



Yukaghi Reindeer Herders.



A Chukchee Skin Hut.

height and 20 feet in width, and the track is 4 feet wide. The movable section oscillates on a 3-inch trunnion. Springs are provided to assist its quick movement, and its upper end is heavily counter-weighted by iron bars which slide in between the girders. The releasing mechanism consists of a one-foot hinged movable section of the floor of the circle extending across the entire width of the roadway. The rider stands upon the blocks on the incline, which serve to raise the rider sufficiently, so that an attendant may place the bicycle in position to receive him. The rider then takes his seat upon the bicycle, and removes his feet from the blocks and places them in the stirrups. The bicycle is of especially heavy construction, weighing 65 pounds, and is provided with stationary hangers for the feet. The descent begins, and the momentum which is acquired from the steep incline is sufficient to cause the rider to pass around the interior of the circle, he being held to the track in traversing the circle by centrifugal force. As he passes the hinged section, it is depressed, and acting through the medium of shafts and levers, a dog releases the hinged bottom of the iron box, which serves to support a large lead ball to which is secured a wire rope which passes over a sheave and is fastened to the end of a long bolt. The instant the weight drops, a sharp pull is given to the bolt, sufficient to draw it back, releasing the trap, which falls into the second position by gravity and accelerated by the springs. It will be noticed that movable dogs are provided to run on the beams supporting the trunnion bearings. Their object is to prevent any recoil of the trap. When the rider passes out of the circle after the trap has been sprung, he directs his wheel against ropes which are stretched across the path. The ropes pass through blocks, and are secured to chains which are dragged along the floor or ground, gradually bringing the rider to a stop. The loop illustrated

was assembled at the St. Nicholas Rink, New York city, where our photographs were taken. The first test was made with a 14-pound bowling ball. The trap worked quickly, and, in fact, there was a good fraction of a second to spare. The next test was made with a car, which is shown in our engraving.

It was held on the track by wheels which pressed against angle irons which were secured to the girders. The car weighed 262 pounds. The next test was made by Carl Anderson, who had already ridden the spiral loop. He found that the factor of safety was ample, the trap springing into its second position just before he had reached the top of the loop. This act is very exciting, for it is almost impossible for the eye to follow the rider while he is making his circuit. Mr. Hagen is building a similar device half the size to be ridden by a monkey in a car.



A Wooden Year, Month, and Week Calendar of the Yakut Tribe.

SIBERIAN COLLECTION OF THE JESUP NORTH PACIFIC EXPEDITION.

BY WALTER L. BEASLEY.

The Jesup North Pacific Expedition, sent out under the auspices of the American Museum of Natural History, after several years of exhaustive investigation, has completed its field work. The main feature of the expedition was the remarkable ethnological specimens and discoveries obtained in Siberia by the Russian explorers and scientists, Messrs. Waldemar Jochelson and Bogoras. These distinguished investigators, with dog and reindeer sledge, traveled ten thousand miles or more over some of the wildest and most inhospitable regions of the earth. As bearing on the problem of American ethnology, this is considered one of the most noteworthy expeditions of recent times. The twenty thousand or more specimens of household utensils, dress, and ceremonial objects, whose like has never before been brought into civilization, strikingly illustrate the life habits and culture of some of the most primitive men and women dwelling on our globe to-day. The description of these objects themselves, which will appear in their forthcoming memoirs, will add a new and interesting chapter to the history and development of the human race. The exhibits will be further augmented by a series



Warrior in Armor.



Cowhide Churn and Birch Ceremonial Vessel for Churning Koumiss.



