

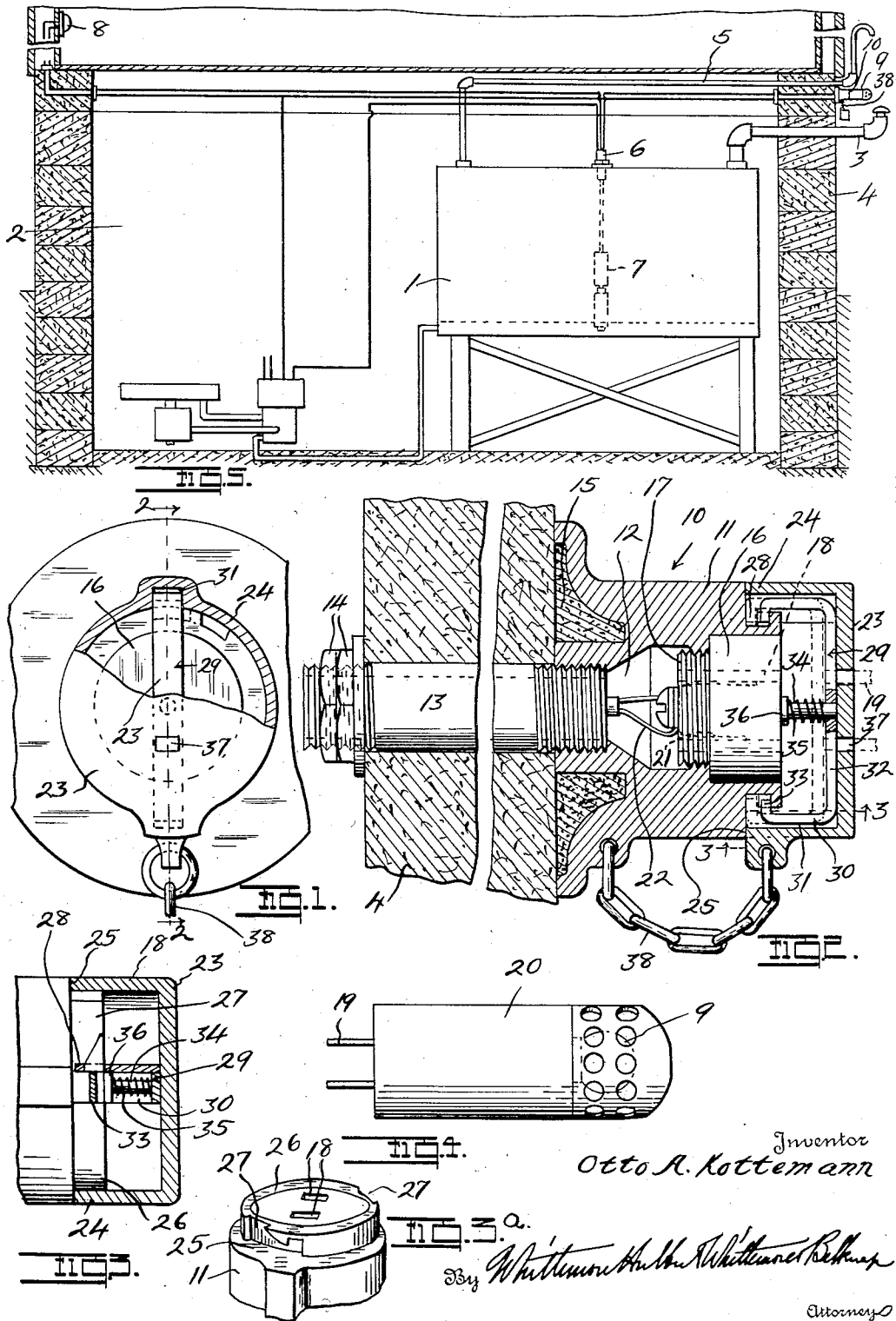
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O. A. KOTTEMANN

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ELECTRICAL OUTLET

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ELECTRICAL OUTLET

Otto A. Kottemann, Detroit, Mich., assignor to
Guardian Gauge Company, Detroit, Mich., a
corporation of Michigan

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The invention relates to electrical outlets and has for one of its objects to provide an improved construction of electrical outlet having means for protecting the electrical socket. Another object is to so construct the outlet that the means for locking the socket protecting means in place is concealed or housed, but releasable from outside the protecting means. A further object is to so construct the outlet that the locking means is adapted to be released by the electrical plug to permit removal of the protecting means, so that the plug may then be coupled with the socket.

