SANDS THAT IMPRISON SHIPS

BY JAMES G. M'CURDY

The stretches of sand lying directly north and south of the mouth of the Columbia River, while possessing but few of the topographical characteristics popularly associated with the regulation "Marine Cemetery," have nevertheless for years taken heavy toll from the commerce visiting this section.

North Beach, to the north, and Clatsop Beach, to the south, are beautiful specimens of shore line, free from hidden reef and treacherous tides. No inhospitable shores lie in wait to crush the timbers of staunch ships, but on the contrary, gentle eminences studded with summer cottages front the sea.

The real danger to shipping lies in the frequent muffling fogs, and the peculiar consistency of the sand which holds with a tenacious grip, and speedily swallows every object thrown upon its surface. Even the drift which litters the ordinary beach for years, here speedily becomes engulfed within the depths of the sucking sand.

The masters of incoming vessels, seeking the entrance to the Columbia River and prevented from obtaining a reckoning by reason of long-continued fogs, are often kept in ignorance of the proximity of the land until their ships have thrust their prows into the sandy shore. The mariner unacquainted with the locality generally feels no great alarm at the accident.

His vessel, practically uninjured, is so near land that the crew can in many cases walk ashore dry shod at low tide. He confidently expects by the use of a kedge anchor or the services of a tug-boat, to get afloat at the next high water.

ships have met disaster within a single month. Yet, owing to the peculiar conditions prevailing already noted, but few of these wrecks have resulted in loss of life.

As may be surmised, the wreckers have made use of every device known to the profession, such as coffer-dams, centrifugal pumps, winches and tug-boats,

British ship wrecked on sands in 1883. Another wreck in the distance.

in their efforts to effect the release of the numerous vessels that have become imprisoned in these clinging quicksands, but up to the present time much of their work has gone for nothing.

The tides rush in far enough to wash back the sand as fast as it can be removed, but are not of sufficient rise to permit the use of pontoons or other devices for the floating of the great unwieldy hulls. Fre-

stood for \$500, and the "Galena" brought but a trifle more.

Not more than half a mile from where the "Peter Iredale" occupies her last resting place, is to be seen an object which at a distance appears to be a cross. A closer inspection proves it to be a yard swung horizontally across the iron foremast of the ship "Cairnsmore," which went ashore in 1883 while endeavoring to enter the Columbia River, after having successfully fought her way around Cape Horn, laden with a cargo of cement from Europe.

The cross in reality marks a grave, for 75 feet beneath the surface lies the hull of the doomed ship. The hull is steadily sinking and in a few more years will be obliterated, even this memorial the ill-fated craft has placed over her sepulchre.

One of the very few vessels to be salvaged on the North Beach was the Columbia River Lightship No. 50. This vessel, after remaining in the sand over two years, was with infinite labor loosed from her spongy bed, incased in crib-work and pulled with engines upon solid earth. She was then taken over a mile across a narrow neck of land and launched in deep water in a bay in the rear of the spot where she had come to grief.

This was in the spring of 1901, and a full account of this novel salvage feat appeared in the SCIENTIFIC AMERICAN at that time.

The Sense of Color in Fishes and Invertebrates.

The name phototropism has been given to a certain reaction to light which is exhibited by many animals

Practically uninjured, this four-master is doomed to sink in the sucking sand.

Wreck on Clatsop sand beach, Oregon, dismantled by wreckers.

He speedily realizes his error. Within a few hours his vessel has begun digging her grave in the yielding quicksands and the chances are one to a hundred that his ship has found her last resting place.

The inhabitants hereabouts have a saying that no vessel ever floats again after striking the North Beach and Clatsop Sands, and while there have been some few exceptions to this broad statement, fortunate indeed is the craft that figures in this latter class.

Probably the first vessel to strike these sands was the famous "Bees-Wax Ship," so called on account of the bees-wax, candles and tapers that have been found buried in the sand near the mouth of the Nehalem River. This ship is believed to have been the Spanish vessel "San Jose," which left La Paz, Lower California, in the summer of 1769 with a quantity of mission supplies for the Catholic Mission at San Diego.

The vessel was probably driven far north of her destination by a storm and met her fate in the Oregon sands, as she was never heard of after leaving port. The fact that some of the bees-wax recovered from the beach is stamped with Latin inscriptions strengthens the belief that the Nehalem wreck and the ship "San Jose" were one and the same. According to the Indian accounts the entire crew reached shore in safety, but were afterward massacred by the natives.

The founding of Astoria in 1811 by John Jacob Astor, had a tendency to attract shipping to the Northwest, and before many years a large fleet of vessels was engaged in the carrying trade in and out of the Columbia River. From this fleet the treacherous sands early began to levy tribute, which has continued to the present time without diminution, in spite of the installation of many safeguards for the prevention of shipwreck.

Seldom has a year passed without a wreck occurring along this stretch of ocean beach. As many as four

quently, when success has been all but attained, some unforeseen contingency has arisen to rob the wreckers of their well-earned reward.

In the majority of cases, the best that can be done is to strip the stranded vessel of everything removable and to tear the hull in pieces for the sake of the metal. Often the wrecks are battered to pieces by the surf, or become so deeply buried, that even this dismemberment is not possible.

A British bark wrecked on North Beach sands, broken up by wreckers.

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The latest additions to this ship's graveyard were the "Galena" and "Peter Iredale," fine four-masted barks which came to grief within the past year, and which, although practically uninjured at the time of taking the sands, were fated never to return to their proper element.

Both of these vessels are being salvaged piecemeal by the wreckers. The "Peter Iredale" was bought as she

and plants. The phototropism is called positive when the organism is attracted by light, and negative when it is repelled. In many cases, even in the animal kingdom, there is no true perception of color, or even of light. The phototropism is due to the general sensitiveness of the skin and subjacent tissues to luminous and thermal radiations.

The numerous experiments of Hess on vision in animals show that the question of color perception is a very delicate one, and cast doubt upon published statements of the discrimination of colors by lower animals. According to Hess, young sprats seek the yellow-green region of the spectrum, not because they have a predilection for that color, but simply because this region is the brightest part of the spectrum. These fishes appear to be affected also by violet, but not at all by red. Blennies and some other fishes fail to perceive bits of meat illuminated by red light. The curve of color sensitiveness in fishes bears a striking resemblance to that of a person entirely color blind. The boneless lancelet (*Amphioxus*), the lowest of the vertebrates, is likewise most affected by the yellow-green part of the spectrum. Water fleas and other small crustaceans, larvae of butterflies and mites, etc., show very similar reactions. Water fleas, like fishes, assemble in the green and yellow green part of the spectrum, but move to any other region, blue, violet or red, if this is illuminated more brightly than the yellow-green.

It is reported that plans are under consideration by the Boston and Maine Railway for the elimination of coal and oil-burning locomotives in the Hoosac tunnel in Massachusetts. Should the change be made, a power plant will be established near South Adams, the tunnel will be lighted and ventilated by means of electricity, and only electrical engines will be used to draw the trains through the tunnel.