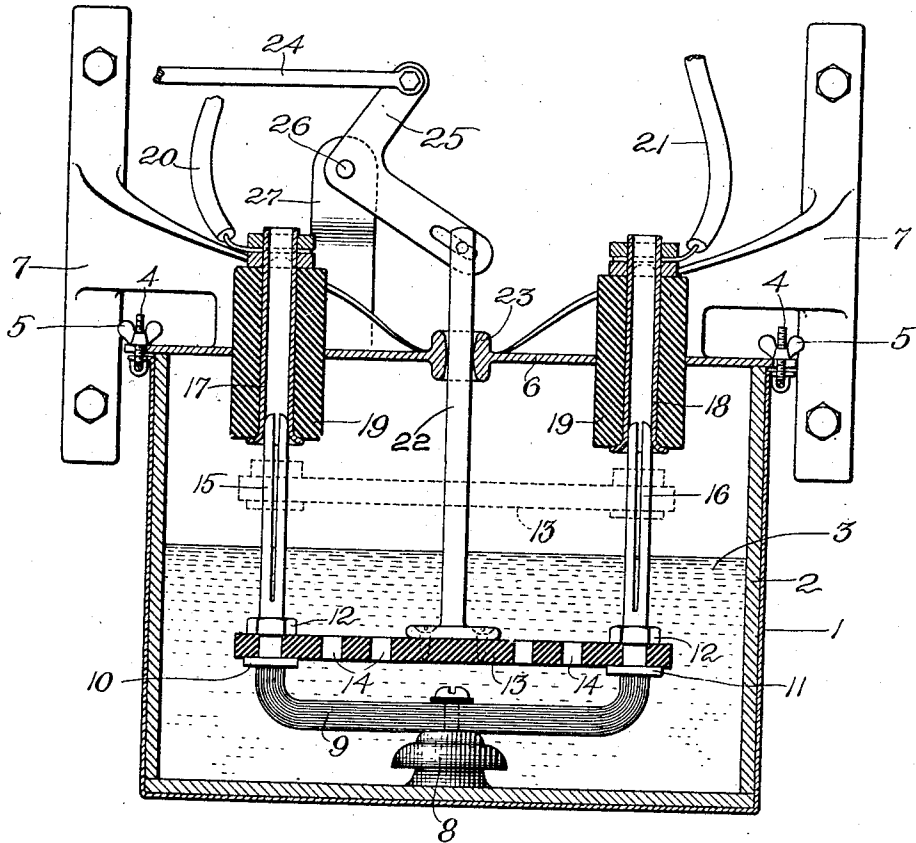


C. C. BADEAU.
OIL SWITCH.
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1,021,746.

Patented Mar. 26, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

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OIL-SWITCH.

1,021,746.

Specification of Letters Patent.

Patented Mar. 26, 1912.

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To all whom it may concern:

Be it known that I, CHARLES C. BADEAU, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Oil-Switches, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention is an oil-well circuit breaker and has for its object, besides certain constructional advantages, the provision of means permitting the removal of the oil-well from the circuit breaker by a very little downward movement inasmuch as the circuit breaker itself moves upward out of the oil pan, leaving the latter free for removal with slight drop. Also the lower or laminated brush contact is easily inspected, as it is dead when in position to be inspected and not near the other terminals when the pan is removed. These and further advantages of my invention will be pointed out in the course of the following description, taken with reference to the accompanying drawings, in which I have illustrated one form of my invention.

In the drawings I have shown a central vertical cross-sectional view of the apparatus.

The pan 1 with a usual wood lining 2 and complement of oil 3, may be of any usual or preferred shape and general construction, being herein shown as suspended by bolts 4 and wing nuts 5 from a top plate or bracket 6 constituting a cover-support for the switch supported at 7. Secured to the bottom of the oil pan by a suitable insulating support 8 is a brush contact member 9 preferably laminated, arranged to contact at its opposite ends with terminals 10, 11, clamped by nuts 12 on a carrier 13 herein shown as perforated at 14 to facilitate its movement through the oil. Split terminals 15, 16 extend upwardly from the contacts 10, 11, in sliding contact with conductor tubes or sleeves 17, 18, mounted in porcelain posts or insulators 19 in the top 6, from which extend conductors 20, 21 in usual manner. The carrier or supporting bridge 13 of the movable contacts 10, 11 may be operated by any suitable means, being herein shown as supported by a rod 22 having vertical movement through a bearing 23 and actuated by

an operating rod or handle 24 and bell crank 25 pivoted at 26 to a stationary part 27.

