

No. 780,775.

PATENTED JAN. 24, 1905.

H. S. & J. R. BOOKWALTER.

WATCH DIAL FASTENER.

APPLICATION FILED APR. 13, 1904.

Fig. 1.

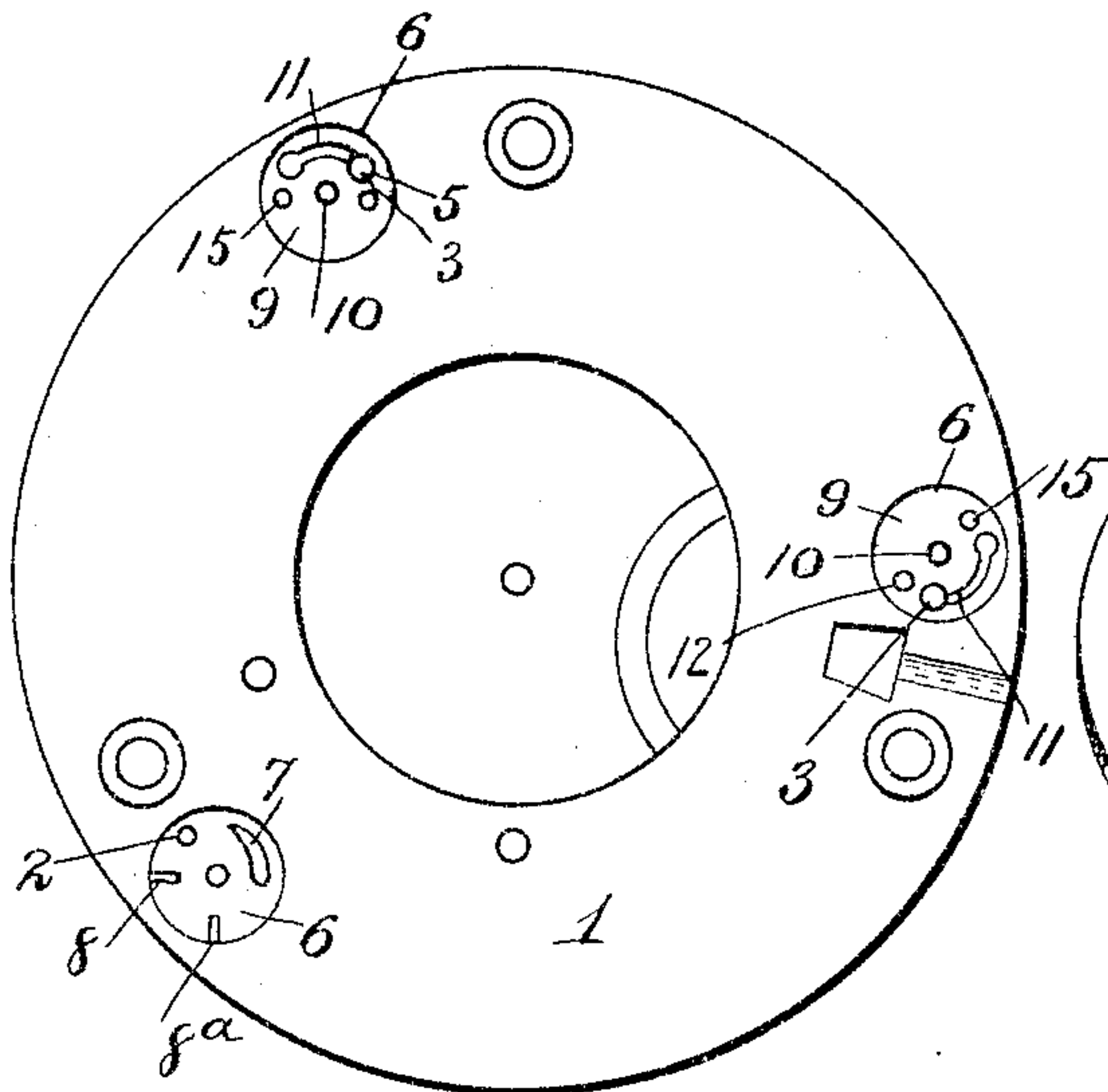


Fig. 2.