These and other objects of the invention will become apparent from the following description, taken in connection with the accompanying drawing, in which

Figure 1 is a front elevation of an electrical outlet showing an embodiment of my invention;

Figure 2 is a cross section on the line 2—2 of Figure 1;

Figure 3 is a cross section on the line 3—3 of Figure 2;

Figure 3^a is a perspective view of a portion thereof;

Figure 4 is a side elevation of the electrical plug adapted to be coupled with the electrical socket outlet;

Figure 5 is a diagrammatic view illustrating a system using the electrical outlet.

The electrical outlet embodying my invention may be used in a large number of places, but, as shown particularly in Figure 5, it is used in connection with a device for indicating the depth of a liquid, such as fuel oil stored in a stationary tank and adapted to be used in oil burners for heating purposes. 1 is the storage tank for the fuel oil located within the basement of the building 2, 3 is the filler pipe extending from the storage tank through the outside wall 4 to a point outside the building and 5 is the vent pipe extending from the storage tank through the outside wall to a point outside the building at an elevation above the inlet end of the filler pipe. 6 is a switch which is operated by the floats 7 to make and break electric signalling circuits when the oil has reached predetermined levels within the storage tank.

One of these signalling circuits has the signal 8 which is located within the building at any desired point and usually above the basement and the other of the signalling circuits has a socket which is adapted to detachably receive the second signal 9 and which is preferably located outside the building near the inlet end of the filler pipe

and at a point accessible to and in sight of the party controlling the filling. When this second signal is in place in the socket it is adapted to be and normally remain electrically energized when the oil is below a predetermined high level. Both the inside and outside signals are in the present instance electric light bulbs and the outside signal may be carried by the party controlling the filling of the storage tank.

As shown more particularly in Figures 1, 2 and 3, the socket for receiving the outside signal 9 forms a part of the electrical outlet 10 which is permanently secured to the outside wall of the building. This outlet has the base 11 which is provided with the axially extending passageway 12. 13 is a pipe extending through the outside wall and threaded firmly into the base at the inner end of its passageway. 14 are nuts threaded upon the inner end of the pipe and firmly clamping the base against the outer side of the outside wall. The inner end of the base is formed with the annular groove 15 for receiving a suitable cement or mastic to weatherproof the joint between the base and the outside wall. 16 is the electrical socket located within the outer end portion of the passageway 12 and having the reduced threaded portion 17 threaded into the base. This socket is provided with the pair of diametrically opposite recesses 18 extending from its outer end and adapted to receive the contact prongs 19 of the electrical plug 20, shown in Figure 4. The socket is also provided with the contacts 21 which are engageable with the contact prongs when the plug is coupled with the socket. These contacts 21 are connected to the wires 22 of the signalling circuit, these wires extending through the pipe 13.

To protect the electrical socket 16, I have provided the cup-shaped cap 23 having the annular flange 24 which is adapted to abut the annular shoulder 25 formed at the outer end of the base 11. I have also provided upon the outer end of the base the reduced annular portion 26 which is encircled by the annular flange 24. The outer face of the annular portion 26 is provided with the diametrically opposite bayonet recesses 27 and the annular flange 24 of the cap is provided with the diametrically opposite inwardly extending projections 28 which are adapted to engage in these recesses upon rotation of the cap relative to the base to securely hold the cap upon the base.

To lock the cap upon the base, I have provided the yoke 29 having the arms 30 slidably engaging and guided by the diametrically op-

posite grooves 31 extending longitudinally of the cap in its annular flange 24, these grooves being at one side of the projections 28. The yoke is so positioned that its base 32 is in line with the recesses 18 in the socket 16. The arms 30 of the yoke have the intumed ends 33 which are adapted to engage the bayonet recesses 27 in advance of the projections 28 and the base 32 of the yoke encircles and is slidably mounted upon the axially extending pin 34 which is secured to the top of the cap. The base of the yoke is normally held against the top of the cap by means of the coil spring 35 which abuts the base of the yoke and the collar 36 secured upon the inner end of the pin. In order to release the yoke from the outwardly offset end portions of the bayonet recesses so that the cap may be rotated relative to the base and released therefrom the top of the cap is provided with the diametrically opposite openings 37 in line with the base 32 of the yoke and adapted to receive the contact prongs 19 of the electrical plug 20.

