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E. J. MARTEL.

MEANS FOR FASTENING THE MOVEMENTS OF WATCHES IN THE CASES.

APPLICATION FILED NOV. 21, 1906.

Fig. 1.

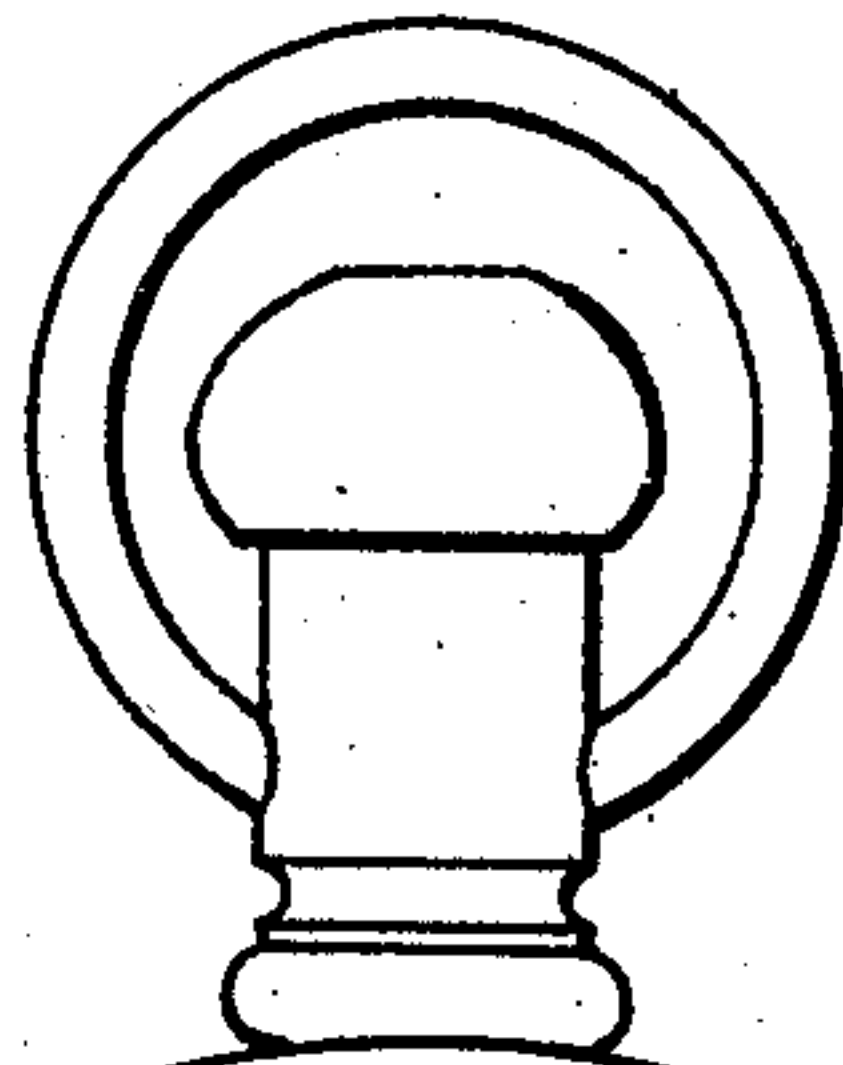


Fig. 2.

