(No Model.)

E. DAVIES.

MECHANISM FOR EXHIBITING INDICATORS, &c.

No. 524,194. Patented Aug. 7, 1894.

FIG 1

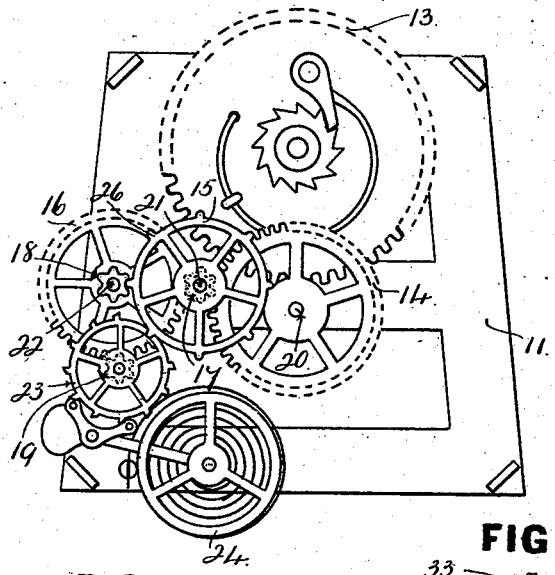


FIG 2

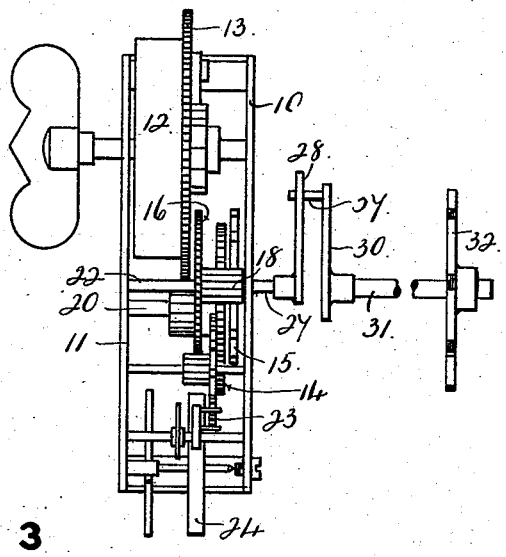


FIG 3

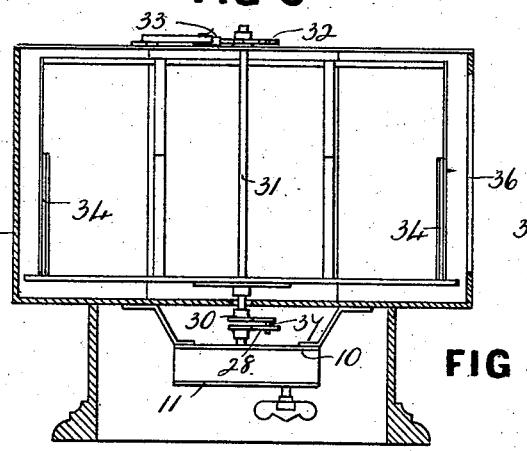


FIG 5

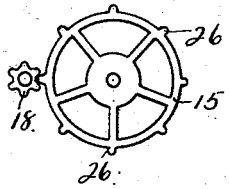


FIG 6

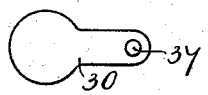


FIG 7

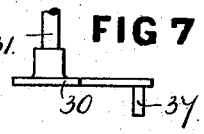


FIG 8

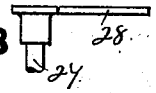


FIG 9

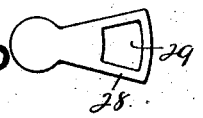
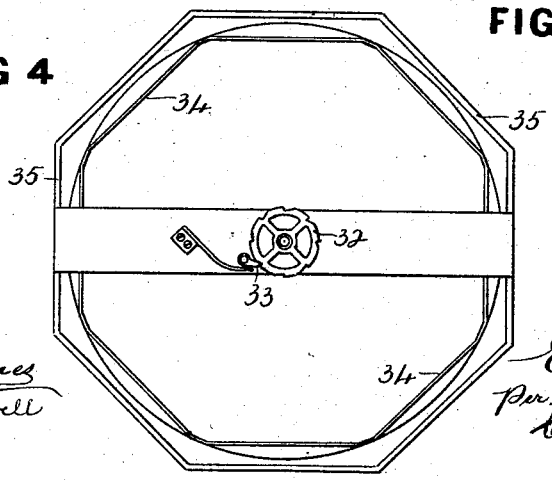


FIG 4



Witnesses

Ernest W. Jones

C. Hayward Powell

Inventor

Edward Davies

Per. Charles J. Powell

Attorney

UNITED STATES PATENT OFFICE.

EDWARD DAVIES, OF GRAVELLY HILL, NEAR BIRMINGHAM, ENGLAND.

MECHANISM FOR EXHIBITING INDICATORS, &c.

SPECIFICATION forming part of Letters Patent No. 524,194, dated August 7, 1894.

Application filed March 30, 1894. Serial No. 505,676. (No model.)

