

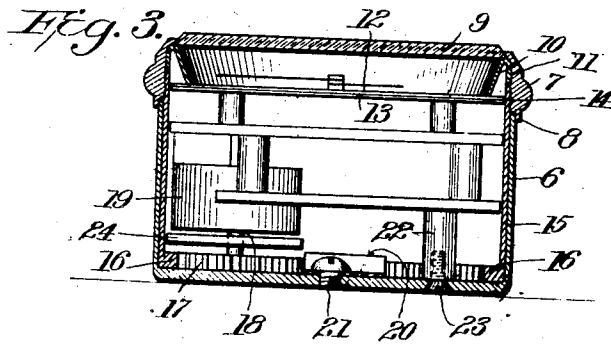
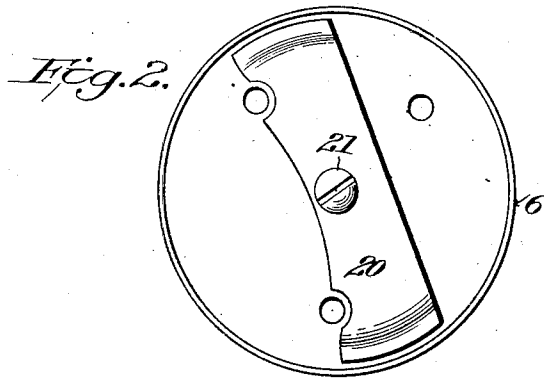
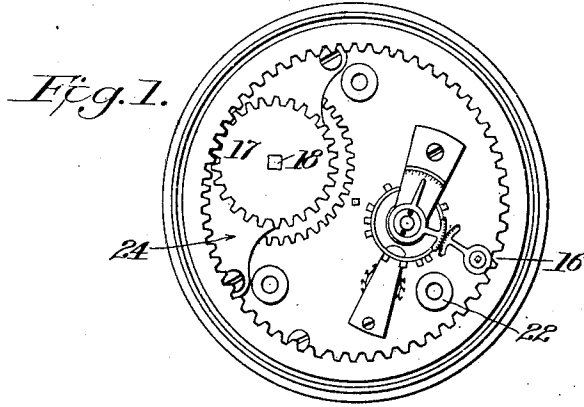
F. S. PHINNEY & O. ADAMS.
CLOCK.

APPLICATION FILED FEB. 17, 1910.

967,428.

Patented Aug. 16, 1910.

2 SHEETS—SHEET 1.



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Fig. 4.

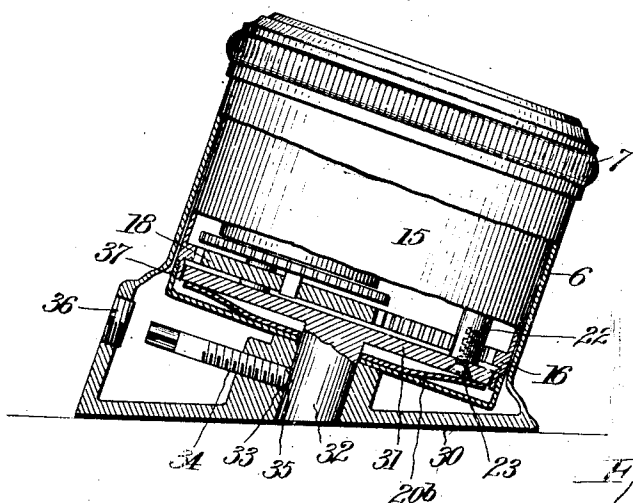
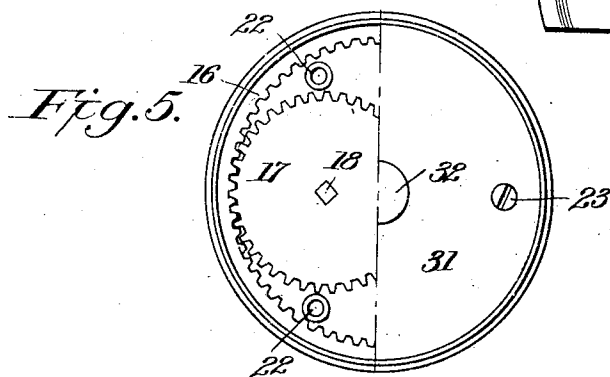
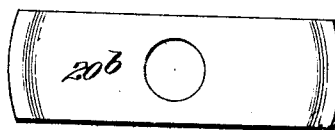


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CLOCK.