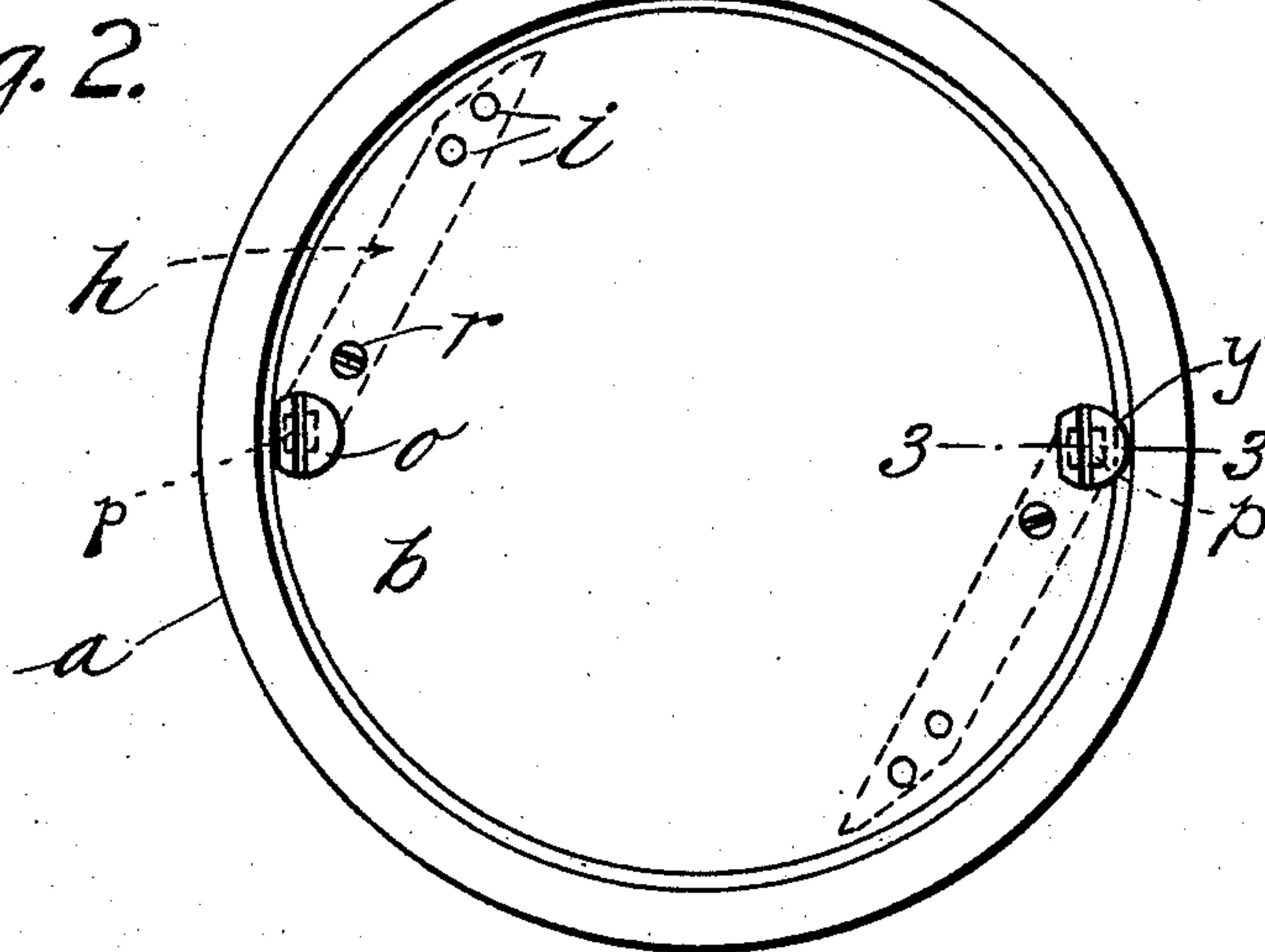