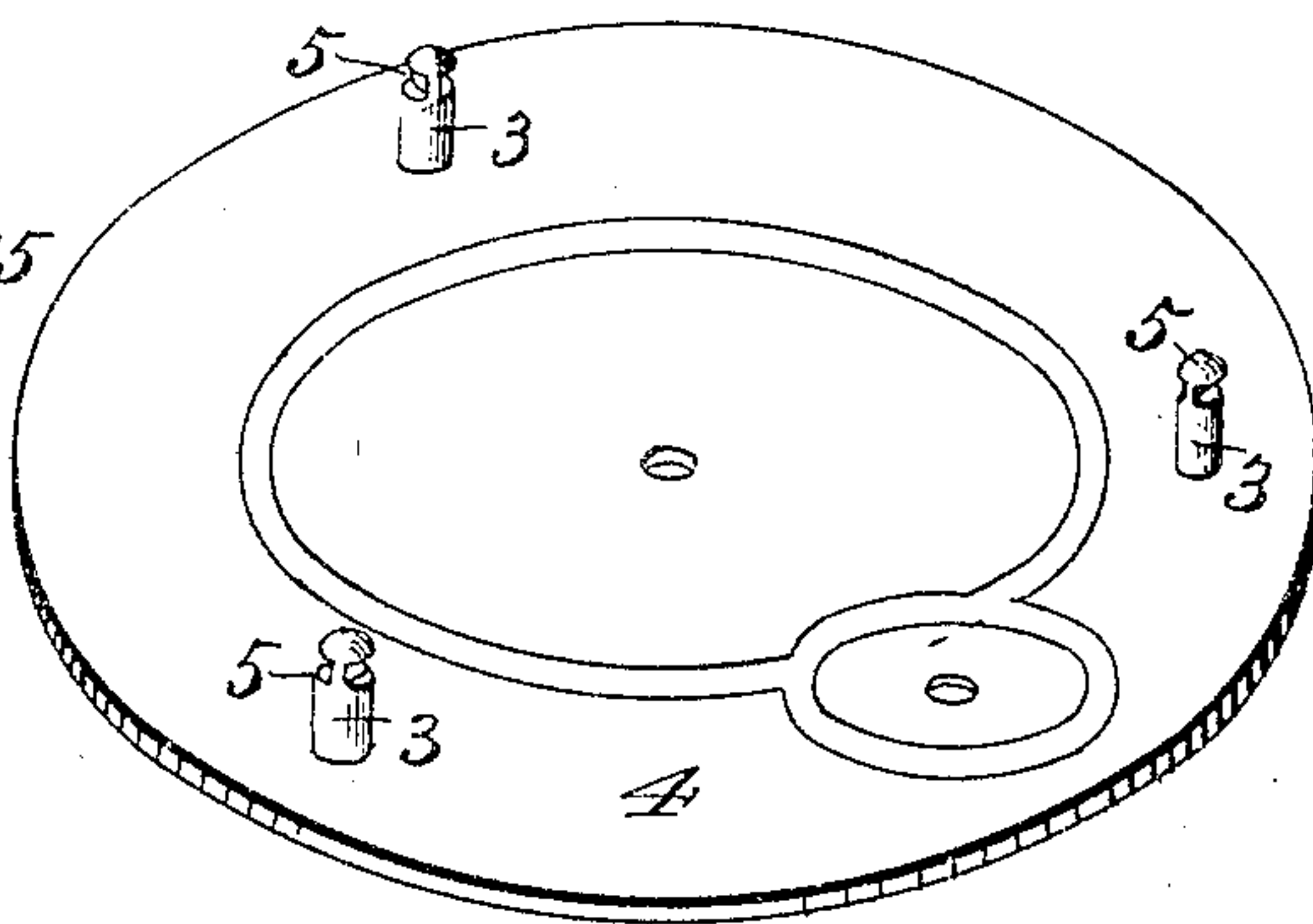


Fig. 3.

