
THE LAMP OF THE ESKIMO.

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The completeness of the collection of Eskimo lamps in the National Museum, showing as it does examples from nearly every tribe from Labrador to the Aleutian Islands, renders it possible to treat them monographically.

This paper is one of a series in course of preparation under the general subject of heating and illumination from the standpoint of the ethnologist.

It is scarcely necessary to remark upon the inhospitable surroundings of the Eskimo or the rigor of the climate reflected in their cave-like houses. One is forced to recognize that in this region the need for warmth and light is only second to the prime need for food. This fact appears in the diet and clothing of the natives, in the nonconducting structure of the house, in the plan of the burrow-like entrance and in the height of the sleeping benches around the hut, which designedly or from instinct are so placed as to take advantage of the heated air collected under the ceiling. Thus Schwatka says that the "Netschilik Inuit, who inhabit the mainland opposite King William's Land, have the warmest *igloos* in the Arctic, as they are very low. The heat of the lamp and of the body keeps them very warm."¹

At the same time there is a question whether the bodily temperature of the Eskimo is higher than that of the Europeans. Observations made at North Bluff on the Hudson Strait show that the mean temperature of the party in December and July was 98.1° and 97.7°, while that of the Eskimo for the corresponding dates was 100.2° and 98.4°.²

The observations of Dr. Green, of the *Thetis*, which prove that the summer temperature of the Eskimo differs little from the normal (98.4°), lead him to the conclusion that the latitude makes inappreciable difference in animal heat and that the nature of the food supply of the Eskimo is sufficient to counteract the effect of natural forces.³ To

¹ F. Schwatka, *Science*, December 14, 1884, p. 544.

² W. A. Ashe, *Science*, X, July 29, 1889, p. 59.

³ E. H. Green, *The hygiene of the Eskimo, with some observations on the thermometer to determine their physiological norm.* *Medical News*, Philadelphia, XLVII, 1885, pp. 505-507.

render the observations complete, however, the winter temperature of these Eskimo should be had for comparison.

Though the Eskimo live at a temperature of zero Fahrenheit, travelers have noticed their idiosyncrasy with regard to cold. The clothing is designedly left open at intervals around the waist and the bare skin exposed to the cold air. As a rule the Eskimo strip when in the house and sleep naked. Another indication of their feverishness is the consumption of great quantities of ice-cold water.

No explorer has failed to notice the Eskimo lamp, around which the whole domestic life of this people seems to focus. Far more remarkable than being the unique possessors of the lamp in the Western Hemisphere, the Eskimo presents the spectacle of a people depending for their very existence upon this household belonging. Indeed, it is a startling conclusion that the lamp has determined the occupancy of an otherwise uninhabitable region by the Eskimo, or, in other words, the distribution of a race.¹

The extent to which the lamp has entered into Eskimo life as a social factor is very great. It is essentially the care and possession of the women, peculiarly a sign of the social unit, and though several families may inhabit the same *igloo* each maternal head must have her own lamp. "A woman without a lamp" is an expression which betokens, of all beings, the most wretched among the Eskimo. Dr. Bessels likewise remarks that the lamp is necessary for the existence of the female head of the family. The lamp is placed in the woman's grave.²

Dr. Bessels maintains that, in spite of Christianity and civilization, the Eskimo is not willing to part with the lamp; but as long as he is in possession of it he will be Eskimo in each one of his pulse beats, for where this lamp exists cleanliness is impossible.² Nansen also remarks upon the persistence of the lamp, even in houses in larger settlements, where Danish stoves are found. The soapstone cooking pots, however, have been superseded by iron pots.³

The high death rate among the Eskimo is attributed by Dr. Bessels to the carbon particles sent off by the lamp, which penetrate the air cells of the lungs.²

The excess of carbon dioxide and the general bad air of the huts must be very detrimental to health. In the spring when the thawing begins the huts are almost uninhabitable, but the people are compelled to stay in them, as it is too early to take to the tents. This is the time of greatest sickness. Hall relates that seventeen persons slept in a snow hut 10 feet in diameter. "In the morning, between the hours of 3 and 4, the men waked, ate a quantity of deer meat, smoked, and again

¹ The migration of peoples effected by the knowledge of making fire artificially will be discussed in another section of the general work.

² Dr. E. Bessels, *Die Americanische Nordpol Expedition*, Leipsic, 1879, p. 60.

³ F. Nansen, *The First Crossing of Greenland*, II, p. 293.

went to sleep. At 5 the whole party were aroused to find that the lamp smoke during the night had covered them with soot." Hall waked with a severe headache from the "excess of carbonic acid gas generated by three fire lights and seventeen persons."¹

Not the least value of the lamp to the Eskimo is the light which it affords. Simpson remarks that the Eskimo never seem to think of fire as a means of imparting warmth,² and Kane observes that their lamps are used for cooking, for light, for melting snow, and for drying clothes, rather than to warm the air.³ Nevertheless, the lamp does afford considerable warmth, as Simpson admits in another place. Light, however, is highly necessary during the long darkness of winter and the darkness of the Eskimo dwelling. Nansen has several times remarked that the Eskimo do not sleep in the dark like other people.⁴ Perhaps the inconvenience of rubbing out fire with the fire drill to relight the lamp is one reason. Likewise the feeling of companionship, security, or sociability given by light is appreciated by the Eskimo in common with all other human beings. These instinctive feelings determined in no small degree man's first overtures to his fire ally.

The lamp is not the sole fire of the Eskimo, for in a very few localities where fuel can be obtained fires are made in the open air or in the middle of the tent for cooking in summer. The fuel used is peat or guano furnished by gulls in East Greenland, or the Arctic willow, driftwood, or grass in other sections. In some places, though fuel can be obtained, it is not burned. However, the open fire is only an incident, and the whole⁵ Eskimo race depend on the large lamps or oil burners made of stone which form part of the furniture of every hut.⁶

Kumlein describes a curious oven used at Cumberland Gulf. "In summer especially, when on hunting excursions, they very often 'fry' meat by making a little fireplace of stones and laying a flat piece of stone on top. The opening to receive the fuel supply is to windward. For fuel, at such times, they use *Cassiope tetragona* and *Ledum palustre*; these shrubs make a quick and very hot fire. It would be comparatively an easy task for these people to gather enough *Cassiope tetragona* during the summer to burn during the coldest weather, and not rely wholly on blubber."⁷ The Eskimo hut may be likened to an inhabited oven with the lamp as its internal heat. The utilization of the heat is as complete as in the Samovar. The lamp is placed upon its support, above it hangs the

¹C. F. Hall, Narrative of the Second Arctic Expedition, Washington, 1879, p. 135.

²John Simpson, Discoveries in North America, p. 346.

³E. K. Kane, Arctic Explorations, II, p. 202.

⁴F. Nansen, The First Crossing of Greenland, I, p. 341; II, p. 293.

⁵F. Nansen, *Idem*, II, p. 293; W. E. Parry, Second Voyage, London, 1824, p. 453; J. Murdoch, On Some Popular Errors in Regard to the Eskimo, American Naturalist, January, 1888, p. 13.

⁶T. Simpson, Arctic Papers, Roy. Geog. Soc., 1875, p. 236.

⁷L. Kumlein, Contributions to the Natural History of Arctic America, Washington, 1879, Smithsonian Institution, p. 20.

cooking pot, and above this, suspended from the ceiling, the frame of slats, network of thongs, or pegs, on which are placed articles to dry in the ascending warm air. Thus the lamp, which has a single function in other parts of the world, has added among the Eskimo that of the fireplace and cooking stove. The Eskimo lamp is classically the homologue of the fireplace in the center of the houses among the majority of tribes in America and Asia.

Hans Egede gives the following description of the lamps of the Greenland communal houses: "Though ten or twenty train-lamps burn at once in the houses of the Greenlanders one does not perceive the steam or smoke thereof to fill these cottages. They take care in trimming the lamp, taking dry moss rubbed very small, which they lay on one side of the lamp, which, being lighted, burns very softly and does not cause any smoke if it is not laid on too thick or in lumps. This fire gives such a heat that it not only serves to boil their victuals, but also heats their rooms to that degree that it is as hot as a bagnio. But to those who are not used to this way of firing the smell is very disagreeable."¹ Parry, in his *Second Voyage*, presents a view of an Eskimo interior which shows in an interesting way the lamp and its appurtenances. (See plate 4.) It is described as follows:

The fire belonging to each family consists of a single lamp or shallow vessel of lapis ollaris, its form being the lesser segment of a circle. The wick, composed of dry moss rubbed between the hands until it is quite inflammable, is disposed along the edge of the lamp on the straight side, and in a greater or smaller quantity lighted, according to the heat required or the fuel that can be afforded. When the whole length of this, which is sometimes above 18 inches, is kindled, it affords a most brilliant and beautiful light without any perceptible smoke or offensive smell. The lamp is made to supply itself with oil, by suspending a long, thin slice of whale, seal or sea-horse blubber near the flame, the warmth of which causes the oil to drip into the vessel until the whole is extracted. Immediately over the lamp is fixed a rude and rickety framework of wood from which their pots are suspended, and serving also to sustain a large hoop of bone, having a net stretched tight within it. This contrivance, called *linnetat*, is intended for the reception of any wet things, and is usually loaded with boots, shoes, and mittens. The fireplace just described, as situated at the upper end of the apartment, has always, two lamps facing different ways, one for each family occupying the corresponding bedplace. There is frequently also a smaller and less-pretending establishment on the same model, lamp, pot, net, and all, in one of the corners next the door; for one apartment sometimes contains three families, which are always closely related, and no married woman or even a widow without children is without her separate fireplace.

With all the lamps lighted and the hut full of people and dogs a thermometer placed on the net over the fire indicated a temperature of 38°; when removed 2 or 3 feet from this situation it fell to 32°, and placed close to the wall stood at 23°, the temperature of the open air being at the time 25° below zero. A greater degree of warmth than this produces extreme inconvenience by the dropping from the roofs. This they endeavor to obviate by applying a little piece of snow to the place from which a drop proceeds, and this, adhering, is for a short time an effectual remedy; but for several weeks in the spring, when the weather is too warm for these edifices and still too cold for tents, they suffer much on this account.

¹ H. Egede, *Greenland*, London, 1745, p. 116.

The Eskimo stone pots for cooking are called *oot koo secks*. They are made in similar proportion, though of various sizes, corresponding with the dimensions of the lamp that burns under it. Suspended by a line of sinew at each end to the framework over the fire, smoke and oil blackens the stone. Cracked and mended with sinew or rivets of copper, iron, or lead make it quite water-tight.¹

There is, however, another side to this picture. Lieutenant Schwatka relates that "the Kennepetoo Innuits (around Chesterfield Inlet, especially north of it) use few or no lamps to warm their snow huts, and despite the high beds and low roofs, they are cold, cheerless, and uncomfortable beyond measure. These Innuits are essentially reindeer killers and eaters and lay in an insignificant stock of seal oil to burn in their lamps. Walrus killing is unknown to them. For light they use a piece of reindeer suet laid beside a piece of lighted moss, all being on a large flat stone. The light of the stone lamp in all igloos where it is used is sufficient for all purposes of sewing and repairing. It is certainly equal to the light from three or four kerosene lamps, and with the white snow walls gives ample illumination."² The same authority writes that the U-quei-sik Salik Inuit around the mouth of Blacks River, who are salmon eaters, are another tribe that dispense with warming their snow houses for want of oil, but they use lamps for light.³

The Eskimo lamp has always been regarded a fixture of the house, subject only to the removals of the family. There are, however, small lamps which are carried by travelers or hunters on journeys whose use is primarily for light, but not less important as a means for lighting the indispensable pipe. This is probably the intent of all the small lamps in collections, except the quite small models, which are children's toys or those buried with the dead.

The Eskimo lamp is usually a shallow, elliptical vessel of stone, and infrequently of earthenware, clay, bone, or wood. This is perhaps determined by the prevalence of the proper material, and it will be seen later that pottery or clay lamps are found only on the low tundra of the Yukon Delta or St. Lawrence Island. Whenever soapstone can be had the lamp is invariably of that material, according to an old custom. Soapstone is easily carved, free from flaws, absorbs and retains heat, giving it up to melt the fat, to keep the oil fluid, and to supply the wick. Extraordinarily long journeys are made to secure soapstone. Dr. Boas¹ records that the Central Eskimo made journeys sometime lasting several years in quest of soapstone, which is found in a few places, and rarely in pieces large enough for the manufacture of lamps or pots. The same is true of localities in Alaska. Soapstone was thus one of the most prominent features of the trade and inter-

¹ W. E. Parry, *Second Voyage*, London, 1822, pp. 501, 502.

