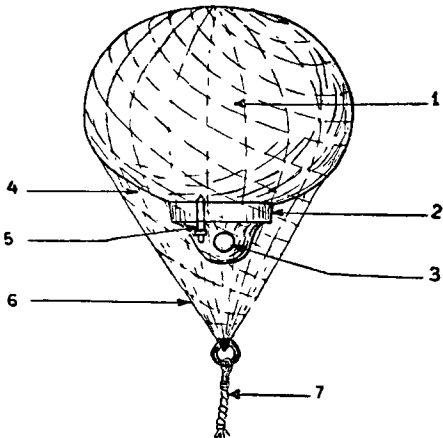


HINTS TO HYDROGRAPHIC SURVEYORS

CANVAS MARK BUOY

The British fishermen in the North Sea use a circular canvas buoy, called a *Pelt*, for marking their nets, and this has been found very useful as a small mark buoy for Hydrographic purposes.



The *Pelt* consists of a canvas sphere 62 inches in circumference with a circular wooden base in which is a hole for securing the mooring rope. In this wooden base is fitted an ordinary non-return valve such as is used for the inner tubes of bicycle tyres and the sphere is inflated by means of the ordinary bicycle pump.

The canvas is well tarred both inside and out to ensure its being airtight and watertight.

In practice it was found that after prolonged use in deep water the wooden base was liable to tear away from the canvas; the whole was therefore covered with a light rope net fitted with an eye at the bottom to which the mooring rope was secured instead of to the hole in the wooden base as originally fitted.

This mark buoy was successfully moored at a depth of 750 fathoms using 850 fathoms of half-inch hemp mooring line and a 28 lb. weight, the *Pelt* floating only half submerged.

By experiment it was found that the *Pelt* will support a weight of 90 lbs. three quarters submerged or of 70 lbs. half submerged.

When not in use the *Pelts* can be deflated and stowed away, taking up but little space.

It was found that if left in the sun after being inflated, the *Pelt* contracts considerably, therefore the air should not be pumped in at too great a pressure.

J. D. N.

HELIOGRAPHING FROM A MIRROR ON TOP OF A TRIANGULATION MAST

The following method of heliographing from a mirror placed on top of a triangulation mast is taken from Vol. III of the Geodetic Report of the Survey of India 1 Oct./26 - 30 Sept./27 :

A 12 inch circular mirror was fixed on top of the mast on the side facing towards the observer at the other station, and tilted forward at some angle rather less than 45° with the vertical.

To use the mirror as a heliograph all that is necessary is to direct the sun's rays on to the upper mirror by means of a second large mirror on the ground from a point where the observer's station is visible in the upper mirror.

In figure below the mast is shown in plan at *O* and *m m* represents the mirror at the ground from which the observer's station can be seen in the mirror *m m*. First the