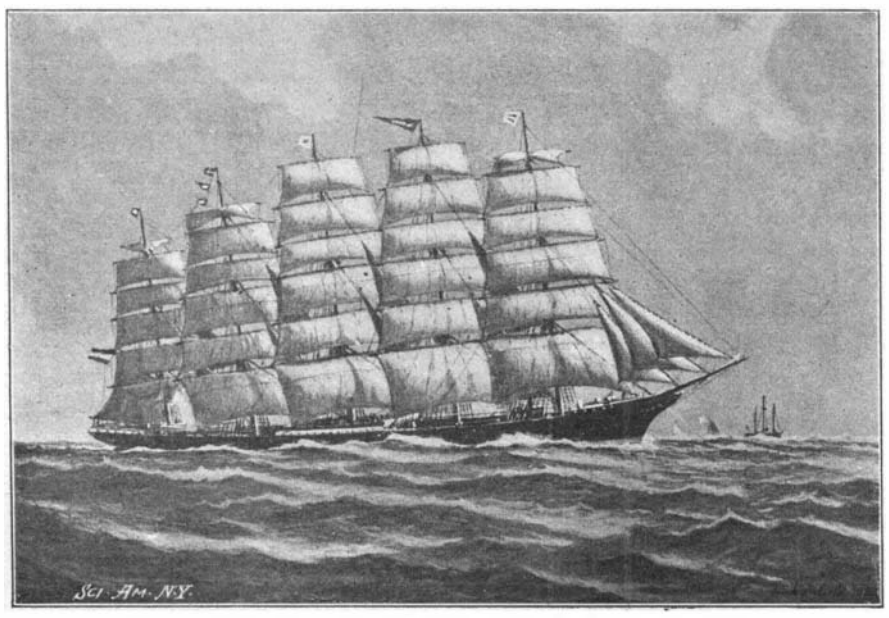
THE "PREUSSEN," THE WORLD'S LARGEST SAILING VESSEL.

A few weeks ago the "Preussen" started on her first voyage to the west coast of South America. She is probably the largest sailing vessel in the world. Her length is 440 feet; beam, 50 feet; draft, 33 feet. She has a carrying capacity of 8,000 tons, while her registered tonnage is 4,000.

The "Preussen" was built in the shipbuilding yard



THE "PREUSSEN," THE WORLD'S LARGEST SAILING VESSEL.

of Geestemuende, famous the world over for its fast sailing vessels. She is a five-masted, full-rigged steel vessel, steel-sparred throughout. Five hundred and fifty tons of water ballast are carried in her double bottom. As in most large, modern sailing vessels, steam power is used to drive the winches, capstans, pumps and steering gear. As a result her crew consists of only forty-six hands.

A HUGE METEORITE RECENTLY DISCOVERED.

Prof. Henry A. Ward, of Rochester, N. Y., the veteran meteorite hunter, recently found a meteorite of tremendous size. It has a length of thirteen feet and one inch; width, six feet and two inches; thickness, five feet and four inches, and weight, fifty tons. Prof. Ward has named it Bacubirito, after the mining town near which it was unearthed, and which is situated on the Rio Sinaloa, Mexico. It took twenty-eight able-bodied peons one entire day to uncover its upper surface, making an excavation thirty feet on a side, with the great meteorite lying within. At the end of the second day they were able to bring the huge mass to a semi-vertical position, the Mexicans standing aghast at the revelation of their work.

The Bacubirito was found on a farm called Ranchito, which fills the narrow mountain valley between two spurs of the foothills, running nearly north and south, and 2,000 feet above the level of the sea. It lay in a cornfield, close by the eastern edge of the valley, which is covered by a black vegetable soil two yards in thickness. The giant meteorite lay imbedded in the soil with one end slightly projecting above the level. Professor Ward walked for many feet along and across its surface, surveying the dimensions as far as they were exposed, but he had no idea how far the large and heavy mass penetrated the soil beneath until the work of excavation was begun.

