L. J. BECHTOLD.

MOVING PICTURE INDICATOR.

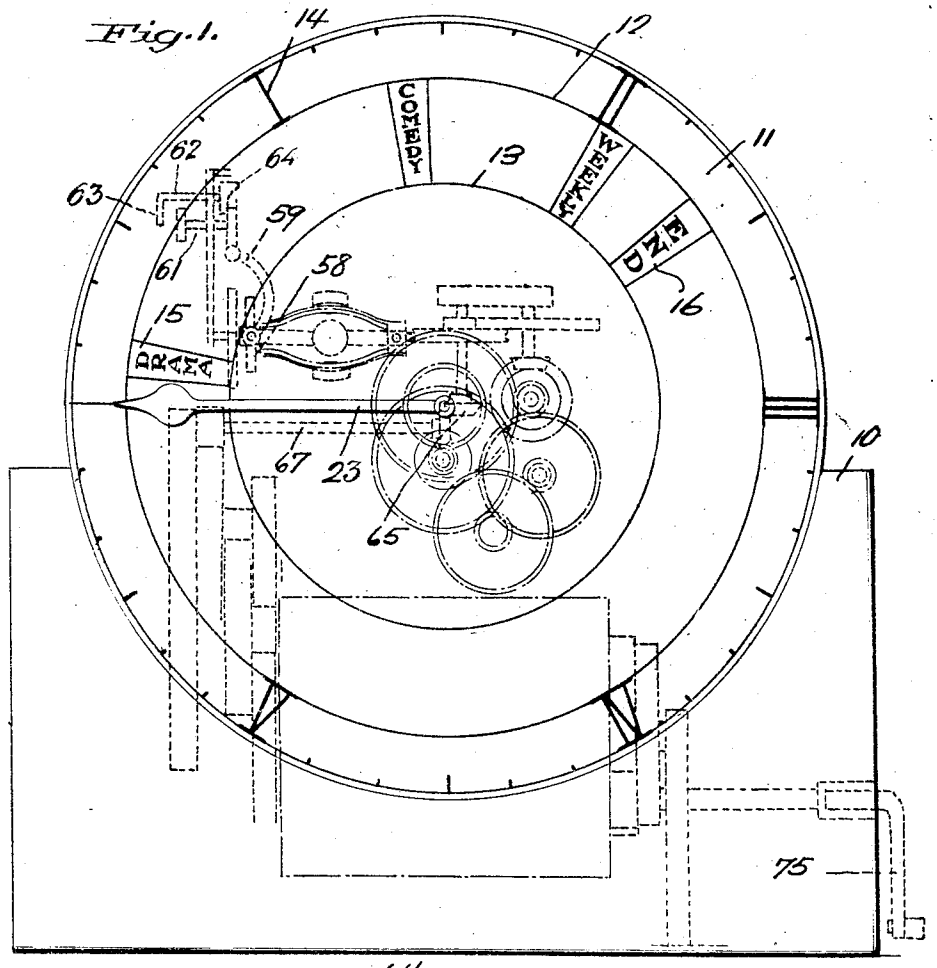
APPLICATION FILED NOV. 14, 1917.

1,304,010.

Patented May 20, 1919.

3 SHEETS—SHEET 1.

Fig. 1.



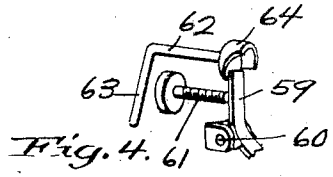


Fig. 4.

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3 SHEETS—SHEET 2.

Fig. 2.