967,428.

Specification of Letters Patent.

Patented Aug. 16, 1910.

Application filed February 17, 1910. Serial No. 544,378.

To all whom it may concern:

Be it known that we, FRED S. PHINNEY and OTTO ADAMS, citizens of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Clocks, of which the following is a specification.

This invention relates to clocks, and especially to clocks used in exposed positions, such as on automobiles and other vehicles, and has for its object to provide a clock the case of which is improved with respect to the means for supporting and inclosing the works so that it will be dust and weather proof.

A further object of the invention is to improve the means for winding the clock without the use of a key, by providing a rim which can be turned to wind the clock.

The further object of the invention relates to the means for holding the movement securely in place and prevent rattling thereof, this object being accomplished by the use of a spring.

A further object of the invention is to provide improved means for attaching the works to the case, without the use of a back plate on the movement.

In these and other respects the invention will be found to be an improvement on the device shown in the U. S. Patent to Walker No. 904581, and further advantages of the invention will be apparent from the following description and the accompanying drawings.

In the drawings, Figure 1 is a rear view of the clock, the outer casing being removed. Fig. 2 is an inside plan view of the outer casing, showing the spring on which the works rest. Fig. 3 is a cross section. Fig. 4 is a sectional view of a modification. Fig. 5 is a rear view partly in section, of the clock shown in Fig. 4. Fig. 6 is a plan view of the spring used in the clock shown in Fig. 4.

Referring specifically to Figs. 1, 2 and 3 of the drawings 6, indicates an outer rear cup-shaped casing, in which the clock movement is mounted. This casing will in use be mounted upon a plate or other support in such position as may be necessary or desirable for the user. In use on vehicles it will be mounted on a plate attached to the front or dash board of the vehicle body.

The winding and bezel ring 7 is mounted to turn on the front end or rim of the casing 6, and has a flange 8 which laps or incloses the edge of said casing, and the bezel confines the glass 9, the glass being supported within by the reflector ring 10 which is screwed into the winding rim or ring 7 as indicated at 11. The inner edge of the reflector ring rests against the dial 12 mounted on the front plate 13 of the movement. This movement may be of any desired or approved kind, and is illustrated somewhat diagrammatically in the drawings.

The winding ring 7 screws as indicated at 14 onto the front end of an inner cylindrical casing or barrel 15 which fits at a close fit within the casing 6 and is rotatable therein. This inner casing 15 has at its inner or rear end an internal ring gear 16 which meshes with a pinion 17 on the arbor 18 of the spring barrel 19, and by turning the inner casing the spring is wound.

A flat spring 20 is fastened to the back of the outer casing 6 by a screw 21, and its ends rest upon the ring gear 16, to hold said gear against the back of the outer casing. The ordinary back plate of the movement is omitted, but it has pillars 22 which rest upon or against the back of the casing 6, to which the pillars are fastened by screws 23, which hold the movement in proper non-rotatable position within the inner casing, the pillars extending through the opening of the ring gear described.

In assembling the parts the inner casing is first placed within the outer casing and the spring 20 fastened in place. The movement is then placed within the inner shell or casing 15, which is then inserted in the outer casing, and the movement is fastened by the screws 23 in the pillars 22, and said screws draw the movement in or back, the pillars 22 finally being drawn against the back plate of the outer casing. This holds the movement rigidly to the outer casing, and the ring gear 16 between the casing and the spring, preventing any objectionable vibration or rattling of the movement or the inner casing, permitting said inner casing to be turned, however, for the purpose of winding the clock. The winding ring 7 is then screwed on the front end of the inner casing until the reflector ring 10 is clamped against the dial plate, and the flange 8 will then lap the rim of the outer casing.