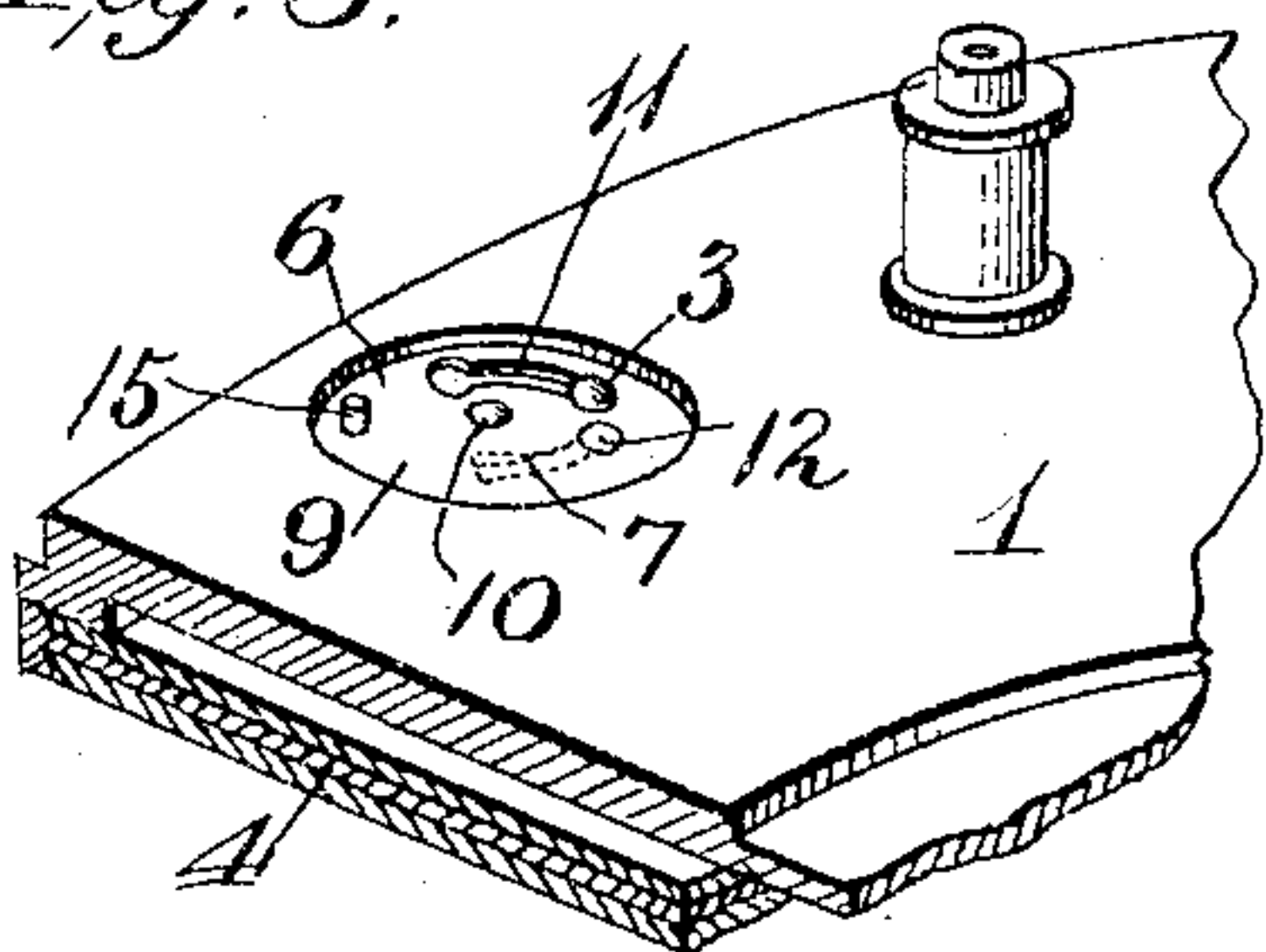


Fig. 4.