² F. Schwatka, *The Igloo of the Inuit*, Science, No. 31, p. 305.

³ *Idem*, p. 304.

⁴ Dr. Franz Boas, *The Central Eskimo*, Sixth Annual Report of the Bureau of Ethnology, 1884-85, p. 469.

course among the Eskimo tribes. The southern Eskimo of Alaska, notably at Kadiak and the Peninsula, made their lamps of very hard dioritic rock.

It is quite probable that the ancient lamps were fashioned with stone tools at the quarry, in order to save weight in transport. The Kadiak lamps mentioned above show plainly the marks of the stone hammer used in reducing them to shape by pecking. Substitutes for the lamp and cooking pot are sometimes made by Eskimo women from slabs of stone, which they cement together with a composition of seal's blood, clay, and dog's hair applied warm, the vessel being held at the same time over the flame of a lamp, which dries the cement to the hardness of stone.¹ In fact, a slab of stone, a piece of fat, and some moss for a wick form an extempore lamp on occasions.² In this view the rude Aleut lamps figured on plate 22 are such makeshifts. In connection with this, Nansen tells of an Eskimo who, being detained overnight on a journey, made a saucer serve as a lamp.³ Frequently the lamp follows the outline of the original piece of soapstone, where the greatest possible reservoir capacity is required in the given slab.

Necessarily the lamp and cooking vessels are sometimes broken. Their repair is a good example of Eskimo ingenuity, effected by a cement of blood, clay, and hair, or a strong sewing of sinew. Several lamps and pots in the United States National Museum have been repaired by this method.

Seal oil is preferred for burning in the lamp, though any animal fat may be used. Capt. E. P. Herendeen informs the author that the Ootkiahviemute carry for trading, seal oil put up in pokes of the skin of the animal itself, prepared for the purpose. These skins so made up contain about 25 gallons of oil. The interior natives and river tribes are dependent upon the coast people for oil to burn in their lamps, as the small amount of fat which the reindeer yields is insufficient for the long arctic nights.

The lamp eats like a native; successful hunting means cheer and comfort in the hut of these sociable people during the winter. The economy of oil is often forced upon the Eskimo, for starvation and darkness is a frequent and near-by exigency. Schwatka says that he has known cases where the Eskimo were extremely anxious to economize oil needed to melt ice for drinking water, in which six or seven wells were dug through thick ice, before they gave up the attempt or were successful.⁴ Every particle of fat is saved on principle.

The women scrape sealskins with a scoop of ivory, which is one of the accompaniments of the lamp.⁵ There is also nearly always pro-

¹ Caleb Lyons, *Private Journal*, p. 320.

² C. F. Hall, *Narrative of the Second Arctic Expedition*, p. 75.

³ F. Nansen, *The First Crossing of Greenland*, II, p. 221.

⁴ F. Schwatka, *The Implements of the Igloo*, *Science*, IV, July 25, 1884, p. 84.

⁵ O. T. Mason, *Aboriginal Skin Dressing*, Report U. S. Nat. Mus., 1889, plate LXXXI.

vision for saving the oil which may drop from the lip of the lamp. To keep the floor clean to prevent the lamp sinking into the snow, thus getting out the level and also conducting away the heat of the stone, a support is placed under it. This may consist of pegs of wood or pieces of bone stuck in the snow, a wooden block hollowed to catch the oil, or a block with three legs forming a stool. The forms will be figured later in the detailed description of the lamps by localities. No especial device for tipping the lamp in order to increase the supply of oil to the wick has been noticed. This is accomplished in a rude way by altering the position of the lamp on the supports, or by raising the rear support. Many lamps from their form incline toward the wick at a low angle. (See plate 17.)¹

The oil is placed in the shallow reservoir and the supply is sometimes kept up by suspending a piece of blubber near the flame. The fat nearly always needs some preparation before being put into the lamp. This is effected among the Central Eskimo by beating the blubber to break up the fat globules, allowing the oil to come out as soon as it is melted. In summer the blubber is chewed and ejected into the lamp.²

The woman's knife or *ulu* and the fat scrapers which have been the subjects of two valuable papers by Dr. O. T. Mason, are closely associated with the feeding of the lamp.

The *ulu* is employed for cutting or mincing the blubber and the scoop or scraper for removing the fat from the inner surface of the skins. It is also used to transfer the fat to the lamp. The oil is allowed to stand level with the lower edge of the wick. The latter is made by rolling compact dried sphagnum moss, willow catskins, or peat between the palms with a small quantity of fat. Women often carry little bags of the prepared moss.³ The line of wick is applied in an even ridge along the straight edge of the lamp, which varies in length from 2 to 30 inches in different localities. This may be seen by contrasting the wide lamp of the far north with those of the south at Kadiak and the middle region, which have a very narrow lip. This seems to be due to the smaller need for light in the south, where the arctic night is not so long. However, Asiatic or other influence to the west may be the cause. Sometimes the wick is laid for only a portion of the length when only a small flame is required. Lamps with partitions adjusted and fastened in with cement are found at Point Barrow. Sometimes a large lamp is reduced to five concavities by low septums in order to increase the length of the wick edge when extra flame is needed. The care of the lamp is quite an acquirement. The wick must be dense or

¹A piece of skin is often placed under the lamp as a "catch all." Many lamps from various countries are made double for this purpose.

²Dr. Franz Boas, *The Central Eskimo*, Sixth Annual Report of the Bureau of Ethnology, 1884-85, p. 545.

³The Greenland Eskimo used a wick of asbestos, thus forestalling the modern indestructible wick. W. E. Parry, *Second Voyage*, London, 1822, p. 51.

the lamp will smoke, and it must be kept in order by means of a trimmer, which is a small piece of bone, stone, or wood. The trimmer dipped in oil forms a torch on occasion.¹

Dr. Bessels says that the wick is ignited at one end and the flame skillfully guided with the trimmer across the whole length of the edge. If the quickly charring wick extends too far into the flame, too much heat is taken away from it and it burns with a deep, red light and its external edge is not hot enough to consume the carbon particles which spread themselves as sooty clouds in the hut.²

Lamp trimming only reaches perfection in the old women of the tribe, who can prepare a lamp so that it will give a good, steady flame for several hours, while usually half an hour is the best that can be expected.³ In an Eskimo tradition⁴ a woman takes down some eagle's feathers from a nail in the wall and stirs up the smoking lamp, so as to make it burn brightly.

While, as a rule, the Eskimo lamp has a shallow, plain, reservoir, simply for holding oil, there are modifications of the reservoir of considerable interest. Some lamps of Cumberland Gulf, of East Greenland, of West Greenland, and Point Barrow have a raised portion or step at the rear of the reservoir; probably blubber to be melted gradually is placed upon it. Other lamps have a low ridge just front of the wick edge and parallel with it. This ridge either breaks down at the extremities, allowing the oil to flow around to the wick, or it is perforated or divided by deep cuts into two or three sections for the same purpose. The office of this ridge is to regulate the flow of oil to the wick and to prevent any sudden wash of oil carrying away the wick line. It is apparent that the lamps from St. Lawrence Island (see plate 14) could readily be carried about in the hand if necessary.

The lamp found by Gen. A. W. Greely in the high north has the ridge. Curiously enough it reappears in St. Lawrence Island, in Bering Strait, and among the Chukchis. A trace of the ridge is found in East Greenland and in Kadiak Island. These permanent ridges may have some connection with the septums fitted in the lamp of Point Barrow. There is no evidence, however, that they have been used as extra wick edges, as in the case of the Barrow lamps.

The saucer-shaped pottery lamps of the Yukon tundra have no provision for the wick around the edge. Some specimens appear to have been lighted on the edge, and Mr. Nelson assures the writer that this method is followed.

Most observers have spoken in terms of praise of the excellent light given by the Eskimo lamp. The flame in a well-trimmed lamp is from

¹ The name for torch is *nanerut*, or *nanernag*. The only other locality where the name is found is on the Mackenzie River, where it is called *nenereron*. The use of the torch is extremely uncommon among the Eskimo.

² Dr. E. Bessels, *Die Americanische Nordpol Expedition*, Leipsic, 1879, p. 60.

³ F. Schwatka, *The Implements of the Igloo*, Science, IV, July 25, 1884, p. 85.

⁴ Dr. Henry Rink, *Tales and Traditions of the Eskimo*, London, 1875, p. 326.

1 to 2 inches high, very clear and steady. The oil and fat of the northern animal furnish illuminants of the best quality. In the snow houses of the east the white walls reflect the light, adding to its power.

The administration of lighting for public use is very uncommon among the Eskimo, as it was among civilized peoples until recently. Occasionally there is a demand for an increase of light for the illumination of places of assembly where shamanistic or other practices are being carried on.

In an ivory model of skillful workmanship from Nushagak, southern Alaska, exhibited in the United States National Museum, representing a wrestling match in a summer tent, there is a curious chandelier, consisting of two dish lamps placed on the ends of a crossbar and secured by strings to another parallel bar some distance above, the whole being suspended from the framework of the tent by cords. The lamps have each a tube, which being painted red at the end seem to represent a single wick. This chandelier is unique (fig. 1).

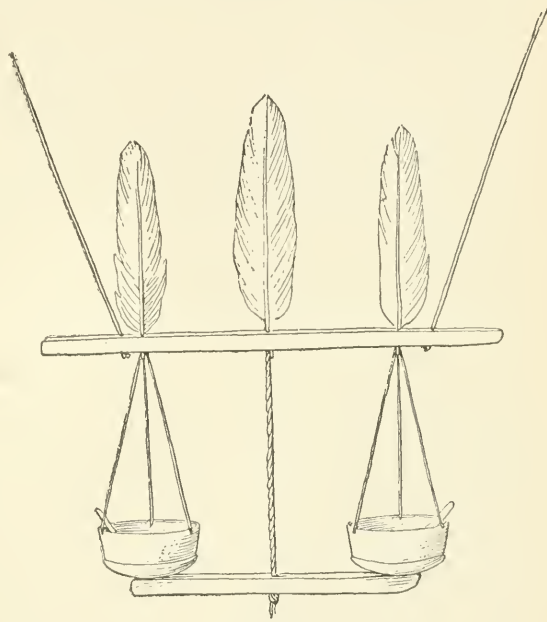


Fig. 1.
HANGING LAMP.
Nushagak, Alaska.

Another lamp rest, consisting of a cross-piece resting on an upright post, having a lamp fixed at either end is found in a drawing by a native named Namoff from Kadiak. The lamp is represented as illuminating a shaman's lodge.¹

Long years of misapprehension render it almost useless to combat the popular idea that the Eskimo are by preference eaters of raw flesh. Mr. Murdoch² has pointed out that the Eskimo sometimes eat flesh raw, especially in a frozen state; in the region where fuel is very scarce this habit appears to have become fixed. The Eskimo when hunting or on a journey and the Eskimo at home are different persons as to habits. In the hut the pot hanging over the lamp always con-

¹ G. Mallory, Tenth Annual Report of the Bureau of Ethnology, p. 507, fig. 711.

² John Murdoch, Popular Errors in Regard to the Eskimo, American Naturalist, January, 1887, p. 15.

tains food cooking for the family, and it is the woman's business to keep it going. On ordinary occasions the Eskimo prefers cooked food, for his digestive tract does not differ from that of other members of the human family. Improper eating produces similar effects upon him as upon more civilized people. When food is plenty it is true there is great feasting, and it would seem in the absence of intoxicants the torpor produced by gorging is the only method the Eskimo has of reaching the Nirvana of the civilized. It has been observed that the drinking of pure oil is not practiced with impunity by the Eskimo, who as a rule only take it as medicine.

Kumlein¹ is sufficient authority for the statement that "when the Eskimo have been simmering meat, especially seal, in their boiling pots, they pour off the liquor and mix it with about an equal quantity of blood; this makes a thick and rather greasy soup that must be quite nourishing; the children are very fond of it. It seems possible that from this dish has originated the popular error that these people drink oil, a notion that is simply preposterous.

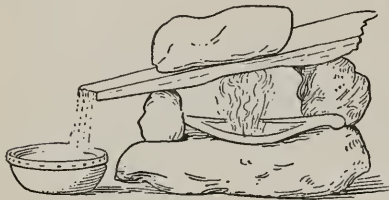


Fig. 2.
SNOW MELTER.
Anatoak.
(After Kane.)

