POCKET VOLTMETER AND AN ELECTRIC SOLDERING IRON.

A handy pocket voltmeter in the form of a watch is one of the instruments exhibited by the Whitney Electrical Instrument Company, at the Electrical Exhibition. This meter has a five-volt scale divided to fifths of a volt, and below it, on some instruments, a milliampere scale also. It is designed for storage battery work principally and for all similar work in which low potential and small current readings and tests are made. Inside the case, as will be seen from our illustration, is a circular magnet which holds the needle at

A WATCH VOLTMETER.

zero by keeping the magnetic bar on its lower end in a horizontal position. When the current passes through the solenoid, this short bar is moved through an arc and moves the needle with it. A piece of soft iron is placed in the top part of the solenoid for the purpose of attracting the magnetic bar more strongly, for if this were not done the dimensions of the scale would have to be uneven at the end. The meter will commend itself to all because of its compactness.

Another convenient article at the Electrical Exhibition is an electrically heated soldering iron intended for soldering wire, electrical connections and other articles. Between the handle and the soldering copper point is located a coil of German silver wire in sufficient quantity to give out the required heat for soft solder in a very short time. The current is taken from an ordinary lamp socket through flexible lamp cord, and only a trifle more is required to heat the coil than is necessary for a 16 candle power incandescent lamp.

The electrical soldering iron is now preferred by electricians in their work on account of the uniform heat obtained, and we are informed it is now in general use. This iron is only one of many other interesting applications of electricity for heating purposes shown by the American Electric Heating Company at the east end of Madison Square Garden Hall.

An Intelligent Fish.

M. Semon in his recent voyages has observed an interesting fact which shows the large development of the memory and faculty of observation of a certain fish called the Echeineis remora. It is known that this fish is provided with a kind of sucker on top of its head, which it uses in order to attach itself to hulls of vessels, the shells of tortoises, and even to fish larger than itself, such as the shark. One day, during a voyage near Australia, M. Semon having cooked some crabs of a very savory odor, the remains of the repast were thrown overboard. Each fragment as it fell was seized by a fish about 9 or 10 inches long. M. Semon recognized the echeineis, and wished to procure a specimen. The first fragment of crab which he threw into the water was baited to a hook and line, and a specimen was caught at once. The line was again thrown, under the same condition, but not a single echeineis would touch it, nor even fragments not so attached. During the whole day the fish declined to eat anything that was thrown to them. Evidently they had seen one of their comrades disappear and became distrustful on this account; thus they remained attached to the bottom of the vessel without allowing themselves to be tempted. This same observation was repeated on different occasions. M. Semon could easily take one specimen of echeineis, but never two of the same band in the same day. These fish have evidently a power of observation and a memory not possessed by most of their kind, as every one knows that at the same spot one may catch any quantity of fish of the same kind, who nevertheless see their companions disappear in a mysterious manner. As to the habit which the echeineis have of fixing themselves to the hulls of vessels, M. Semon explains this by supposing that these fish live upon the debris of food and other waste matters of the ship.

Consumption of Rice in France.

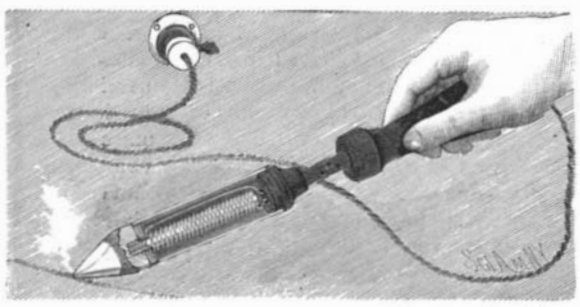
M. Maurel has communicated to the Congrès des Sociétés Savantes the results of his observations upon the consumption of rice in France, and shows that from 1875 to 1895 this has increased from 34,000,000 to 68,000,000 of kilos. He had studied the causes and consequences of this, especially from the point of view of hygiene, but also as to the commercial interests of the country. The importation of rice from 1875 to 1895 has increased from 2,500,000 to 65,000,000 of kilos, and the price has fallen so that rice flour now costs appreciably less than wheat flour. He shows that rice occupies a high place as a food, and that its calorific properties are the same as those of wheat, 100 grammes of wheat giving 350 calories, and 100 of rice giving 353 There would thus be no disadvantage if the latter were more generally adopted as an aliment, thus replacing wheat.