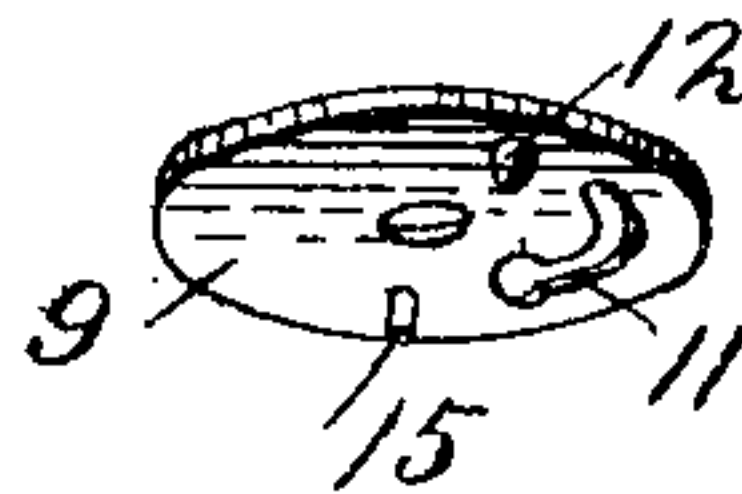
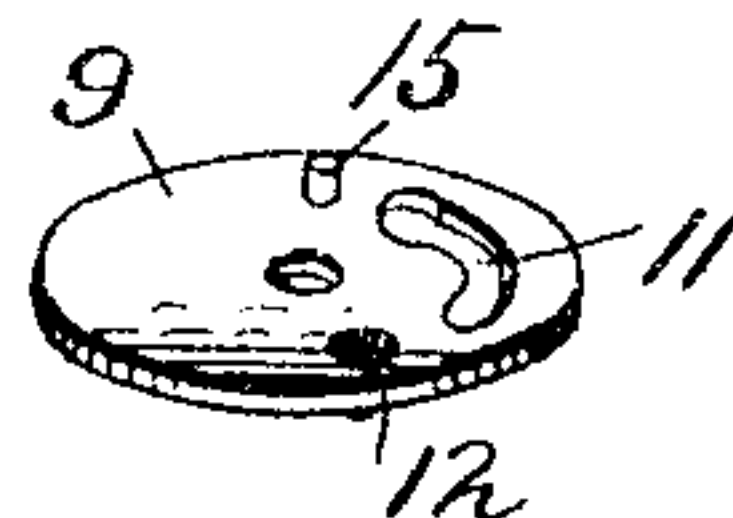


Fig. 5.