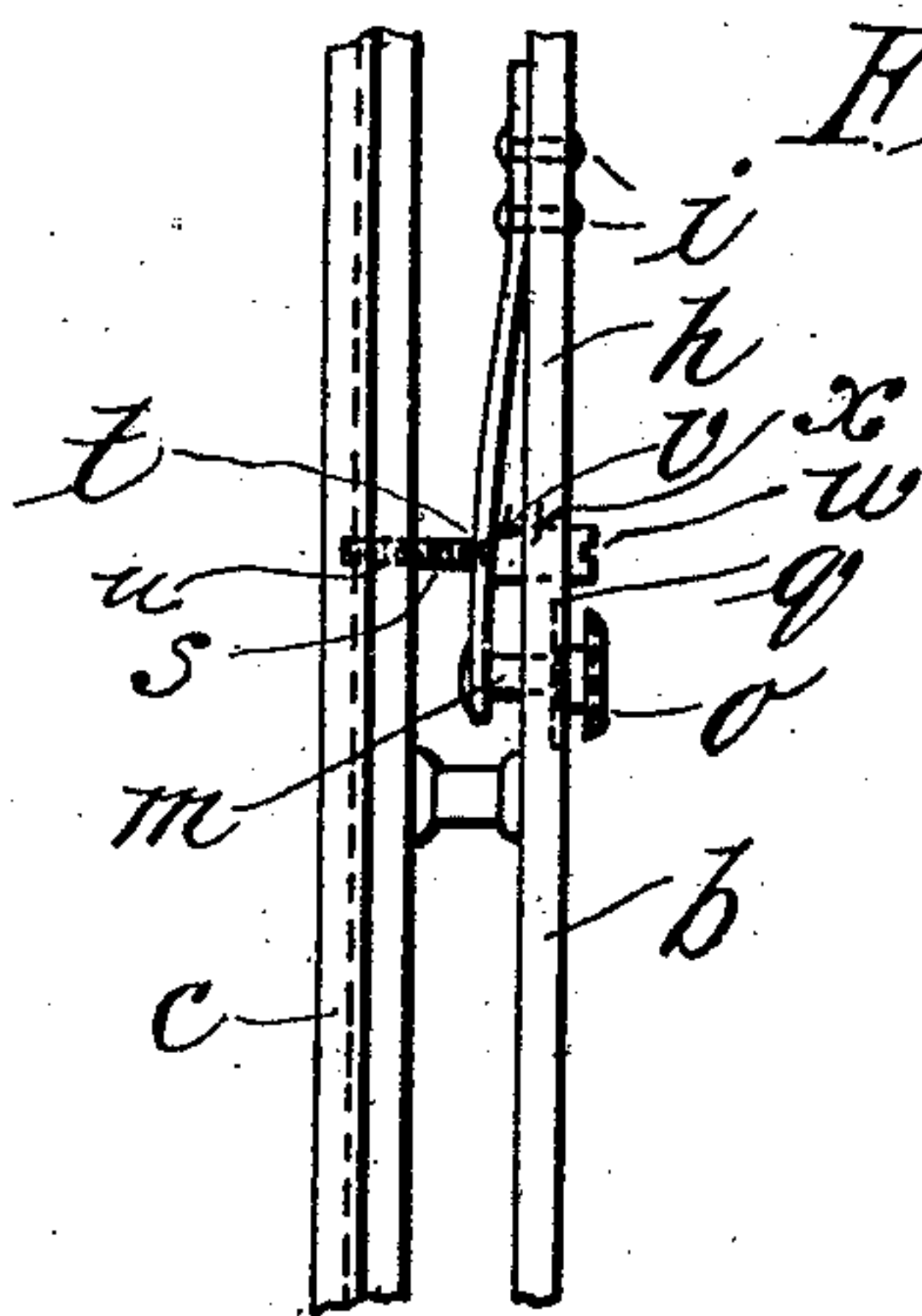