As to the question of commercial interests M. Maurel shows the advantages which would result by replacing the wheat imported from foreign countries by rice from the French colonies. He shows also that rice flour may be mixed with that of wheat up to the proportion of 6 per cent without detriment to the bread thus produced, and without diminishing its nutritive properties.

AN ICEBERG AT ST. JOHN'S, NEWFOUNDLAND.

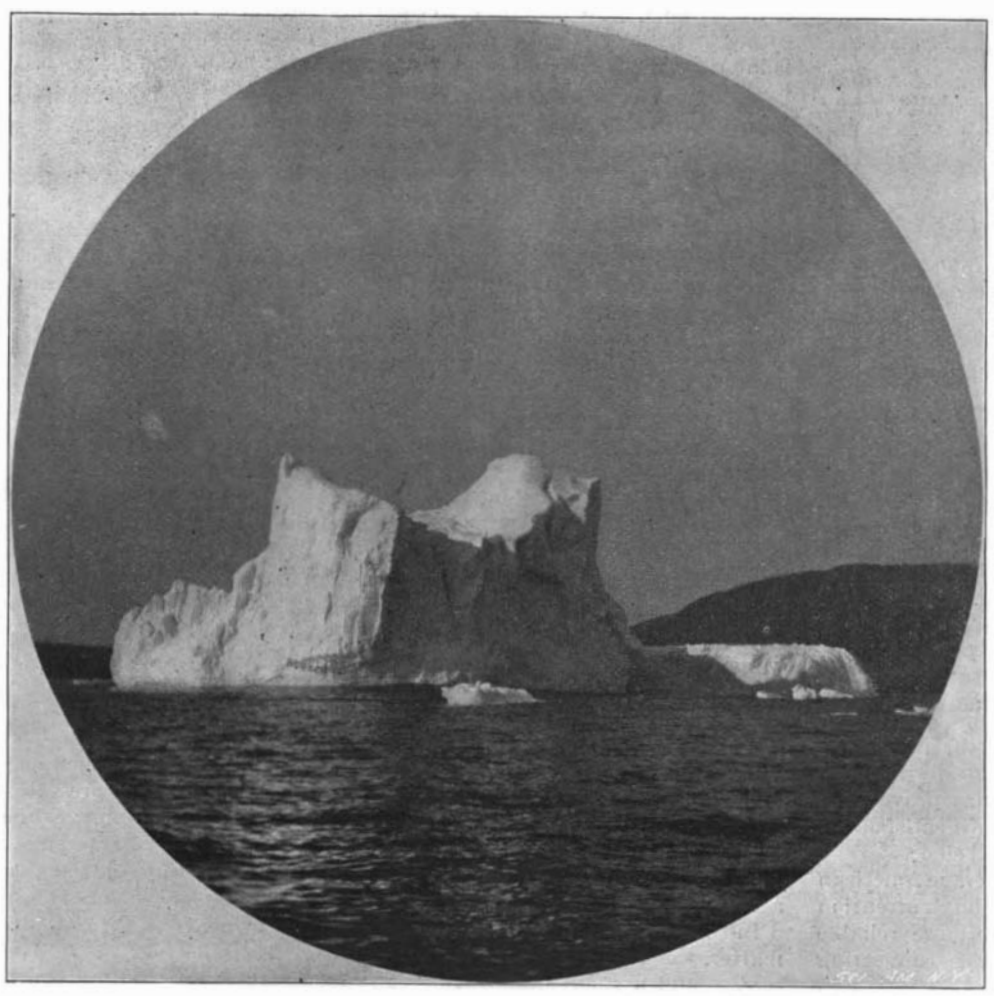
It is not unusual at the proper season of the year for vessels to sight icebergs while making the Trans-Atlantic passage, specially if the vessels happen to be taking a northerly course, but it is seldom that an iceberg grounds so that it can be seen by those on shore. This was recently the case at St. John's, Newfoundland, where an enormous iceberg, 150 feet high and nearly a quarter of a mile long, grounded off the south-side entrance to the harbor, where it was, of course, seen by many thousands of spectators.

