

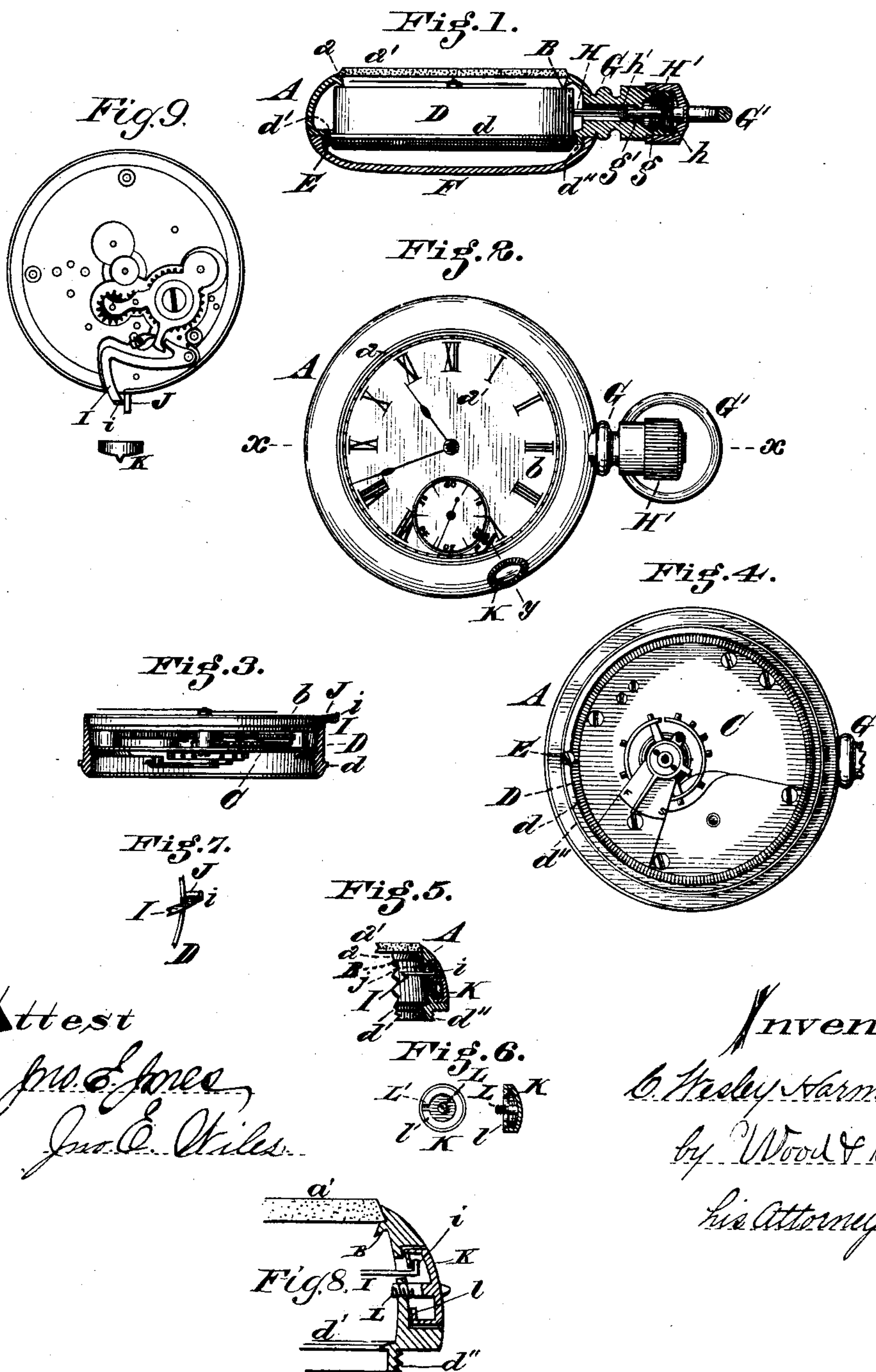
(No Model.)

C. W. HARMAN.

WATCH CASE

No. 254,646.

Patented Mar. 7, 1882.



Attest
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UNITED STATES PATENT OFFICE.