The Eskimo drink great quantities of water. It is curious that with its world of congealed water the Arctic should be a veritable Sahara. Water is usually supplied by melted snow or ice and the lamp is brought into requisition for the purpose, though sometimes the warmth of the hut is sufficient, especially if the vessel containing snow is placed near the flame. Dr. Kane figures a snow melter of considerable ingenuity which is reproduced here (fig. 2). Sometimes travelers carry water-tight pouches containing snow, which they put under the clothing to be melted by the heat of the body.² Mr. Astrup thus describes a method of melting ice for drinking water: "At the side of the lump of meat stood also a block of ice as clear as a crystal, whence the community obtained water, as in the center of it a cavity had been cut, at the bottom of which a stone was placed about the size of a man's fist, on which there burned with a good flame a piece of moss intersected with the blubber, and as the ice melted at the sides of the cavity the water collected at the bottom in a small, clear pool, whence it was consumed by the many parched mouths by sucking it up through hollow reindeer marrow bones."³

¹L. Kumlein, Nat. Hist. of Arctic America, Report Smithsonian Institution, 1879, pp. 20, 21.

²E. K. Kane, Arctic Exploration, I, p. 381.

³Edwin Astrup, In the Land of the Northernmost Eskimo. Littell's Living Age, No. 22701, from Fortnightly Review.

The lamp and its accompanying pot usually agree as to size, the rule being that the length of the pot shall be equal to the length of the wick edge. The drying frame is larger, owing to the size of the articles to be laid upon it, and also because the warm air above the lamp spreads out.

In the huts of hunting parties out on the tundra a skin is hung around the lamp and frame, to better focus the heat for the very necessary drying of the wet garments.¹

The rack or net hung over the lamp points out another very important feature of the Eskimo domestic economy. Mittens, boots, and other articles to be dried are put on the rack preparatory to their manipulation and softening by the women. The rack is often made by lashing slats of wood together, or, where wood is scarce, a hoop of wood or bone, crossed by netting, is found. The rack is supported from the ceiling or from the side of the hut, and from it the pot is usually suspended. The rack, however, is not found south of the Arctic circle among the western Eskimo where sticks are driven into the walls, taking the place of the rack.

The value of the lamps in the arts is very great. First in importance is the bending of the wood for snowshoes, boxes, etc., which is accomplished by dipping the wood in water and steaming it over the lamp. Superior work of this kind is done, as the snowshoes and wooden vessels in the United States National Museum bear witness. Ivory, antler, and bone are also bent over the lamp, after a preliminary soaking in urine.² Skins are dried in tanning over the lamp by the Eskimo of Cumberland Gulf. The hardening of the peculiar Eskimo cement has been mentioned. There are doubtless many other applications by which the lamp enters into the arts.

It is not remarkable that the lamp enters also into the religion and folklore of this simple people; there is, however, very little recorded on the subject. Franz Boas has collected the most information on this point, which is presented in his valuable work on the Central Eskimo.³ In burial, the man's hunting implements are placed by his side; the pots, lamps, knives, etc., by the side of the woman, and by the child, its playthings.⁴ Hall observed on a grave a small kettle hung over a lamp. A model of a lamp from a grave in Cumberland Gulf is figured by Dr. Boas and the United States National Museum possesses several from graves in Greenland. This custom has been observed in other localities. The small oblong stones which were found by the late Baron Nordenskjöld in northwest Greenland graves and which were lamp

¹ Point Barrow region. Supplied by Capt. E. P. Herendeen.

² This is the process in southern Alaska, the writer is informed by Henry Elliott. Mr. Nelson makes the same statement for the villages farther north.

³ Dr. Franz Boas, *The Central Eskimo*, Sixth Annual Report of the Bureau of Ethnology, 1884-85.

⁴ The Eskimo bride always brings with her a knife, ooloo and a stone lamp. Rink, *Tales and Traditions of the Eskimo*, London, 1875.

trimmers or rather ordinary torches, may be viewed in this light. Abandoned lamps may be due to the superstition which renders useless the articles in a hut rendered *taboo* by a death. The low burning lamp is also an adjunct of the wizard's incantations.

In the United States National Museum there is a dance mask of wood in the shape of a human face, surmounted by a rude carving intended to represent the spirit of the Sandhill crane (*Grus canadensis*). In the head of the crane is a small cavity made to receive a stone oil lamp, the light from which produces a weird effect during the dance. The spirit is visible only to the shaman or sorcerer. The mask is from Rasboinsky, Alaska (Lower Yukon.)¹

The constellation of the Great Bear is called by the East Greenlanders *pisildlat*, lamp foot or stool upon which the lamp is placed.

The typical lamp is that whose form is the result of an attempt to devise a vessel with a long, nearly straight wick edge combined with a reservoir. This necessarily throws the vessel into the clam-shell shape or ellipsoidal shape. Lamps of this character appertain to the high and rigorous north, where the maximum of heat and light are required. No doubt, also, the lamp is modified by the abundance or scarcity of the food supply and the prevalence of driftwood. This form ranges from Labrador to Norton Sound, Alaska. The other general form of lamp, which is circular or ovate, having a narrow wick edge, ranges south from Norton Sound. They are circular and of baked clay on the tundra formed by the alluvial deposits of the Yukon and Kuskokwim river systems. They become oval and of stone in the metamorphic and igneous country to the southeast and southwest through the Alaskan Peninsula and Aleutian Chain. There is a connection of form suggested between the stone lamps spoken of and the stone vessels of the northwest coast of Alaska and British Columbia and the west coast of North America, but there is no connection by use. The Eskimo are unique in the Western Hemisphere in the possession of a lamp.

The clay-saucer lamp of the Yukon tundra is interesting from the fact that it seems an intrusion. It may be true that the alluvial country furnishes no stone, and hence clay is substituted, which will account for the material. The Eskimo will go a long distance, as has been pointed out, for material which he needs and has been accustomed to use. The lamps of St. Lawrence Island, though of pottery and aberrant in form, preserve the long wick line of the Arctic lamp. The shape of the Yukon type, the absence of a definite wick edge or lip, and the method of burning by a wick brought up at the side relate them to the lamps of eastern Asia, or the simple dish lamps of diverse ages and peoples. Kennan speaks of a dish lamp with the wick floating in the oil in the house of the Koraks. The quotation may prove interesting: "The temperature of a Korak tent in winter seldom ranges above 20° or 25° F., and as constant exposure to such a degree of cold would be

¹ No. 49020, U.S.N.M., collected by E. W. Nelson.

at least very disagreeable the Koraks construct around the inner circumference of the tents small, nearly air-tight apartments, called 'pologs,' which are separated one from another by skin curtains and combine the advantages of exclusiveness with the desirable luxury of greater warmth. These 'pologs' are about 4 feet in height and 6 or 8 feet in width or length. They are made of the heaviest furs sewed carefully together to exclude the air, and are warmed and lighted by a burning fragment of moss floating in a wooden bowl of seal oil."¹

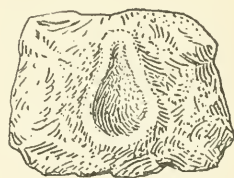
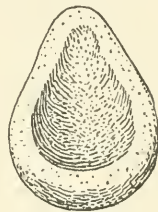
The typical forms of Eskimo lamps are shown on plate 24. Thrown together in this way they furnish at a view the gradation of forms throughout the whole Eskimo area.

The range of the lamp southward from the Aleutian Islands is limited. The only information that a lamp of any description was in use among the Northwest Coast Indians was given the author by Captain Chase, who visited Cape Flattery and Vancouver Island in 1850. Captain Chase says that these Indians used a lamp made from the clam shell, and burned whale blubber or porpoise oil in them, with a bark wick.

Dr. Franz Boas informs the writer that the Indians of Vancouver often throw oil on the fire from a bottle when they desire more light. Mr. Lucien M. Turner also states that when the Aleuts require more heat they place the boulder lamp on the ground and lay a piece of cloth or shreds of grass in the oil and light it, getting a larger flame.

The lamps of northern Europe and Asia, examined with a view of ascertaining the affiliations of the lamps of the Eskimo, give little data for conclusions. There were mediæval stone-grease lamps in use in northern Europe above the oil line, so named by Dr. Taylor. The only example known by the writer is from Scotland and was figured by D. Bruce Peebles.² This lamp (fig. 3) is curiously like those of the Alaskan Peninsula. In the present state of the inquiry it seems the Eskimo lamp forms a homogeneous group differing in administration from any other lamps in the world, the peculiar heritage of this people and necessary to their welfare.

The conclusions reached are that the Eskimo before he migrated from his priscan home had the lamp, this utensil being a prerequisite to migration into high latitude; that one of the most important functions of the lamp is for melting snow and ice for drinking water; that the lamp is



Figs. 3, 4.

OLD STONE LAMP (*crusie*);
STONE MATRIX IN WHICH
IRON WAS HAMMERED TO
FORM *crusies*.

Scotland.

From Trans. Roy. Scottish Soc. Arts,
XII, Pt. 1.

¹George Kennan, *Tent Life in Siberia*, New York, 1881, p. 175.

²Trans. Royal Scottish Society of Arts, XII, Pt. 1.

employed for lighting, warming, cooking, melting snow, drying clothes, and in the arts, thus combining in itself several functions which have been differentiated among civilized peoples.

That the architecture of the house is related to the use of the lamp. The house is made nonconducting and low in order to utilize the heated air.

That the lamp is a social factor, peculiarly the sign of the family unit, each head of the family (the woman) having her lamp.

That the invention of the lamp took place on some seacoast, where fat of aquatic mammals of high fuel value was abundant, rather than in the interior, where the fat of land animals is of low fuel value.

That the typical form of the lamp arises from an attempt to devise a vessel with a straight wick edge combined with a reservoir giving the vessel an obovate or ellipsoidal shape.

Finally, from observation of lamps from numerous localities around the Eskimo shore line, it is concluded that lamps in low latitude, below the circle of illumination, are less specialized than those of higher latitudes. For instance, the lamps of southern Alaska have a wick edge of 2 inches, while those of Point Barrow and northern Greenland have a wick edge of from 17 to 36 inches in width.

It becomes possible, then, to say with some certainty the degree of north latitude to which a lamp appertains, light and temperature being the modifying causes. Driftwood, the fuel supply, and the presence or absence of material from which to construct the lamp must also be considered. The cause of the large lamp coming down so far in latitude on the east is on account of the dipping of the isotherms. The lamps of Labrador are the case in point.

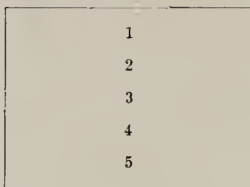
DISTRIBUTION AND FORMS OF THE ESKIMO LAMP.

There are three kinds of Eskimo lamps with regard to use. They may be called the house lamp, the traveler's or summer lamp, and the mortuary lamp, the latter frequently being models. Lamps for melting snow may also be mentioned.

The summer lamp is based on a number of specimens which are too large for models or toys, but are of convenient size for carrying on the person. They usually bear marks of use as a lamp. Capt. J. O. Spicer, of Groton, Connecticut, has presented a fine example of this kind of lamp to the United States National Museum, and describes its use in the summer when the large house lamp is not necessary and the small lamp supplies light for the pipe. Travelers often carry such lamp for use on journeys.

The larger regions embracing the localities from whence the lamps come which are described in this monograph are Labrador, Cumberland Gulf, Greenland, Mackenzie River, Point Barrow, Kotzebue Sound, St. Lawrence Island, Eastern Siberia, Norton Sound, the Yukon Delta

EXPLANATION OF PLATE 1.



LAMPS OF LABRADOR.

Fig. 1. Outline, section and front view.

(Cat. No. 90167, U.S.N.M. Ungava. Collected by L. M. Turner.)

Fig. 2. Lamp in rest with accompanying cooking pot and drying frame.

(Cat. Nos. 90013, 90257, 90235, U.S.N.M. Ungava. Collected by L. M. Turner.)

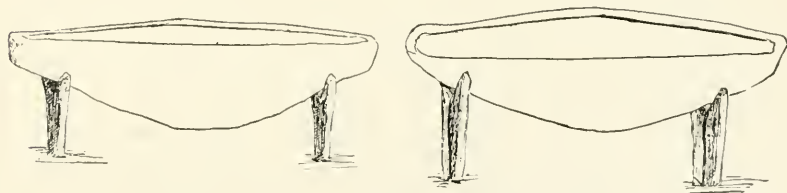
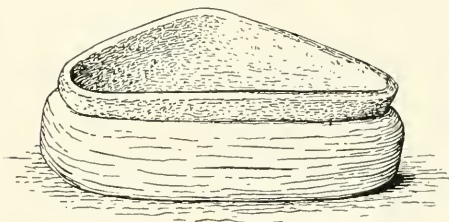
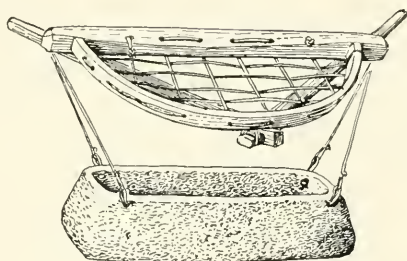
Fig. 3. Outline section and front view.

