

(No Model.)

E. A. MARSH.

DEVICE FOR SECURING DIALS TO WATCH MOVEMENTS.

No. 543,628.

Patented July 30, 1895.

FIG. 1.

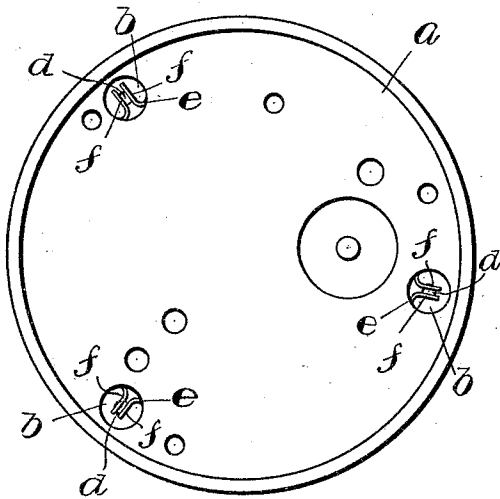


FIG. 2.

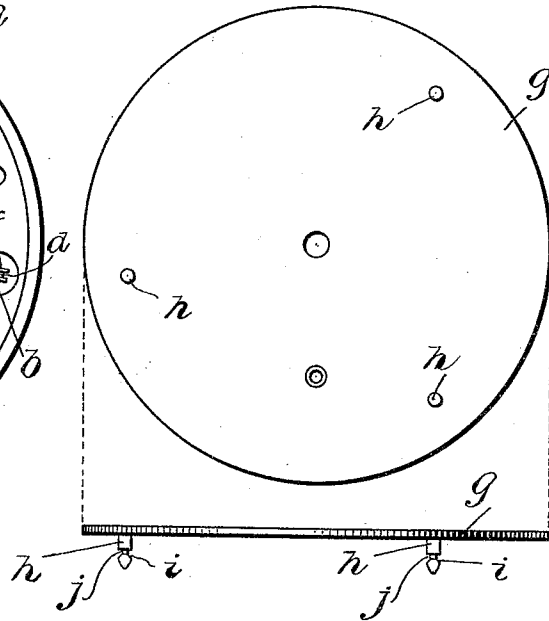


FIG. 3.

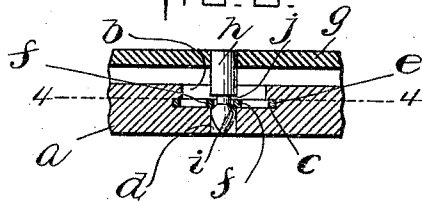
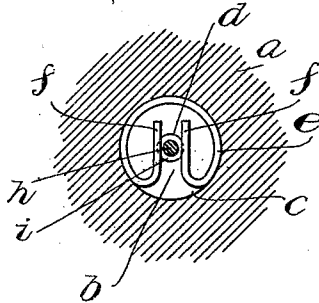


FIG. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE

EDWARD A. MARSH, OF NEWTON, MASSACHUSETTS.

DEVICE FOR SECURING DIALS TO WATCH-MOVEMENTS.

SPECIFICATION forming part of Letters Patent No. 543,628, dated July 30, 1895.

Application filed March 30, 1894. Serial No. 505,864. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. MARSH, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Means for Fastening Dials to Watch-Movements, of which the following is a specification.

This invention relates to the art of watch-making, and has special reference to the fastening of dials to watch-movements. Numerous methods have heretofore been devised for accomplishing this work, all of which are open to one objection or another. In many watches of European manufacture the dial is provided with an encircling ring or bezel which is snapped upon or held by a corresponding shoulder turned on the movement-plate. Such a method is open to the objection of additional expense and requires special accuracy in fitting, as the dial must be retained in its proper circular position either by friction alone or with the help of a suitable pin or notch. Formerly in American watches, and probably at present in English watches, the dial is provided with two or more pins or feet which project from its back side and pass through correspondingly-located holes in the movement-plate. These feet are made sufficiently long to project a short distance through the plate and are provided with small holes drilled transversely through them, in which are inserted taper pins serving to hold the dial in place. In a later form of construction the feet are made shorter and reach just through the plate, and in the edge of the pillar-plate are drilled holes which pierce through into each of the dial-feet holes. These holes are tapped to receive screws, which are made pointed, so as to be forced into the softer metal of the dial-feet and thus hold the dial firmly in place. This form, while an improvement upon the earlier method of pinning, is found objectionable on account of the danger of cracking the very brittle enamel of the dial by undue strain or pressure upon the feet by the pointed set-screws above mentioned. A modification of this latter form has been devised in which the dial-feet are split, so that the points of the set-screws (which are made quite slender) enter the splits and serve to press the halves of the feet apart and hold firmly against the opposite sides of