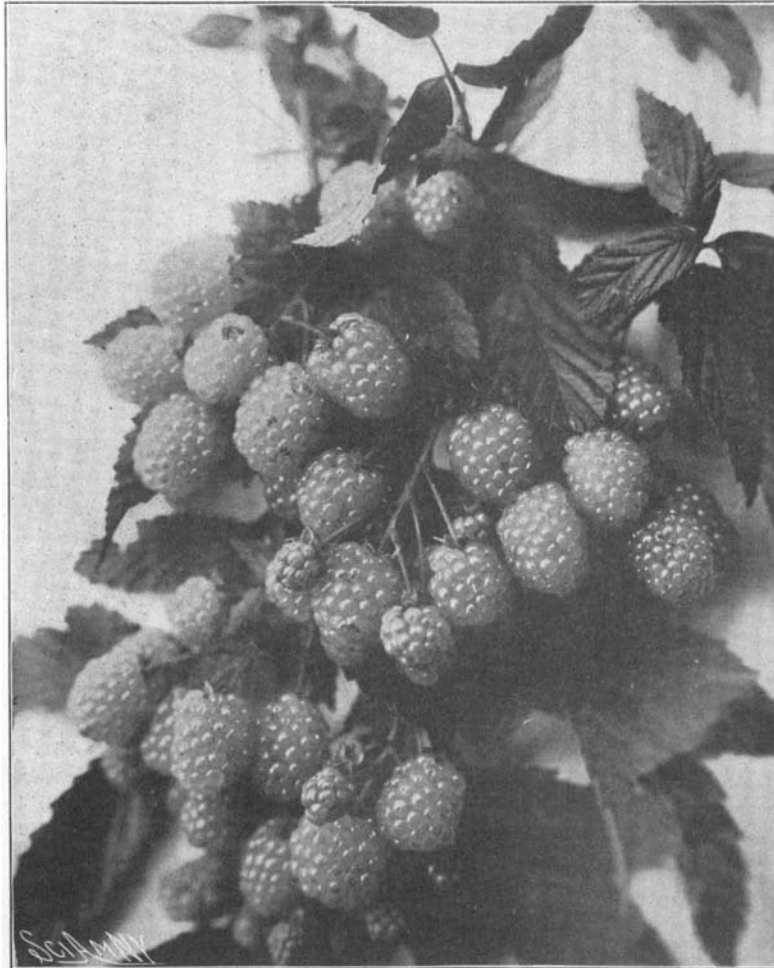
A Yakut Belle.

SIBERIAN COLLECTION OF THE JESUP NORTH PACIFIC EXPEDITION.