(Cat. No. 90256, U.S.N.M. Ungava. Collected by L. M. Turner.)

Fig. 4. Large house lamp in forked support.

(Cat. No. 90251, U.S.N.M. Ungava. Collected by L. M. Turner.)

Fig. 5. Same in support of four pegs.



LAMPS OF LABRADOR.

and region north of Bristol Bay, the Alaskan Peninsula and Kadiak Island, and the Aleutian Chain. The typical outlines from the various regions are presented on plate 24.

THE LAMPS OF LABRADOR.

The lamps of Labrador are invariably of soapstone, which is secured by long journeys into the interior. There are two types, one long and narrow, the other broader; the back is bowed, the ends truncated, the bottom deep, forming a ridge, the section an obtuse angle formed by the junction of two planes; the edges and ends are squared and the wick-edge is straight.

Some of the house lamps are very large. They are never balanced, depending upon supports for adjustment as to position. Smaller lamps for personal use are often balanced.

The drying frames are semilunar, consisting usually of a bowed hoop joined at the ends to a bar and the intervening space netted or crossed with thongs, as in a tennis racket. The frame takes this shape on account of its being supported by pegs driven into the wall of the circular house.

The cooking pots are oblong and heavy, with flat bottom, the walls slanting inward. Grummetts for the suspending cords are fastened through holes drilled at the corners.

The Labrador lamps in the United States National Museum were all collected by Mr. L. M. Turner, who visited the country in 1883-84. His account, edited by Mr. John Murdoch, may be found in the eleventh annual report of the Bureau of Ethnology, where excellent figures may be examined in connection with this monograph.

TOY LAMP. Soapstone, neatly made, forming a model of the broader type. Length, $2\frac{1}{4}$ inches; width, 1 inch. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 3523.

TOY LAMP. Soapstone, rudely cut out. Length, $1\frac{1}{2}$ inches; width, $\frac{1}{2}$ inch. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 63909.

SMALL LAMP. Made of soapstone, elliptic in shape, truncated at the ends, following the Labrador form. This lamp has seen service, and it is without doubt a personal lamp used by travelers and hunters. Length, $3\frac{1}{8}$ inches; width, 2 inches; height, 1 inch. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90167. Plate 1, fig. 1.

TOY LAMP. Soapstone; of the usual form of the broad type. Length, $3\frac{1}{2}$ inches; width, 2 inches. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90013. Plate 1, fig. 2.

SMALL TOY LAMP. Soapstone, skillfully cut out. Length, $1\frac{1}{2}$ inches; width, nine-sixteenths of an inch. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90251.

TOY LAMP. Soapstone; finely finished; long, subtriangular form with truncate ends. Wall at back; straight wick edge; reservoir with curving median line. Length, $3\frac{5}{8}$ inches; width, $1\frac{1}{4}$ inches. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90256. Plate 1, fig. 3.

LAMP. Of soapstone, semilunar; uniform outline with truncated ends. The reservoir is smoothly worked out, the wick edge nearly straight. This lamp is accu-

rately balanced on a very small rounded base area, standing, when placed on a plane surface, in position for burning with a reservoir full of oil. Hence a stand for this lamp is not necessary. This adjustment of the center of gravity has been observed in a number of Eskimo lamps. Length, $17\frac{1}{2}$ inches; width, $7\frac{3}{4}$ inches; height at back, 4 inches; front, $3\frac{3}{4}$ inches. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90014.

STONE LAMP, *ko-thlik*. Large lamp of soapstone; crescentic outline with truncated horns. The bottom takes the form of the reservoir, which slopes sharply down from the straight wick edge to the lowest point and then at a low slant to the curved back, not exhibiting the sharp angle demarking the two planes shown in the small lamps. The wick edge curves very slightly. Around the back and ends a squared edge is worked out. This lamp, which may be taken as the type, must, of necessity, be set in a support of such figure as to incline it forward in order to supply oil to the wick. This is done by placing the lamp on an excavated block of wood or notched sticks. No attempt has been made to smoothly finish this lamp. Length, $20\frac{3}{4}$ inches; width, $9\frac{1}{2}$ inches; height, 4 inches. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90251. Plate 1, figs. 4, 5.

COOKING POT. Large, heavy, oblong vessel of soapstone, rather crudely made. The slanting walls are thick and bulged; the bottom is flat. At each of the upper corners blind holes are drilled to meet each other in the thicker walls of the end of the pot, forming an eyelet for the thongs used in suspension of the vessel. Length, 13 inches; width, $8\frac{1}{2}$ inches; height, $4\frac{5}{8}$ inches. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90257. Plate 1, fig. 2.

COOKING POT. Oblong pot, skillfully made of soapstone. The sides are thick, slightly convex, and slant toward the opening; the bottom is flat. At each of the four upper corners a slanting hole is drilled, coming through on the side. Whalebone strips for suspending the pot are passed through the holes and a knot made in the end to secure it. Length, $11\frac{1}{2}$ inches; breadth, $5\frac{1}{2}$ inches; height, 4 inches. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90015.

MODEL OF DRYING FRAMES. The drying frame (90235, Plate 1, fig. 2) consists of a strip of dressed pine wood bent into semilunar shape and mortised at the ends into a cross bar. The interspace is crossed with horizontal and vertical strips of rawhide passing through holes in the frame. The support upon which the drying frame rests is formed of two sharpened stakes lashed together at right angles at the larger ends. This support is fixed in the wall of the snow house. The frame, 90236 not figured, is made of a round stick bent into semilunar shape and crossed with netting of string. Length, $7\frac{1}{2}$ inches; width, $4\frac{1}{2}$ inches. Eskimo of Ungava, Labrador. Collected by L. M. Turner. 90235, 90236.

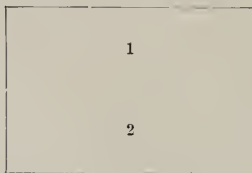
The lamp supports shown in the lower figures on plate 1 are copies of specimens in the Toronto University Museum, from East Maine, Labrador. They consist of two notched sticks, wedge-shaped at the lower ends for driving into the ground, or of four sticks cut diagonally at the top so placed as to form an equivalent to the notch.

The support in fig. 2 on plate 1 is of wood, hollowed out to receive the lamp.

THE LAMPS OF CUMBERLAND GULF.

There is a close resemblance between the lamps of Cumberland Gulf and those of Labrador. The former, however, are narrower and more pointed, the outline viewed from above being elliptic. The material is usually soapstone and the workmanship is excellent. Some of the house lamps are quite large, having a wick edge nearly 2 feet long.

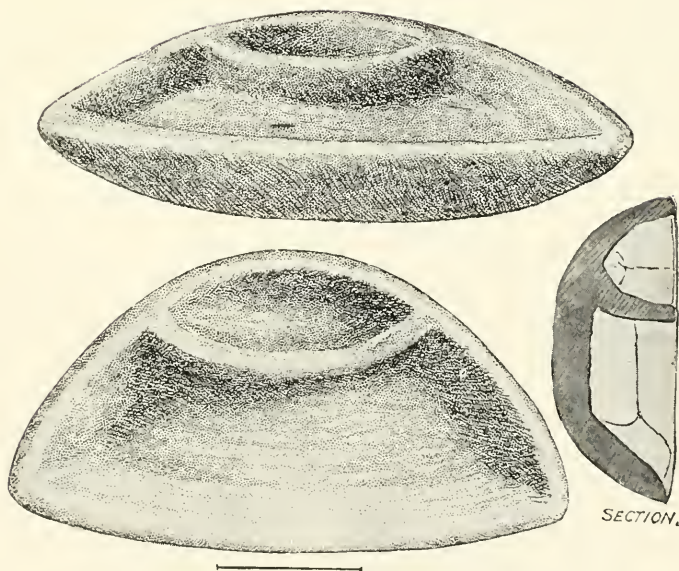
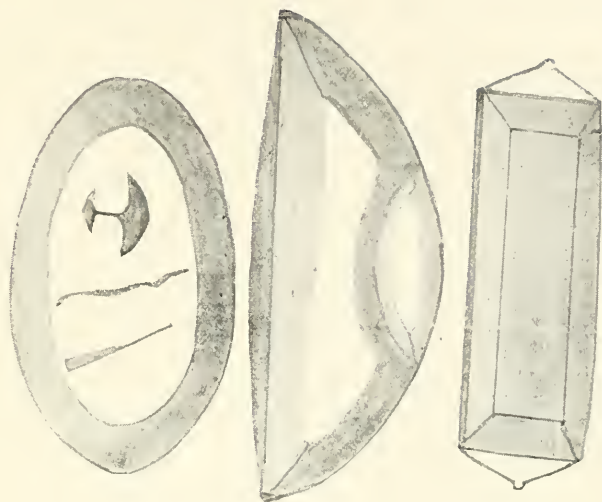
EXPLANATION OF PLATE 2.



LAMPS OF CUMBERLAND GULF.

Fig. 1. Pencil drawing by Eskimo of lamp and accompaniments.
(Cumberland Gulf. Collected by L. Kumlein.)

Fig. 2. Front view, outline and section of a small lamp with pocket.
(Cat. No. 29968, U.S.N.M. Cumberland Gulf. Collected by Lieut. W. A. Mintzer,
U. S. N.)



LAMPS OF CUMBERLAND GULF.

Upon the authority of Capt. J. O. Spicer, of Groton, the class of summer lamps for this locality has been designated. These are small lamps for summer use to furnish light for the pipe and to start fires. The small lamp figured on plate 2, fig. 2, is interesting. It may be compared with the Greenland specimen on plate 7.

The cooking pots are like those of Labrador. No drying frame exists in the United States National Museum from Cumberland Gulf.

DRAWING IN PENCIL. Lamp, pot, dish, woman's knife for cutting fat, wick trimmer, and a filament of sphagnum moss for the wick; drawn by an Eskimo of Cumberland Gulf. Collected by L. Kunlein. This drawing is very interesting, as showing adjuncts to the lamp, which usually escape the collector. There is, for instance, no wick-trimmer in the large lamp collection of the United States National Museum and the use of the knife and fat scraper in the care of the lamp was not known until it was noticed by Professor Mason in his paper on "Skin dressing." See Plate 2, fig. 1.

SMALL STONE LAMP, WITH POCKET. Excavated from soapstone, crescentic in outline. It is balanced on a rounded base, tipping with ease from front to back, but not from side to side. The reservoir is deep, and at the rear a pocket is formed, demarked by a curving wall. The wick edge slants rather sharply down to the floor of the reservoir. The intent of the pocket at the rear is not known; in this specimen it forms a convenient place for insertion of the thumb in removing or carrying the lamp. The specimen is very neatly finished. In the popular account of Dr. Kane's explorations a lamp of this variety is figured. Length, $3\frac{5}{8}$ inches; width, $1\frac{7}{8}$ inches; height, $\frac{3}{4}$ inch. Eskimo, Cumberland Gulf, Canada. Collected by Lieut. W. A. Mintzer, U. S. N. 29968. Plate 2, fig. 2.

SUMMER LAMP. Of soapstone, semilunar in outline. The shape of the reservoir is triangular, being formed by the meeting of the planes of the back and wick edge at the middle like those of Ungava Bay, Labrador. The bottom is rounded as are all edges. The balance of the lamp is remarkable, the center of gravity causing it to assume the position required for supplying oil to the wick, although resting upon a small, rounded base when moved. Laterally the lamp is stable, antero-posteriorly it moves freely for tipping. The balance is intentional, and this feature is found in several other localities. The name summer lamp denotes its use in summer, when the large house lamp is not necessary and the small lamp supplies light for the pipe, etc. Length, $7\frac{1}{2}$ inches; width, $3\frac{3}{8}$ inches; height at back, $3\frac{1}{4}$ inches; at front, $\frac{3}{4}$ inch. Eskimo, Cumberland Gulf, Canada. Collected by Capt. J. O. Spicer. 168994. Plate 3, fig. 1.

STONE LAMP. Roughly hollowed out from amphibolite, elliptic in shape with rounded ends. The bottom follows the curves of the reservoir, which shows a median groove formed by the junction of the planes of the wick portion and rear portion of the lamp. The lamp is not self balancing and hence must have a support. The wick edge is considerably curved. Length, 20 inches; width, 9 inches; height, when level, $3\frac{1}{4}$ inches. Eskimo, Cumberland Gulf, Canada. Collected by Lieut. W. A. Mintzer, U. S. N. 29961. Plate 3, fig. 2.