To all whom it may concern:

Be it known that I, EDWARD DAVIES, a subject of the Queen of Great Britain, and a resident of Gravelly Hill, near the city of Birmingham, England, have invented new and useful Improvements in Mechanism for Exhibiting Changeable Indicators, Advertisements, and the Like, of which the following is a specification.

My invention relates to improvements in mechanism for exhibiting changeable indicators, advertisements and the like, and its objects are to provide an improved intermittent motion wherein the full power of the motor is alternately and independently utilized to drive the necessary clock work, and also the apparatus upon which the advertising matter is exhibited. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1, is an inverted plan view of my invention, with the front plate of frame removed. Fig. 2, is an edge view of the invention. Fig. 3, is a front view and Fig. 4, a plan view of one form of advertising apparatus, with which this my invention may be combined. Fig. 5, is a detailed view of the intermittent wheel and its pinion. Figs. 6 and 7, are detailed views of the driven crank, and Figs. 8 and 9 are detailed views of the driving slotted crank.

Similar numbers of reference throughout the several views refer to the same thing or part.

Usually a spring motor clock movement is employed or adapted to carry out my invention, but a weighted or other similar train of wheels may be used having an escapement action.

For purposes of description, I will assume it as adapted from an ordinary spring motor clock movement, as shown in Figs. 1 and 2, in which 10 and 11 are the front and back plates forming the frame work carrying the moving parts, &c.

12, is the spring motor box, one or more of which may be used according to power required.

13, is the first motor wheel.

14, 15 and 16, are secondary wheels with their respective pinions 17, 18 and 19, and respective arbors 20, 21 and 22.

23, is the escapement wheel and 24, the balance wheel.

I select either of the wheel arbors, according to rapidity of movement required, but generally the second wheel arbor 21. Upon this arbor is (of course) the pinion 17, upon which is exerted a continuous impelling rotative force by the motor spring. In the wheel 15, however, I provide intermittent teeth 26, that is to say, between each tooth there is a considerable blank space, (see Fig. 5.) These intermittent teeth as they come forward, engage with the pinion 18, similarly as would the usual ordinary teeth upon such wheel (as seen in Fig. 5). The succeeding part of the train of wheels up to and including the balance wheel, is of ordinary make. The arbor 21, of the intermittent toothed wheel, is extended a convenient length upon the outside of the framework at 27. Upon this extended part I mount the slotted crank 28, having the slot 29, by which any suitable apparatus for intermittently exhibiting advertisements may be driven. This slotted crank engages with the pin crank 30, upon the spindle 31. In combination with these two cranks I employ the ratchet wheel 32, and pawl 33, which are secured at any convenient position to the spindle 31.

34, is a rotating frame carried upon the spindle 31, which is arranged to receive around its circumference a number of advertisements or views, &c., corresponding to the number of intermittent teeth 26, in wheel 15. Around this rotating frame is the screen 35, having at one or more places in its circumference an opening 36, through which the advertisements, &c., may be seen.

Its action is therefore as follows:—The motor spring being wound up, the train of wheels are driven forward in the usual manner, and an intermittent tooth is caused to pass through and drive forward the pinion 18. At the time that this is being done the crank pin 37, stands in advance of the driving side of the slot 29, of the crank 28, and therefore the whole force of the motor spring is employed in driving the train of wheels only, until the

intermittent tooth has passed the pinion, and is free to move forward until the next tooth reaches the pinion. During this interval however the slotted crank drives forward the crank pin 37, a given distance, which, by reason of the momentum imparted, is carried on until it reaches the opposite side of the slot 29, when it is held by the pawl 33, dropping into the wheel 32. And so from time to time the process is repeated. By these means the same motive power is alternately, distinctly and independently driving the intermittent mechanism at one time, and the necessary train of wheel-work at another, thus giving alternately the full power of the motor to each operation.

I wish it to be understood that I am aware that intermittent mechanism has been already made and used for advertising purposes and therefore I do not claim such mechanism broadly, but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a continuous motive power an advertising device and connecting mechanism of the geared toothed wheel 15, driven by said power and having the intermittent teeth 26, the pinion 18, engaging said teeth and an escapement device controlling the motion of the said pinion 18, whereby the whole force of the motor is applied at intervals to said advertising device, substantially as described.

2. The combination with a train of wheelwork for giving motion to changeable advertising indicators such as that herein described and illustrated, having a continuous motive power and further having the intermittent tooth geared wheel 15, and pinion 18, of the crank 28, having the slot 29, engaging with and driving the crank pin 37, and spindle 31, and frame 34, all substantially as set forth and shown.

3. The combination with a train of wheelwork for giving motion to changeable advertising indicators such as that herein described and illustrated, having an intermittent tooth wheel 15, pinion 18, and slotted crank 28, of the ratchet wheel 32, and pawl 33, as and for the purposes specified.

4. The combination with intermittent advertising apparatus such as frame 34, screen 35, having spindle 31, and crank 30, of a train of wheelwork, having an intermittent toothed geared wheel 15, pinion 18, slotted crank 28, all substantially as set forth and shown.

EDWARD DAVIES.

Witnesses:
FREDRICK HOPKINS BEDDINGTON,
CHARLES HAYWARD POWELL.