ABSTRACT: This invention relates to devices used for reading the faces of submerged meters which must be read from above and which are usually submerged in relatively opaque liquids such as muddy water, and discloses an elongated tube which is closed at one end and which is provided at that end with an elastic wiping surface for removing sediment from the face of the meter and providing a viewing passage through the liquid to the face of the meter.
METER-READING DEVICES

It is the object of this invention to provide a meter reading device for reading submerged meter faces.

IN THE DRAWINGS

FIG. 1 is front elevational view of my invention as actually used;

FIG. 2 is an enlarged fragmentary view of my meter-reading device with the forward half of the cylinder cut away for clarity;

FIG. 3 is an enlarged fragmentary view taken along lines 3—3 of FIG. 2; and

FIG. 4 is an enlarged fragmentary sectional view of the flashlight taken along the same section used to cut away the portion of the cylinder in FIG. 1.

Referring now in more detail and by reference character to the drawings which illustrate a preferred embodiment of my invention, A designates a meter-reading device comprising a translucent cylinder 12 open at its upper end 14 and provided at its lower end 16 with a transparent base 18. Bonded or otherwise secured to the base 18 is an annular ring 30 of rubber or a similar elastic material.

Removably secured to one inner face of the tube 12 is a removable metallic strap 20 which is secured to the cylinder 12 by means of a removable screw 22 and which is provided at its upper end with an electrical switch 24 and at its lower end integrally includes a metallic clip 26 adapted for holding a flashlight 28 which includes a metallic housing 32, a metallic dome cap 34 which is threadedly secured to the housing 32, a flashlight bulb 36 including a metallic base 38 in electrical contact with the dome cap 34 and the anode of a battery 40 which also includes an insulated cylindrical shell 42, and a cathode 44.

Threadedly secured to the other end of the housing 32 is an insulating end cap 46 provided with an inner annular recess 48 and a feed-through bore 49. Disposed in the recess 48 in abutting engagement with the cathode 44 is a coil spring 50 which establishes electrical contact between the cathode 44 and one end of an electrical wire 52, the other end of which is connected electrically to the switch 24. The operation and construction of the flashlight including its electrical circuit is conventional and is shown simply for purposes of clarifying the operative combination of my invention. In the conventional manner, actuation of the manual lever 54 of the switch 24 alternately causes the bulb 36 to be turned on and off by alternately establishing and breaking contact between the cathode 44 and the metallic strip 20. As can be seen in FIG. 3, a puttylike packing 56 may be applied about the feed-through bore 49 and the wire 52 to provide a water seal.

Referring now to FIG. 1, which illustrates my invention in operation, B designates a typical metered device which is submerged in a basin C containing a liquid D and which must be read from above from the ground level E. Instead of pumping the liquid out of the basin E, one merely inserts the tube A and with the elastic ring 30 wipes the sediment from the face of the meter. By actuating the lever 54 of the switch 24, the face of the meter is illuminated by the flashlight 28 shining through the base 18 and the meter reader may merely peer into one end of the tube and obtain a quick and efficient reading of the meter B. It should be noted that the location of the flashlight along the inner surface of the cylinder 12 limits the visual obstruction of the meter face B.

It should be here understood that changes and modifications of the form, construction, combination and arrangements of the various parts herein described and shown may be made without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is hereinafter described in the following claims.

1. A device for reading submerged meter faces comprising an elongated hollow tube open at one end and closed at the other end by a transparent sheet, elastic wiping means for wiping sediment away from a submerged meter face, and manually operable illuminating means for illuminating the meter face through the transparent sheet, said wiping means being attached to the tube externally of the transparent sheet and projecting outwardly therefrom, and the illuminating means including a selectively operated, light-emitting device removably attached to the inside of the tube adjacent the transparent sheet.

2. The device of claim 1 wherein the illuminating means includes an elongated strap removably attached to the inner surface of the tube and extending from the open end to the closed end, a flashlight removably secured to the strap near the transparent sheet, and manually operable switching means for selectively directing light from the flashlight through the transparent sheet to the meter face.

3. The device of claim 2 in which the switching means comprises an electrical switch mounted on the strap adjacent the open end.

4. A device for reading submerged meter faces comprising an elongated hollow cylindrical tube, a transparent sheet secured to one end of the tube, an annular elastic ring secured to the transparent sheet outwardly of the tube, an elongated metallic strap removably secured to the tube and extending from the open end of the tube to the closed end thereof, a light-holding means integrally provided at the end of the strap immediately adjacent the transparent sheet, illuminating means removably mounted in the light-holding means for directing a beam of light through the transparent sheet outwardly of the tube, and switch means for selectively illuminating said illuminating means.