STONE LAMP. Large, elliptic lamp, neatly excavated from soapstone. It is very deeply hollowed out, the wick edge nearly straight and smoothly worked. Not being balanced, the lamp requires support. At the ends of the lamp below are slight projections, probably for the reception of forked supports like those in use at East Maine. This fine lamp has seen long service, being saturated and glazed with oil. Length, 23 inches; width, $8\frac{1}{2}$ inches; height when level, 5 inches. Eskimo, Cumberland Gulf, Canada. Collected by Lieut. W. A. Mintzer, U. S. N. 29965. Plate 3, fig. 3.

LAMP. Semilunar lamp of soapstone; reservoir deep, walls abrupt, bottom nearly flat. The wick edge has a gentle curve. The back of the lamp, which rose

higher than the wick edge, has been broken away, and the specimen shows marks of long usage. The bottom is flat and irregular. From the height of the wick edge the lamp must have required to be strongly tipped toward the front when in use. Length, $12\frac{1}{2}$ inches; width 6 inches; height, $1\frac{3}{4}$ inches. Eskimo, Cumberland Gulf, Canada. Collected by Lieut. W. A. Mintzer, U. S. N. 29966.

SMALL LAMP. Made of soapstone, crescentic in outline, with truncated horns. The reservoir is neatly hollowed out, the rear wall forming a low rim. The lip or wick edge slants rather abruptly to meet the plane of the floor, forming an angle near the front of the lamp (see section) as in the lamps of Labrador. The bottom of the lamp is rounded, and has irregular cavities due to foreign substances in the soapstone. This lamp, from its small size, is probably one used by travelers or in summer. It is not balanced, and hence requires a rest or foot. Length, $7\frac{1}{2}$ inches; width, 4 inches; height, $1\frac{1}{2}$ inches. Eskimo, Cumberland Gulf, Canada. Collected by Lieutenant Mintzer, U. S. N. 29967. Plate 3, fig. 4.

SOAPSTONE POT. Oblong in shape, cut out of soapstone. It is pierced at the corners for suspension. The bottom is flat; the sides incline inward, thus making the opening smaller at the top. This cooking pot in every respect resembles those collected by Mr. L. M. Turner in Labrador. The specimen has been broken and mended with cement and sinew by the natives. Length, $12\frac{1}{2}$ inches; width, 7 inches; height, $3\frac{1}{4}$ inches. Eskimo, Mantilik, Cumberland Gulf, Canada. Collected by Lieut. W. A. Mintzer, U. S. N. 29969. Plate 3, fig. 5.

STONE POT. Similar in form to No. 29969. The specimen has been mended with whalebone strips. Eskimo, Cumberland Gulf, Canada. Collected by Lieut. W. A. Mintzer, U. S. N.

THE LAMPS OF GREENLAND.

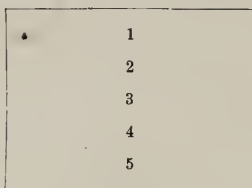
The lamps of Greenland are made of soapstone and other harder rocks. They are usually elliptic in outline or having the outline of the gibbous moon. The bottom is nearly always flat or slightly curved, as they are placed on stools; sometimes, however, they are set up on pegs. There is little relation in form between the Greenland lamps and those of Labrador or Cumberland Gulf (Baffin Land). The relation is rather between Greenland both east and west and northwestern Alaska. The type of shell-shaped lamps of North Greenland, shown on plate 7, have the same relationship and pass over to Eastern Siberia by way of Saint Lawrence Island. (See plates 4 to 9.)

The cooking pot has walls inclining outward, in reverse to those of the south. Perhaps the finest specimen of soapstone work of the kind in existence is the cooking pot brought from Smith Sound by Dr. Hayes. (See plate 9, fig. 3.)

The drying frame of East Greenland is hung over the lamp, as is the frame used in a tent at Inglefield Gulf (Smith Sound). (See plate 9, fig. 1.) In other localities the frame is placed on pegs driven in the wall over the bench upon which the lamp is installed. Wick trimmers are often a stick of asbestos or pointed piece of soapstone. In East Greenland it is a chisel-shaped piece of iron mounted in a wooden handle. A number of mortuary lamps have been found in South and East Greenland.

The view of the interior of an Eskimo snow house in Greenland is interesting, as showing the method of setting up the all-essential lamp

EXPLANATION OF PLATE 3.



LAMPS OF CUMBERLAND GULF.

Fig. 1. Outline, section, and front view of summer lamp.

(Cat. No. 168994, U.S.N.M. Cumberland Gulf. Collected by Capt. J. O. Spicer.)

Fig. 2. Outline, section, and front view of house lamp.

(Cat. No. 29964, U.S.N.M. Cumberland Gulf. Collected by Lieut. W. A. Mintzer, U. S. N.)

Fig. 3. Typical house lamp.

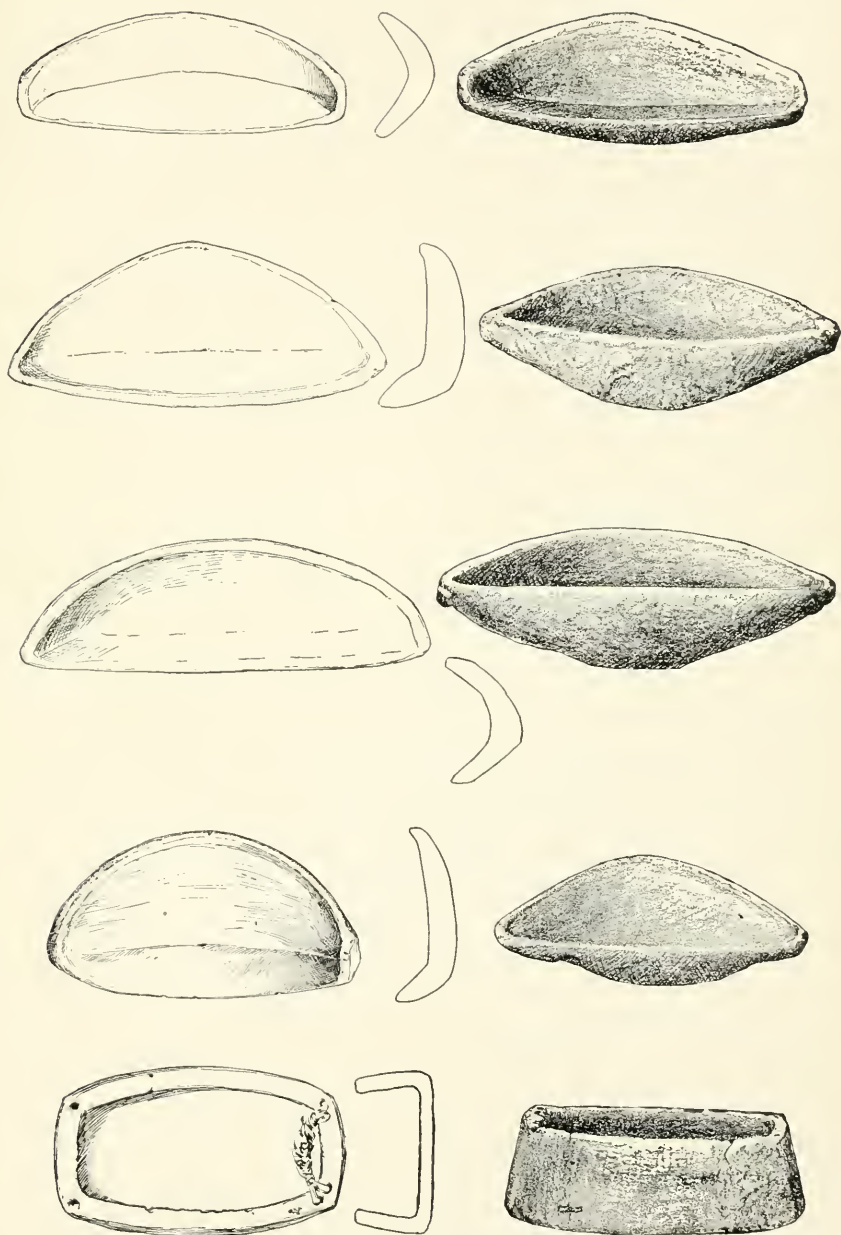
(Cat. No. 29965, U.S.N.M. Same locality and collector.)

Fig. 4. Small lamp.

(Cat. No. 29967, U.S.N.M. Same locality and collector.)

Fig. 5. Cooking pot.

(Cat. No. 29969, U.S.N.M. Same locality and collector.)



LAMPS OF CUMBERLAND GULF.

with its accessories. It also emphasizes the strait caused by the almost total lack of wood, bones, antlers, etc., being employed instead. A snowshoe apparently is made to do duty as a drying frame. Attention is called to the drip-catcher under the lamp, and the fat suspended by a thong over the heat of the flame. (See plate 4.)

LAMP. Of soapstone; very large and worked out very neatly, the result being a lamp of elegant shape. The bottom is flat and the sides nearly vertical. The reservoir is nearly flat and slopes gradually up to the wick edge, while the rear wall is high. The wick edge curves more than is usual in Eskimo lamps. The lamp has been broken and repaired neatly with sinew and cement. Length, $26\frac{1}{2}$ inches; width, $13\frac{1}{2}$ inches; height at front, $2\frac{1}{4}$ inches; at back, $3\frac{1}{2}$ inches. Eskimo, Repulse Bay. Collected by Capt. C. F. Hall. 10439. Plate 5, fig. 1.

STONE LAMP. Excavated from soapstone, the wick edge slightly curved, the back bowed, forming a shell-shaped dish. The lamp seems to show traces of having been worked with stone tools. The rear wall is nearly vertical; the reservoir neatly hollowed out, being deepest in the middle, gently sloping up to the lip and to the rear. A shallow groove has been cut along the inner margin of the lip, for convenience in installing the wick. The stone is worked thin and resembles pottery. The lamp is probably one used in summer or in traveling. It is wider than the Cumberland Gulf type. Length, 7 inches; width, $4\frac{1}{2}$ inches; height, $\frac{7}{8}$ inch. Eskimo, Smith Sound. Collected by Dr. I. I. Hayes. 176064. Plate 5, fig. 2.

LAMP. Of hard stone, smoothly worked out, the corners and edges rounded. The wick edge is curved at the ends; the intervening portion nearly straight. The bottom is rounded and the lamp inclines toward the wick edge. In outline it has the shape of the gibbous moon. This specimen seems to have been taken from an old village site. Length, $8\frac{1}{2}$ inches; width, $5\frac{1}{2}$ inches; height at rear, $2\frac{1}{2}$ inches; at front, $2\frac{1}{3}$ inches. South Greenland. From the Royal Museum of Northern Antiquities, Copenhagen. 45845. Plate 5, fig. 3.

SMALL STONE LAMP. Cut from soapstone; roughly elliptic in outline; the bottom flat, heavily scored by the cutting implement. The sides slant upward and outward; the reservoir is deep, the bottom flat, the walls slanting outward. The wick edge is strongly curved, hence the wick seems to have been supplied with oil, only at the middle portion. This is probably a summer or traveling lamp from South Greenland. Length, 6 inches; width, $3\frac{3}{4}$ inches; height at front, $1\frac{1}{2}$ inches; at rear, 2 inches. Eskimo, South Greenland. From the Royal Museum of Northern Antiquities, Copenhagen. 45844. Plate 5, fig. 4.

MODEL OF LAMP AND COOKING POT. Made by Mik-sang-wah, native of the village of Karnah, $77^{\circ} 20' N. 70^{\circ} W.$ These natives are called the most northern Eskimo. Inglefield Gulf, Greenland. Peary Auxiliary Expedition, 1894. Henry G. Bryant. 175705. Plate 6, fig. 1.

LAMP. Large lamp of soapstone, well finished. It is elliptic in outline, the bottom and floor of the reservoir flat, the wick edge thick and lower than the sloping back. Length, 17 inches; width, 7 inches; height at back, 2 inches; at front, $1\frac{1}{2}$ inches. Eskimo of Itah, Smith Sound, Greenland. Collected by Dr. Emil Bessels. 126745. Plate 6, fig. 2.

STONE LAMP. Rudely excavated from sandstone, probably from a concretion. The edges are broken and worn down, the bottom is rounded but the lamp balances. In general shape it follows the South Greenland type, the character and hardness of the material and its evident age have modified its appearance. Length, $7\frac{5}{8}$ inches; width, 5 inches; height, about $2\frac{3}{4}$ inches. Eskimo, Greenland. Collected by Dr. I. I. Hayes. 504. Plate 7, fig. 1.