C. WESLEY HARMAN, OF CINCINNATI, OHIO.

WATCH-CASE.

SPECIFICATION forming part of Letters Patent No. 254,646, dated March 7, 1882.

Application filed November 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, C. WESLEY HARMAN, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Watch-Cases, of which the following is a specification.

My invention relates to improvements in watch-cases, and more particularly to that class of watch-cases known as "dust-proof" cases, which are customarily applied to open-face stem-winding watches.

The object of my invention is the production of a dust-proof watch-case which is simple, durable, and economical in construction, operation, and cost. There being no springs or hinge-joints in the case, it is not easily impaired by usage, and the movement is preserved entirely free from dust or moisture in a degree never heretofore attained. The construction is such that no part of the case need be entirely removed to set or wind the watch, thereby relieving the movement from exposure to dust and moisture, and facilitating the operation of the winding and setting mechanism.

A very important object of my invention is to produce a watch-case which is adapted to receive and contain various forms of movements, most especially the "Elgin," "Rockford," and "Springfield" movements, and with but little alteration numerous other movements, which is not permissible in other constructions of watch-cases heretofore and now in use without material change.

My invention consists, in the first part, in forming the bezel, which receives and holds the crystal, and the central shell or body of the case in one piece, being open in the rear to receive the movement, which opening is closed by a removable screw-threaded cap or plate, fitting it so as to effectually prevent the entrance of dust or other deleterious matter into the watch, and to afford access to the movement to regulate it when necessary.

My invention further consists in the provision of a circular band or ring to contain the movement, which rests within it on an annular shoulder, the dial of the movement seating on an annular rim on the inside of the bezel

and on an annular flange within the shell, and the whole secured in place by a screw or other suitable means, more fully hereinafter described.

My invention further consists in the provision of a pendant or winding stem which is composed of the customary perforated stem on the periphery of the case, but having inner screw-threads, in which engage screw-threaded heads constructed or secured on the winding-arbor, on the outer end of which is attached the winding crown or cap, the other end passing through said perforation or passage into the winding mechanism of the movement, the said screw-threaded heads being provided to close up the opening in the pendant and effectually exclude foreign matter from the movement.

My invention further consists in the provision of a device for operating the setting mechanism of the watch, which device is composed of a hollow cap having a screw-threaded stem, which screws into the periphery of the bezel or body in a concavity made in the peripheral face thereof, and which is perforated for the passage of the customary lever, which is sustained within the said hollow cap, free to move therewith when being adjusted.

Other features of my invention will be fully set forth in the following description of the accompanying drawings, in which—

Figure 1 is a central section through the case and pendant, on line *x x*, Fig. 2, showing the ring containing the movement in elevation and secured in position. Fig. 2 is a plan of the face of the watch, showing the position and outer face of the setting-cap. Fig. 3 is a central section of the ring for containing the movement, which is shown in position therein in elevation. Fig. 4 is a plan of the rear part of the case, showing the movement and its ring secured therein, the back cap or plate being removed. Fig. 5 is a broken sectional elevation on line *y y*, Fig. 2, showing the device for operating the setting mechanism. Fig. 6 shows an inside elevation of the hollow cap for the setting mechanism, and also a central section of the same. Fig. 7 is a broken plan of the ring for containing the movement, showing the position of the setting-lever,

which is sustained beyond the periphery of said ring by an arm or lug for inserting the same through the perforation in the case, and thence into the hollow cap for operating it; Fig. 8, a plan view, illustrating the lever and its operating-cap for adjusting the mechanism to permit the watch to be set; Fig. 9, an enlarged sectional view, similar to Fig. 5.

A represents the shell or body forming the bezel of the watch-case.

a represents the opening in the same for receiving the crystal *a'*, which is set into it in the usual manner.

B represents a rim or depending annular flange within the opening *a*, which forms a seat for dial *b* of the movement C.

D represents the ring or band which encircles and contains the movement C, which is inserted and secured within it in the manner usual in American watches. The ring D is provided with a peripheral flange, *d*, which seats on an inner shoulder, *d'*, constructed in the rear opening of the body or bezel A, through which the movement passes into the case. The ring D and its contained movement is preferably secured within the case by a screw, E, which passes through the flange *d* and shoulder *d'*, and also by the winding-arbor, which passes into the movement in the usual manner in a direct line opposite the point of insertion of screw E.