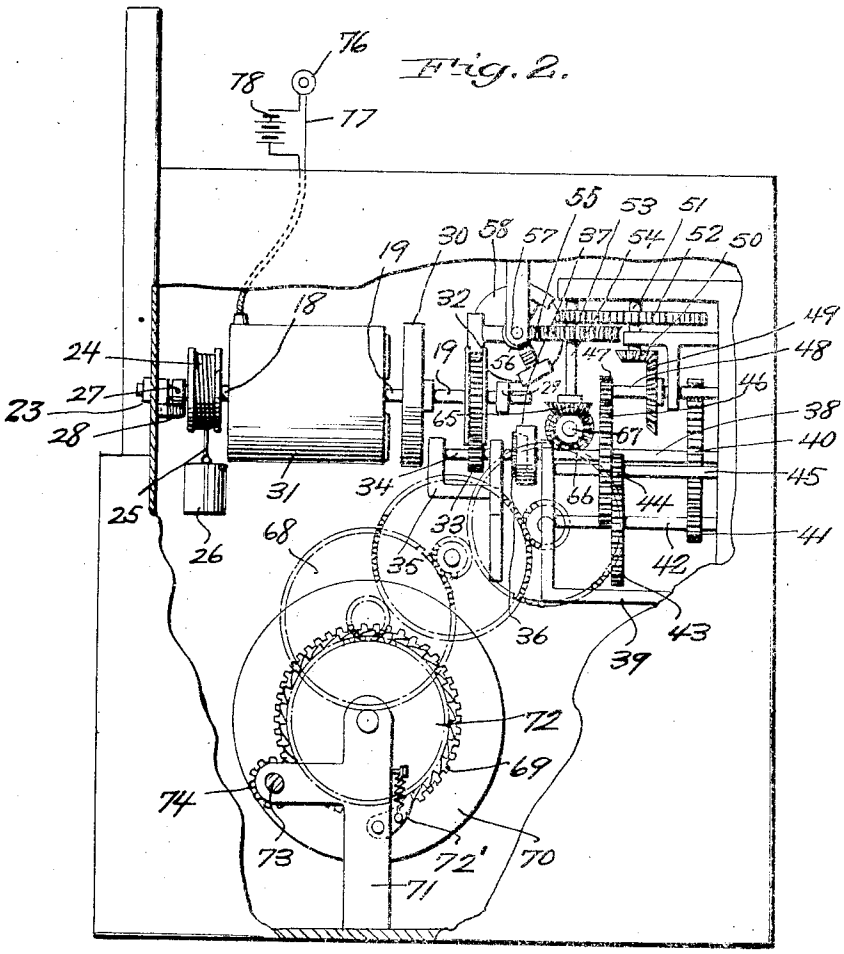
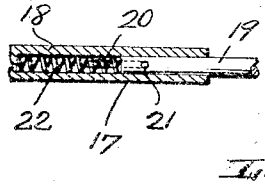


Fig. 3.