Fig. 6.

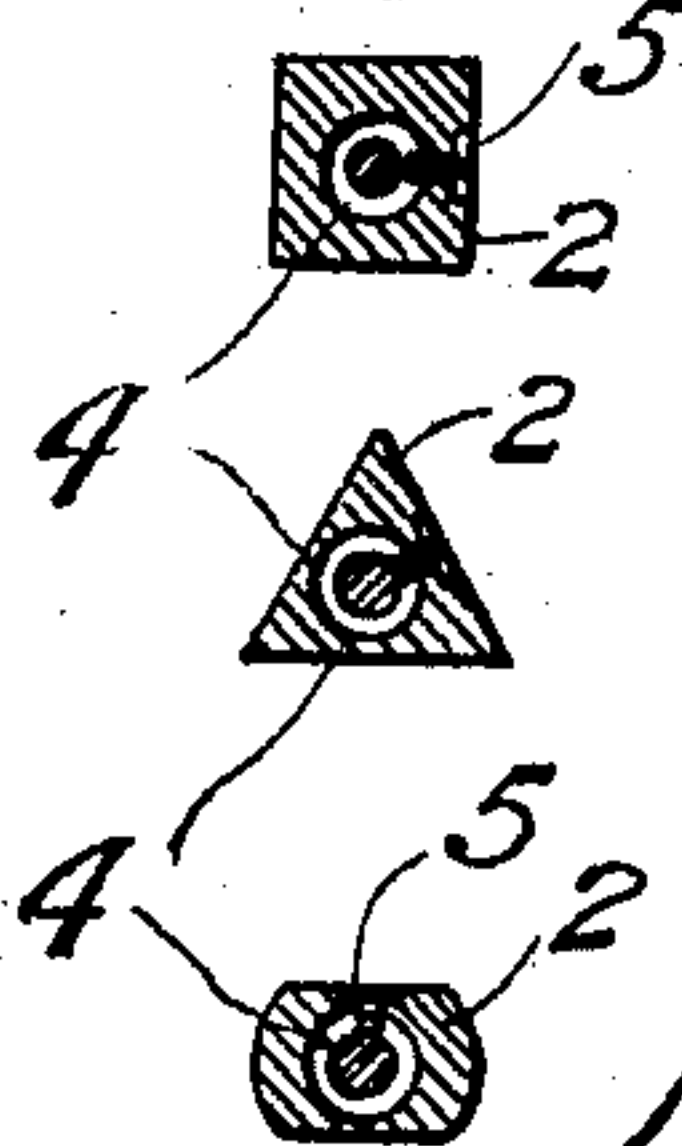


Fig. 5.