LAMP. Of soapstone, neatly worked out, somewhat in the shape of a clam shell, or having the outline of an obtuse equilateral triangle. It is accurately balanced

in a slanting position and readily tips forward. The walls are thin, the reservoir deeply hollowed out and crossed near the front third by a high bridge pierced near the middle at the floor of the reservoir. The large cavity at the rear of the lamp cut off by the bridge is for the reception of blubber to be melted by the heat of the lamp, and the oil supply to the wick passes through the orifice in the bridge. Length, $8\frac{1}{2}$ inches; width (front to back), $7\frac{3}{8}$ inches, height at front, $1\frac{1}{8}$ inches; at back, 4 inches. Eskimo of South Greenland. From the Royal Museum of Northern Antiquities, Copenhagen. 45846. Plate 7, fig. 2.

LAMP. Large lamp made from coarse crystalline rock, triangular in outline, the bottom flat, the sides rounded, the back much higher than the wick edge. The reservoir is flat and is crossed by a bridge, which breaks down at the ends, allowing the passage of the oil to the wick. The wick edge is curved and is rough from age and use. This lamp is evidently very old. It was probably taken from a village site in a high latitude as it resembles closely the lamp found by General Greely in latitude 82 degrees north. (See Plate 7, fig. 3.) Length, $14\frac{1}{2}$ inches; width, $12\frac{1}{2}$ inches; height, at front, 2 inches; at rear, $5\frac{1}{4}$ inches. Eskimo, North Greenland. From the Royal Museum of Northern Antiquities, Copenhagen. 45847. Plate 7, fig. 4.

LAMP (FROM GRAVE). Small lamp, rudely cut from soapstone upon Greenland model. It has been in actual use and it is probable that it is a personal lamp, which has been buried with its owner in or on the grave where it was found. (For East Greenland mortuary lamps, see Plate 8, fig. 1.) Length, $3\frac{1}{4}$ inches; width, $1\frac{3}{8}$ inches; height, $\frac{7}{8}$ inch. Eskimo, South Greenland. Collected by Governor Fencker. 63908.

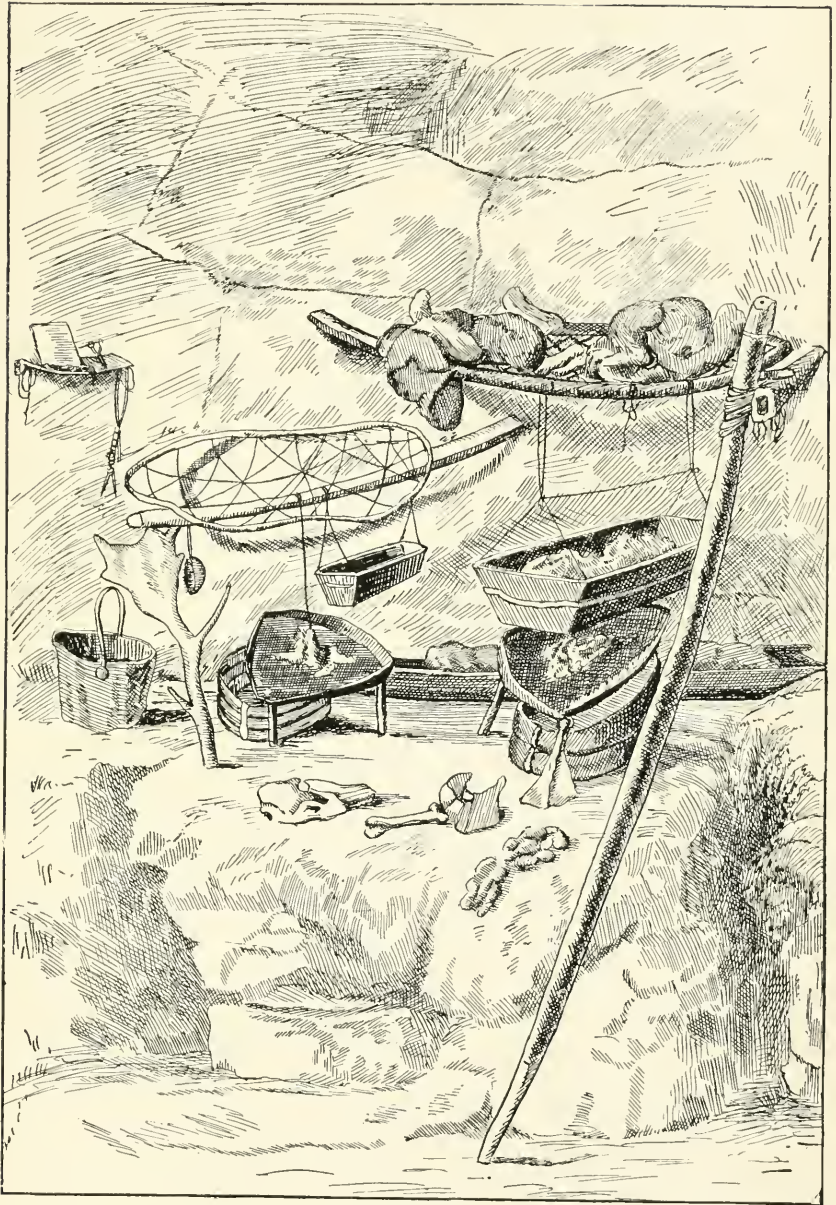
SMALL LAMP (MODEL). Made of soapstone for Dr. Hayes. South Greenland. Collected by Dr. I. I. Hayes. 176065. Plate 8, fig. 2.

LAMP. Of soapstone, ovate in outline; reservoir slants regularly from wick edge to the bottom of low back wall; the convex wick edge has a ridge running around it between the outer edge and the reservoir, forming a groove in which the wick was installed. The lamp rests upon a flat bottom and stands level, the rim of the back wall being of the same height as the wick edge. Length, 8 inches; width, 5 inches; height, $2\frac{1}{4}$ inches. Eskimo, East Greenland. Collected by Capt. Gustav Holm. From the Royal Museum of Northern Antiquities, Copenhagen. 168942. Plate 8, fig. 3.

SOAPSTONE POT. With rounded ends and flat bottom; oblong. The wall flares outward from the base, and in the four corners holes are drilled through which are passed the ends of seal-skin cords secured by knots. These loops are for suspension of the pot over the lamp 168942. The pot is neatly finished and the sides tolerably thin. Length, 8 inches; width, $4\frac{3}{8}$ inches; height, $4\frac{1}{16}$ inches. Eskimo of East Greenland. Collected by Capt. Gustav Holm. From the Royal Museum of Northern Antiquities, Copenhagen. 168943. Plate 8, fig. 3.

MOSS FOR WICK. Dense mass of moss, *sphagnum* sp., from which the wick for the lamp is prepared. The moss is usually prepared by rubbing between the palms of the hands at the same time incorporating a little oil. This powdered moss is kept in a bag or other receptacle for subsequent use. Eskimo, East Greenland. Collected by Capt. Gustav Holm. From the Royal Museum of Northern Antiquities, Copenhagen. 168944.

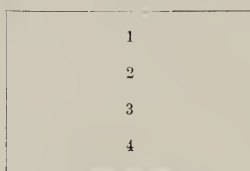
DRYING FRAME FOR LAMP 168942. Oblong frame made up of thirteen rounded, parallel strips of pine wood cut out with a knife, mortised into crossbars at either end and secured by pegs. The ends of the crossbars project beyond the slats. This frame is supported by bars from the walls of the hut and from it the pot (No. 168943) hangs over the lamp. Length, $16\frac{1}{4}$ inches; width, $13\frac{3}{8}$ inches. Eskimo, East Greenland. Collected by Capt. Gustav Holm. From the Royal Museum of Northern Antiquities, Copenhagen. 168941. Plate 8, fig. 3.



INTERIOR OF AN ESKIMO SNOW HUT.

(After Parry.)

EXPLANATION OF PLATE 5.



LAMPS OF GREENLAND.

Fig. 1. Outline, section, and front view of large lamp.

(Cat. No. 10439, U.S.N.M. Repulse Bay. Collected by Capt. C. F. Hall.)

Fig. 2. Small lamp.

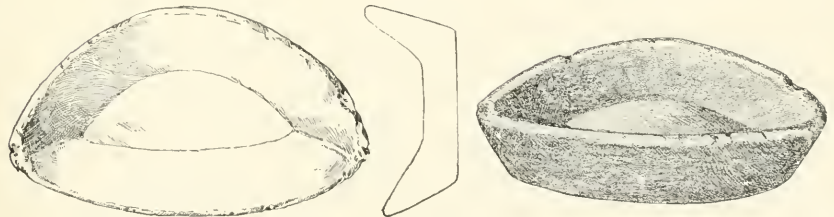
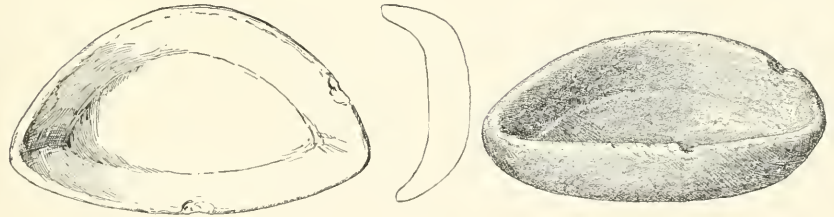
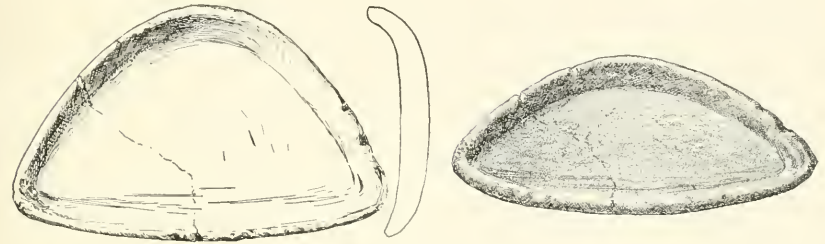
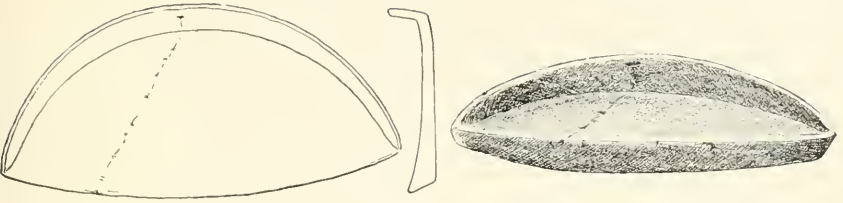
(Cat. No. 176064, U.S.N.M. Smith Sound. Collected by Dr. I. I. Hays.)

Fig. 3. Lamp of hard stone.

(Cat. No. 45845, U.S.N.M. South Greenland. Royal Museum, Copenhagen.)

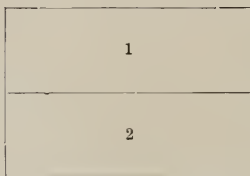
Fig. 4. Small lamp.

(Cat. No. 45844, U.S.N.M. South Greenland. Royal Museum, Copenhagen.)



LAMPS OF GREENLAND.

EXPLANATION OF PLATE 6.



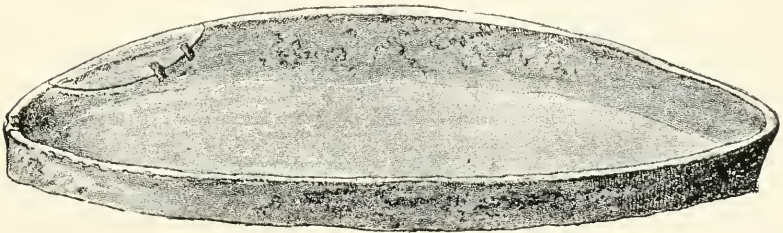
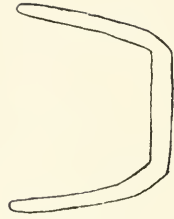
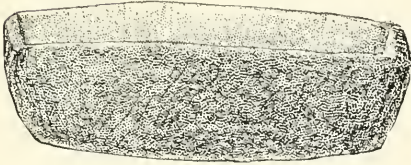
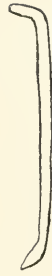
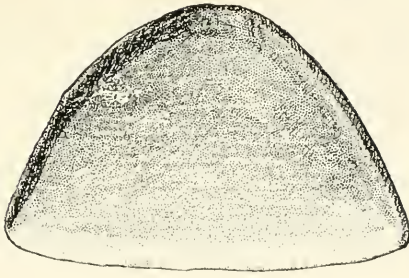
LAMPS OF GREENLAND.