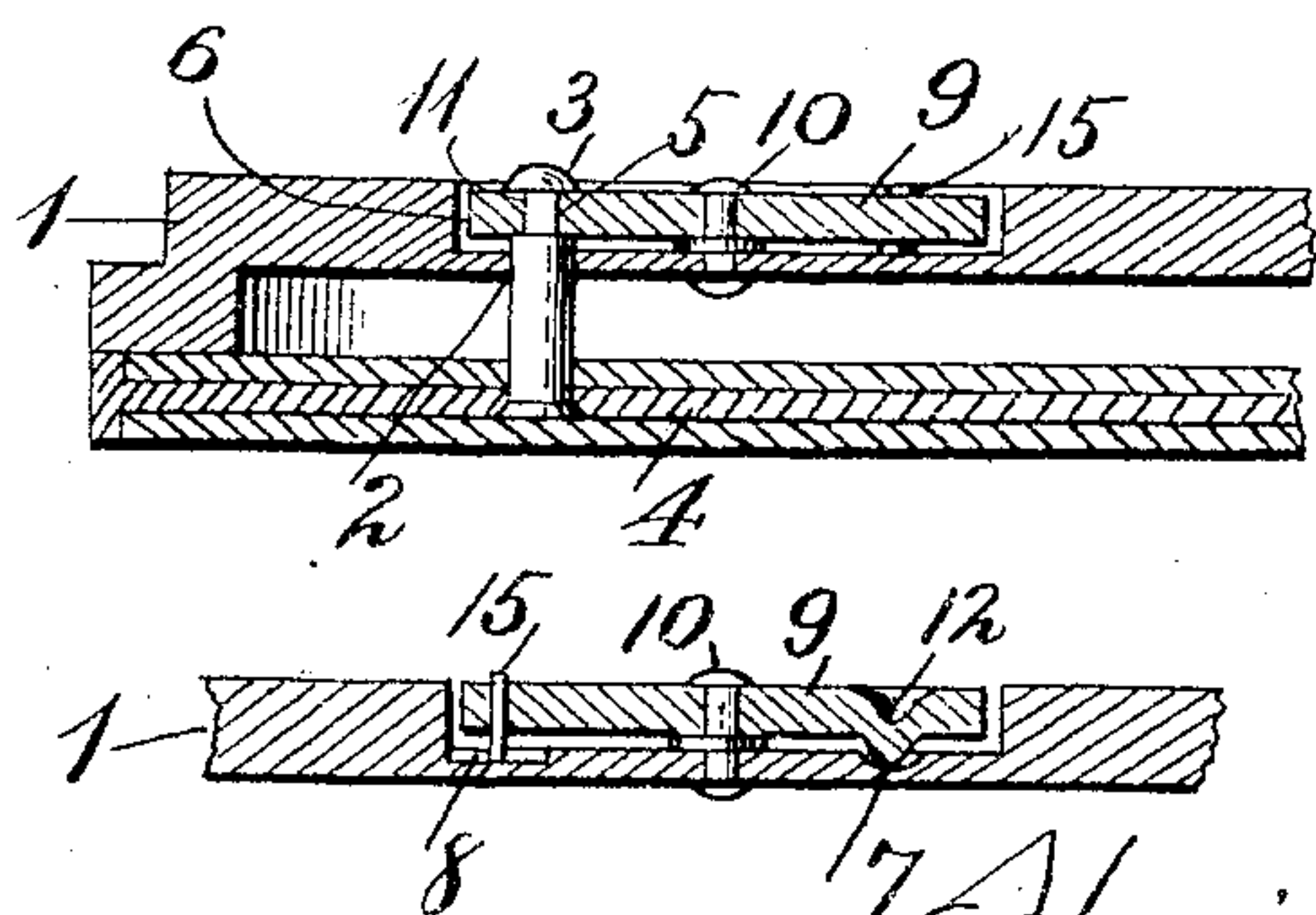


Fig. 6.

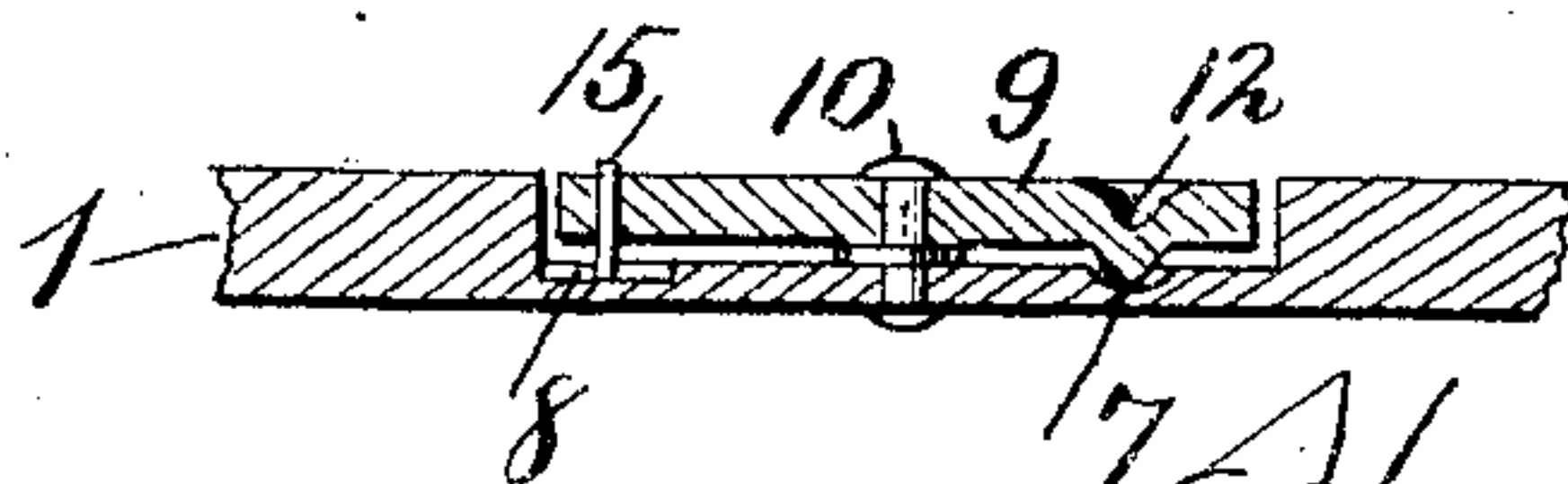


Fig. 7.