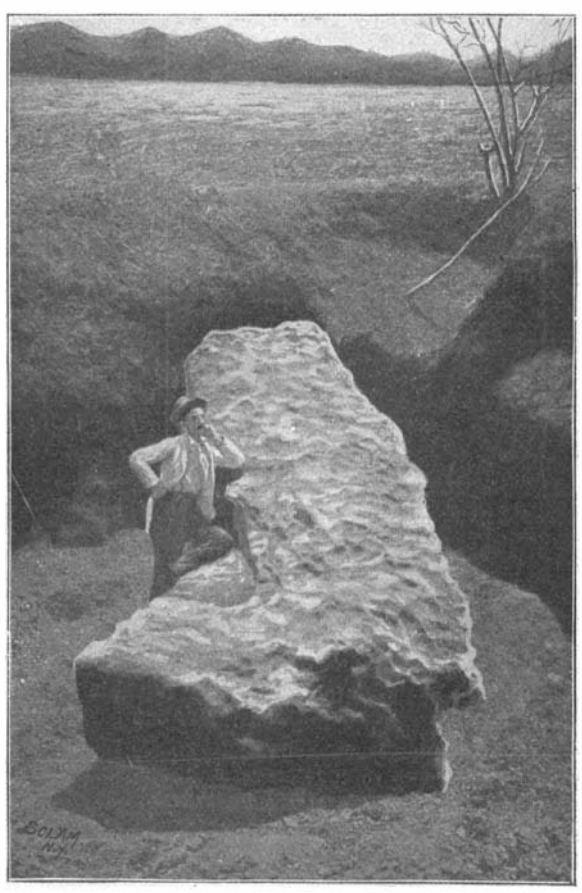
The characteristic pittings covering the entire surface are well marked, and very regular in size—about two or three inches across, with well defined yet low walls. The bed in which the tremendous rock lay was found to be a clean depression crushed into the rock with absolutely no trace of soil between it and the part where the full weight of the mass had fallen, showing that the meteorite had fallen on the bare surface of this district at a period before the vegetable soil had begun to form here, carrying back the fall of Bacubirito to a remotely distant period.

For half a century Professor Ward has been collecting and studying meteorites. He has interested himself in them in every part of the globe where they have been found. As the result of his personal exertions he has installed at the American Museum of Natural History, New York, the Ward-Coonley collection of meteorites, allowing this collection which represents an amount of labor, research, indefatigable industry and painstaking ingenuity of which the average visitor is entirely ignorant, to be placed in the halls of this museum for inspection and study. The collection represents five hundred and eleven distinct "falls," about five-sixths of all the meteorites known to science. To see these elsewhere would require a visit to the great museums of the world, and many cabinets of private collectors. Bacubirito, however, is possessed of qualities which render it of greater scientific value than any of Professor Ward's other meteorites. The inner structure shows the octahedral system of crystallization in a very marked degree. No other meteoric iron is known which shows this so well. Fractured surfaces show crystallization plates with faces from three to nineteen millimeters in greatest diameter. Many of these faces are covered with fine films of taenite, which in most cases are of the characteristic bronze yellow color. Acid brings out the Widmanstattian figures in a most beautiful manner. From the coarse crystals on a fractured or weathered face of this iron, we might anticipate that etching would reveal a large wide pattern in its markings.