of life-size portraits of the various race types, done in plaster from actual casts taken in the field. These will be executed by Mr. Casper Mayer, the Museum sculptor. The object of the expedition, under the general supervision and direction of Dr. Franz Boas, chief of the Department of Anthropology, was to investigate the little-known and obscure tribes of northeastern Asia, and to compare their customs with the inhabitants of the extreme northwestern part of North America. The whole territory investigated extended from the Columbia River and the entire North Pacific coast to the Amur River region in Asia. A dozen noted scientists took part in this work, which was made possible through the generosity of Morris K. Jesup, Esq. The results of the expedition, it is thought, will definitely clear up some hitherto puzzling and important problems of the relationship and history of the aborigines of Asia and America. Astonishing similarities in implements and folk-lore tales were found, which go far to justify the conclusion that they are of common origin, and in remote times were one and the same people. Messrs. Jochelson and Bogoras were especially fitted for the Siberian explorations, having made several previous trips in the interest of the Russian Academy of Sciences and the Russian Geographical Society, of which they are members. Their reports, covering the language, customs, and mythology of the Siberian races, are of the highest accepted authority, and are published by these institutions. Of the dozen or more tribes studied, the writer has space for but a general description of the Yakut and Chukchee, two of the largest and most interesting of those visited. The objects from their camps and villages form the most prominent feature of the whole collection. The Chukchee occupied most of the time of Mr. Bogoras. They number some 15,000, and are a nomadic tribe subsisting on the products of their large herds of reindeer. They possess a marvelous folk-lore, and many weird and peculiar customs, of more than ordinary interest. Mr. Jochelson made exhaustive researches among the Yakuts, who number some 270,000, and are the largest and richest of the Siberian races. They belong to the Turanian branch, who emigrated and settled centuries ago along the valley and delta of the Lena River. Their territory embraces over a million and a half square miles, about one-third of the whole area of Siberia. They are a fine race physically, and possess a good deal of skill, and are noted silversmiths. Only a few of the rich fur-traders are able to read and write. They do not cling to Mohammedanism, and while said to be nominally Christians, they practise and believe in Shamanism and magic. Fur-trading and the breeding of horses and cattle are their chief industries. Flesh is the main food eaten, and they consume an enormous amount of koumiss (fermented mare's milk), which is their favorite drink. In the preparation of koumiss a curious cowhide churn is used, adorned with brass pendants. The lifting-straps are of plaited horsehair. The funnel is carved in the shape of a horse's hoof, out of a birch-bark limb. Huge wooden ceremonial vessels and goblets, profusely ornamented with fine scroll work and brass pendants, are used to serve out the koumiss on festive occasions. The costume of a rich Yakut belle is extremely picturesque, and quite in keeping with the rigid climate, which often reaches to 70 deg. below zero Centigrade. The striking feature, however, of the garment, besides the genuine wealth of fur, is the extraordinary and lavish display of silver ornaments which adorn the front. These consist of neck and shoulder bands of solid filigree-work, three inches wide and several yards long, finely executed. The neck piece is furnished with a large center plate of silver, having long pendants, ending in a series of silver bells. The cuffs, pockets, the back and edges of the coat are also trimmed by a square linked border of silver filigree-work. The main garment is of sea-otter. The long gloves and elaborate head-dress are of black fox. The value of this rich Yakut outfit is nearly \$1,000. Many of these rare and showy costumes were obtained. The extremely primitive condition of some of the isolated Yakut is vividly displayed in two wooden calendars, here pictured. These are unquestionably remarkable and startling objects to be found in use at the present day in the domain of the Great White Czar. The smaller is a month and week calendar, the larger is a year, month, and week one, and is about a foot and a half in diameter. On the outer rim are the holes representing the days of the year. The inside border contains twelve horseshoe-like curves intended for the months. Time is reckoned and kept track of by placing a peg every day in the various holes. As before stated, Shamanism is widely diffused and practised by the Yakuts. The cult is performed by both men and women. They are looked

upon as supernatural, and known as the inspired and "knowing ones." They are able to work various spells, and can drive away by word of mouth or by means of objects the various evil spirits who walk invisibly along the earth, producing diseases and preying on the human soul and body. The leading and essential part of the shaman's paraphernalia, besides a fantastic costume, is a drum, which is oval-shaped and covered with reindeer skin, having inside a number of jingling bells. The women shamen have the entire back of their garments sewn with bells, amulets, and various clanging pieces of metal, which they strike and rattle during their magic incantations and performances. The drum beating is accompanied by singing. By the combination of voice and music it is thought that they are able to summon or dispel the bad spirits lurking in the body of the individual. The underlying principle, namely, that of magic and the ability of the shaman to forestall and dispel an attack of evil spirits, is practically the same among the Chukchee and Yakut. The Chukchee do not use any medicine of their own. Magic is relied upon solely. The Chukchee are divided into two groups—the Reindeer and Maritime people. The Maritime Chukchee inhabit the Arctic coast from Cape Erri to East Cape, and on the Pacific coast are intermixed with the Asiatic Eskimo. The Maritime Chukchee live entirely by hunting and fishing. The other division gain their subsistence by reindeer breeding, in which they excel all the neighboring tribes. The Chukchee are the healthiest of the

