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H. E. TRENT.  
INSPECTION DEVICE.  
APPLICATION FILED MAY 15, 1917.

1,305,032.

Patented May 27, 1919.

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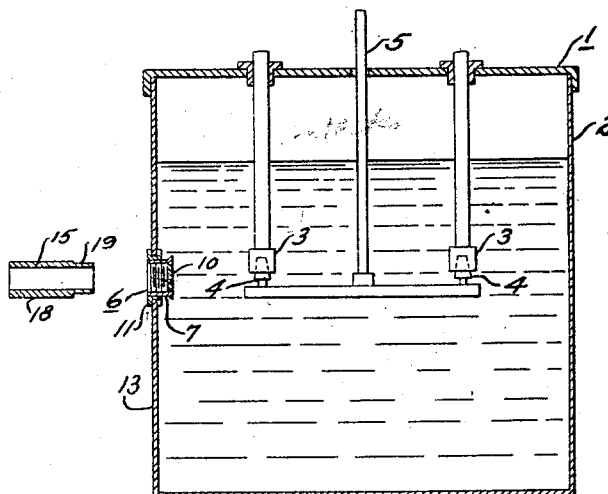


Fig. 1

Fig. 2

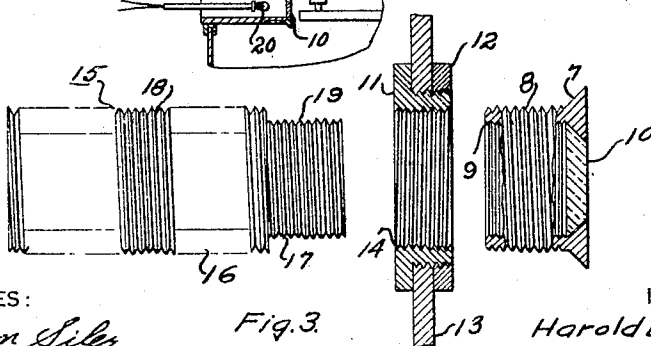
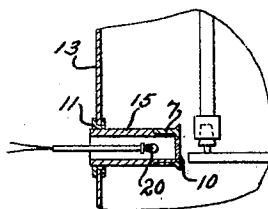


Fig. 3

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## INSPECTION DEVICE.

1,305,032.

Specification of Letters Patent.

Patented May 27, 1919.

Application filed May 15, 1917. Serial No. 168,864.

*To all whom it may concern:*

Be it known that I, HAROLD E. TRENT, a subject of the King of Great Britain, and a resident of Murrysville, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Improvement in Inspection Devices, of which the following is a specification.

My invention relates to inspection devices and particularly to means for observing immersed bodies.

One object of my invention is to provide means for inspecting or observing the contact members of an oil-insulated circuit interrupter without removing the contact members from the oil-containing receptacle.

Another object of my invention is to provide an observation device of the above indicated character that shall be inexpensive to construct and simple to operate.

In practising my invention, I provide a movable cylindrical member for the walls of the oil-containing receptacle that has a transparent window in the inner end thereof. The cylindrical member is disposed adjacent the contact members of the interrupter and an extension device that is adapted to engage the cylindrical member is provided for advancing the same to a position relatively close to the contact members in order that the same may be observed for the purpose of detecting any physical defects therein.

In the accompanying drawings Figure 1 is a front view, partially in elevation and partially in section, of a circuit interrupter embodying my invention; Fig. 2 is a fragmentary view of a portion of the circuit interrupter illustrating my invention in its extended position, and Fig. 3 is an unassembled or exploded view of an observation device embodying my invention.

The circuit interrupter 1 comprises an oil-containing receptacle 2, stationary contact members 3, movable contact members 4, an operating rod 5 therefor, and an observation device 6.