To wind the clock the ring 7 is turned, carrying with it the inner casing 15 and the ring gear 16 which by its engagement with the pinion 17 turns the winding arbor. 5 The wide joint between the casings, as well as the lap formed by the flange 8, prevents access of dust or moisture to the movement. The location of the ring gear 16 at the back of the movement avoids the use of a long 10 arbor extending through the movement to the front of the casing, as in the former patent above mentioned, and also gives a better purchase for the application of the force necessary to wind the spring and permits 15 the use of a movement constructed more in accordance with established manufacturing practice. Inasmuch as the movement is held at both the front and rear of the case any objectionable vibration thereof is prevented, which is desirable when clocks are 20 used in situations subject to extreme vibration, as on motor vehicles.

In the modified form shown in Figs. 4 to 6, the inner shell 15 and gear 16 at the 25 rear thereof is used, the same as in the construction above described, but the back of the outer casing is modified to form a base 30 which exhibits the clock face at an angle to the support to which it will be fixed, and the movement is supported by a back plate 31 which has a rearwardly projecting stud 32 fitting in a socket 33 in the back of the 30 outer casing, and held against rotation by a screw 34 which is tapped through the socket and the point of which engages a depression at 35 in the stud. The screw 35 may be reached by a key inserted through a hole normally closed by a plug 36 in the wall of the casing. The inner casing may 40 also be provided at its inner end with a screw cap 37 which has an opening through which the stud 32 projects, and the spring 20^b is mounted on the stud and bears between said cap and the back of the plate 31 45 to prevent rattling of the interior parts, permitting the inner casing to be turned, however, to wind the spring as above described.

We claim:—

1. The combination of an outer casing, an 50 inner casing fitting and rotatable therein and provided at its front end with a winding ring and at its rear end with a ring gear, and a movement inclosed in the inner casing and attached to the outer casing and 55 having a spring-barrel pinion in mesh with said gear.

2. The combination of an outer casing, an

inner casing fitting and rotatable therein and provided with an internal ring gear at its rear end and an external winding ring, 60 a movement within the inner casing and having a spring-winding gear in mesh with said ring gear, and a support between the movement and the back of the outer casing, extending through the opening of said ring 65 gear.

3. The combination of an outer casing, an inner rotatable casing therein having an inner ring gear, a movement located in the inner casing and supported on the outer casing 70 and having a spring-winding gear in mesh with the said ring gear, and a spring between the outer and inner casings to prevent vibration of the latter.

4. The combination of an outer casing, an 75 inner rotatable casing therein, a movement located within the inner casing, winding gearing between the spring of the movement and said inner casing at the rear end of the latter, and pillars projecting from the movement and through the rear end of the inner 80 casing and fastened to the outer casing.

5. The combination of an outer casing, a spring at the back thereof, an inner rotatable casing therein having a ring gear engaged 85 by said spring, a movement within the inner casing, and supports between the back of the outer casing and the movement.

6. The combination of an inner casing having an internal ring gear at its rear end, 90 a movement in said casing and having a spring-winding pinion in mesh with said gear, a winding ring and bezel screwed on the front end of the inner casing, and having an internal ring bearing against the 95 front of the movement to clamp the movement at the front, and an outer casing to which the movement is fixed at the back.

7. The combination of an outer casing, an inner rotatable casing therein having an inner 100 ring gear, a movement located in the inner casing and fastened to the outer casing and having a spring-winding gear in mesh with said ring gear, and a spring fastened to the outer casing and pressing upon said ring 105 gear.

In testimony whereof, we affix our signatures in presence of two witnesses.

FRED S. PHINNEY,
OTTO ADAMS.

Witnesses:

STEPHEN McCORMICK,
EDWARD L. SWAIN.