Fig. 1. Model of lamp and cooking pot with sections.

(Cat. No. 175705, U. S. N. M. Inglefield Gulf. Collected by Henry G. Bryant, commander of Peary Relief Expedition.)

Fig. 2. Outline, section, and front view of large lamp.

(Cat. No. 126745, U. S. N. M. Smith Sound. Collected by Dr. Emil Bessels.)



LAMPS OF GREENLAND.

- LAMP COMPLETE.** With stool and pot (model). Made for Dr. I. I. Hayes. Eskimo, South Greenland. Collected by Dr I. I. Hayes. 176066. Plate 8, fig. 4.
- DRYING FRAME.** Rack hung over the fire in skin tent. It is made of six slats lashed to crossbars at the end. Length, $38\frac{1}{2}$ inches; width, 19 inches. Eskimo, North Greenland. Collected by H. G. Bryant, commander of the Peary relief expedition. 169043. Plate 9, fig. 1.
- ROUND COOKING POT.** Small pot cut from soapstone. Holes are bored through the edge for suspension. This is probably one of the small objects found in graves in South Greenland. Diameter, $2\frac{3}{8}$ inches; height, $1\frac{1}{4}$ inches. Eskimo, South Greenland. From the Royal Museum of Northern Antiquities, Copenhagen. 45848. Plate 9, fig. 2.
- COOKING POT.** Of soapstone; the walls thin and strongly bulged at the sides, the ends only slightly so. The sides slant outward in reverse of those of Ungava, Labrador. Length, $13\frac{5}{8}$ inches; width, 8 inches; height, $4\frac{3}{4}$ inches. Itah Eskimo, Port Foulke, West Greenland. Collected by Dr. I. I. Hayes. 563. Plate 9, fig. 3.
- COOKING POT.** Oblong-oval pot cut from soapstone. At the four corners beekets have been cut out in the edge of the pot; these are pierced for passage of the suspending cords. This pot belongs with lamp No. 45846, plate 7, fig. 2. Length, $8\frac{3}{8}$ inches; width, $6\frac{1}{4}$ inches; height, 3 inches. Eskimo, Greenland. From the Royal Museum of Northern Antiquities, Copenhagen. 45850. Plate 9, fig. 4.
- COOKING POT.** Boat-shaped pot cut out of soapstone with iron tools. There is a small, flat, elliptic area on the bottom upon which the pot rests. There are no holes on the edge for suspension, the interior of the vessel is rough, and though called a "cooking vessel" there is no evidence of such use. It is also of unusual shape and manifestly is not intended for use with the lamp. Probably the vessel is intended to set on an open fire. Length, $11\frac{3}{8}$ inches; width, 7 inches; height, $3\frac{3}{4}$ inches. Eskimo, Greenland. From the Royal Museum of Northern Antiquities, Copenhagen. 45851.
- COOKING POT.** Small oblong vessel cut from soapstone to represent the cooking pot. Buried with the dead. Length, $2\frac{1}{4}$ inches; width $1\frac{7}{8}$ inches; height $\frac{3}{8}$ inch. Eskimo, South Greenland. Collected by Governor Feneker. 63910.

THE LAMPS OF THE MACKENZIE RIVER.

The two lamps in the United States National Museum from the Mackenzie River were collected many years ago by Robert MacFarlane. They are small and have a divided bridge, relating them to the lamps of St. Lawrence Island and eastern Siberia. No information whatever is available relating to the use of the lamp by the Mackenzie River Eskimo.

WINTER TRAVELING LAMP. Of soapstone, crescentic in shape, bottom nearly flat, sides vertical. The reservoir is shallow and is divided into two portions by a bridge. The bridge is divided into two portions by a canal cut across the middle, and the wall of the reservoir is continued around the ends, forming a narrow canal at the end of the bridge. The wick edge is slightly curved, as is the rule in all Eskimo lamps. This small lamp, which is called "a winter traveling lamp," is useful only for giving a temporary light, and was probably carried in the interest of the smokers. Length, 5 inches; width, $2\frac{1}{4}$ inches; height at front, $\frac{1}{2}$ inch; at back, $\frac{3}{8}$ inch. Eskimo, Mackenzie River, Canada. Collected by R. MacFarlane. 2071. Plate 10, fig. 1.

SMALL LAMP. Of clay slate carved with a knife; semilunar in shape; bottom flat, edges rounded. The reservoir is plain, slanting slightly from the wick edge to the rear wall. This is a model of a "winter traveling lamp" used on a journey

carried on the person by travelers. Small as the lamp is it seems to show traces which indicate that it has been burned. Length, $3\frac{1}{2}$ inches; width, $1\frac{1}{8}$ inches. Eskimo, Mackenzie River, Canada. Collected by R. MacFarlane. 1109. Plate 10, fig. 2.

THE LAMPS OF POINT BARROW.

The lamps from Point Barrow in the United States National Museum have been ably described by Mr. John Murdoch¹ in his paper on the "Ray Collection." It is only necessary, therefore, to point out the relation of the Point Barrow type lamp to those of Smith Sound. The cooking pot is also like that of the same locality in Greenland.

No drying frames were procured from Point Barrow or are mentioned in Mr. Murdoch's paper. It is quite likely that the drying frame exists at Point Barrow. In fact, Captain Herendeen assures the writer that they are used there.

There is a lamp of pottery in the Nathan Joseph collection, Golden Gate Park Museum, San Francisco, from Alaska, which from its form appertains to Point Barrow, where pottery was formerly made.

LAMP. This lamp is elliptic in outline and is very well worked from soapstone. The reservoir is deep, and at the rear is a semilunar terrace standing three-fourths inch above the floor with slanting side. The rear wall of the reservoir is nearly vertical, while the wick side slopes down to the floor of the lamp. The bottom of the lamp is flat and the sides incline inward. The wick line has a curve of about 2 feet radius. The lamp has been broken and mended with sinew and cement. The resemblance of this lamp to those of Greenland (Bessels) is striking. The terrace may, however, correspond to the cavity in a similar position in the Cumberland Gulf lamp (see Plate 11, fig. 2) and for a similar use, the placing of unmelted blubber. Length, 17 inches; width, 8 inches; height, $2\frac{1}{4}$ inches. Eskimo, Point Barrow, Alaska. Collected by Lieut. P. H. Ray, U. S. A. 89879. Plate 11, fig. 1.

LAMP. Large semilunar lamp of siliceous sandstone. It is roughly worked out, but is quite a feat to do so well with this material. The cavity is rather deep, and its floor is high at the back and slopes to the middle line, where it meets the slope from the wick edge. The latter is straight. The bottom and corners rounded. The lamp slopes toward the wick edge, as the section shows. Length, $12\frac{1}{2}$ inches; width, 8 inches; height in front, $2\frac{5}{8}$ inches; at back, 3 inches. Eskimo, Point Barrow, Alaska. Collected by Lieut. P. H. Ray, U. S. A. 89880.

LAMP. Shallow, rude semilunar lamp of siliceous rock of small size. It was probably worked from a slab of stone, and must be tipped forward when in use. The reservoir is shallow and bowed—that is, formed by two slanting planes which meet at a middle line corresponding to the terrace in the rear of the type lamp. This lamp is a rude approximation to the better formed lamps of soapstone. It has, however, seen service. Length, $8\frac{1}{4}$ inches; width, $4\frac{1}{2}$ inches; height, $1\frac{3}{8}$ inches. Eskimo, Point Barrow, Alaska. Collected by Lieut. P. H. Ray, U. S. A. 89881.

TRAVELING LAMP. Small lamp of soapstone of somewhat irregular semilunar outline, owing to the shape of the original piece of stone. The reservoir is shallow and flat, the wick edge slanting down to the bottom. The wick edge is convex in outline. The lamp must be tipped forward to supply oil to the wick. This is one of the small lamps for special use. Length, $8\frac{1}{2}$ inches; width, $4\frac{1}{4}$ inches; height, 1 inch. Eskimo, Point Barrow, Alaska. Collected by Lieut. P. H. Ray, U. S. A. 56673. Plate 11, fig. 2.

¹ Report of the Bureau of Ethnology, IX, pp. 105-109.

EXPLANATION OF PLATE 7

1
2
3
4

LAMPS OF GREENLAND.

Fig. 1. Outline, section, and front view.

(Cat. No. 504, U.S.N.M. Greenland. Collected by Dr. I. I. Hayes.)

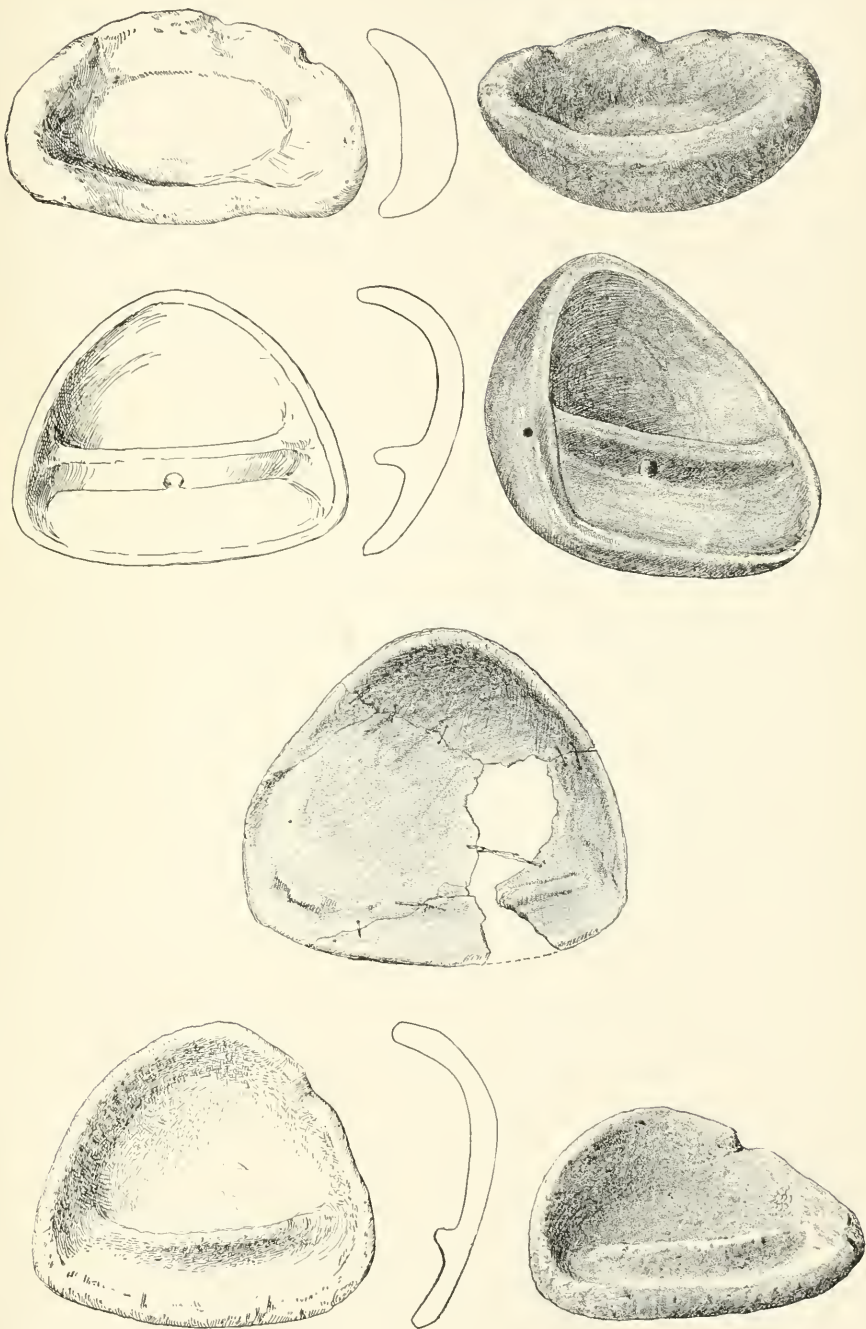
Fig. 2. Same of lamp with bridge.

(Cat. No. 45846, U.S.N.M. Greenland. Royal Museum, Copenhagen.)

Fig. 3. Lamp with bridge found by Gen. A. W. Greely at Cape Baird. From Report
of International Polar Meteorological Observations.

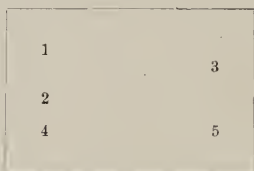
Fig. 4. Lamp with bridge.