In use, the switch breaks upward by the upward movement of the rod 22, thereby causing the contacts 10, 11 to separate from the bridging contact or laminated brush 9. As it breaks upward it reaches the dotted line position above the oil, thereby having the advantage of lifting into the air, which is a better insulator than carbonized oil, although the latter is satisfactory for the circuit to break in but is not of much value as an insulator. When it is desired to remove the oil pan the switch is broken, thereby raising the movable part to its dotted line position, from which it will be evident that only a very slight drop in the oil pan itself is necessary in order to remove it. This economizes space on the back of the switch-board where these oil switches are usually mounted. Having removed the oil pan, the laminated brush is easily inspected in the bottom of said pan. Also as it is entirely separated from its cooperating terminals 10, 11, when thus removed, there is the advantage of being able to inspect the apparatus when the terminals are absolutely dead and beyond any possibility of danger. By having the upturned bridging contact secured in the bottom of the pan, and preferably centrally fastened directly to the bottom as shown, and all the other parts removable therefrom, it becomes an exceedingly simple matter for the operator to wipe off or file and even-up the ends of the bridging contacts, and, when the latter is laminated, to remove or add laminae in case any of the leaves break, corrode, burn out, or get otherwise injured.

It will be understood that many changes in mechanical detail may be resorted to within the spirit and scope of my invention as defined in the appended claims.

Having described my invention, what I desire to secure by Letters Patent, is,

1. An oil switch apparatus, comprising a support having an oil container cover fixed thereto, spaced apart line terminals carried thereby, an oil container removably secured thereto, a bridging contact fixed in the bottom of said oil container, and vertically movable contacts in sliding frictional engagement with said line terminals, said contacts at their lower limit of movement engaging

said bridging contact beneath the oil in said container and at their upper limit of movement being a substantial distance above the top of the oil in said container.

- 5 2. An oil switch apparatus, comprising a support, stationary insulators mounted in said support, line terminal conductors carried by said insulators, switch contacts electrically connected to said line terminal con-
 10 ductors and having vertically slidable engagement therewith, an oil pan removably suspended beneath said support to immerse the switch contacts when the switch is closed, a normally stationary bridging contact
 15 mounted in the bottom of said oil pan in co-operative relation with said switch contacts, and means for raising said switch contacts to near the top of said pan for the purpose stated.
- 20 3. An oil switch apparatus, comprising an oil pan, a support therefor including a cover to which the oil pan is removably secured, line terminals carried by said cover ending in vertically slidable contact members, an
 25 operator connected to raise said contact members to near the top of said pan, and a bridging contact fixed to the bottom of said pan to engage said contact members when in lowered position.
- 30 4. In an oil switch apparatus, a relatively stationary cover support adapted to be secured permanently to a switch board or the like, stationary insulators mounted in said
 35 cover support, line terminal conductors carried by said insulators, switch contacts, contact terminals extending from the latter having movable engagement with the terminals carried by said insulators, externally oper-
 40 able actuating means to move said switch contacts up and down, a normally stationary bridging contact cooperating with said switch contacts to make and break the circuit as said switch contacts are actuated, and an oil pan removably suspended on the un-

der side of said cover support to immerse 45 the switch contacts when the switch is closed.

5. In an oil switch apparatus, a support adapted to be permanently secured to a switchboard or the like, separated tubular
 50 insulators fixed in said support, conductor sleeves on said insulators adapted to receive line conductors at their upper ends, switch contacts provided with split terminals ex-
 tending upwardly within said conductor sleeves, operating mechanism for moving 55 said contacts up and down and thereby telescoping the split terminals thereof within the sleeves of said insulators as the switch is opened and closed, and a normally station-
 ary bridging contact cooperating with said 60 switch contacts to make and break the circuit as said switch contacts are actuated.

6. In an oil switch apparatus, a cover support adapted to be permanently secured to a switch board or the like, separated tubular 65 insulators fixed in said cover support, conductor sleeves in said insulators adapted to receive line conductors at their upper ends, switch contacts provided with split termi-
 nals extending upwardly within said con- 70 ductor sleeves, operating mechanism extending through said cover support for actuating said switch contacts and thereby telescoping the split terminals thereof within the sleeves
 of said insulators as the switch is opened 75 and closed, an oil pan removably suspended on the under side of said cover support to immerse the switch, and a bridging contact
 secured in the bottom of said pan to coop- 80 erate with said switch contacts.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

CHARLES C. BADEAU.

Witnesses:

GEO. W. MAXWELL,
 M. J. SPALDING.