river, where they are known to cross. When the animals are about midstream, the hunters pull out and stab them with spears having a long shaft and iron point. The killing is done rapidly, and one man can slaughter as many as a hundred in a short time. The animals are carried down the stream by the current, and afterward intercepted and taken ashore by the women and children in rowboats. They are afterward skinned and hung up to dry in storehouses. Before intercourse with Russian and white traders, the Chukchee waged war upon hostile tribes and other enemies who intruded into their territory. They wore a peculiar armored costume, using the primitive bow and arrow and lance as weapons of offense. The bottom part of the suit of armor consisted of some ten rows of narrow iron plate, laced together with strips of leather, and easily folded. A thick board, in three divisions, covered with skin, formed the upper part to shield the face and shoulders. The armor was fastened to the back, leaving the hands free to use the bow or lance. This style of armor is still occasionally worn, and one rich reindeer Chukchee did not want to part with his armor, saying that he might need it some day to protect himself. The mortuary rites of the Chukchee are extremely weird and strange, one being a divination ceremony. This is performed by near relatives of the deceased, with the aid of a crooked wand or horn. The wand is tied to the thong binding the head, and the divinator, holding with his hands the opposite point, asks a question of the dead person, usually about the future success of the family in hunting, deer raising, etc. He then strives to lift the body. If the answer is in the negative, the corpse is supposed not to allow its head to be lifted. If, on the contrary, the answer is an affirmative one, the head is lifted without effort. When the spot is reached for depositing the body, the team of reindeer are slain as a sacrifice. The relatives then cut off the clothes of the dead, changing for every piece a slice of reindeer flesh, until the entire body is covered with it. The corpse is then left to the prey of the wolves. Occasionally burning the dead on a pyre is resorted to. The writer acknowledges his indebtedness to Director Bumpus of the Museum for the privilege of reproducing the accompanying photographs, and to Messrs. Jochelson and Bogoras for certain notes used from their forthcoming memoirs.



A WHITE VARIETY OF BLACKBERRY, "THE ICEBERG."

tribes of northeastern Asia, and are exceedingly strong. A young man can carry a reindeer nearly a half mile upon his back. One of their surprising and most prized qualities is the ability to eat quickly. A young herdsman can strip a whole joint of reindeer flesh by simply taking hold of it with his teeth. The women have remarkable powers of enduring cold; they sew in the open air in March, when the temperature is 40 deg. below, having their fingers unprotected for hours at a time. The Chukchee carry on all calculations with the help of the fingers of both hands and the toes, and have no other method. Ten signifies belonging to two hands, and twenty a whole man, which is the limit of their adding powers. The herdsman are never able to count their reindeer, and only know the most conspicuous animals of their herds. If there are any lost or stolen, they cannot detect it. Some of the poorer class, who do not possess herds, obtain their only subsistence by hunting the wild reindeer, which is considered the most valuable of land game. The hunting of the game is the most important event of the year. These are larger than the domesticated animals, and possess more fat, while the marrow of the wild deer, mixed with a porridge of roots and berries, is held to be the best dish in the world. The manner of hunting and killing the wild animal is unique and interesting. They inhabit the mountains, and about the end of June and July, in bands of various numbers, cross the rivers. The herds every year take the same trail and cross the streams at the same place. The natives lie in ambush in canoes along the

on the market. Owing to its fixity of race, it will reproduce itself from seed almost exactly, and its seedlings will not be influenced, when raised from seed pollinated by other varieties, but readily imparts its good qualities when employed as the staminate parent.

The first experiment of Burbank with this blackberry resulted in the seedlings, when crossed with crystal white, being all black; the second also, though varying much in other respects; but the third produced this wonderful plant, bearing the snowiest white berries ever seen.

Very little attention was paid to the long rows of cross-bred descendants until one day this little white berry was discovered, among its black relatives, with the canes bending in various directions with its load of delicious snowy berries, which are not only perfectly white, but so transparent that the seeds, which are unusually small, may be seen in the ripe fruit.

Clusters larger than those of Lawton berries, as near as could be judged, were at least as large, earlier, sweeter, and more tender and more melting throughout, though as firm as Lawton is when ripe.

So careful are the assayers at the United States Assay Office in New York, that of the enormous amount of gold smelted each year, not an ounce escapes. In the spring the gold that has escaped in imperceptible particles with the acid fumes and smoke through the chimney is carefully gathered. Every roof in the neighborhood is swept, as well as the window sills of the adjoining buildings.