F represents a screw-threaded back or plate, which fits the outer screw-thread on depending flange or rim *d''* in the opening of the shell A, as shown in Fig. 1, and with back removed in Fig. 5. This adjustable cap F affords easy access to the movement for regulating or removing it, and is adaptable to any form of watch-case having an open back.

G represents a stem or pendant, attached in the usual manner to the periphery of bezel A.

G' represents the customary bow or ring, secured in the stem G, by which the watch is attached to a chain.

g represents an inner left-handed screw-threaded opening in the outer end of stem G, and *g'* represents an inner right-handed screw-thread of lesser diameter, made a portion of the length of the perforation in said stem.

H represents a winding-arbor.

H' represents a crown or cap on the outer end of arbor H and fitting over the outer end of stem G.

h represents a left-handed screw-threaded head, secured or constructed near the outer end of arbor H, which turns into the threaded opening *g* when through winding the movement and when it is desired to close the said opening against the entrance of dust and moisture.

h' represents a right-handed screw-thread on the arbor H, which turns into and beyond the threads *g'*, thereby advancing the arbor into the movement and preventing its withdrawal in winding.

I represents a setting-lever, which projects and moves outward from the movement in the usual manner. *i* represents the hooked end

of lever I. The lever I is sustained in an advanced position a sufficient distance beyond the edge of the movement by an arm or lug, J, adjacent thereto on the upper edge of ring D, to be inserted through a perforation, *j*, made in the shell A and into a hollow cap, K. The cap K is preferably constructed to conform to the periphery of the bezel, and is provided with a screw-threaded stem, L, which secures it in position in a concavity made in the shell A.

L' represents a slot or opening cut in the inner open face or flange *l* of the cap K, through which the hooked end *i* of the setting-lever I is inserted, the hook thereof resting in the opening under the flange *l* of cap K, and as the said cap is unscrewed it draws said lever outward in proper position for setting the watch without removing said cap, and a reverse movement of the cap carries the setting-lever back in its normal position.

The outer face of cap K is preferably milled, as shown in Fig. 2, to facilitate its manipulation.

I am aware that heretofore watch-cases have been made having the back and center of a single piece and having a removable bezel in which the crystal is secured. I do not therefore lay claim to such a construction; but

What I claim is—

1. A watch-case in which the central frame and the bezel are spun or struck up in a single piece and the crystal is secured in the immovable bezel, the back of the case being composed of a single piece of metal detachably secured in place on the frame of the case, having winding and setting mechanism adapted to be operated without opening the case, all substantially as shown and described.

2. The band or ring containing the movement, which rests within said band or ring on an annular shoulder formed thereon, the dial of the movement seating upon a rim on the inside of the bezel, and a flange on the band or ring seating upon a flange on the shell or casing and detachably connected thereto by a screw, said parts being constructed and combined substantially as shown and described.

3. The body of the case spun or struck up in a single piece with the bezel which receives the crystal, and at its rear side with the rim *d''* and flange *d'*, in combination with the ring D, containing the movement C, and provided with the flange *d*, detachably secured to the flange *d'* on the body of the case, substantially as described.

4. The body A of the case, formed in a single piece with the bezel which receives the crystal, and at its rear side with the threaded rim *d''* and interior flange, *d'*, in combination with the solid back plate, the ring D, containing the movement C, and formed with the flange *d*, and the screw E, detachably securing the flange *d* of the ring to the flange *d'* of the case, all substantially as and for the purpose described.

5. In a stem-winding watch, the winding-

arbor H, provided on its outer end with a crown, H', and between its ends with right and left handed screw-threads engaging corresponding screw-threads on the inside of the
5 hollow stem or pendant, substantially as and for the purpose specified.

6. In a stem-winding watch, a device for operating the setting mechanism, composed of a hollow cap, K L, within which the hooked
10 end i of the setting-lever I is sustained and

operates, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

C. WESLEY HARMAN.

Witnesses:

JOHN E. JONES,
JNO. E. WILES.