The observation device 6 comprises a cylindrical member 7 that is provided with external screw threads 8, internal screw threads 9 and a transparent window 10 at the inner end thereof. A bushing member 11 is secured by a lock nut 12 to the wall 13 of the receptacle 2 and is provided with internal screw threads 14 that are adapted

to receive the external screw-threaded portion of the member 7. An extension member 15 having two portions 16 and 17 of relatively different diameters the portion 16 of which having external screw threads 18 that are adapted to be received by the screw threads 14 of the bushing member 11 and the portion 17 of which is provided with external screw threads 19 that are adapted to be received by the internal screw threads 9 of the member 7.

The member 7 is adapted to be normally in the position shown in Fig. 1 of the drawings, and when it is desired to intimately observe the contact members 3 and 4, the member 15 is advanced into the member 7 until the screw threads 18 engage the screw threads 14. In this position further turning of the member 15 will cause the member 7 to be advanced out of engagement with the bushing 11 to a position that is relatively near the contact members 3 and 4, substantially as shown in Fig. 2 of the drawings. In this position, if an electric lamp 20 having a reflecting portion is inserted in the members 7 and 15, the contact members may be observed to detect any physical defects therein.

The transparent window 10 may be a magnifying lens for the purpose of so enlarging the image obtained when an observer looks through the outer end of the member 15 as to magnify any physical defects in the contact members 3 and 4.

My invention is not limited to the specific structures illustrated, as it may be variously modified within the spirit and scope of the appended claims.

I claim as my invention:

1. In a circuit interrupter, the combination with a fluid-containing receptacle, of a cylindrical member removably secured in the wall of the receptacle and having a transparent member at its inner end, and an extension device having means for advancing said cylindrical member out of engagement with the wall of the receptacle to a position adjacent the contact members of the interrupter.

2. In a circuit interrupter, the combination with a fluid-containing receptacle, of a cylindrical member removably secured in the wall of the receptacle and having a transparent member at its inner end, and an extension device having means for advancing

said cylindrical member out of engagement with the wall of the receptacle into the receptacle adjacent the contact members of the interrupter.

5 3. In a circuit interrupter, the combination with a fluid-containing receptacle, of an observation window normally mounted in the receptacle adjacent the contact members and means for advancing the window out of  
10 engagement with the receptacle toward the contact members for facilitating observing the same.

4. In a circuit interrupter, the combination with a fluid-containing receptacle, of a movable observation means in the wall of the receptacle, and a removable means for advancing the observation means out of engagement with the wall of the receptacle to a position adjacent the contact members of  
15 the interrupter.

5. In a circuit interrupter, the combination with a fluid-containing receptacle, of a cylindrical member removably secured in the wall of the receptacle and having a transparent member at one end thereof, and means adapted to be secured to the cylindrical member for advancing the same out of engagement with the wall of the receptacle to a position adjacent the contact members of the interrupter.  
20 25 30

6. In a circuit interrupter, the combination with an inclosing receptacle, of an externally and internally screw-threaded member having a transparent window in one

end, means in the wall of the receptacle for receiving the said screw-threaded member, and an extension means having means for advancing the said screw-threaded member out of engagement with the receiving means. 35

7. In a circuit interrupter, the combination with an inclosing receptacle, of an externally and internally screw-threaded member having a transparent window in one end, means in the wall of the receptacle for receiving the said screw-threaded member, and means adapted to be received by the screw-threaded means and the receiving means for moving the transparent window to a position adjacent the contact members of the interrupter. 40 45 50

8. An observation device for a circuit interrupter comprising an internally and externally screw-threaded cylindrical member having a window in its inner end, an internally screw-threaded bushing in the wall of the interrupter for receiving the same and an extension member having two screw-threaded portions of different diameters one of which is adapted to engage the internal screw threads of the member having the window therein and the other portion of which is adapted to engage the screw threads of the bushing for actuating the cylindrical member. 55 60

In testimony whereof I have hereunto subscribed my name this 30th day of April, 1917. 65

HAROLD E. TRENT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."