Witnesses
F. L. Ouraud
W. A. Ouraud.

Inventors
Harrison S. Bookwatter
John R. Bookwatter

UNITED STATES PATENT OFFICE.

HARRISON S. BOOKWALTER, OF MENDON, OHIO, AND JOHN R. BOOKWALTER, OF OKLAHOMA, OKLAHOMA TERRITORY.

WATCH-DIAL FASTENER.

SPECIFICATION forming part of Letters Patent No. 780,775, dated January 24, 1905.

Application filed April 13, 1904. Serial No. 203,023.

To all whom it may concern:

Be it known that we, HARRISON S. BOOKWALTER, residing at Mendon, in the county of Mercer and State of Ohio, and JOHN R. BOOKWALTER, residing at Oklahoma, in the county of Oklahoma and Territory of Oklahoma, citizens of the United States, have invented certain new and useful Improvements in Watches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to watches, and it has particular reference to the means for securing the watch-dial upon the movement-plate. This has heretofore been usually accomplished by inserting the dial-feet into openings provided for their reception in the upper movement-plate and then securing them by means of set-screws inserted laterally through threaded orifices in the edge of the plate. This has been objectionable for the reason that by the lateral pressure thereby involved the enamel upon the dial-plate has frequently been caused to crack. Again, set-screws are apt to become loosened in the course of time, thus rendering the attachment of the dial insecure.

By our present improvement we aim to secure the dial in position upon the movement-plate by a downward strain upon the dial-feet, said strain being of a nature to form a secure attachment without liability of cracking the enamel or otherwise injuring the dial.

The nature of our invention will be more readily understood by reference to the accompanying drawings, in which a simple and preferred form of embodiment of the invention has been presented, it being understood, however, that we do not necessarily limit ourselves to the precise structural details therein shown, but reserve the right to such changes, alterations, and modifications as come fairly within the scope of the invention and which may be resorted to without departing from the spirit or sacrificing any of the advantages of the same.

In said drawings, Figure 1 is a plan view of a movement-plate equipped with our improved

means for the attachment of the dial, one of the fastening devices having been removed in order to show the subjacent construction. Fig. 2 is a perspective view showing the dial inverted. Fig. 3 is a perspective view, on an enlarged scale, of a portion of a movement-plate constructed in accordance with our invention. Fig. 4 is a perspective view of one of the fastening devices detached from the movement-plate. Fig. 5 is a perspective view of the fastening device inverted. Fig. 6 is a vertical sectional view, enlarged, of a portion of the movement-plate, showing a dial-foot and a corresponding portion of the dial secured by the improved fastening device. Fig. 7 is a vertical sectional view taken at an angle to Fig. 6.

In carrying out our invention the movement-plate 1 is provided with the usual perforations 2 for the reception of the feet 3 of the dial 4, said feet being usually three in number. These parts are of ordinary construction with the exception that each of the dial-feet is provided near its lower end with a groove or grooves 5. When a single groove is used, it will be of annular form, as shown in the drawings.

In the under surface of the movement-plate are formed shallow circular recesses 6, which are eccentric with relation to the openings 2 and in the bottom of each of which is formed a groove 7, concentric with the recess, said groove being made sloping, as shown, from the bottom of the recess to any desired depth. In the bottom of each recess, opposite to the curved sloping groove 7, are also formed two indentations 8^a.

9 designates the fastening device, which consists of a circular plate adapted to fit loosely in the recess 6, said plate being preferably stamped or otherwise formed from brass, steel, or other resilient material, one of said plates being pivotally mounted in each of the recesses 6, where it is capable of rotating freely upon a shouldered pin 10, the upper end of which is clenched or upset to secure the member 9 properly in position. The

member 9, which constitutes the fastening device, is, as stated, made of resilient material, the purpose of which will presently be made apparent.

