

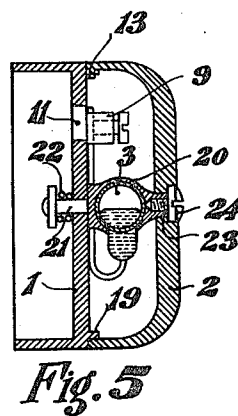
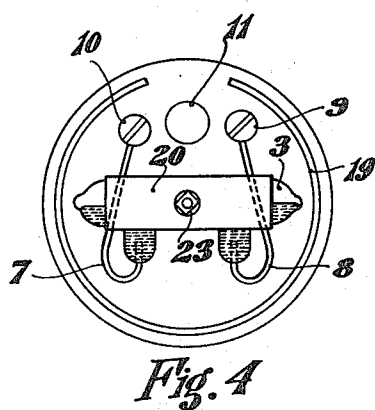
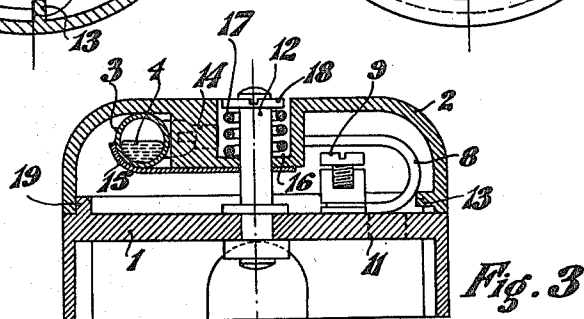
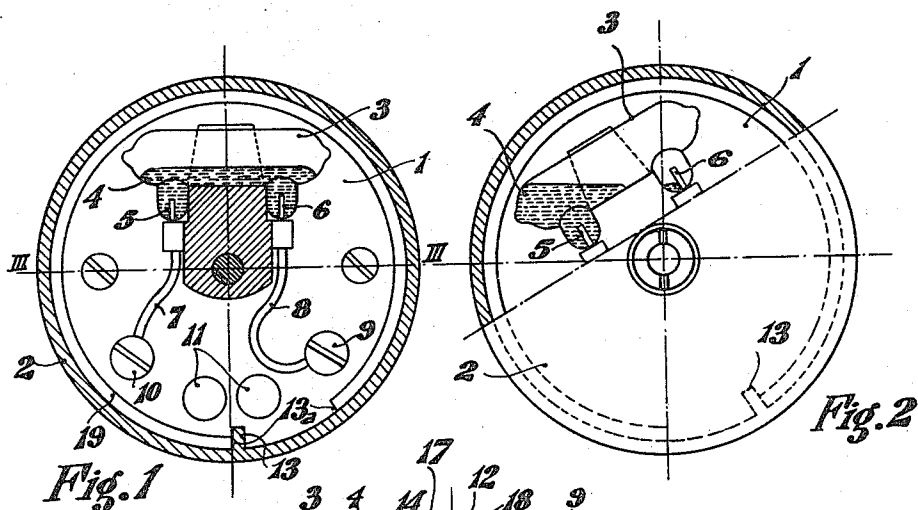
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MERCURY TUBE SWITCH

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# UNITED STATES PATENT OFFICE

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## MERCURY TUBE SWITCH

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and in Switzerland November 1, 1930

### 1 Claim. (Cl. 200—153)

This invention relates to a mercury tube switch of the type wherein two or more contacts penetrating into a closed vessel partly filled with mercury may be electrically connected or disconnected by the mercury according to the position of the vessel.

It is an object of the invention to provide a switch of the above character which may be used advantageously with electric light installations and which may be easily operated while at the same time it is of simple construction.

In the accompanying drawing,

Figures 1 and 2 show the switch in horizontal section and in two different working positions.

Figure 3 is a section along the line III—III of Fig. 1.

Figure 4 is a plan view of a modified switch.

Figure 5 shows this modified switch in axial section.

The switch represented in Figures 1 to 3 comprises a base portion 1 upon which is adapted to rotate, about a pin 12, a cover 2. The base portion and the cover form together a container, in the interior of which is disposed a mercury tube 3 supported by a bracket 15 secured to the hub portion 14 of the cover 2. Two contact members 5 and 6 penetrate into the interior of the mercury tube and are connected to the terminal screws 9 and 10 by means of flexible conductors 7 and 8. Two apertures 11 are provided in the base member 1 for entering the current conducting wires to connect them to the terminals 9 and 10.

Figure 1 shows the mercury tube in the position in which the electric circuit is closed; the tube is horizontal and the mercury electrically connects the two contacts 5 and 6. In Figure 2 the tube 3 is in inclined position and the mercury

does not connect the two contacts. The tube is brought in these two positions by turning the cover 2 about the pin 12. In order to make the cover stay in the position into which it has been brought, the hub 14 has been provided exteriorly with a recess 16 containing a spring 17. This latter is placed between the hub 14 and a washer 18 secured to the pin 12 whereby friction is provided between the base and the cover. The movement of rotation of the cover 2 is limited by means of a projecting nose 13 moving in a cut away portion 13a of the circular rim 15 of the base.

The modification shown in Figures 4 and 5 comprises also a closed container formed by a base 1 and a rotatable cover 2. The mercury tube is carried by a bracket 20 connected to a pin 21 traversing the base and adapted to turn relative to the base. On the other side the support 20 is provided with a square extension 23 engaging in an opening of corresponding shape in the cover 2 which is fixed to this extension by means of a screw 24. A spring 22 inserted between the base and a washer carried by the pin 21 maintains the tube 3 in the desired position.

I claim:

A mercury tube switch comprising a switch box including a base and a rotatable cover member, a mercury tube supporting member rotatably mounted on the base, means on said tube supporting member for locking the member for rotation with the cover member, spring means acting on the supporting member for providing friction between the supporting member and the base, and coacting means on the base and on the cover member for limiting rotation of the cover member to substantially less than 90°.

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