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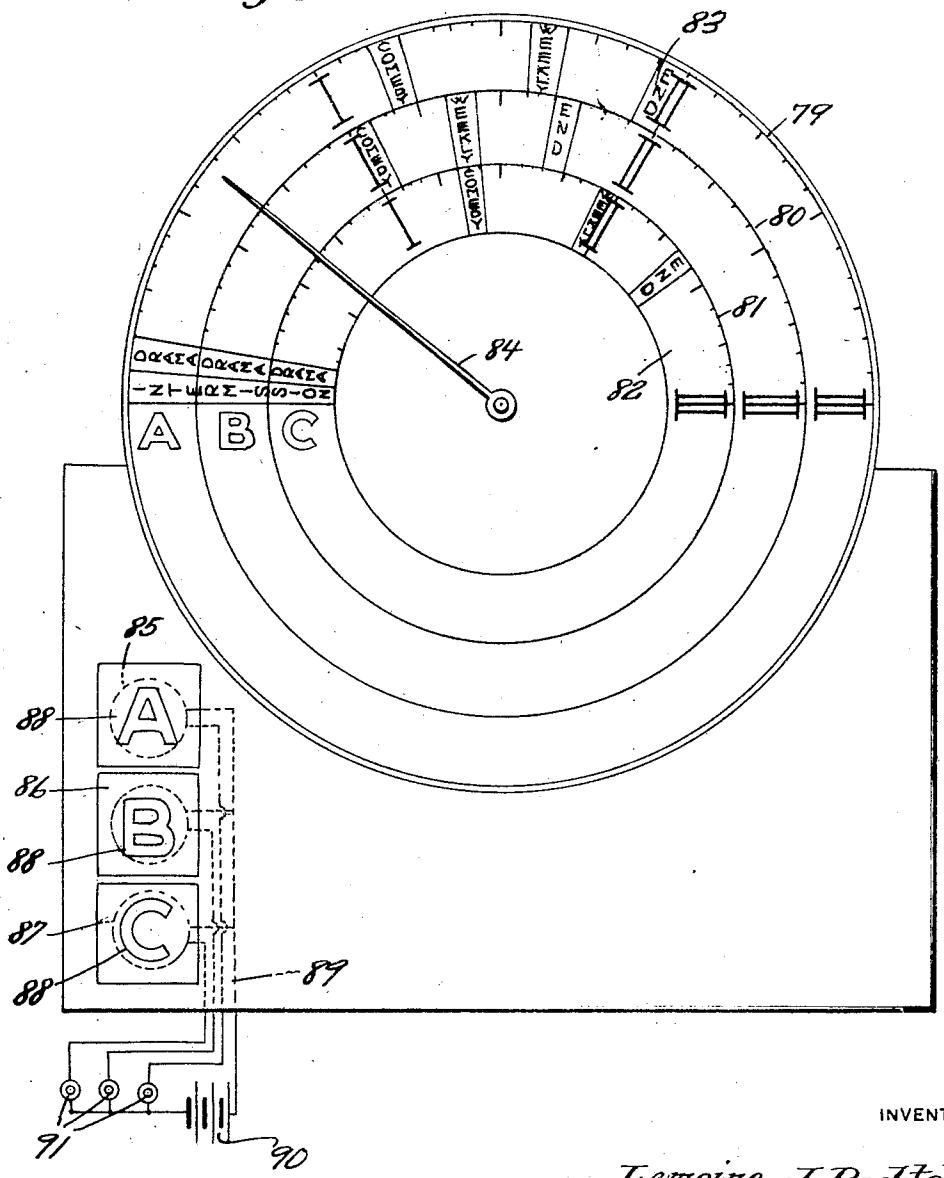
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3 SHEETS—SHEET 3.

Fig. 5.



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MOVING-PICTURE INDICATOR.

1,304,010. Specification of Letters Patent. Patented May 20, 1919.

Application filed November 14, 1917. Serial No. 202,087.

To all whom it may concern:

Be it known that I, LEMOINE J. BECHTOLD, a citizen of the United States, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Moving-Picture Indicators, of which the following is a specification.

This invention has relation to time controlled programs for moving picture theaters and has for an object to provide a device having a clock face and a hand movable thereacross to indicate the title of the picture being projected at any time, the length of the picture and the rate at which the picture is being shown.

Another object of the invention is to provide a time controlled program for moving picture theaters including a dial adapted to support signed inserts to indicate the title of the picture shown in each show, and figures denoting the passage of time, with a movable hand and clockwork mechanism therefor to move the hand across the dial whereby to indicate the title of the picture shown at any instant, the length of the particular picture being shown, and the rate at which the show is progressing.

A still further object of the invention is to provide a time controlled program for moving picture theaters having the characteristics above described with electrically operable means for permitting the program to be started or stopped and to begin an actuation of the indicating program with each show.

A still further object of the invention is to provide a time controlled program for moving picture theaters of the nature above described, including a dial adapted to support a series of inserts each insert indicating the title of the picture whereby the insert of one member of the series may be spaced differently from the inserts of the next series, with a time controlled movable hand to sweep across the face of the dial whereby the rate at which the pictures are being shown at any time during the day and night may be observed.

In addition to the foregoing my invention comprehends improvements in the details of construction and arrangement of the parts to be hereinafter more fully described and particularly set forth in the appended claims.

In the accompanying drawings in which similar and corresponding parts are designated by the same characters of reference throughout the several views in which they appear:

Figure 1, is a view in front elevation of a time controlled program for moving picture machines constructed in accordance with my invention.

