Dec. 24, 1946. R. E. SMITH 2,413,252

TRANSPARENT LID AND INTEGRAL LENS

Filed May 26, 1944

FIG. 1

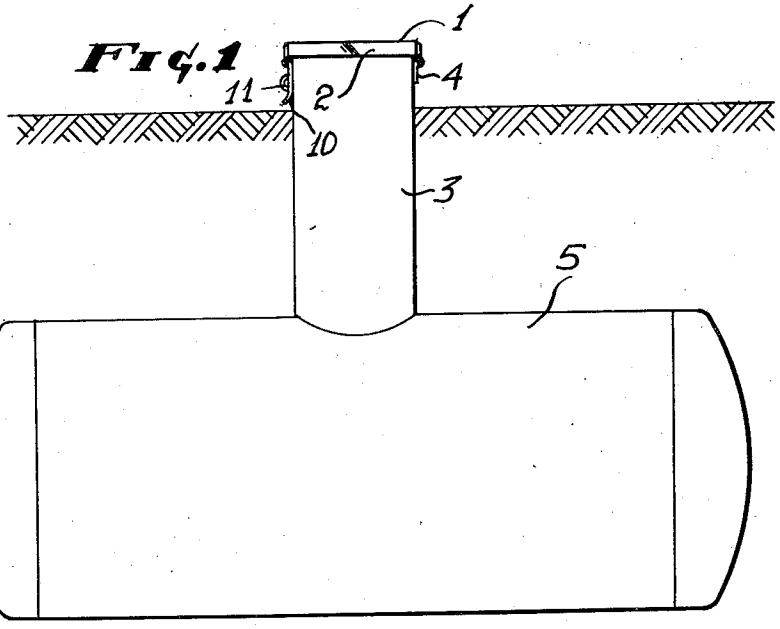


FIG. 2

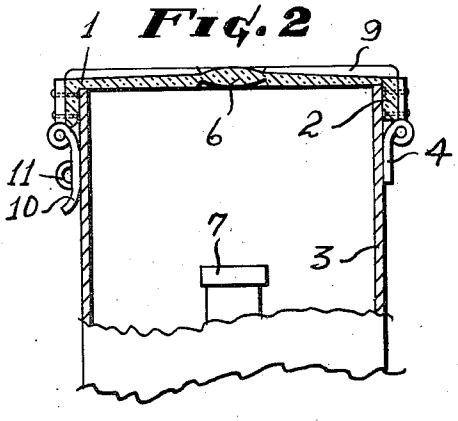


FIG. 3

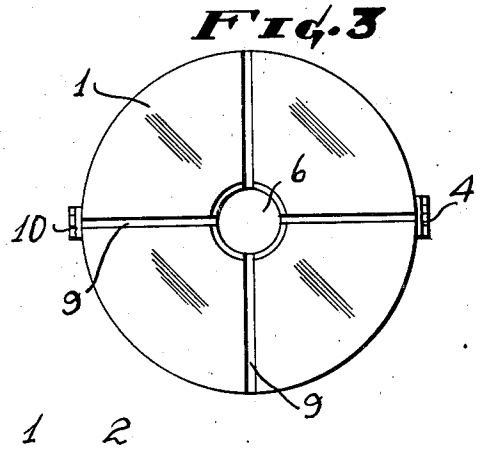
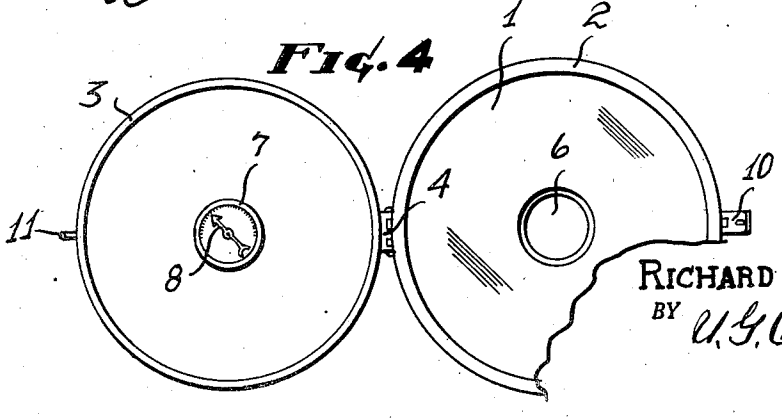


FIG. 4



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TRANSPARENT LID AND INTEGRAL LENS

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1 Claim. (Cl. 220—82)

1

My invention relates to useful improvements in lids and has for its principal object visibility through a lid as an enclosure to avoid opening the same to read an indicating dial that records the quantity of liquid gas contained in the tank.

