

ALEUTS OF THE ALASKA PENINSULA.

The aborigines of the Alaska peninsula were once the most numerous of all the tribes of the territory. In enterprise, courage, ingenuity and intelligence, they

age them with wonderful skill. The bidarka differs from the kyak of the Esquimos in having more than one hatch (in some cases as many as three) and in being propelled by double-bladed paddles. The kyak

development of these people. Above the hips they are powerful and stalwart; below, misshaped and disproportioned.

Pirate Cove on Popof Island, one of the Hunnagin group, in addition to being one of the stations of the codfishing industry, has a name which is of particular historic interest in connection with the native Aleuts. The name of the cove is derived from an incident which happened a century ago. A body of Aleut Indians once made the cove a haunt, from which they emerged at intervals to harass the people of the neighboring coasts. For many years these pirates continued their devastating warfare, until the mainland within a hundred miles of the cove was practically depopulated. A strong expeditionary force was organized under the leadership of the Russians, which was successful in surprising the pirates in their stronghold. To the last one they were exterminated, and even to this day the skeletons of these bloodthirsty people, together with relics of their occupation, are dug up. The cove, of which we present an illustration, is about half a mile across and access is gained to it through a very narrow entrance. Daily the fisherman starts out in his dory and returns with his catch to the warehouse, where it is cut up and prepared for shipment on the arrival of the tender. The latitude of the island is about that of Edinburgh and Moscow, and the climate is relatively high, the lowest temperature record for the fishing season of 1899-1900 being -4° . There is no vegetation upon the island, and even the hardiest vegetables will not mature. The rainfall is enormous. It may be mentioned that in 1899 the Alaska catch of codfish aggregated 1,302,000, averaging a rate of two tons to the thousand, or 2,600 tons in all.

Electrical Energy by Steam and Gas Engines.

In a communication recently presented to the Société Electrotechnique of Hanover, Prof. Krone has established a comparison between the cost of electric power



GROUP OF NATIVE WOMEN AND WHITE HUSBANDS.

were acknowledged, by the early discoverers, to be superior to all the tribes of Alaska. Their number, a hundred years ago, was far beyond that of the present time; disease and drunkenness, both introduced by the whites, would long since have exterminated these interesting people but for the efforts of missionaries of the Greek church, who have worked indefatigably to reform and preserve the remnants of this once powerful race. On the mainland, near the Shumagin group, there is now a considerable settlement of Aleuts, called Bellkofsky, ruled by a Russian priest. Before the American occupation the vicinity was the haunt of the sea otter, and large quantities of the fur of these and other animals were annually harvested. The Aleuts were skillful hunters, and the Russian government used to furnish supplies in exchange for furs. The country round about produces nothing in the shape of vegetable food, and the people relied upon the chase and such food fish as they could cure during the short season to supplement the rations issued by the Russians.

The disappearance of the food-bearing animals owing to persistent slaughter has thrown the Aleuts in a great measure upon their own resources. Existence is becoming more difficult to them. They are skillful fishermen and know the best haunts of the fish. They go in a body to certain points where temporary huts are constructed, and during the run they catch and cure their stock for winter. The salmon oil for consumption and light is preserved in receptacles made of whole seal-skins. The fish are dried on racks made of drift wood. The dwellings of the tribe are ingeniously constructed and extremely comfortable. An excavation to the depth of a few feet is made, and then a frame of drift wood (they have no other timber) is erected and inclosed by sod on roof and sides. To prevent the earth blowing away during the violent and frequent storms, the top of the house is covered with a net made of grass, which is stretched tight and fastened down with pegs. A structure of this kind is known as a "barakary." Many white men reside with these Aleuts; but marriage by the priest is compulsory.

In the construction of their native boats, or "bidarkas," the Aleuts are extremely ingenious and they man-

has but one hatch, and the occupant uses a single-bladed paddle, which is dipped first on one side and then on the other. The bidarka is made of a frame of wood, covered over with the skin of the sea lion. The hatches are circular and are made tight by a skin covering, which is drawn around the waist of the occupant. The Aleuts accustom themselves from youth to



PIRATE COVE, POPOF ISLAND.

manage the bidarka. A child just learning to walk is taught to sit in a toy craft and encouraged to learn to paddle. The highest honors of chieftainship are conferred upon the best "oarsman." In these crafts the most powerful of storms is fearlessly encountered. Sitting in the confined space of the bidarka, from early youth, has a strong influence upon the physical de-

produced by steam and by gas. He has calculated the expense of a steam engine, with or without condensation, including the interest, etc., and the service. To this he adds the cost of an electric installation for 100 horse power. According to his figures, the cost of a horse power hour (electric) is \$0.026 with a non-condensing engine, and \$0.024 with a condensing engine. If a gas engine is used, the cost is found to be \$0.020 for the same unit under similar conditions; the saving is thus 16 per cent, based upon the best of the steam engines. The author describes a small electric station installed at Clausthal; it has two gas generators and two gas engines of 70 horse power each, making 140 revolutions per minute; the speed may be increased 15 per cent when it is desired to charge a battery of accumulators. The gas engine is regulated by varying the quantity of the detonation mixture introduced, the proportion of the mixture remaining always the same. The gas engine runs with great regularity, as may be observed by the fact that when one-half its load is thrown off, the speed does not rise more than 3 per cent. These engines are connected directly to two direct current dynamos of 46 kilowatts each. During one year the amount of combustible, anthracite and coke mixed, which was necessary to produce one horse power hour of electric energy averaged about 2.3 pounds.



A THREE-HATCH "BIDARKA," NATIVE CANOE.

A FRENCH newspaper gives a dispatch from Marseilles stating that five of the great steamship lines are negotiating with a view to diminishing the number of voyages by about one-half. It is said that they are taking this step because of the advance in the price of coal.