

THE BABY MUSK OX AND THE ALASKAN BEAR OF THE NEW YORK ZOOLOGICAL GARDENS.

BY WALTER L. BEASLEY.

Through the efforts of Director W. T. Hornaday of the New York Zoological Society, New York has acquired two most interesting new animals—one a baby musk ox, and the other a giant Alaskan brown bear.

Although the musk ox is a typical polar animal, this is perhaps the only specimen to be found in captivity. Whether our climate will so far affect the animal's health that it will perish, remains to be seen. This particular specimen was captured on Melville Island, six thousand miles from the Zoo. The price paid was \$700. The animal is about six months old, and in splendid physical condition. The entire body is covered with a dense mass of fine brown wool. Across the forehead is a broad band of white, and on the back a light gray saddle mark. A thick mass of wool hides the short horns. In time these horns will grow until they meet at the center of the forehead. When fully grown the whole top of the head will be covered by a pair of horns considerably flattened at the base, meeting in the center of the forehead, thence sweeping downward over the edge of the cranium, close to the cheeks, and finally recurving upward before coming to a point. The animal illustrated is about 3 feet long, nearly 2½ feet in height, is about half grown, weighing 190 pounds. A full-size adult male stands 4 feet 5 inches high at the shoulders and is 6 feet 7 inches in length, weighing about 1,200 pounds. The species shown in our photographs, from the marked characteristic of the large whitish patch on the face and saddle mark on the back, has been named by Mr. R. Lydekker, of the British Museum, *Ovibos Moschatus Wardi*, in honor of Mr. Howland Ward, the natural history dealer of Piccadilly, London, from two types of a mounted male and female from East Greenland, in his possession. The other form or species of the musk ox, *Ovibos Moschatus*, is confined mainly to the Arctic Barren Ground regions east of the Mackenzie River, and formerly thought to have had a continuous distribution westward across Alaska.

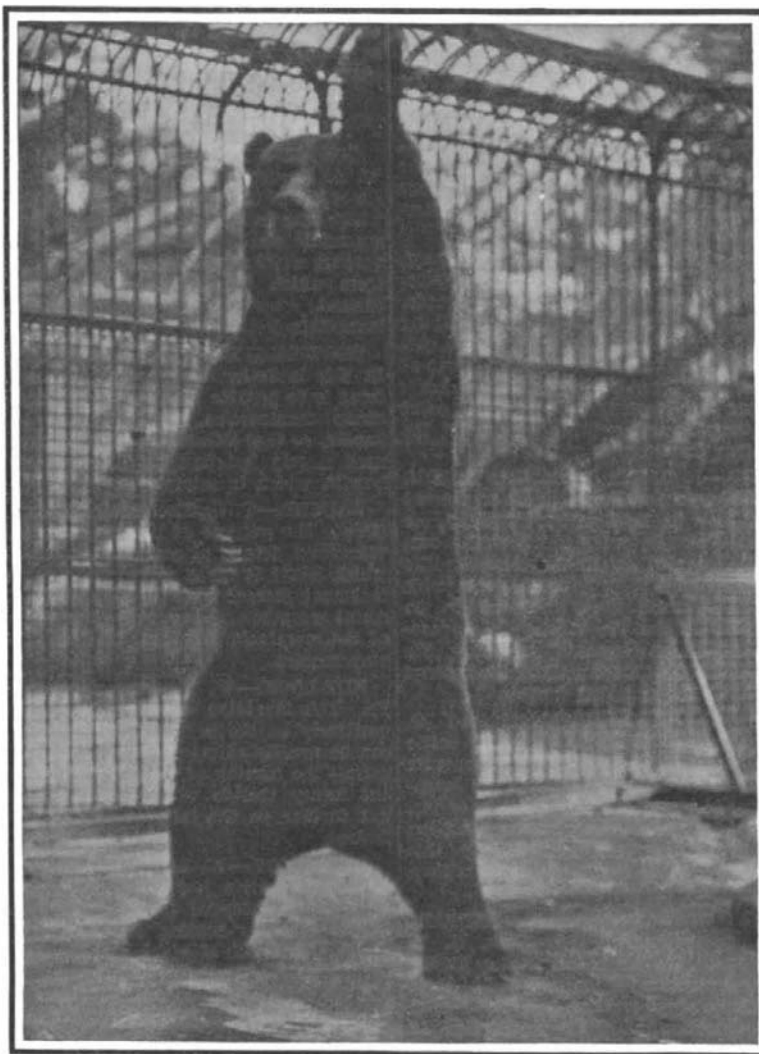
Of the 5,530 living animals in the New York Zoological Park, one of the most remarkable is the great Alaskan brown bear Ivan. This colossal animal belongs to the species *Ursus dalligyas* Merriam, and was captured at Moeller Bay, Alaska Peninsula.

