

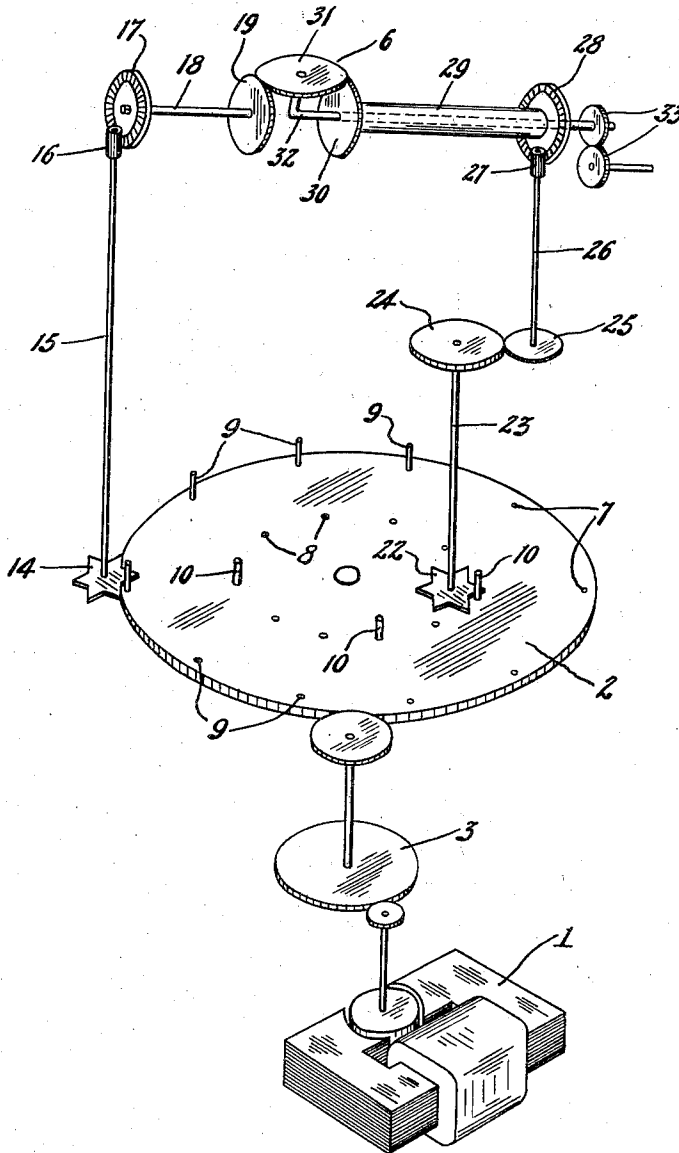
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CONTROL MECHANISM FOR COIN CONTROL SWITCHES

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CONTROL MECHANISM FOR COIN CONTROL SWITCHES

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The invention relates to novel and useful improvements in means for effecting desired time period control of energy-supplying circuits and in certain aspects more especially to such improvements as applied to coin-freed or prepayment meters.

Objects and advantages of the invention will be set forth in part hereinafter and in part will be obvious herefrom, or may be learned by practice with the invention, the same being realized and attained by means of the instrumentalities and combinations pointed out in the appended claims.

The invention consists in the novel parts, constructions, arrangements, combinations and improvements herein shown and described.

The accompanying drawing, referred to herein and constituting a part hereof, illustrates one embodiment of the invention, and together with the description, serves to explain the principles of the invention.

The drawing represents a perspective view of a mechanism embodying the invention.

In the present embodiment the invention is incorporated in a device or mechanism for controlling and predeterminately varying the periodic recurrence of desired operations by means of two series of timing or driving devices, which devices may be selectively varied in number, for concurrently driving, preferably through differential gearing, the time setting for an electrical switch or like energy supply control.