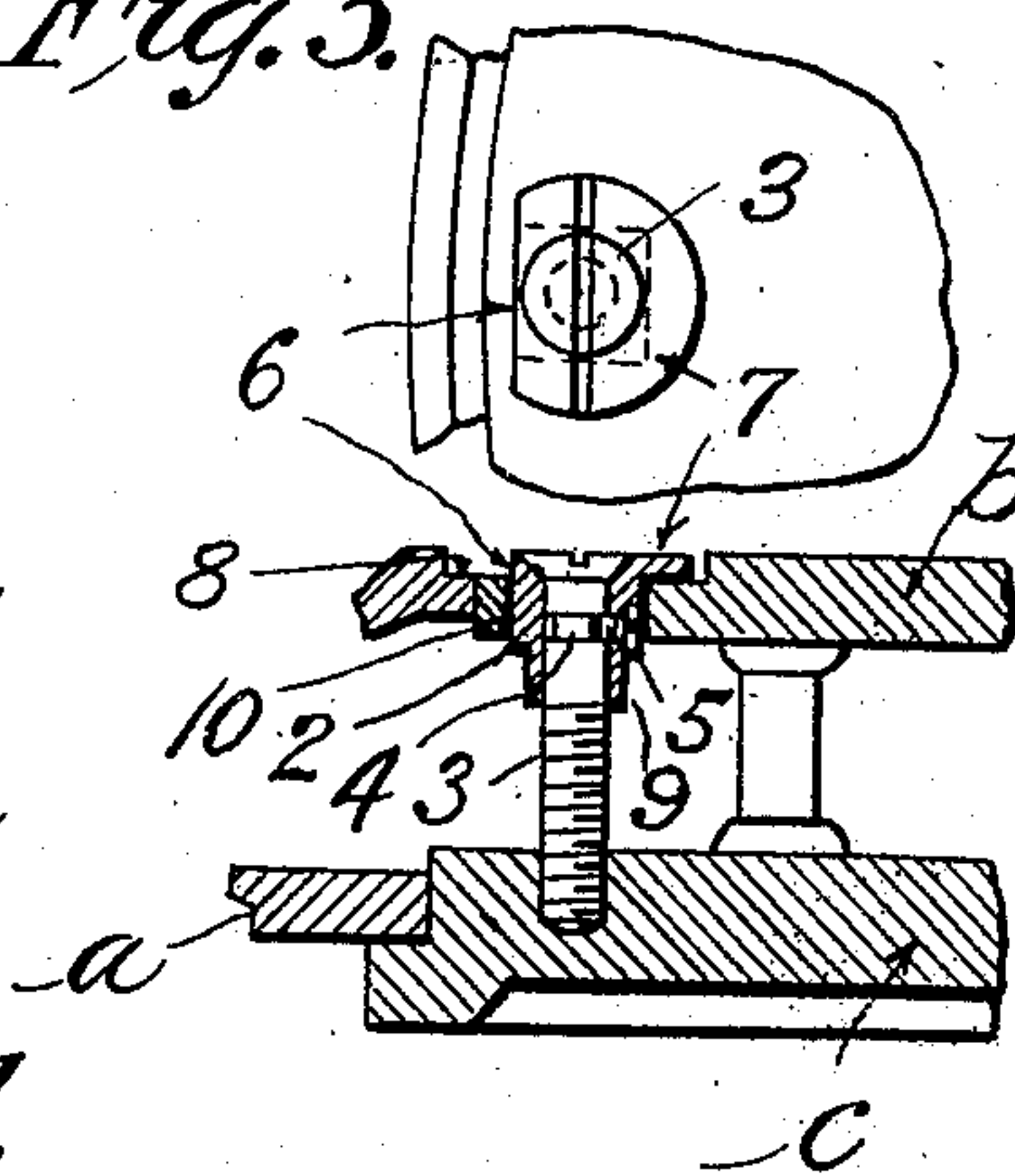


Fig. 3.