Fig. 2, is a view thereof in side elevation with the casing broken away to illustrate the mechanism interiorly thereof.

Fig. 3, is a detail section taken through the center of an actuating solenoid.

Fig. 4, is a detail view of the governor regulating means and brake, and

Fig. 5, is a view in front elevation of a modified form of my invention.

With reference to the drawings, 10 indicates a casing having a dial 11 mounted at the front end thereof, said dial having a pair of concentric circles 12 and 13 inscribed thereon, the space between the periphery of the dial and the circle 12 being divided by graduations designated by numerals 14 to indicate hours and minutes of time, the space between the lines 12 and 13, being adapted to receive inserts 15 in the nature of small signs having printed thereon the title of each picture or the nature of the picture to be exhibited in each show. An insert 16 is also provided having the word "End" printed thereon located at a distance from the starting point of the graduations 14 to a point on the graduations corresponding to the duration of the show as for instance "Two hours and one-half".

An opening is formed centrally of the dial to receive an arbor 17 which is formed with a section 18 and a section 19 in alinement, the section 18 extending at one end through the dial and having a recess 20 at its opposite end in which to slidably receive the end of the section 19. A slot is formed in the section 18 to receive a pin 21 which extends transversely through the section 19 whereby to prevent relative rotation of the section but to permit sliding movement relative to each other, a coil spring 22 being inclosed within the recess 20 to urge the section 19 outward. A hand 23 is secured to the outer end of the section 18 to sweep across the face of the dial, while a drum 24 is mounted upon said section 18 within the casing. A flexible element 25 is passed around the drum with its inner end secured thereto, the opposite end of the element

supporting a weight 26. A lug 27 is secured to the section 18 and is designed to engage a lug 28 mounted on the frame whereby to limit movement of the section 18 when the flexible element 25 unwinds under the influence of the weight 26 to return the said section 18 of the shaft to original or starting position. The section 19 is journaled for rotative and sliding movement in a bearing 29 mounted on the side wall of the casing, and supports a circular or disklike armature 30 of soft iron which is to be attracted by an electromagnet 31 which encircles the arbor 17. A shrouded pinion 32 is mounted on the section 19 of the arbor for engagement with a pinion 33 mounted upon an arbor 34 which is supported at opposite ends upon a bifurcated bracket 35. The arbor 34 is designed for rotative and longitudinal sliding movement in the bracket, and carries at one end a penetrative member 36 of a cone clutch, the respective member thereof being indicated at 37 and mounted upon an arbor 38 in alinement with the arbor 34 mounted in a bracket 39.

A relatively large gear 40 is mounted upon the arbor 38 for driving a relatively small pinion 41 on an arbor 42, which also carries a relatively large gear 43 for meshing with a relatively small pinion 44 mounted upon an arbor 45. Said arbor 45 carries a relatively large pinion 46 for meshing engagement with a relatively small pinion 47 mounted upon an arbor 48 which also carries a bevel gear 49. A relatively small bevel gear 50 mounted upon an arbor 51 is in meshing engagement with the bevel gear 49, said arbor 51 carrying a relatively large pinion 52 for meshing engagement with a relatively small pinion 53 upon a vertical arbor 54. A worm wheel 55 is mounted upon said arbor 54 for engagement with a worm 56 mounted on a governor shaft 57 which carries a governor which comprising weighted spring members secured to one end of the shaft and adapted to slide a disk 58 when the springs are separated or moved together during rotation of the shaft. A lever 59 carries tabs to engage the face of the disk, said lever being fulcrumed at 60 and having an adjusting screw 61 to bear against the opposite end of the lever whereby the speed of the governor shaft may be regulated. A shaft 62 is journaled near the terminal of said lever 59 with one end bent at right angles as at 63 to form a handle, and a cam 64 provided upon its upper end to engage the lever 59 whereby when the shaft 62 is rotated the lever 59 may be moved to jam the tabs against the disk 58 and thereby form a brake to arrest motion of the mechanism.