Referring now in detail to the embodiment of the invention illustrated by way of example in the accompanying drawing, a suitable time-measuring device is supplied, shown exemplarily as a synchronous motor 1, said device driving a rotatable disc 2 by any suitable means, such as a gear train 3. The time constantly running disc 2 is employed to drive or control the drive of a suitable differential gear mechanism, such as is shown exemplarily at 6, the speed of the differential being governed from the disc 2 through two driving trains, the speed of the drive of each train being independently controlled by means of a series of actuators, which actuators may be selectively varied as to their number and position as may be desired, thereby to secure a very wide selective variety in a desired time period control.

As embodied, two annular series of holes, 7 and 8, are provided in the disc 2, a plurality of pins 9 being selectively settable in any of the holes 7, and like pins 10 being selectively settable in any of the annular series of holes 8. In coop-

erative relation with the pins 9 is a star wheel 14 fixed on a shaft 15, to which shaft is also fixed a pinion 16, the pinion 16 meshing with a crown gear 17, fixed on a shaft 18, to which is fixed also the sun wheel 9 of the differential. Cooperating in like manner with the series of pins 10 is a star wheel 22, fixed on a shaft 23, and fixed also on said shaft is a gear 24. Meshing with the gear 24 is a gear 25 fixed on a shaft 26, a pinion 27 being also fixed on said shaft. Pinion 27 meshes with a crown gear 28, fixed on a sleeve 29, and fixed also on said sleeve is the other sun wheel 30 of the differential. The planet wheel 31 of the differential is journaled on a bent shaft 32, which extends through the sleeve 29, and at its other end connects with a drive 33 for the time control switch, or other suitable device. The gears 24 and 25 are a speed change device, and may have a velocity ratio of 10 to 1 if desired, which particular ratio is of value and convenience in connection with coin control in a decimal currency. To prevent reverse rotation of either of star wheels 14 and 22 while the other is not held by a pin 9 or 10, the friction of the gear trains 14 to 18 and 22 to 29 may be greater than that of the mechanism to be driven by the pinion 31.

The described mechanism can be employed, for example, on coin-freed or prepayment meters with a basic charge. In the outer row 7 of the time disc 2, the pins 9 may be set so that actuation of the star wheel 14 may correspond to a basic payment of say ten cents or ten centimes, the shaft 32 each time correspondingly setting the prepayment mechanism of the coin-freed or prepayment meter. In like manner, in the inner row 8 of the time disc, the pins 10 may be set so that actuation of the star wheel 22 effects ten times the amount of set-back in the prepayment mechanism of the coin-freed or prepayment meter, corresponding to a dollar or a franc. The capacity to so widely vary the setting and number of the actuators or pins 9 and 10 for the two driving trains of the differential affords a very large number of different speeds and in a very fine graduation, as for instance, with twenty driving pins a hundred different speeds may be obtained.

The invention in its broader aspects is not limited to the specific mechanisms shown and described but departures may be made therefrom within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

What I claim is:

1. A mechanism for setting a coin controlled switch including in combination a driving member, a driven member, and driving connections
5 between the driving and driven members including a differential gear and a plurality of driving means connected to different parts of the differential gear, said driving means each being
10 driven by a gear member having a plurality of removable tooth members.
2. A mechanism for setting a coin controlled switch including in combination a driving member, a driven member, and driving connections
15 between the driving and driven members including a differential gear and a pair of driving means connected to different parts of the differential gear, said driving means each being driven
20 by a gear member having a plurality of tooth members all of which are removable.
3. A mechanism for setting a coin controlled

switch including in combination a driving member, a driven member, and driving connections between the driving and driven members including a differential gear and a pair of driving
5 means connected to different parts of the differential gear, said driving means each being driven by a gear member having ten tooth members all of which are removable.

4. A mechanism for setting a coin controlled switch including in combination a driving member, a driven member, and driving connections
10 between the driving and driven members including a differential gear and a pair of driving means connected to different parts of the differential gear and driven by the driving means,
15 said driving means each being driven by a gear member having ten tooth members all of which are removable.

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