Most icebergs are produced from glaciers which move down from elevated heights in the interior of some land in the Arctic regions. The glaciers move slowly onward into the deep waters of the sea, and from time to time fragments break off from the advance border and float away, forming icebergs. Occasionally whole masses of ice break off at once, really forming floating islands. Ice islands are also made by the breaking up of the great fields of ice of the Arctic region. In the Atlantic Ocean most of the icebergs come from Greenland and Iceland, the greatest numbers being produced on the west side of Greenland. From Labrador the ice is floated with the current past Newfoundland, and keeping near the Great Bank the warming influences of the Gulf Stream cause it to disappear. Usually the limit of travel of icebergs is 40 degrees north latitude, but in the South Atlantic Ocean they have been found as near as 37 degrees south latitude. Naturally these immense masses of ice are a serious peril to navigation as when the "Arizona" smashed her bow on an iceberg off the coast of Newfoundland on November 7, 1879, and they frequently lodge on the banks of Newfoundland, much to the discomfort and danger of navigators. Nothing is more imposing than the sight of one of these immense icebergs, which might send the finest ocean steamship to the bottom in a few moments. The iceberg is apt to be of an intense bluish white; they are real floating mountains of ice. The sun melts them unevenly, causing rugged and picturesque peaks to jut into the air, and in northern latitudes, where whole fields of



AN ELECTRICALLY HEATED SOLDERING IRON.

icebergs are seen, they look like fairy castles. Dr. Kane in his first cruise counted 280 icebergs in sight at one time, and most of these were over 250 feet high. It is, of course, a well-known fact that about one-eighth or one-ninth of the berg projects above water. As might be imagined, the iceberg, containing as it does at its base many pieces of rock carried down by the glacier from some northern country, scores the bottom of the sea, acting really like a gigantic file. When the enormous bulk of the iceberg is considered, it will be seen that the current hurrying it along might cause the iceberg to produce considerable change in the floor of the sea over which the iceberg passes, and geologists recognize in this operation a repetition of the phenomena accompanying the distribution of the drift formation and the production of rounded bowlders, gravel and sand.



A STRANDED ICEBERG AT ST. JOHN'S, NEWFOUNDLAND.

Parade of Automobiles.

A parade of automobile vehicles took place in New York on May 24. The route was from Madison Square Garden, by way of Madison Avenue, Fifth Avenue, Lenox Avenue, Morningside Avenue, and Amsterdam Avenue to Columbia University. The parade started from Madison Square Garden at 3:30 P. M. and ended at the University at 4:30 P. M.

The parade was led by Col. A. A. Pope, driving his Columbia Stanhope, then followed Mr. Riker, in his Stanhope, followed by a large number of automobile vehicles. There was considerable dissatisfaction over the fact that the automobiles were not allowed in the Park. The time will doubtless come when automobiles will have equal rights with carriages drawn by horses. The parade was considered a very satisfactory one, and was witnessed by a large number of spectators.

An American Bridge for Japan.

The Phœnix Bridge Company has received a contract to build a large steel bridge for the Imperial Railway of Japan. The bridge will be in six spans and will be one of the largest steel bridges ever contracted for by American builders. As soon as the plans are completed work will be begun, and the bridge will be ready for shipping by September 1.

The Paris-Bordeaux Automobile Race.

The automobile race from Paris to Bordeaux, a distance of 353 miles, was won by a carriage called "The Petroleum Duke," the running time being eleven hours forty-three minutes and twenty seconds, or at the rate of twenty miles an hour, which is a very remarkable speed for so long a distance. The carriage had four seats and the engine was of four horse power. There were twenty-eight competitors in the race, and an occupant of one of the carriages jumped off while it was in motion and received fatal injuries.