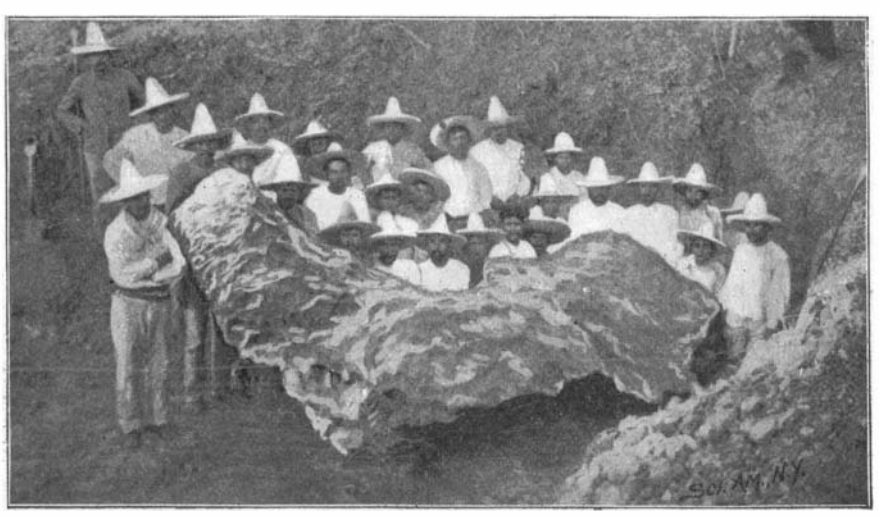
As a fact, quite the reverse is true. The figures, while very sharp and clear, are small in pattern, and are composed of narrow blades of kamacite, but a fraction of a millimeter in thickness. At intervals, these blades appear to be of more than double that thickness; but when examined with a glass it is seen that these apparently broader plates are composed of what might be termed "bundles" of narrow kamacite bands. The rhombic figures on the etched face will average from one and a half to five millimeters in diameter, two angles of same being sixty degrees and one hundred and twenty degrees, while the triangular markings will generally range from eight to fifteen millimeters with angles of fifty-five degrees and seventy degrees. Two or three troilites are shown, and the iron is essentially tough.

The specific gravity of Bacubirito is 7.69. Its analysis has been made by Professor J. E. Whitefield, of Philadelphia, as follows: Iron, 88.944 per cent; nickel, 6.979 per cent; cobalt, 0.211 per cent; sulphur, 0.005 per cent; phosphorus, 0.154 per cent; silicon, trace.

After a long, protracted effort, Professor Ward succeeded in detaching from the mass an already partly loosened piece of about eleven pounds in weight. This, polished and etched on one side, showing the beautiful Widmanstattian figures, has taken its place in the Ward-Coonley collection of meteorites. This collection is now on display (on deposit) in the American Museum of Natural History in New York city.



END VIEW OF THE METEORITE.



BACUBIRITO, A HUGE METEORITE RECENTLY DISCOVERED.

AN ANCIENT FIRE ENGINE.

There has recently come to light at Stowmarket an interesting relic of the past in the shape of the old town fire engine, which did duty in the town for many years in the early part of the eighteenth century. The engine, which is in an excellent state of preservation, is composed of a wooden well 6 feet long by 15 inches wide, lined with copper, with openings at each end for the purpose of receiving the water, which was fed by hand. The pump is at one end, and is worked by ordinary hand-bars. The engine is mounted on four small solid wooden wheels; the leathern buckets with which it was originally fitted have all disappeared, but the delivery-pipe, which is some 6 feet long, can still be attached. The engine is painted the regulation red color, and on the front of the pump are printed instructions for its proper working. To keep the pump in order it is suggested that "the pevets of the long iron spendil" should be "drest with sallet oyl and tallow," while the hose after use is to be "liquored with neatsfoot oyl, bees wax, and tallow,

STOWMARKET'S ANCIENT FIRE ENGINE.

and quolied up." These instructions were originally covered with horn, but of this only a small portion now remains.—Engineering Times.

Novel Method of Killing Hawks.

A farmer who lives in northern Louisiana has grown weary of peppering gray hawks with blue whistler buckshot. It takes too much time. He sat down and thought long, and finally evolved a method that does credit to Yankee ingenuity. Every one knows that hawks perch only on dead trees. This Louisiana farmer made a strong pole some 50 feet in length by nailing some scantlings together. To one end of the pole he tied a scythe blade, with its razor edge turned down. He set the pole up about 500 feet from his barnyard. An hour had hardly passed when a black hawk alighted on the scythe, grasped it with its talons, but released its hold with a suddenness that gave ample proof of an injury sustained. The bird glanced down and attacked the scythe viciously. It was cut again and again, but never relented, maddened probably by its own blood, as most hawks are. After a short struggle the bird fell to the ground with its head split open. This Louisiana farmer has killed many hawks in the same manner.