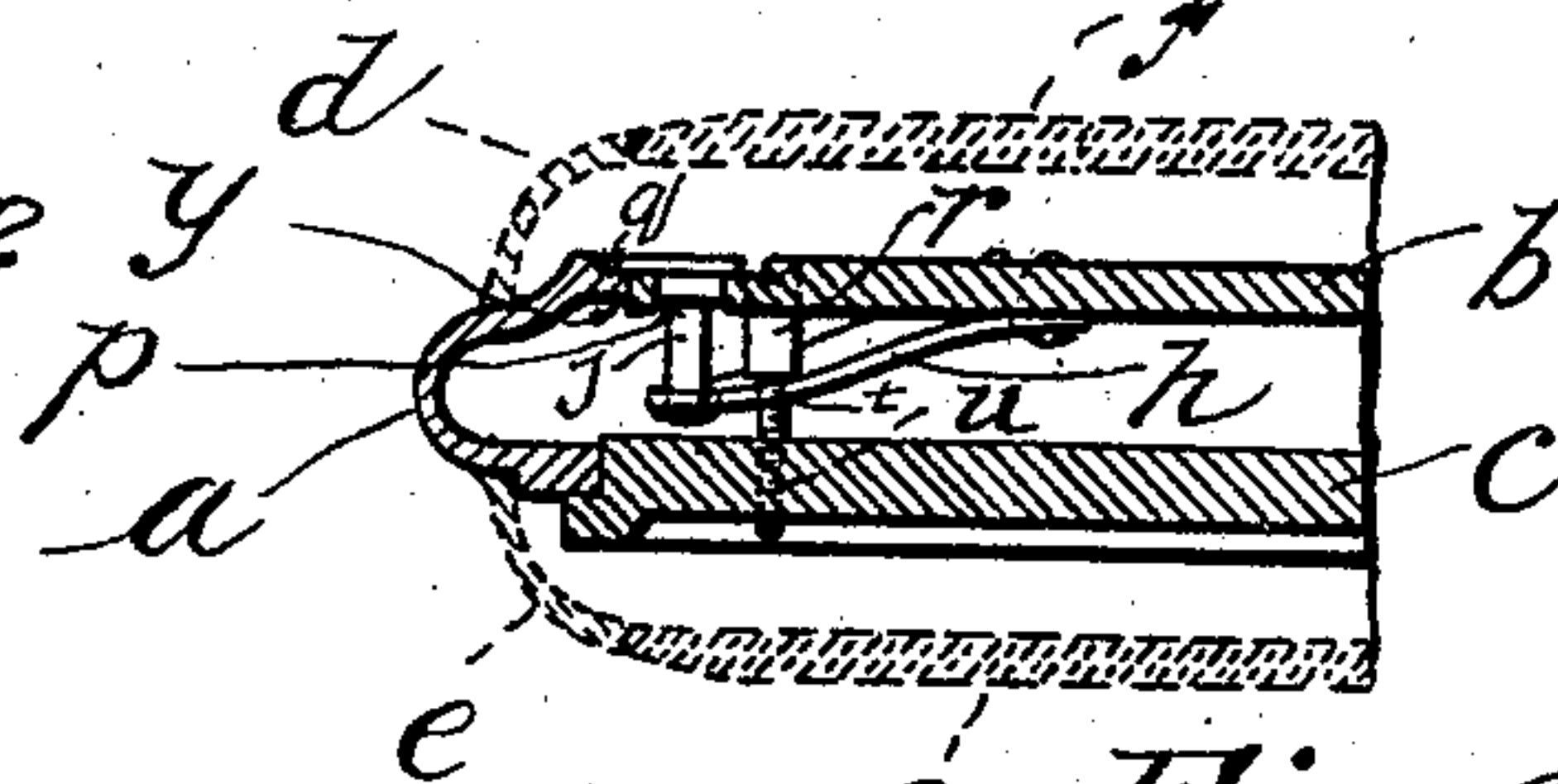
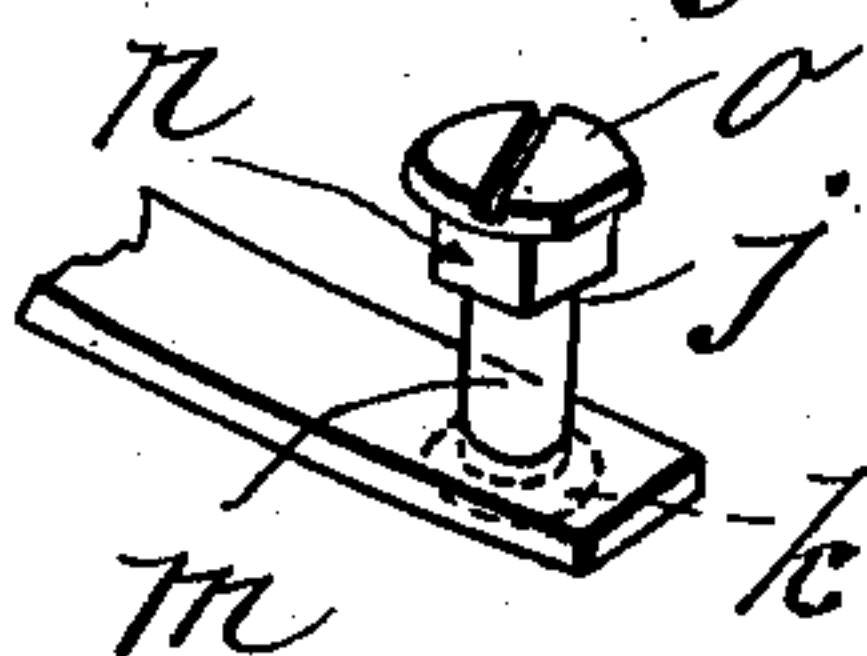


Fig. 4.



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# UNITED STATES PATENT OFFICE.

EDGAR J. MARTEL, OF WARE, MASSACHUSETTS.

MEANS FOR FASTENING THE MOVEMENTS OF WATCHES IN THE CASES.

No. 848,186.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed November 21, 1906. Serial No. 344,378.

*To all whom it may concern:*

Be it known that I, EDGAR J. MARTEL, a citizen of the United States of America, residing at Ware, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Means for Fastening the Movements of Watches in the Cases, of which the following is a specification.

10 This invention relates to watches; and the particular object of the invention is to provide improved means for securely holding the movement in its case. The means at present employed for accomplishing this result is usually a broad-headed screw carried  
15 adjacent the edge of the rear plate of the movement with one side cut away, so that the movement can be readily inserted into the case and removed therefrom, and after  
20 the movement is inserted to rotate the broad-headed screw into such relation with the case of the watch that the part which is not cut away will overlap the case and lock the movement into the same. It has been found in  
25 practice that this construction does not securely hold the movement against working loose, and it is necessary to retighten the screw from time to time in order to keep the movement securely fastened in its case.