The arrangement is such that the electrical socket is completely protected by the cap when the latter is locked in place upon the base. However, the cap may be readily removed by inserting the contact prongs of the electrical plug through the openings in the top of the cap and moving the locking yoke inwardly to release its intumed ends from the bayonet recesses, after which the cap may be rotated, either directly or through the electrical plug, and removed from the base.

As shown in the present instance, the outside signal or light 9 is mounted directly upon the electrical plug 20, so that no extra equipment need be used.

The electrical outlet for the inside signal is preferably of the same construction.

38 is a suitable flexible connection, such as a chain, having its end links secured to the base 11 and the cap 23 and adapted to suspend the cap from the base when the cap is not in use.

What I claim as my invention is:

1. An electrical outlet, comprising a base, an electrical socket mounted on said base and adapted to receive an electrical plug, said socket having contacts adapted to engage contacts upon the plug, a cap for said socket having openings for the insertion of the contacts of the plug, and means for locking said cap upon said base engageable by the contacts of the plug when inserted through the openings in said cap to release said locking means whereby said cap may be removed from said base.

2. An electrical outlet, comprising a base, an electrical socket mounted upon said base and adapted to receive an electrical plug, said socket having contacts adapted to engage contacts upon the plug, a cap for said socket having openings for the insertion of the contacts of the plug, and means carried and concealed by said cap for locking said cap upon said base, said locking means being engageable by the contacts of the plug when inserted through the openings in said cap to release said locking means whereby said cap may be removed from said base.

3. An electrical outlet, comprising a base, an electrical socket mounted on said base and adapted to receive an electrical plug, said socket hav-

ing contact means adapted to engage contact means upon the plug, a cap for said socket providing for the insertion of the contact means of the plug, and a locking member within said cap and extending over the contact means of said socket and locking said cap upon said base, said locking member being movable longitudinally of said cap and being engageable by the contact means of the plug when inserted through said cap to release said locking means whereby said cap may be removed from said base.

4. An electrical outlet, comprising a base having a bayonet recess, an electrical socket mounted on said base and adapted to receive an electrical plug, said socket having contacts adapted to engage contact prongs upon the plug, a cap for said socket having a projection engageable in the bayonet recess for securing said cap to said base, a locking member within and non-rotatably carried by said cap and having a portion engageable in the bayonet recess in advance of said projection to lock said cap upon said base, and means carried by said cap for normally urging said locking member in one direction longitudinally of said cap, said cap having openings therein registering with said locking member and providing for the insertion of the contact prongs of the plug into engagement with said locking member to release the same, whereby said cap may be removed from said base.

5. An electrical outlet, comprising mounting means adapted to receive an electrical plug, said mounting means having a bayonet recess and contacts adapted to engage contact prongs upon the plug, a cap extending over said mounting means and having a projection engageable in the bayonet recess for securing said cap to said mounting means, a locking member within said cap having a portion engageable in the bayonet recess to lock said cap upon said mounting means, said cap having openings therein registering with said locking member and providing for the insertion of the contact prongs of the plug into engagement with said locking member to release the same.

6. An electrical outlet, comprising a base having a pair of diametrically opposite bayonet recesses in its circumference, an electrical socket mounted on said base and adapted to receive an electrical plug, a cap for said socket mounted on said base and having diametrically opposite inwardly extending projections engageable in the bayonet recesses, and a yoke within and carried by said cap and yieldably urged toward the top thereof, said yoke having inwardly extending ends engageable with the bayonet recesses to lock said cap upon said base, said yoke being releasable from outside the top of said cap.

7. An electrical outlet, comprising mounting means adapted to receive an electrical plug and having oppositely disposed outwardly extending shoulders, a removable cap extending over the mounting means, and a yoke member within and carried by the cap and having portions engageable with the shoulders for locking the cap to the mounting means, said yoke member being removable from engagement with the shoulders from the exterior of the cap by the plug aforesaid.

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