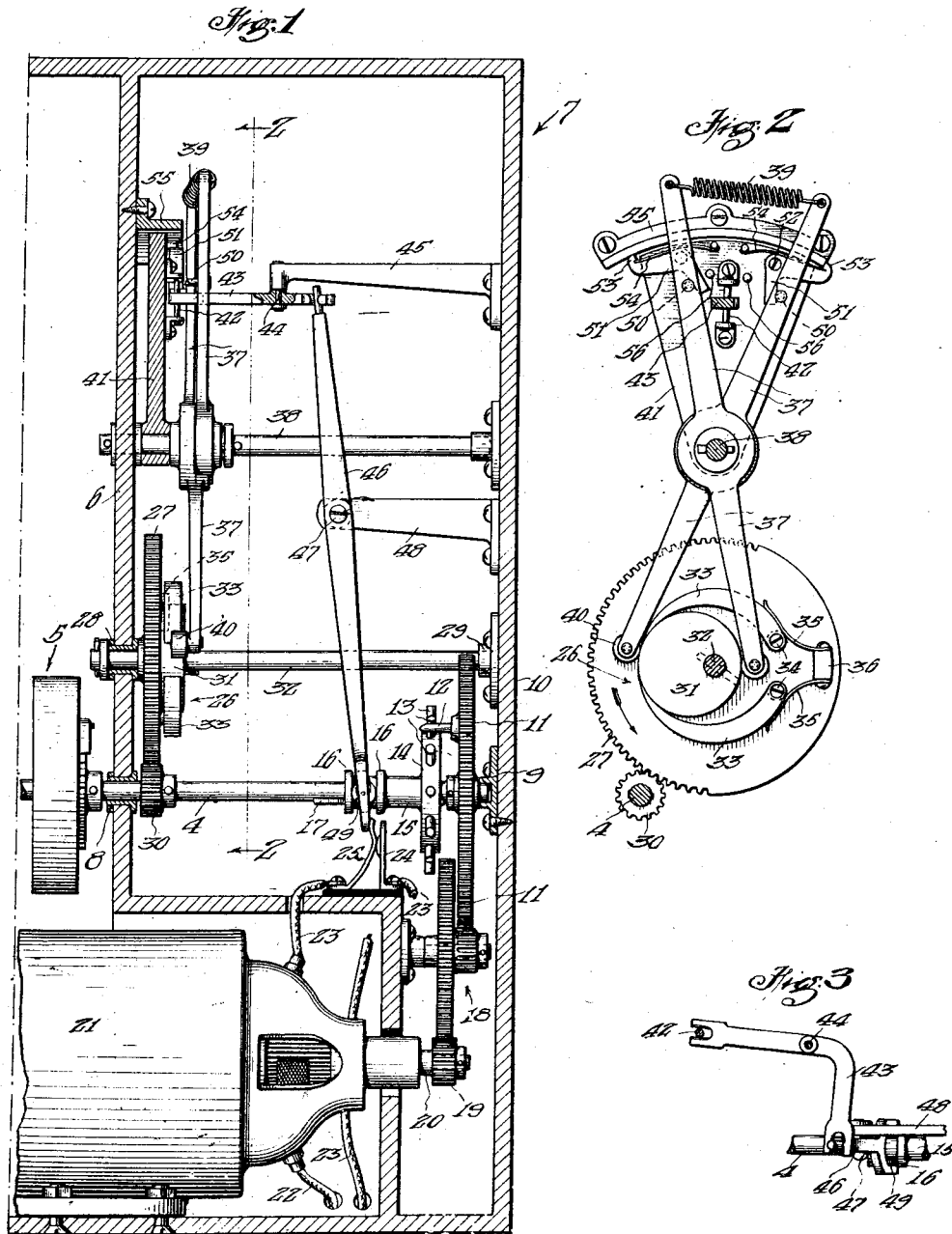


M. KARSCH.
 AUTOMATIC CLOCK WINDING MEANS.
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1,062,282.

Patented May 20, 1913.



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UNITED STATES PATENT OFFICE.

MARTIN KARSCH, OF LOS ANGELES, CALIFORNIA.

AUTOMATIC CLOCK WINDING MEANS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MARTIN KARSCH, a subject of the Emperor of Germany, residing at Los Angeles, in the county of Los Angeles, State of California, have invented a certain new and useful Automatic Clock Winding Means; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it

apertains to make and use the same. This invention relates to automatic clock winding means, and it may be said to consist in the provision of the novel and improved features and in the novel and improved construction, arrangement and combination of parts and devices as will be apparent from the description and claims which follow hereinafter.

One object of the invention is to provide novel and improved mechanism for intermittently operatively connecting a suitable motor with the winding device of clock mechanism.

Another object of the invention is to provide novel and improved clutch operating mechanism.

Further objects of the invention are to provide means of the nature specified which is simple in construction, strong and durable, economical to manufacture and install, easy to assemble or demount, effective in action, and which may be readily applied to existing clock mechanism.

Other objects and the advantages of the invention will be apparent to those skilled in the art from a consideration of the following description of one form of construction in which the invention may be embodied, taken in connection with the accompanying drawings in which -

Figure 1 is a partly broken and sectional view in elevation of clock winding means embodying the invention; Fig. 2 is a view of a portion of the clutch operating mechanism, taken on the line 2-2 of Fig. 1, and Fig. 3 is a broken and sectional plan view of a portion of the clutch operating mechanism.