the hole. Aside from the expense of each of the last two of the foregoing methods of construction, there is the disadvantage of being obliged in every instance to remove a watch-movement from its case before it is possible to remove the dial.

The object of my invention is to provide a means of securing dials to watch-plates which shall be cheap in construction, convenient in operation, and at the same time to greatly reduce the danger of breakage, with the additional advantage of permitting the removal and application of the dial without removing the watch-movement from the case.

To this end the invention may be said to consist in providing the movement-plate with spring-catches for engaging feet or like projections on the dial.

The invention also includes numerous details of construction devised with the purpose of obtaining the most advantageous result, all of which will be found fully described hereinafter.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 shows a top plan view of the pillar-plate of a watch-movement. Fig. 2 represents the under side of the dial-plate and an edge view of the same. Fig. 3 is a sectional view on an enlarged scale showing the manner of engaging one of the feet on the dial with one of the spring-catches on the movement-plate. Fig. 4 shows a section on line 4 4 of Fig. 3.

In the manner here illustrated of carrying out the invention the pillar-plate *a* of the watch-movement is formed in its outer side with circular recesses *b*, each having an annular groove *c* at the base in its side wall. Holes *d* are made through the centers of the bases of said recesses for the feet on the dial-plate. Each recess *b* receives a spring-clip in the form of a circular strip *e* of resilient metal, which is sprung into the groove *c* and retained thereby. Said strip is formed with inturned ends *f*, which confront each other, with a narrow space between them. These inturned ends form spring-jaws extending over the hole *d*, and the resiliency of the metal strip of which they are a part resists movement of said jaws away from each other.

The letter *g* designates the enameled dial-

plate, in which are fastened pins or feet *h*, projecting from the inner side of the plate. These feet are designed to enter the holes *d* in the movement-plate and be grasped and held by the jaws *f*, and they are therefore equal in number with said holes and correspondingly placed. I have found three a sufficient number to properly hold the dial on the movement.

10 The feet *h* are tapered at the ends to facilitate their entrance between the jaws and spreading the same apart, and they are formed with shoulders *i* for the jaws to snap over and engage to retain the dial in place. These shoulders are here shown as the lower sides of annular grooves *j*, which encircle the pins. They may, however, be differently formed, as by notching the pins or feet or turning them of a larger diameter near the outer ends.

20 The shoulders *i* are preferably made slanting or inclined, as shown, so that the pressure of the spring-jaws thereagainst will have the effect of drawing the dial-plate against the movement-plate.

25 The manner of applying the dial to the movement is very simple, requiring merely that the dial be positioned to bring its feet between the jaws, respectively, and then pressed toward the movement, when the feet will spread the jaws and the latter will snap over the shoulders of the feet. It will be seen that this manner of applying the dial reduces to the minimum the danger of breaking its enamel coating, which is quite brittle.

The improved fastening means permit the removal of the dial-plate without taking the movement from the case. 35

It is to be understood that the invention is not limited to the details of construction herein described, but is capable of embodiment in many different forms. The style of spring-catches can be variously modified, that here shown being the preferred style on account of its simplicity, compactness, and efficiency. The spring-containing recesses may be made in the under instead of the outer side of the movement-plate, although I prefer to make them in the outer side. 45

It will be seen that the invention entirely fulfills the objects primarily set out. 50

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

Means for fastening dials to watch movements comprising a dial, feet on said dial provided with shoulders, a plate having undercut recesses, and springs in said recesses arranged to engage said shoulders, substantially as and for the purpose set forth. 55

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 26th day of March, A. D. 1894. 60

EDWARD A. MARSH.

Witnesses:

C. F. BROWN,
A. D. HARRISON.