lons of the best brine. It is then exposed in vats to the sun or placed in kettles and boiled, and the residuum—salt—is dried for sale.

From the rapid annual increase, it is fair to presume that in a short time, comparatively, the supply of salt will be more than sufficient for home consumption, and American provisions shipped to the Old World will be wholly cured with American salt."

Miscellaneous.

The broken Atlantic Cable.

The London *Spectator* tells the following singular and most interesting story :—

"Night and day, for a whole year, an electrician has always been on duty watching the tiny ray of light through which signals are given, and twice every day the whole length of wire—one thousand two hundred and forty miles—has been tested for conduction and insulation. * * * The object of observing the ray of light was of course not any expectation of a message, but simply to keep an accurate record of the condition of the wire. Sometimes indeed wild incoherent messages from the deep did come, but these were merely the results of magnetic storms and earth currents, which deflected the galvonometer rapidly, and spelt the most extraordinary words, and sometimes even sentences of nonsense, upon the graduated scale before the mirror. Suddenly, last Saturday morning, at a quarter to six o'clock, while the light was being watched by Mr. May, he observed a peculiar indication about it which showed at once to his experienced eye that a message was at hand. In a few minutes afterward the unsteady flickering was changed to coherency, if we may use such a term, and at once the cable began to speak, to transmit, that is, at regular intervals, the appointed signals which indicate human purpose and method at the other end, instead of the hurried signs, broken speech, and inarticulate cries of the still illiterate Atlantic. After the long interval in which it brought us nothing but the moody and often delirious mutterings or the sea stammerings over its alphabet in vain, the words 'Canning to Glass' must have seemed like the first rational word uttered by a high-fever patient when the ravings ceased.

The Atlantic Cable of 1865.

The grappling and raising of the cable of last year in 1,900 fathoms, or a little less than 2¼ miles of water(instead of three miles, as has been so widely understood), affords, perhaps, an even more striking proof of the resources of telegraph engineering than the successful laying of this year's cable. There was, of course, no difficulty in finding the precise spot in mid ocean where the end of the broken cable lay. But it was a question whether the grapnel would drag steadily along the bottom at such a depth, or whether it would catch and jump successively from one point to another. It was not certain even that, with such a weight of grapnel wire out, it could be told when the cable was hooked, and it was a matter of the greatest doubt whether even if once hooked, the cable could be hauled to the surface, supposing furthermore, that it was hooked within two or three miles of the broken end, so as to oppose but little friction in "coming home" along the bottom, as a cable laid with but little slack must have done to be lifted at all through two miles of water.

It is well understood that the course of the cable was first marked by buoys, and that the ship engaged in grappling—and there were four ships engaged in the task—first went according to the wind, three or four miles to the north or south, and then drifted broadside on across the course of the cable, with her grapnel dragging. To pay out 2,300 fathoms of grapnel wire took from one hour and twenty minutes to three hours, and the strain on the dynamometer in 1,900 fathoms of water was 7½ tons, increasing to 8½ or 9 tons according to the motion of the ship. The cable itself weighed 14 cwt per nautical mile in water and a breaking strength of 7¾ tons. When the steady strain on the grapnel line at the depth named exceeded 8 or 9 tons, it was concluded that the cable was hooked, and this was generally found to be the case. Hauling in occupied five or six hours, the resistance occasionally reaching 10½ tons. As the wire came in with the cable, the resistance due to the weight of the former lessened, and that of the cable itself increased. When at the surface, the strain on the dynamometer was from 7½ to 8 tons, and the strain on the cable was nearly up to its breaking weight. It was grappled ten times in all, and, besides being raised to considerable heights from the bottom, and then breaking or slipping off the grapnel, it was twice raised to the surface. The bottom of the ocean where the cable was raised is proved to be of ooze containing microscopic shells, and no accident can happen to the cable there unless it is purposely dragged for and broken, as it unquestionably may now be, by an evil-minded skipper having grappling gear of sufficient strength or unless a wreck fell across it. It is now being confidently predicted by certain writers that both cables will soon be destroyed by icebergs. It is, of course, possible that they may, but the more the probabilities are examined the less they appear. Even if thus destroyed, however, in the iceberg track, which is only two hundred miles wide, the cable,, being in shallow water there can easily be raised and repaired.—*Engineering.*

A Powerful Microscope.

The most powerful microscope ever made has been constructed by Messrs, Powell & Lealand, and described in a paper recently read before the Royal Society of London. The power of this instrument is fully double that of any which had ever been constructed previously; and it altogether supersedes what had before been considered the utmost attainable limit of perfection in this instrument, This microscope magnifies 3,000 diameters with its lowest eye-piece, and 15,000 diameters with its highest; the latter being equivalent to making an object appear 1,575,000,000 times larger than it really is! How immensely must such an instrument increase our knowledge of the lower organisms! May it not even enable us, eventually, to determine the ultimate constitution of matter? It must at least greatly aid savans in their researches in that direction.—*Mechanics' Magazine.*