30 My improvement is designed to overcome these defects, and after the movement is once locked to its case it will hold the same indefinitely without becoming loose.

Broadly, one form of the invention consists  
35 in securing a spring element to the rear plate and attaching to its free opposite end a short bolt that works through an opening near the periphery of the rear plate, and also providing means for operating the spring to draw  
40 the head of the bolt downward through said opening in the rear plate, so that the head of the bolt is brought firmly against the case, the said means for operating the spring permitting great pressure to be exerted between  
45 the head of the bolt and the case. Another form is in omitting the spring element and providing simply a screw for operating the bolt, as hereinafter fully described.

Referring to the drawings forming part of  
50 this application, Figure 1 is an elevation showing in outline the case part of the watch and in dotted lines the spring secured to the inside of the rear plate and carrying at its outer end the locking-bolt, and the means for  
55 operating the spring and placing the same under tension. Fig. 2 is an edge elevation of

Fig. 1 looking in the direction of the arrow and showing more clearly my improvement. Fig. 3 is a partial sectional elevation on the line 3 3 of Fig. 1, showing the front and rear  
60 plates of the movement, the casing, and the mounting in which the crystals are carried and snapped onto the casing. Fig. 4 is a detailed view of the outer or free end of the spring, which carries the locking bolt or element. Fig. 5 is a plan and sectional elevation, respectively, of a modification of my invention. Fig. 6 shows various forms of the  
65 locking-bolt that may be used with the modification shown in Fig. 5.

Referring to the drawings in detail, *a* designates a casing in which the movement of the watch is carried.

*b* designates the rear plate, and *c* the face plate, of the movement.

*d* and *e* designate the usual metal rims which carry the crystals *f* and *g*, that are snapped onto the case.

Secured to the inner surface of the rear plate *b* is a spring *h*, by means of rivets *i* or  
80 other suitable fastening devices. This spring is made of considerable length, as clearly shown, so that a varying degree of tension may be obtained. The outer end of the spring *h* is extended or lies adjacent the outer  
85 edge of the plate *b*.

Pivotaly secured to the outer end of the spring is a bolt *j*, the inner end of the same being provided with a head *k* to retain the bolt in the spring. A portion of this bolt is  
90 cylindrical, as designated at *m*, and the remaining portion is rectangular or square, as shown at *n*. The outer end of the same is provided with or formed into the comparatively large flattened head. The rectangular  
95 portion of the bolt passes through a correspondingly-shaped opening *p* in the rear plate *b*. The object of this rectangular opening and the correspondingly-shaped bolt is to prevent the bolt from rotating when in locking position.

The rear plate *b* is provided with a cut-out recess or depression *q* for receiving the head of the bolt *o* when drawn downward into locking engagement with the case.

The means provided for moving the spring *h* and the bolt *j* into either locking or unlocking position is designated by the letter *r* and may be termed the "tightening-screw." It is shown constructed so that the threaded  
100 portion *s* passes through an opening *t* in the spring *h* and into a threaded opening *u* in the



outer plate *c*. The operating or tightening screw *r* is provided with a shoulder portion *v*, that engages the rear side of the spring *h*, as clearly shown in Figs. 2 and 3.

5 The enlarged portion of the tightening-screw *r* is provided with a slot *w* for operating the same by means of the ordinary screw-driver for turning the screw *r* into and out of the face-plate *c* and operating the spring *h*.  
 10 The enlarged portion of the screw or operating means *r* passes through an opening *x* in the rear plate.