5 Each of the fastening members 9 is provided with a curved concentric keyhole-slot 11, adjacent to the small end of which is formed a struck-up projection 12 upon the upper side of the member 9, which engages the curved
10 sloping groove 7 in the bottom of the recess. Each of the members 9 is also provided with a vertical transverse pin 15, the one end of which bears against the bottom of the recess 6 for engagement with the depressions 8^a,
15 while the other end of said pin forms a handle adapted to be grasped by a pair of tweezers for the convenient manipulation of the device.

The parts of the device are so proportioned and arranged with relation to each other that
20 when the large end of the keyhole-slot 11 is in alinement with the perforations 2 the stud 12 shall be placed at the lower end of the curved sloping groove 7, while the inner or upper end of the pin 15 shall be in engagement with the depression 8. When the several locking members are in this position, the feet of the dial may be inserted in the usual manner through the perforations 2. This will
25 bring the grooves 5 near the ends of the dial-feet into alinement with the locking plates or members, which latter may now be turned or partially rotated upon their pivots, thus causing the keyhole-slots 11 to engage the grooves 5. At the same time the studs 12 will ride upwardly in the sloping grooves 7, thus causing
30 the fastening members to exercise strain in a downward direction upon the dial-feet, thereby securing the dial in position, the fastening members being retained by engagement of the
40 pin 15 with the recess or depression 8^a. The parts will obviously be so proportioned that the strain will not be excessive or injurious, this being also in a large measure avoided by the resilient nature of the fastening members. The
45 special advantage of our invention, however, resides in the fact that the dial-plate is positively locked against movement with relation to the movement-plate. When screws are employed, as is usually the case, they are apt to
50 work loose in the course of time, and a very slight displacement of the dial-plate may cause it to bear against the seconds-hand sufficiently to seriously impair the timekeeping qualities of the watch. This by our improvement is rendered absolutely impossible. The movement-plate and the dial-plate by our invention also become so intimately associated as to prevent the admission between them of dust, which is obviously important.

Having thus described our invention, we 60 claim and desire to secure by Letters Patent of the United States—

1. A movement-plate having a recess in the under side thereof, and a perforation eccentric with relation to said recess, in combination with a dial-plate having an annularly-grooved foot engaging the perforation, and a locking member pivoted in the recess and having a keyhole-slot engaging the dial-foot. 65

2. A movement-plate having a recess in the under side thereof and a perforation eccentric with relation to said recess, in combination with a dial-plate having an annularly-grooved foot engaging the perforation, a keyhole-slotted locking member pivoted in the recess, and means for forcing the slotted part of said locking member outward from the bottom of the recess. 70

3. A movement-plate having a recess in the under side thereof, and a perforation eccentric with relation to said recess, in combination with a dial-plate having an annularly-grooved foot engaging the perforation, a resilient keyhole-slotted plate pivoted in the recess and having a struck-up lug or projection engaging a sloping groove in the bottom of said recess, and a pin extending through the pivoted resilient plate, one end of said pin forming a handle, and the other end being for engagement with spaced notches in the bottom of the recess. 80

4. A movement-plate having perforations for the reception of the dial-feet of a dial-plate, said movement-plate being provided in its under side with recesses, eccentric with relation to said perforations, with grooves concentric to said recesses, and with indentations at the ends of said grooves, resilient disks secured pivotally in said recesses and having keyhole-slots and struck-up studs engaging the sloping grooves, and pins extending transversely through said resilient members, in combination with a dial-plate having feet provided with grooves adapted to be engaged by the rotary resilient members. 100

In testimony whereof we affix our signatures each in the presence of two witnesses. 105

HARRISON S. BOOKWALTER.
JOHN R. BOOKWALTER.

Witnesses as to signature of Harrison S. Bookwalter:

G. M. FONNER,
JOE DONART.

Witnesses as to signature of John R. Bookwalter:

CHAS. J. O'KEEFE,
H. C. TATE.