March 29, 1927. E. F. CABEZOLA 1,623,026

RHEOSTAT

Filed March 29, 1922

Fig. 1.

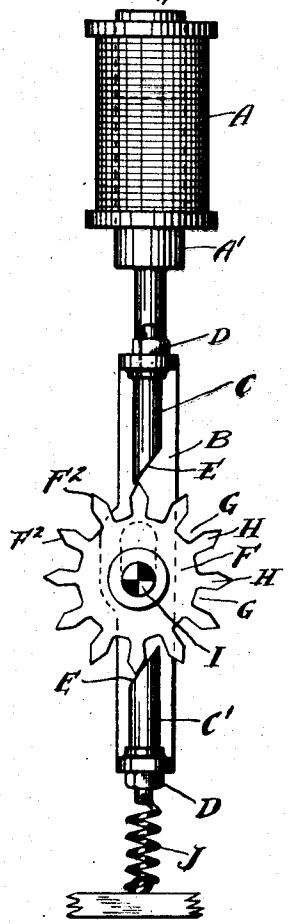


Fig. 2.

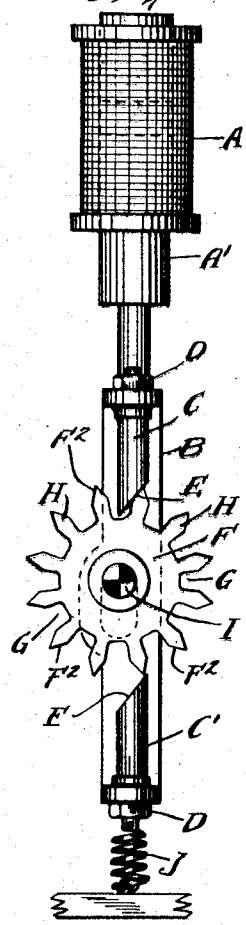
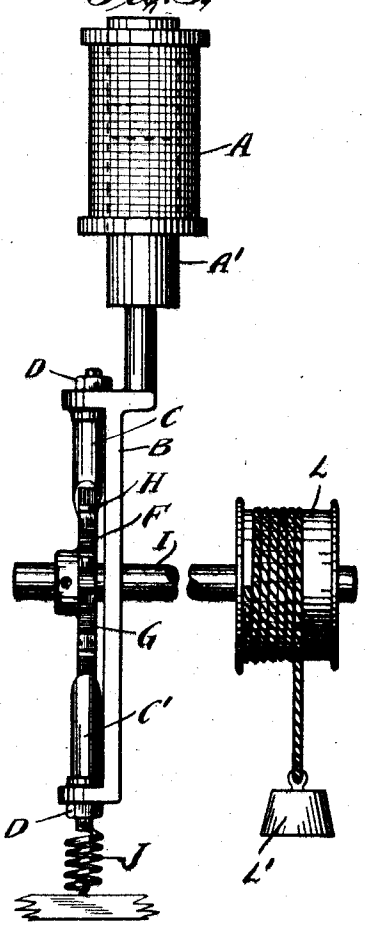


Fig. 3.



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UNITED STATES PATENT OFFICE.

EUSEBIO F. CABEZOLA, DECEASED; BY MARGARET J. CABEZOLA, ADMINISTRATRIX, OF BAYONNE, NEW JERSEY; CATHERINE C. HICKS, FELIPA J. WAGNER NÉE CABEZOLA, AND MARGARET C. METTLER, NÉE CABEZOLA, EXECUTRICES OF THE ESTATE OF SAID MARGARET J. CABEZOLA, DECEASED.

RHEOSTAT.

Application filed March 29, 1922. Serial No. 547,928.

This invention relates to the moving picture industry and particularly to a rheostat used in said industry, the function of which is to provide different degrees of resistance to the electric current which lights the photographic apparatus in printing the films from the negatives, to provide light of different intensity or candle power depending on the conditions under which the negatives were originally taken.

In rheostats now in use for this purpose an intermittent electro-mechanical device is employed to rotate a shaft intermittently but has been found defective in that it does not always operate to turn the shaft when the electromagnet is energized. The present invention overcomes this difficulty and always operates in a positive manner.

The object of this invention is to provide means for intermittently partially rotating a shaft, or by reversing the action, to intermittently check the rotation of a shaft, in a positive manner, a predetermined number of times for each complete rotation.

Referring to the drawings which form a part of this specification:

Figure 1 is a front elevation of a construction embodying this invention showing the frame nearly in its upper position.

Figure 2 is a front view of the construction showing the frame in its lower position.

Figure 3 is a side elevation showing the reciprocating plate in its lower position.