The arbor 54 carries a bevel gear 65 which is in meshing engagement with a bevel gear 66 mounted upon a horizontal shaft 67. The shaft 67 is then connected by means of a train of gearing indicated generally at 68 to the gear 69 of a spring drum 70 mounted upon a bracket 71. A ratchet wheel 72 is mounted to rotate with the arbor of the spring drum and a spring held pawl 72′ engages the ratchet to retain the spring under tension. A winding arbor 73 is journaled in the bracket 71 which carries a pinion 74 for engagement with the gear 69, a handle 75 being provided to rotate the winding arbor whereby to place the spring within the spring drum under tension.

When the brake of the governor is released the rotation of the spring drum is transmitted through the gear 69 thereof, and a train of gears 68 to the arbor 67, and thence through the gears 66, 65, 53, 52, 50, 49, 47, 46, 44, 43, 41, and 40 to the arbor 38, the rotation thereof being transmitted through the clutch members 36 and 37 to the arbor 34 and thence through the gears 33 and 32 to the arbor 17 thereby moving the pointer 23 across the face of the dial at a speed which is controlled by the governor. The moving picture projecting machine is operated at the same time the governor being adjusted to correspond to the speed of the projecting machine so that the pointer will indicate the amount of the reel still to be shown before the terminal is reached. One reel after another is shown, allowing a few minutes for the exchange of reels until the pointer reaches the insert 16 indicating the end of the show, whereupon the electro-magnet 31 is energized by depressing a button 76 which is in a circuit 77 including the electro-magnet and a source of current 78 whereupon the armature 30 is attracted and the section 19 of the shaft 17 thus moved longitudinally. Owing to the provision of the shrouded pinion 32 its connection with the pinion 33 is such as to shift the arbor 34 and thereby disengage the clutch members 36 and 37. The connection between the shaft 17 and the spring operated mechanism is thus broken and the weight 26 is freed to rotate the shaft 17 and thereby return the pointer 23 to initial position, its movement being limited by the stops 27 and 28. When the electro-magnet is deënergized the spring 22 within the shaft 17 acts to return the clutch members 36 and 37 to engagement and the foregoing operation is repeated.

I have illustrated in Fig. 5 of the drawings a modified form of my invention which includes a dial 79 having circles 80, 81 and 82 inscribed thereon in concentric relation, the lines defining therebetween circular areas in which inserts 83 are placed, the areas being also divided up by graduations to disappear at times. A pointer 84 is provided to sweep across the face of the dial. The areas between the periphery of the dial and the line 80, between the lines 80 and 81 and be-

tween the lines 81 and 82 are indicated respectively by the characters A, B and C. A plurality of casings 85, 86 and 87 are mounted adjacent the dial, each casing having a transparent cover with one of the characters A, B, and C inscribed thereon, and incandescent globes 88 disposed therein. One terminal of each globe is connected to a common return wire 89 having a source of current 90 interposed therein, the other terminal of the globes being connected to said terminal 89 beyond the battery and each of said latter terminals having a switch 91 interposed therein whereby any one of the globes may be illuminated by depressing its corresponding switch.

When arranging the inserts 83, which inserts have printed thereon the name or character of each reel in a show, the inserts of the annular space are marked A for instance, may be spaced to a greater distance than those in the area B, and those in the area C may be spaced variously relative to the spacing of the other two sets of the series.

In the use of this form of my invention, the inserts of one member of the series are utilized at a time. In the conduct of moving picture shows it is customary to exhibit the pictures at different rates of speed according to the time of the day. For instance, in the early hours of the day the pictures are shown at a lower rate of speed than those shown in the afternoon when the attendance is larger than in the earlier hours. In the evening the speed of production is still further increased. Therefore, when the rate of projection of the picture is to be slow the lamp within the casing 87 for instance, according to the arrangement disclosed in Fig. 5 is illuminated and the patron by observing this will read the position of the pointer 84 relative to the insert or graduation within the area C on the dial 79. Conversely, during the evening when the pictures are projected at a greater rate of speed, the lamp within the casing 86 is illuminated thereby indicating that the hand of the dial is to be read in connection with the inserts within the annular space of the dial. Thus it will be seen that I have provided a device of a new and novel character which may be located in front of a moving picture theater and thus inform prospective patrons the exact condition, the rate at which the show is progressing, and exactly which picture is being shown at that time, as well as the extent to which the picture has been shown, and the period of time to elapse before the end thereof. The machine is furthermore simple in its nature comprising few parts, thereby insuring positive action and permitting the manufacture of the machine at a low cost.