When the movement is placed within the case, the cut-away side of the head *o* is rotated by means of a screw-driver so that the cut-away portion is concentric with the edge of the case, it being of course understood that the screw or element *r* is first turned backward, permitting the cylindrical portion *m* of the bolt *j* to occupy the rectangular opening *p* in the plate *b*. After the movement is properly inserted within its carrying-case the bolt *j* is rotated so that the extended circular part of the head *o* lies in the position shown at the right of Fig. 1—that is, overlapping the portion *y* of the case. (See Fig. 3.) After the bolt *j* has been rotated to this position the operator then turns the tightening-screw *r* into the face-plate *c*, drawing the spring *h* downward and also the bolt *j* to the position shown in Fig. 3 and firmly against the portion *y* of the case. When the bolt *j* is drawn down into this position, the same cannot rotate, since the rectangular portion *n* then engages the correspondingly-shaped opening in the plate *b*. It is therefore seen that by means of this construction there is no danger of the movement becoming loose on account of the locking screw or bolt turning backward. The tightening-screw *r*, being threaded into the face-plate, places the spring *h* under tension and cannot work loose, since the spring prevents the same from turning.

In order to remove the movement from its case, it is only necessary for the operator to rotate the screw *r* outward, when the spring *h*, which has been placed under tension, will lift the bolt *j*, so that the cylindrical part *m* occupies the rectangular opening *p* of the plate *b*.  
 50 The operator can then revolve the bolt *j* to bring the cut-away portion of the head *o* concentric with the case, as shown at the left of Fig. 1. In this position the movement can be easily taken out of the case.

55 Referring to the modification shown in Fig. 5, in which I do not employ a spring, as in the other figures, for raising the locking-bolt, 2 designates a locking bolt or sleeve that may be of any suitable shape, as shown in the various forms indicated in Fig. 6. Passing through this bolt 2 is the tightening-screw 3 for raising and lowering it. This screw is flush with the upper surface of the bolt 2, as shown.

65 In order to rotatably maintain the screw 3

in the bolt 2, I form an annular recess 4 near the upper end of the tightening-screw for receiving the end of a screw or stud 5, which when turned inward to engage the recess 4 is flush with the side of the bolt 2, as shown in Figs. 5 and 6. One side of the head of the bolt 2 is cut away in the same manner as in the other figures and indicated at 6 in order to permit the movement to be readily inserted into and removed from the case. The opposite side of the bolt 2 is made circular, as indicated at 7, so that when this portion is turned so as to engage the part 8 of the casing the movement will be securely locked to the same. The position of the bolt 2 shown in Fig. 5 permits the movement to be readily inserted into and removed from the case. By turning the tightening-screw 3 outward, so that the bolt 2 is elevated sufficient to bring the circular part 9 of the bolt 2 into the opening 10 of the plate *b*, the bolt can be rotated so as to bring the portion 7 in register with the part 8 of the case. Then by turning the tightening-screw 3 downward again the portion 7 is brought firmly against the part 8 of the case, thus firmly holding the movement to the same, and as the bolt 2 cannot rotate in the opening 10 on account of being triangular or other shape, as shown in Fig. 6, there is no danger of the same working loose.

What I claim is—

1. In an improvement of the class described, a rear plate, a face-plate, a spring element carried by the rear plate, means on its outer end for engaging the carrying-case, and means for operating the spring element to move the last-mentioned means into and out of engagement with the case.

2. In an improvement of the class described, a spring element secured to the movement, a locking element carried thereby for securing the movement to the case, and means for moving the spring element into locking and unlocking position.

3. As an improvement in means for securing the movement of a timepiece to its case, a locking-bolt supported by the movement, and adjusting means for moving the said bolt into and out of engagement with the case.

4. As an improvement in means for securing the movement of a timepiece to its case, a locking-bolt supported by the movement, and adjusting means for moving the said bolt into and out of engagement with the case, said means comprising an element secured in the rear plate and supporting the locking-bolt, and an adjusting element for operating the last-named element.

5. As an improvement in means for securing the movement of a timepiece to its case, a spring element secured to the rear plate, a locking-bolt pivotally mounted in the free end of the spring element, an operating-screw threaded into the face-plate and pro-

vided with a shoulder portion for engaging  
the spring element, the locking-bolt being  
provided with a portion for engaging the case  
whereby when the operating-screw is turned  
5 or threaded into the face-plate, the shouldered  
portion of the same will force the free end of  
the spring element inward and draw the lock-

ing portion of said bolt into engagement with  
the case, as described.

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Witnesses:

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