The writer was able to obtain a very striking picture of the giant Ivan, standing seven feet in the air with uplifted front paw, by venturing inside the inclosure with an attendant. A tempting fish coaxed the big animal to assume an upright pose. Ivan recently gave a practical exhibition of his astonishing strength and vigor by tearing out a panel of the heavy steel bars that separate his quarters from those adjoining and engaging in a fierce battle with a hated rival. In ten minutes the monster bear wrenched and trampled down the barricade of steel bars as if they had been made of reeds. It would have taken six men an hour with block and tackle, sledge hammers, etc., to have accomplished such a damage. The enraged giant fought with his antagonist until finally clubbed off by the keepers. Ivan's long shining and shaggy brown coat converted into a rug would be worth nearly one thousand dollars. Ivan is one of the few living examples of the fast disappearing species of the giant brown bears of America in captivity, a species especially interesting as possessing some very extraordinary, intelligent habits. In his distant Alaskan home Ivan practised the art of salmon fishing. As soon as the salmon begin to enter the streams in July, from the sea, big brown bears of his species make fishing their chief business. Both the old male and female fish for salmon in order to furnish a plentiful supply to satisfy their own enormous appetites and those of their young. The cubs do not attempt to fish, but stay on the bank and receive contributions tossed up by one of the parents. The she-bear stands upright, and wades in water even up to her neck, going very slowly with the current, watching the water, and scarcely making a ripple in it. She holds her arms down at her sides with hands or paws spread, and when she feels a salmon coming up against her,

quickly clutches it with her paws, and throws it out on the bank to the expectant cubs. After supplying the cubs she tosses up a pile for herself. The last fish she puts in her mouth, and goes ashore to enjoy her feast.

Artificial Petroleum.

The origin of petroleum is still an object of much dispute among savants; some attribute it to inorganic



IVAN, THE GREAT ALASKAN BROWN BEAR OF THE NEW YORK ZOO.

sources, others to organic. In America there is an inclination toward the latter solution of the problem, at least so far as concerns the petroleum of the New World, for the layers of schist which carry it always contain the *débris* of diatoms, foraminifera, the skeletons and scales of fish, etc.

Impressed with this latter detail a savant (of whom the name is not given) has, as a result of many trials, made it seem certain that petroleum was formed by a sort of distillation of extinct sea fish. According to indications, states the *Revue des Eclairages*, manufac-



THE NEW BABY MUSK OX OF THE NEW YORK ZOO.

turers should collect a large number of fish and should have them distilled. They ought then, moreover, to obtain a result something like that from the following first trial:

The savant then conceived the idea of mixing the fish with a large quantity of salt. The novel experiment was made tentatively, the fish were strung upon cords and brought into a large retort, where they were mixed with a quantity of sea salt; the whole, upon

distillation, gave a petroleum of excellent quality, which could be used for the lighting of buoys. We have no information, unfortunately, about the economy of such a method of procedure, and do not know, moreover, if the company which has made this trial has been able to continue with success which justifies commercial development.

We confess that we are a little skeptical regarding this novelty. It may well be that there was obtained by this procedure an oil capable of burning; that may be granted, but was it petroleum? It might be well to preserve this idea, which would be of some use when the natural supply of petroleum is exhausted.

The Current Supplement.

"How Sponges Are Gathered and Artificially Grown" is the title of an article by Newton Forest which opens the current SUPPLEMENT, No. 1773. Mr. R. M. Strong's excellent comparison of gasoline and alcohol engines is continued. The first experiments made in aviation were desultory, and were made without the help of any well-established rules. Hence it is that the fundamental principles and mechanical properties of fluids were not as well understood as they should be. To that end institutions have been established in Europe for the express purpose of obtaining a really scientific knowledge of the air and propellers and plane surfaces. One of these institutions is described. C. G. Derrick reviews the methods in current use for waterproofing concrete structures. Capt. A. C. Knowles writes on the Army Signal School and its work. Whether the wax bust purchased by Dr. Wilhelm Bode for the Kaiser Friedrich Museum at Berlin is really the work of Leonardo da Vinci, as is claimed, or of a modern craftsman, is discussed. The evidence *pro* and *con* is impartially given. Under the striking title "The Blood of Plants" Mr. Victor Graef writes on some modern botanical researches. The reappearance of Halley's comet renders particularly timely Mr. Arthur Stanley Eddington's paper on light pressure and comets' tails. Dr. Alfred Gradenwitz contributes an excellent article on wireless transmission of diagrams, handwriting, and photographs. The startling success of Mr. Louis Brennan with his gyrostatic car lends peculiar interest to an article by Mr. Horace B. McCabe on the principles and applications of the gyrostator.

Cooling Tower Practice.

In an article on cooling tower practice, which appeared in the *Electric World* some little time ago, the author states that tests on both open and closed types of towers, under various hygrometric conditions, have shown that, with an average range in temperature extending over several days of from 140 deg. to 170 deg. F., the fall in temperature obtainable has resulted in outflowing water of from 90 deg. to 60 deg. F. with atmospheric temperatures between 55 deg. and 85 deg. F., and hygrometric conditions ranging from 30 to 50 per cent of normal saturation. An open type tower capable of cooling from 400 to 600 gallons of water per minute, as dependent upon its special construction, will be roughly 20 feet by 20 feet by 40 feet or 45 feet for cubical contents, and will have at least six so-called drip pans or retarding surfaces in its make-up. The cost of such a tower with a capacity of 400 gallons per minute would range between \$1,200 and \$1,500, and in general each additional 100 gallons per minute capacity increases the cost by approximately \$200. The closed type costs from three to four times that amount for installation, and the additional increases range at about double the price for the open type. In cost of operation about \$2 per day will be required for maintenance of the tower and for fuel and water for operation of fans, pumps, etc. If water costs 6 cents per 1,000 gallons or more, the author maintains that it pays to erect the cooling tower if the total water lift does not exceed 80 feet.

The only export tax in Mexico on minerals or mineral products is on gold and silver. All other products of the mines are exported free except for a nominal customs charge at the port of export.