While I have illustrated and described my invention with some degree of particularity, I realize that in practice various alterations thereover may be made, and I therefore desire to reserve the right and privilege of changing the form of the details of construction or otherwise altering the arrangement of the correlative parts without departing from the spirit of the invention or the scope of the appended claims.

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

1. A time indicating program for moving picture theaters including a dial, a plurality of signs mounted thereon in spaced relation to indicate the title or character of the picture, a hand movable across the dial, a uniformly operating means for moving the hand, means urging movement of the hand in an opposite direction and means for temporarily disconnecting the hand from the uniformly operating mechanism whereby to permit the hand urging means to return the hand to initial position.

2. A time indicating program for moving picture theaters including a dial, a plurality of signs mounted thereon in spaced relation to indicate the title or character of the picture, a hand movable across the dial, a uniformly operating means for moving the hand, a drum movable with the hand, a flexible element wound about the drum, a weight secured to one end of the element, said weight being wound up during movement of the hand in the manner stated, a clutch between the hand and uniformly operating mechanism, and means for disconnecting the clutch to permit the weight to return the hand to initial position.

3. A time indicating program for moving picture theaters including a dial, a plurality of signs mounted thereon in spaced relation, a hand movable across the dial, a uniformly operating means for moving the hand, means for urging the hand in an opposite direction, said means being placed under strain during movement of the hand in a forward direction, a clutch mechanism between the hand and uniformly operating mechanism, and electrically operable means for temporarily disengaging the clutch to permit the hand returning means to operate to return the hand to initial position.

4. A time indicating program for moving picture theaters including a dial, a plurality of signs mounted thereon in spaced relation, a hand movable across the dial, a shaft upon which the hand is mounted, a drum carried by said shaft, a flexible element passed around the drum, a weight applied to one end of the element, uniformly operating means for rotating the shaft, a clutch member interposed between said uniformly operating means and the shaft, an electro-magnet, an armature operable when the magnet is energized to disengage the

clutch whereby the drum may be unwound to return the hand to initial position, and a stop member for limiting the return movement of the hand.

5. A time indicating program for moving picture theaters including a dial, a plurality of signs mounted thereon in spaced relation, a hand movable across the dial, a shaft carrying said hand, said shaft being formed of a pair of alined, longitudinal movable sections, a drum mounted upon the section which carries the hand, a flexible element wound about the drum, a weight applied to one end of the element, an electro-magnet embraced about said shaft, an armature carried by the other section, uniformly operating means for rotating said second mentioned section, a clutch member interposed between said second section and the uniformly operating means, and means for energizing said electro-magnet whereby the clutch member may be disengaged by movement of the armature to permit the drum to unwind to return the hand to initial position, and a stop member for limiting said return movement of the hand.

6. A time indicating program for moving picture theaters including a dial, a plurality of signs mounted thereon in spaced relation, a hand movable across the dial, a shaft carrying said hand, said shaft comprising a pair of telescoping relatively movable sections, a drum mounted on the section which carries the hand, a flexible element wound around the drum, a weight applied to one end of the flexible element, an electro-magnet embraced about said shaft, an armature carried by the other section, a shrouded gear carried by said second section of the shaft, a shaft in parallel relation to said second mentioned section of the shaft, a pinion on said parallel shaft for engagement with the shrouded shaft, and means for energizing said electro-magnet whereby the armature may be attracted and the pinion of the parallel shaft moved, and a clutch mechanism interposed between said parallel shaft and the uniformly driving mechanism whereby the drum may unwind to return the hand to initial position.

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

LEMOINE J. BECHTOLD.

Witnesses:

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MAX W. SCHMIOTT.