ARC-QUENCHING CIRCUIT-CONTROLLER
Ted Schuch, 2116 Vista St., Philadelphia, Pa. 19152,
and Thomas K. Maxwell, 970 Rozel Ave, Southhampton,
Pa. 18966
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This invention relates broadly to arc-quenching circuit-
controller, such illustratively, as in wall receptacles and
the like.

It is an object of the present invention to provide an
arc-quenching and thus an explosion-proof receptacle
which will have spring-loaded electrical contacts and will
have deformable sacks containing said contacts and filled
with transformer oil to increase the safety factor when the
receptacle is used in the home.

Another object of the present invention is to provide an
explosion-proof receptacle which will have a copper
disconnect bar in the opening of the receptacle and will
have a spring constantly urging against them, tending to
reject anything which may be inserted into the receptacle
which will be an added safety factor when the device is
used where small children are present.

A further object of the present invention is to provide an
explosion-proof receptacle with a single hole for locking
balls in the openings to hold the prongs of the device.

Other objects of the invention are to provide an ex-
pllosion-proof receptacle bearing the above objects in mind
which will be of simple construction, have a minimum
number of parts, be inexpensive to manufacture and
efficient in operation and use.

For other objects and for a better understanding of the
invention, reference may be had to the following detailed
description taken in conjunction with the accompanying
drawings, in which:

FIGURE 1 is a side elevation view of the present
invention shown in section; and

FIGURE 2 is an end view of FIGURE 1.

Referring now more in detail to the drawing, an ex-
pllosion-proof receptacle 10 made in accordance with the
present invention is shown to include a hollow rectangular
housing 12 which is provided with a plurality of openings
14 for receiving plug prongs (not shown). A copper dis-
connect bar 16 is slidably received within openings 14
and slidingly received within a U-shaped channel 18
which is fixedly secured to an inward extension 20 of
housing 12. A pair of springs 22 are secured at one
to end to channel 18 and at the other end to copper dis-
connect bar 16 and provide spring return means for dis-
connect bar 16 within opening 14. A deformable fluid
sack 24 containing transformer oil 25 is fixedly secured
by a pair of seals 26 to disconnect bar 16 and to connector
28 of Y-shaped configuration. Connector 28 is secured to
housing 12 by means of a threaded screw 30. A pair of
flanges 32 extending from receptacle 10 provide a means
for securing receptacle 10 within a wall or the like. A pair of oppositely opposed balls 34 within openings 14
of receptacle 10 provide a means of locking and holding
prongs received within openings 14.

It will be seen that the fluid-filled container or de-
formable sack has a lower wall portion from which the
connector 28 extends inwardly into the sack, and has an
upper wall portion from which bar 16 extends in-
wardly into the sack, so that both connectors are sur-
rounded by a body of quenching fluid at all times. When
for any reason the bar 16 and connector 28 are forced
together the fluid is displaced and the sack is deformed to
receive the displaced fluid while contact is made between
the immersed bar and the immersed connector, to close a

circuit. When by any means these elements are forcibly
separated, opening the circuit, the said wall portions of
the sack are moved apart while still maintaining immer-
sion of the two connectors in a column of fluid, quench-
ing any arc. It will be seen that displacement of fluid and
relative movements of the connectors are synchronous.

In use, electrical plugs are inserted within openings 14
by urging them inwardly thus contacting disconnect bar
16 which is urged downwardly within Y-shaped con-

nector 28 which will complete the circuit.

It shall be recognized that when the plug is removed
from opening 14, springs 22 will springingly urge dis-
connect bar 16 upward within opening 14, removing it
from within connector 28.

It shall also be noted that the present invention is cov-
ered by article 500 to 503, Chapter 5, of the National
Electrical Code.

It shall further be recognized that balls 34 provide a
means for locking the prongs within opening 14 and when
it is desired to remove the plug from opening 14, a sharp pulling motion is placed upon it to disengage balls
34 from the plug.

While various changes may be made in the detail con-
struction, it shall be understood that such changes shall
be within the spirit and scope of the present invention as
defined by the appended claims.

What we claim as new and desire to protect by Letters
Patent of the United States is:

1. A shock-proof electrical outlet device having an
outer face with an opening to receive a prong of a cir-
cuit-control element, a guideway within said device in
alignment with said opening providing a path of move-
ment for such prong, an electrical connector member
within said device, a contact member within said device
in position to be engaged by such prong and movable
thereby toward said connector member, said two members
having side face portions disposed and adapted for rel-
ative sliding engagement after said movable member is
moved axially of said guideway into contact with said
connector member, a flexible container in sealed engage-
ment with said two members, enclosing said face por-
tions, and means normally urging said members apart.

2. The construction of claim 1, wherein said flexible
container has therein an arc-quenching fluid.

3. The construction of claim 1, together with means
normally preventing sliding disengagement of said side
face portions when a prong inserted through said open-
ings has caused full engagement thereof.

References Cited

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ROBERT K. SCHAEFER, Primary Examiner.

H. O. JONES, Assistant Examiner.