(No Model.)

# M. W. EVANS.

## WATCH CASE.

No. 343,576. Patented June 15, 1886.

*fig. 1.*

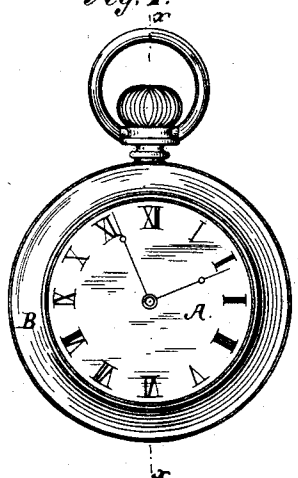


*fig. 2.*

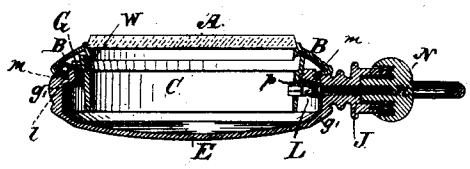


*fig. 3.*

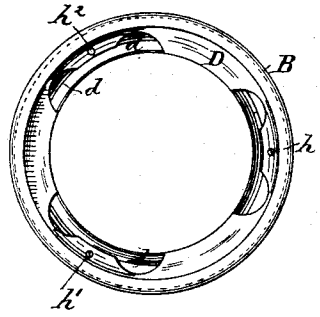


*fig. 4.*

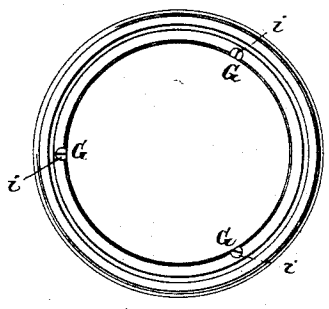


*fig. 5.*

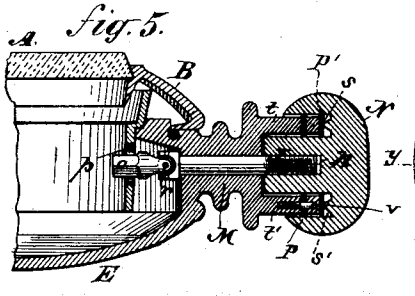


*fig. 6.*

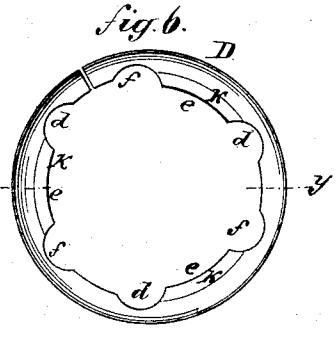


*fig. 7.*

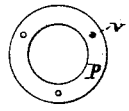
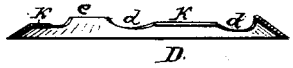


*fig. 8.*



*fig. 9.*



Witnesses:
Henry Eisbing
Chas. R. Clark

Inventor
Miles W. Evans
by B. B. Clarke
his atty.

N. PETERS. Photo-Lithographer, Washington, D. C.

# UNITED STATES PATENT OFFICE.

MILES W. EVANS, OF NEW YORK, N. Y.

## WATCH-CASE.

SPECIFICATION forming part of Letters Patent No. 343,576, dated June 15, 1886.

Application filed June 2, 1884. Serial No. 133,514. (No model.)

*To all whom it may concern:*

Be it known that I, MILES W. EVANS, of New York city, county and State of New York, have invented new Improvements in Cases for Open-Face Watches, whereby the same are rendered dust-proof, both at the opening joints of the case and at the stem-winder, of which the following is a specification, reference being had to the drawings forming part thereof, in which—

Figure 1 is the case, open-faced, containing the dial in its place. Fig. 2 is a sectional view of Fig. 1 on line $x\,x$, the dial removed. Fig. 3 is a face view of the bezel, showing within it the notched or scalloped disk and the screws attaching the disk to the bezel. Fig. 4 is a face view of Fig. 1, the bezel being removed. Fig. 5 is a sectional view of the entire case toward the stem-winder, showing the construction of the bezel with the protection against dust, the pendant likewise provided, and the mode of attaching the parts together. Fig. 6 is a face view of the disk used to connect the bezel to the other part of the case. Fig. 7 is a face view of a washer used in the arbor of the case. Fig. 8 is the universal joint, so operated that the works of the watch can be removed from the case without removing the arbor or winding-crown; and Fig. 9 is a sectional view of Fig. 6 on line $y\,y$.

My invention consists in improved cases for watches, stem-winders or otherwise, and open-faced, and so constructed as to render said cases dust-proof, or nearly so; and it consists, first, of a compressible substance, in combination with a disk and bezel, so that no dust can creep through, and second, with a stem-winder, also rendered dust-proof.

In the drawings I represent the face or dial by letter A.

B is the bezel.

C is the inner or center rim, in which are fastened the works of the watch, and is so made that it may be set in and taken out, carrying the works with it.