A further object of my invention is to manufacture a lid of the class herein disclosed as an article of merchandise to substitute a conventional cast metallic lid that requires opening to read a dial and other instruments concealed in a housing as a guard therefor.

A still further object of my invention is to provide ample means to admit light produced by the use of artificial or natural means to clearly discern recording instruments positioned in a cylindrical guard, this I accomplish by die-casting a lid for the guard from transparent plastic material.

A still further object of my invention is to arrange in the body of the lid a lens removably or integrally joined to the lid, said lens may be of a crystal material if removably arranged or die-cast at the time of moulding the lid from transparent plastic material whereby the lens may be integral with the lid and in either case said lens may be positioned centrally with respect to the axis of a circular lid.

These and other objects will hereinafter be more fully explained, reference being had to the accompanying drawing forming a part of this specification, and wherein like characters will apply to like parts in the different views.

Referring to the drawing:

Fig. 1 is a side elevation of a gas tank buried in the ground while the upper end of its tubular instrument guard is exposed above ground.

Fig. 2 is an enlarged sectional view through the upper portion of the instrument guard.

Fig. 3 is an external plan view of the shield cap or lid.

Fig. 4 is a plan view of the upper end of the guard with its hinged lid open to illustrate the position of the dial gauge in the guard and the position of the lens carried by the lid.

As a more concise description of the invention it will be seen that the invention resides in the structures of a lid comprising a circular head 1 and a flange 2 extending downward from the periphery of the head and being connected to the upper extremity of a cylindrical guard 3 by a hinge 4 to rockably open and close the lid as accessible means to instruments housed in the guard for mechanical inspection thereof from time to time as may be required, said instruments being connected to a gas tank 5 buried in the ground in working relation to a housing structure as gas supply therefor.

2

The lid has a lens 6 centrally secured as visual means to a pressure gauge 7 whereby the graduations pointed out by a hand 8 adapted to revolve on the face of the dial is easily read under the magnifying power of the lens and furthermore the light rays are intensified by the focal axis of the lens centering on the dial. Inasmuch as the upper convexity of the lens forms an annular depression a system of drainage must be arranged for the depression to avoid rain or melting snow from settling therein consequently there is provided radially disposed grooves 9 communicating therewith to drain the same. This arrangement is of greater importance should the lens be removably set in the lid whereby the joint may not be water tight.

It will be seen that the flange of the lid fits closely to weatherproof the same where it engages over the top of the said cylindrical guard but loosely fitting sufficient to rock upward on its hinge and the lid being secured to a closed position by the engagement of a hasp 10 rockably carried by the lid and adapted to engage with a loop 11 secured to the guard whereby a padlock may be applied to secure the lid from being opened unauthentically.

While I have shown a lid having a flat head, the same may be convexed upward, and such other modifications may be employed as lie within the scope of the appending claim.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

A lid for the open end of an instrument guard, said lid comprising a circular plate-like head having a flange integrally joined thereto and extending downwardly from one side of the head, the flange being hinged to one end of the instrument guard to rockably carry the head to and from a closed position, said head and flange being made from transparent plastic material for rays of light passing through the head when the head is normally engaged and being on a horizontal plane, a convexo-convex lens formed in the mid-portion of the head axially thereof and lying within the planes of the upper and lower surfaces of the head whereby an annular groove is formed in the upper surface of the head adjacent the periphery of the lens, the upper surface of the head having radial grooves extending from said annular groove to the edge of the head and graduating in depth outwardly from said annular groove.

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