

## THE USE OF OIL.

As the season of winter storms on the North Atlantic is approaching, navigators should note the many instances where serious danger and damage have been avoided by using oil to prevent heavy seas from breaking on board. It will be remembered that on the "Pilot Chart" for last March a full explanation was published, with diagrams, as to the best methods of using oil. Reprints of this explanation and accompanying diagrams can be obtained at any branch hydrographic office.

There are many other cases where oil may be used to advantage, such as lowering and hoisting boats, riding to a sea-anchor, crossing rollers or surf on a bar and from life-boats and stranded vessels. Thick and heavy oils are the best. Mineral oils are not so effective as animal or vegetable oils. Raw petroleum has given favorable results, but not so good when it is refined. Certain oils, like cocoanut-oil and some kinds of fish-oil, congeal in cold weather, and are therefore useless, but may be mixed with mineral oils to advantage. The simplest and best method of distributing oil is by means of canvas bags about one foot long, filled with oakum and oil, pierced with holes by means of a coarse sail-needle, and held by a lanyard. The waste-pipes forward are also very useful for this purpose.

In addition to the reports published last month from vessels that used oil during the St. Thomas-Hatteras hurricane of Sept. 3-12, the following have been received by the United States Hydrographic Office from vessels that encountered the same storm:—

The British steamship "Elgiva" (Capt. Bermpohl), Sept. 4, when in latitude 24° north, longitude 6° west, kept oil-bags at bows and channels to prevent seas from coming on board. The oil had a remarkable effect in smoothing the seas, and the vessel sustained no damage whatever. The British brigantine "Victoria" (Capt. Simmons), in a terrific hurricane, Sept. 5, latitude 26° north, longitude 68° 38' west, lost spars, sails, etc. A quantity of cod-oil was used, and it is thought that it saved the ship's hull from damage, and possibly total loss. The American brig "Mary Bartlett" (Capt. Holmes), Sept. 8, latitude 36° 42' north, longitude 74° 22' west, commenced using oil (paint and kerosene mixed). On Sept. 9, the wind north-east and blowing in terrific squalls, oil was used with great success. The British brig "J. A. Horsey" (Capt. Dowling), in a hurricane off capes of the Chesapeake, Sept. 9-12, used kerosene-oil, but without as great success as if it had been a heavier oil, of which there was none on board. The American schooner "Ralph M. Haywood" (Capt. Baxter), in a hurricane off capes of the Chesapeake, Sept. 9-11, used axle-oil in bags hung over the weather bow. The bags were replenished every two hours; in all, about five gallons being used, and with great success. The Italian bark "Biagino" (Capt. Brignati) encountered the hurricane, Sept. 9-12, after leaving the Delaware Breakwater for Cagliari. The cargo was petroleum, and, as the vessel leaked badly, a large amount of the oil was pumped out. As stated above, a thin oil like refined petroleum has but little effect, and such was the case in this instance. The British steamship "Claribel" (Capt. Macknight) encountered the hurricane, Sept. 9-11, between latitude 37° north, longitude 73° west, and latitude 34° north, longitude 71° west. Oil was used with success, and prevented many a heavy sea from breaking over the vessel.

## MENTAL SCIENCE.

## Experiments in Crystal-Vision.

THERE is a general tendency, whenever a notion is relegated to the rank of superstitions, to regard all interest in the matter as ending there. Such an attitude neglects to distinguish between error founded upon a false observation of facts and error founded upon a false interpretation of facts: it neglects to consider as well that the origin of this superstition also needs explanation. A superstition is rarely a purely fanciful notion spun from the inner consciousness, but usually contains, though often in a scarcely recognizable form, an element of interesting and perhaps important knowledge. It is with a full appreciation of this latter point of view that an anonymous lady writes in the recently issued number of "The Proceedings of the Society for Psychical Research" upon

the phenomena of crystal-vision, and reviews these in the light of cognate experiments of her own. The phenomenon, though simple, has a very ancient and varied history. It consists in gazing into a crystal, a drop of water, polished metal, a gem, or even the finger-nail, and seeing there reflected certain appearances usually to be interpreted as of prophetic significance. The custom is very widespread in the Orient both in the most ancient and in modern times. It has been found among savages, it has been counted as an instrument of the devil, it has received noble treatment at the hands of the learned before the courts of princes. Like most such customs, it has been surrounded with mystic and religious proceedings, and its exercise controlled by elaborate and fanciful directions. The Assyrians, the Hebrews, the Greeks, the Romans, were acquainted with the process, and give evidences of its use. In early Christian times those who read the future by gazing into a mirror received the title of "specularii." They appear in a church council convened by St. Patrick in 450, while we have a list of procedures against them as heretics in the twelfth century. Although Thomas Aquinas attributes this power possessed by some children to the work of the devil, and though a special condemnation of it was made by the theological faculty of Paris in 1398, the art continued, and in the sixteenth century reached its zenith under the auspices of a court physician or a university professor. Catherine de Medic consulted a magician, who showed her in a mirror how long her sons would occupy the throne. The topic was brought into prominence by the work of Dr. Dee, a very entertaining personage, under whom the process was systematized, and produced wonderful results. Dr. Dee and his associate, one Kelly, of dubious repute, see spirit visitors in their crystal or shew-stone who are described in all detail. Moreover, they hold long conversations with them, though what they learn from the "angelicall beings" is often mere "sermon-like stuffe." The stone is "of that value that no earthly kingdom is of that worthinesse as to be compared to the virtue or dignity thereof;" it is brought to him by angels; it is miraculously restored to him; it is placed in a sanctuary, and shown with great ceremony. We read of many other uses of the crystal: we have instructions whereby to have a spirit enclosed in a crystal stone or beryl glass; and from these mediæval notions we have almost a continuous use of the process down to modern times.

Considering the function of the crystal simply as a means of concentrating the gaze, our author attempts to follow the course of these visions by analogy with other hallucinations, and regards them as consisting mainly of (1) "after-images or recrudescence memories, often rising thus, and thus only, from the subconscious strata to which they had sunk;" and (2) "as objectifications of ideas or images consciously or unconsciously in the mind of the percipient." "The tendency of the conscious memory is so strongly in favor of picture-making, that we may naturally assume this habit on the part of that which is latent or subconscious." This, at any rate, is true for the lady in question; for she is gifted with a remarkable power of visualization, that goes far to explain her success at crystal-vision. When desirous of describing a room in a friend's house, she tells us, "I return in recollection to the occasion of my last visit. I once more occupy the same chair. The carpet at my feet becomes visible, the furniture nearest to my seat, gradually the whole contents of the room, till walls and ceiling complete the picture, and I am able to give an inventory which would not disgrace an auctioneer's clerk." The exercise of this faculty, and especially with regard to phenomena of the unconscious, seems to be much aided by fixation of the attention upon the crystal. To quote from the record of experiments, "Here, for example, I find in the crystal a bit of dark wall covered with white jessamine, and I ask myself, 'Where have I walked to-day?' I have no recollection of such a sight, not a common one in the London streets; but to-morrow I will repeat my walk of this morning with a careful regard for creeper-covered walls. To-morrow solves the mystery. I find the very spot, and the sight brings with it the further recollection that at the moment we passed this spot I was engaged in absorbing conversation with my companion, and my voluntary attention was pre-occupied." Or, again, "I had carelessly destroyed a letter without preserving the address of my correspondent. I knew the county, and, searching in a map, recognized the name of the town, one unfamiliar to me, but which I was sure