The clock winding means is preferably operatively connected with the shaft 4 to which may be operatively connected any suitable or approved form of clock mechanism actuating device indicated at 5. The shaft 4 may pass through a bearing 8 in the rear wall 6 of the clock, the latter not fully shown, and extend into a casing 7 affixed on

the rear of the clock and have its rear end portion freely mounted in a bearing 9 on the rear wall 10 of the casing 7. A spur wheel 11 may be mounted freely on the shaft 4 and it may have on its front face a forwardly projecting pin 12 adapted to engage with radial pins 13 on the periphery of clutch wheel 14 which may have thereon a forward extension 15 having thereon the spaced collars 16. The clutch wheel 14 and extension 15 are move mounted to move freely longitudinally of the shaft 4 on the spline 17 on the shaft 4. Suitable speed reducing gearing 18 may be connected between the wheel 11 and the pinion 19 fast on the shaft 20 of a suitable motor indicated at 21; the motor preferably being one adapted to be driven by current derived from lighting circuits or the like. The wire 22 may be connected directly to the motor, and the wire 23 may be connected with the motor through the stationary contact 24 and the spring contact 25 having the upper part thereof disposed adjacent to the shaft 4 and adapted to be moved against the contact 24 as hereinafter described.

Mechanism to intermittently operate the clutch wheel 11 and move the spring contact 25 against the contact 24 is operatively connected with the shaft 4 and may be constructed as follows: a cam device 26 may be carried by the toothed wheel 27 on shaft 32 mounted in bearings 28 and 29 on walls 6 and 10; the wheel 27 meshing with the pinion 30 on the shaft 4. The cam device 26 may consist of the cylindrical part 31 arranged eccentrically on the shaft 32, and curved parts 33 disposed above and below the part 31 and having one end portion thereof adapted to fit against the part 31 and having the other end portion thereof mounted on pivots 34 on the wheel 27 and pressed by comparatively narrow springs 35 suitably secured to lugs 36 on the wheel 27. Arms 37 may be pivotally mounted on a shaft 38 and have at one end thereof a spring 39 adapted to press rollers 40 at the other end thereof against the cam device 26. On the shaft 38 may be freely mounted the sector plate 41 which may have suitably secured thereon a pin 42 adapted to fit in a slot at one end of the horizontal angular arm 43 which may be mounted on a pivot 44 on a bracket 45 suitably affixed to the wall 10. The other end of the arm 43 may also be slotted and may fit over the upper end por-

tion of a lever 46 which is mounted on a pivot 47 on a bracket 48 suitably affixed to the wall 10; the lower portion of the arm being adapted to engage with the spring contact 25 to move it against the contact 24 and having thereon parts 49 fitting in the space between the collars 16. The arms 37 may have thereon pins 50 which are adapted to engage with the lower portion of angular dogs 51 mounted on pivots 52 on the plate 41 and provided with upwardly extending projections or shoulders 53. Suitable springs 54 may be affixed on the plate 41 and adapted to hold the projections 53 in engagement with the stationary arc-shaped part 55 which may be suitably affixed to the wall 6 and is of greater length than the periphery of the plate 41. Stops 56 may be provided on the plate 41 to limit the movement of the dogs 51 when the latter are engaged by the pins 50.

From the foregoing description of the construction the mode of operation will be readily understood, it being apparent that the device 5 is operatively connected with the cam device 26 to rotate the latter to actuate the arms 37 to have one of them ride over and be moved by one of the curved parts 33 to release the dog 51 from engagement with the part 55 and then move the plate 41 to effect movement of the arm 43 to operate the lever 46 to close the circuit to the motor 21 and have the clutch wheel 14 engage with the wheel 11 and at the same time move the plate 41 to have one of the dogs 51 engage with the stationary part 55 as seen in the drawings; whereupon the motor 21 drives the shaft 4 to wind the device 5 and at the same time the cam device 26 is operated and turned to have the roller 40 of the arm 37 which bears against the dog in engagement with the part 55, ride over the other of the parts 33 as the latter turns through substantially 180 degrees and thereby have said arm disengage said dog from the part 55 whereupon the plate 41 is moved to move the arm 43 to disengage the clutch wheel 14 from the wheel 11 and also to have the other of the dogs 51 engage with the part 55, whereupon the device 5 again operates the cam device 26 and in due course the clutch wheel 14 engages with the wheel 11 and the motor 21 again operates the device 5, etc.

While one form of construction in which the invention may be embodied has been particularly illustrated and described, there are many changes and modifications thereof that will readily occur to those skilled in the art, wherefore, the right is reserved to all such changes and modifications as do not depart 60 from the spirit and scope of the invention as defined in the appended claims.

I claim:

1. The combination of a device for actuating clock mechanism, a shaft operatively connected therewith, a clutch wheel splined on said shaft, a second wheel loose on said shaft and adapted to co-act with the clutch wheel, electric motive means operatively connected with the second wheel, a cam device operatively connected with said shaft, pivotally mounted arms operatively connected with the cam device, and mechanism operatively connected with the arms and adapted to intermittently operate the clutch wheel and govern the circuit through the electric motive means.

2. The combination of a device for actuating clock mechanism, a shaft operatively connected therewith, a clutch wheel splined on said shaft, a second wheel loose on said shaft and adapted to co-act with the clutch wheel, electric motive means operatively connected with the second wheel, a cam device operatively connected with said shaft, pivotally mounted arms operatively connected with the cam device, a pivotally mounted plate, spring-pressed dogs pivotally mounted on the plate and operatively connected with said arms, a stationary part with which said dogs co-act, a pivotally mounted lever operatively connected with the clutch wheel and adapted to close the circuit through the electric motive means, and pivotally mounted horizontal angular arm operatively connected with the lever and with the plate.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses at Los Angeles, county of Los Angeles, State of California, this 26th day of July A. D. 1912.

A. D. 1912.

MARTIN KARSCH.

Witnesses:

FRED A. MANSFIELD,
ALEX. H. LIDDERS.