D is a very thin disk or rim, of steel or other metal, having part of its body at certain desired distances cut away, as at $d\,d\,d$. This disk has the flanges $d$, made in such a manner as to leave projections $e\,e\,e$, which project out beyond the arbor $f\,f\,f$. The disk is held fixed in bezel B by means of the screws $h\,h'\,h^2$, so as to prevent its slipping around in the bezel.

E is the back of the watch, which may be made with its sides $g'\,g'$ of one piece, like the old English bull's-eyes, or made in detached pieces from sides and soldered to the side.

G are screws or lugs fixed in or secured firmly on the face of the upper side of case E, Figs. 2 and 4, and arranged at desired distances apart, and are to receive under the head $i$ the bezel B by engaging with the disk D under its surface $k$, and thereby locking the bezel down tightly to the center rim, as hereinafter described. The surface $k$ at one end is slightly inclined outward from the surface of the bezel, sufficiently to allow the head of the screw or lug to enter between the disk flanged out and the bezel, but steadily decreasing till it is almost tight against the body of the bezel B, and thus prevents the head of the screw from passing farther, and holds said head tight in position until pressure is applied, and the bezel is turned back on its path and reaches the cut-away portions $d$ and is released.

$l$ is the groove running around the entire case in the sides $g'$, and in which is placed the packing $m$, which may be of any suitable material, on which packing the flange or edge of the bezel is tightly held.

J is the pendant, through which the universal single joint L is passed, the same being screwed into the winding-crown at $n$, and the other end of which is passed into the aperture $p$ in center rim, and that end, $o$, is loosely operated on the joint-pin and socket $r$, Fig. 5. It will be readily seen that by use of this joint the cap of the stem-winder need not be so constructed as to be pulled out, so as to relieve the center rim and allow its removal, with the works, out of the case when it is desired to clean them. The end or arm $o$, projecting into the rim C, is adapted to engage with the winding-stud of the movement, and provided with suitable connections therefor. The neck M—made either in one continuous piece with case of watch, or separate and attached to the back—has circular extensions $t\,t'$, Fig. 5, which fit into recesses or cavities $s\,s'$ in wind-

ing cap or crown N. On the inner ends of *t t* is placed the washer P, which may be duplicated, as shown, by cutting off one part of lug *t t'* and putting on a washer, P, and then placing said part back over the washer and adding a second washer, P', and holding it in place by means of screws *v v*. It will be necessary to attach these washers to the projections in order to keep them in place. The cap N is screwed down over the projections onto end of universal joint, so that, the projections entering the recesses *s s'*, the rubber or washer or filling completely presses against the sides of said cavities and stops the entrance of dust and prevents the entrance of moisture to the works by that way. The center rim may be snapped into the holding-case or back by means of a common snap at W, set in at its rear, if desired, or remain unfastened. It is now plainly evident that the center rim, C, placed in the case E, is snapped down into the same. The bezel B, containing the glass and its disk D, is ready to be placed over dial A. The groove *l* has placed within it the packing *m*, which is held securely in place, whether the rubber is bound by bezel or not. The bezel is placed over the center rim and shut down onto the upper face of case E, and turned around until the screw or lug G falls into the apertures *d*, or any one of them. A further turn is then given to the bezel till the lug G, with its head, has passed behind projecting flange K, and is pressed up till the impingement is so great that it can be pushed no farther. The bezel has, perhaps, engaged in its disk D all three of the screws or lugs—at least two of them are so engaged—and being pressed down onto the packing *m* is made water-tight. The air, dust, and water cannot then enter between sides of case E and bezel B, nor can they enter by way of the winding-stem J, as above stated. It is now desired to remove the bezel and works for cleaning. The reverse motion will carry the bezel back so that the lugs G will enter arbor *f* and instantly release all hold on disk D. The bezel removed, the center rim, C, is snapped up, and the universal joint allows it to be taken off without removing or withdrawing the pendant.

I am well aware that packing has been used before, but in an entirely different way, not confined nor so constructed that it could be renewed when worn out.

I do not claim a single case forming the back of a watch, except in combination, as that was long since used in old English watches, and is not new; but

What I do claim as new is—

1. In combination with the center rim, C, disk D, and case E, with lugs or screws G, groove *l*, with removable packing *m*, movable center rim, C, having aperture *p*, of a universal joint, substantially as described, and for the purpose specified.

2. The combination of a winding-arbor and neck, N, having projections *t t'*, washer P, with core E, center rim, C, universal joint L, and winding-stem, with its recesses, so that the works may be removed without pulling out the arbor or winding-stem, substantially as described, and for the purpose specified.

3. The bezel B, having disk D, with flanges, arranged as described, with case E, having fixed in the face of its sides the screws or headed lugs G, groove *l*, packing *m*, center rim, C, with aperture *p*, universal joint L, winding stem or crown N, with cavities *s s'*, the neck having projections *t t'* entering therein and closely fitted by means of washers P in said cavities, so that no moisture or dust can enter therein, and the center rim readily removable without drawing pendant and winding-cap back, and without disengaging any screws thereof, substantially as described, and for the purpose specified.

MILES W. EVANS.

Witnesses:
CHARLES R. CLARKE,
JAMES M. HUNT.