full rotation, upon the completion of which the finger rearrests the motor in manner hereinafter described. It will be seen that the sliding connection between actuating-lever h and slide g permits the latter to be rapidly drawn across the finger f^2 by the weight of lever i as soon as the lever h is depressed. This gives the motor ample time to start and prevents the slide from falling against the same side of finger f^2 upon a quick release of lever h. The released motor will rotate the cylinder b and worm d and will carry the carriage c along the worm and cylinder in the usual manner. During this forward movement of the carriage it will wind up by a string or tape k' a coiled return-spring contained in drum k. After the reproducer has reached the end of the race it is automatically returned to its initial position in the following manner: The second finger f^3 of time-shaft f is adapted to bear against a slide l, mounted upon stem l', which is movable within a tubular guide l^2. The stem l' of slide l is connected by a string or tape m, passing over idler m', to a lever n, fulcrumed to frame a at n', Figs. 1 and 7. The end of lever n carries a vertical lifter o, guided in a bearing o' and provided at its upper end with a friction-roller o^2. This roller is arranged beneath a rail p, connected to carriage c, parallel to the worm d and having an inclined left-hand lower edge p'.

When the reproduction of the record on cylinder *b* is finished, the finger f^3 will by bearing against the inner end of slide *l*, Fig. 2, move the same outward, Fig. 6. The slide will by string *m* raise lever *n* to elevate the lifter *o*. The roller o^2 of the lifter will thus be brought into engagement with the lower edge of rail *p* and by raising the latter will tilt the carriage *c* backward and disengage the screw-block *d'* from worm *d*. The carriage being liberated, will be rapidly returned to its initial position by tape *k'* and the return-spring in drum *k*. During the beginning of this return motion the roller o^2 will by engaging the inclined edge *p'* of rail *p*, Fig. 7, give an additional backward tilt to the carriage to more rapidly release the worm from the screw-block. After the carriage has returned to its original position the finger f^3 will clear the slide *l* to release lever *n* and permit the lifter *o* and carriage *c* to descend by gravity. The finger f^2 will now have swung around to such a position as to engage the opposite side of slide *g* and push the same outward, Fig. 3. This movement of slide *g* will elevate lever *i* by string *i'* and reset the brake-shoe *j* against the disk e^4, so as to arrest the motor. The parts are now in position for a new exhibition effected by a new depression of lever *h*.

The improved releasing and resetting mechanism herein described may be used on moving exhibitors other than phonographs wherever a power-controlled carriage or shaft is to be liberated or returned.

What I claim is—

1. In an apparatus of the character described, a power-controlled time-shaft having a pair of fingers, combined with a carriage, means controlled by one finger to advance the carriage, and means controlled by the second finger to return the carriage, substantially as specified.

2. In an apparatus of the character described, a power-controlled time-shaft having a pair of fingers, combined with a movable spring-influenced carriage, a motor for actuating the same, a governor controlling the motor, a brake controlling the governor, means controlled by the first finger for setting the brake, and means controlled by the second finger for returning the carriage, substantially as specified.

3. In an apparatus of the character described, the combination of an actuating-lever with a slide movably connected thereto, a time-shaft having a finger that engages the slide, a brake operatively connected to the slide, a motor having a governor controlled by the brake, and a carriage actuated by the motor, substantially as specified.

4. In an apparatus of the character described, the combination of an actuating tubular lever with a slide having a stem which is telescoped by the lever, a time-shaft having a finger that engages the slide, a lever connected to the slide, a brake connected to the lever, a motor having a governor controlled by the brake, and a carriage actuated by the motor, substantially as specified.

5. In an apparatus of the character described, the combination of a time-shaft having a finger, with a carriage, a rail on the carriage, and a lifter actuated by the finger and adapted to engage the rail, substantially as specified.

6. In an apparatus of the character described, the combination of a time-shaft having a finger, with a carriage, a rail on the carriage having an inclined lower edge, and a lifter actuated by the finger and adapted to engage the rail, substantially as specified.

7. In an apparatus of the character described, the combination of a time-shaft having a finger, with a slide engaging the same, a lever operatively connected to the slide, a lifter actuated by the lever, a carriage, and a rail on the carriage adapted to be engaged by the lifter, substantially as specified.

8. In an apparatus of the character described, the combination of an actuating-lever, with a slide movably connected thereto, a tape connected to the slide, a brake-controlling lever connected to the tape, and a time-shaft having a finger that engages the slide, substantially as specified.

Signed by me at New York city, (Manhattan,) New York, this 24th day of March, 1903.

CHARLES C. REINHARDT.

Witnesses:

WILLIAM SCHULZ,

F. V. BRIESEN.