A indicates an electro-magnet of the solenoid type. A′ indicates the plunger armature thereof. B indicates a frame connected to the plunger. C and C′ are cylindrical rods carried by the frame B and secured thereto in adjustable relation by the nuts D—D etc. Each of said rods has one end formed in the shape of a V cam, the faces of which are indicated by E—E respectively. F indicates a wheel, the periphery of which is provided with V shaped notches G—G—G etc., in the present case twelve of them, forming corresponding V shaped projections H—H—H etc. This wheel is mounted on a shaft I which may be suitably supported in proper bearings not shown. It will be observed that if a vertical line is drawn through the centre of the shaft I, the lower end of the cam face E of the rod C is disposed slightly to the left side of said line and the upper end cam face E of the rod C′ is disposed to the right side of said line. A helical spring J may be employed to draw the frame in one direction, or it may drop by gravity, but in using it in the rheostat is used the spring to effect a quick action. In Figure 3, is shown the shaft I carrying a drum L with a cord fastened thereto and wound thereon with a weight L′ at its lower end. This weight can act to turn the wheel F and in this case the actuator elements C and C′ alternately interrupt the rotation since one of said elements projects within the outer circular periphery of the wheel and in the path of one of the projections H before the opposite element leaves said path. The distance between the respective ends is less than the diameter of the wheel so that one of the actuating member elements is within the periphery of the wheel before the other leaves it and therefore the interruption of the rotation is certain.

The device when used in the rheostat operates as follows: Normally the element C is in the lowest position and element C′ rests below the periphery of the wheel F. When the magnet A is energized, the plunger armature A′ is drawn upward, carrying the frame B and attached elements C and C′ therewith, the inclined face E of element C′ striking the face F^2 of the wheel F and resting in the position shown in Figure 3. When the magnet A is deenergized, the spring J draws the frame B quickly downward and the cam face E of the element C strikes the inclined surface F^2 and further turns the wheel F, as will be readily understood.

Having thus described this invention, I claim as new and desire to secure by Letters Patent:

1. A frame having a number of actuating elements mounted thereon, an actuated shaft passing through an opening in the frame and serving as a guide thereto, a notched wheel on said shaft and located between said elements in co-operative arrangement and means for moving said frame in vertical alignment to cause said actuating elements to alternately engage the notches in said wheel.

2. A frame having a number of actuating

elements mounted thereon, an actuated shaft passing through an opening in the frame and serving as a guide thereto, a notched wheel on said shaft and located between said elements in co-operative arrangement and electro-magnetic means for moving said frame in a line to cause said actuating elements to alternately engage the notches in said wheel.

3. A frame having two oppositely disposed actuating elements mounted thereon, an actuated shaft passing through an opening in the frame and serving as a guide thereto, a notched wheel located between said elements in co-operative arrangement and means for moving said frame to cause said actuating elements to alternately engage the notches in said wheel.

4. A frame having two oppositely disposed actuating elements mounted thereon, an actuated shaft passing through an opening in the frame and serving as a guide thereto, a notched wheel on said shaft and located between said elements in co-operative arrangement and electro-magnetic means for moving said frame in a line to cause said actuating elements to alternately engage the notches in said wheel.

5. A frame having two oppositely disposed actuating elements mounted thereon, an actuated shaft passing through an opening in the frame and serving as a guide thereto, a notched wheel on said shaft and located between said elements in co-operative arrangement and means for moving said frame to cause said actuating elements to alternately engage the notches in said wheel and partially rotate the same.

6. A frame having two actuating elements mounted thereon, each of said actuating elements consisting of a cylindrical rod and terminating at its inner end in a V shaped cam actuating surface, a notched wheel located between the actuating elements and adapted to be intermittently rotated thereby.

7. An actuating means including a frame having a longitudinal slot therein, an arm projecting from each end of the frame, actuating elements carried by the arms, a shaft, a notched wheel mounted thereon and extending through the slot whereby the frame is guided, and means for actuating the actuating elements to intermittently rotate the wheel.

8. An actuating means including a frame having a longitudinal slot therein, an arm projecting from each end of the frame, actuating elements carried by the arms, a shaft, a notched wheel mounted thereon and extending through the slot whereby the frame is guided, and means for actuating the actuating elements to intermittently rotate the wheel, said last mentioned means being a rheostat.

9. In combination, a shaft, a notched wheel secured to the shaft, oppositely disposed relatively movable actuating elements, the axes of the elements being in the same straight line, said line lying outside of any plane that may be passed through the axis of the shaft, means for actuating the actuating elements and means actuated by the shaft.

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