(Cat. No. 45847, U.S.N.M. Greenland. Royal Museum, Copenhagen.)



LAMPS OF GREENLAND.

EXPLANATION OF PLATE 8.



LAMPS OF GREENLAND.

Fig. 1. Small mortuary lamps.

(Cape Bismarck, East Greenland.)

Fig. 2. Outline and section.

(Cat. No. 176065, U.S.N.M. South Greenland. Collected by Dr. I. I. Hayes.)

Fig. 3. Drying frame, cooking pot, lamp, and stool

(Cat. Nos. 168941-3, U.S.N.M. East Greenland. Collected by Capt. Gustav Holm.)

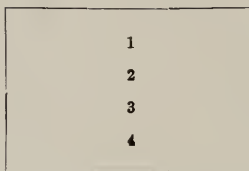
Fig. 4. Cooking pot, lamp, and stool (model). South Greenland.

(Cats. No. 176066, U.S.N.M. Collected by Dr. I. I. Hayes.)

Fig. 5. Drying frame, cooking pot, and spoon, lamp, lamp trimmer, and stool. East Greenland.

(After Holm and V. Garde.)

EXPLANATION OF PLATE 9.



DRYING FRAME AND COOKING POTS OF GREENLAND.

Fig. 1. Drying frame for tent.

(Cat. No. 169043, U.S.N.M. North Greenland. Collected by Henry G. Bryant, Peary Relief Expedition.)

Fig. 2. Round cooking pot.

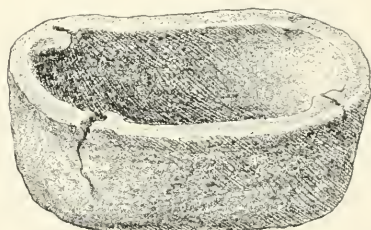
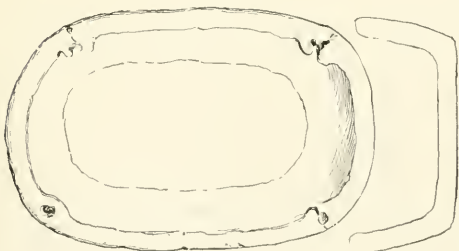
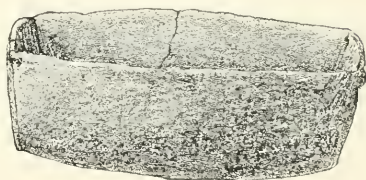
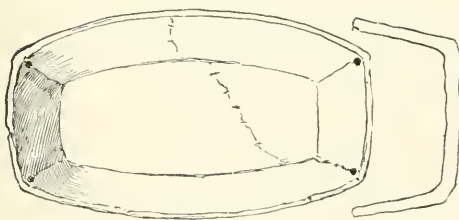
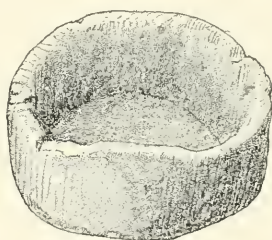
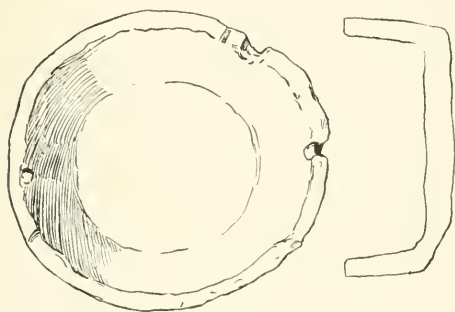
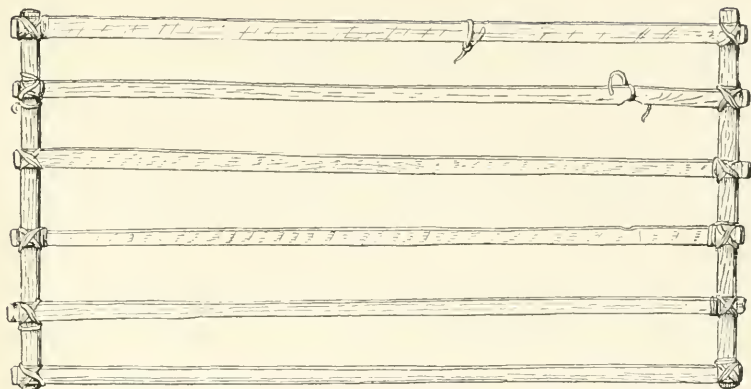
(Cat. No. 45848, U.S.N.M. South Greenland. Royal Museum, Copenhagen.)

Fig. 3. Outline, section, and side view of cooking pot.

(Cat. No. 563, Port Foulke, West Greenland. Collected by Dr. I. I. Hayes.)

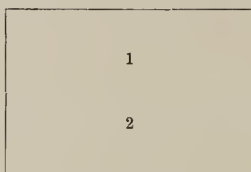
Fig. 4. Cooking pot.

(Cat. No. 45850, U.S.N.M. Greenland. Royal Museum, Copenhagen.)



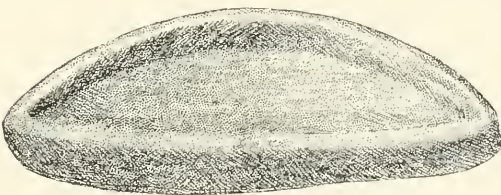
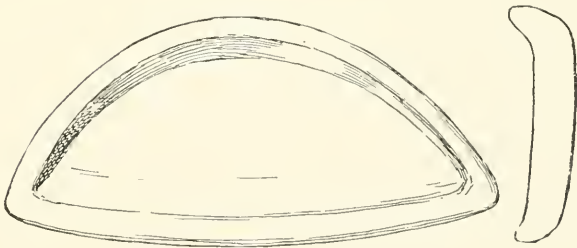
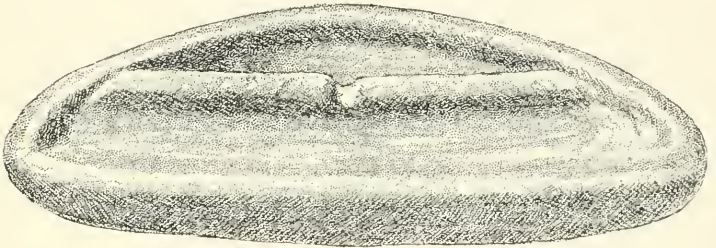
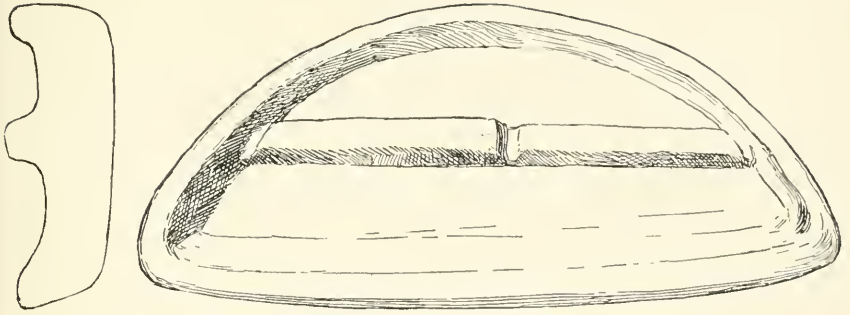
DRYING FRAME AND COOKING POTS OF GREENLAND.

EXPLANATION OF PLATE 10.



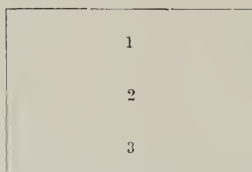
LAMPS OF THE MACKENZIE RIVER.

- Fig. 1. Section, outline, and front view of small lamp with bifid bridge.
(Cat. No. 2071, U.S.N.M. Mackenzie River, Canada. Collected by R. MacFarlane.)
- Fig. 2. Outline, section, and front view of small lamp.
(Cat. No. 1109, U.S.N.M. Mackenzie River, Canada. Collected by R. MacFarlane.)



LAMPS OF THE MACKENZIE RIVER.

EXPLANATION OF PLATE 11.



LAMPS OF POINT BARROW.

Fig. 1. Soapstone lamp.

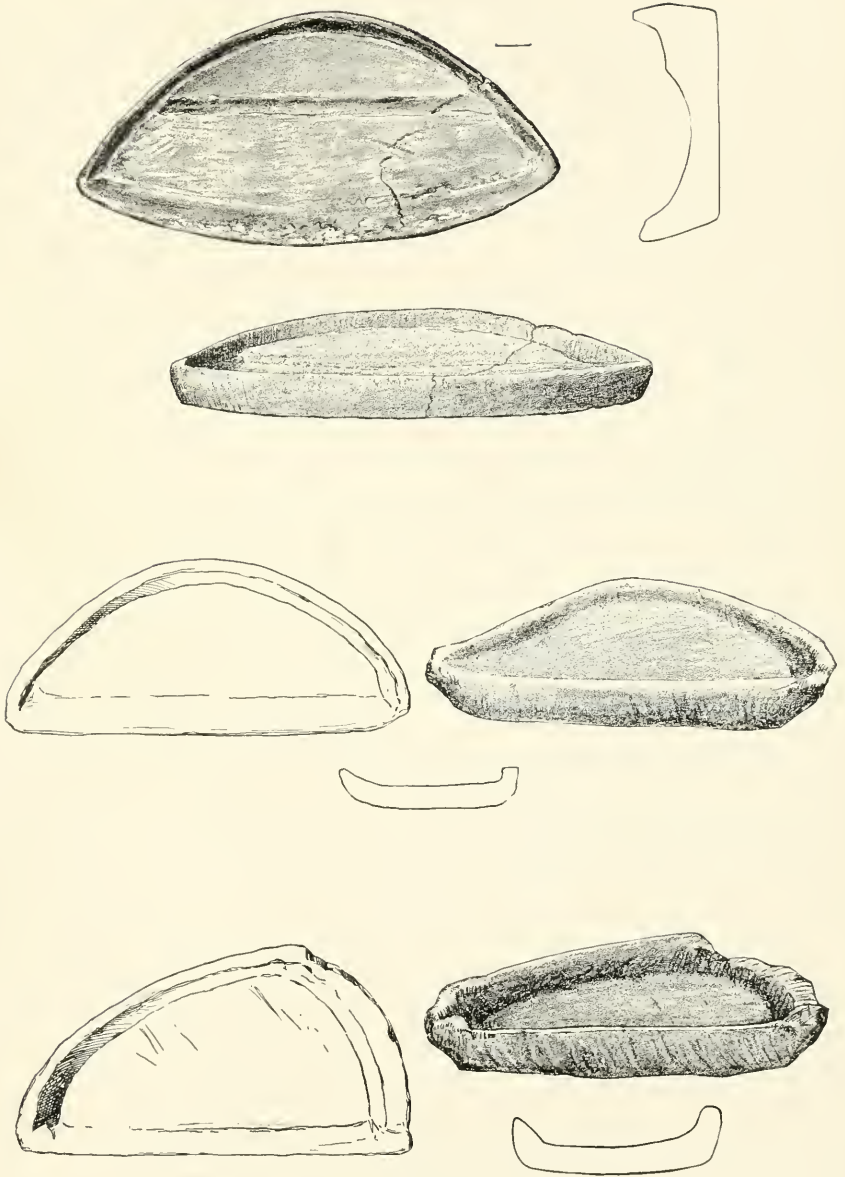
(Cat. No. 89879, U.S.N.M. Collected by Lieut. P. H. Ray, U. S. A.)

Fig. 2. Soapstone lamp.

(Cat. No. 56673, U.S.N.M. Collected by Lieut. P. H. Ray, U. S. A.)

Fig. 3. Soapstone lamp, rude.

(Cat. No. 89882, U.S.N.M. Collected by Lieut. P. H. Ray, U. S. A.)



LAMPS OF POINT BARROW.

LAMP. Rude lamp of soapstone, which owes its irregular shape to the original piece of stone from which it was excavated. Length, $6\frac{1}{4}$ inches; width, $3\frac{1}{2}$ inches; height, $1\frac{1}{2}$ inches. Eskimo, Point Barrow, Alaska. Collected by Lieut. P. H. Ray, U. S. A. 89882. Plate 11, fig. 3.

THE LAMPS OF KOTZEBUE SOUND.

The description of the lamps from Kotzebue Sound must be based upon two small specimens in the United States National Museum. These lamps have the shape of a clam shell, having the length and width nearly equal, exactly so in one specimen. A lamp from the Nathan Joseph collection in the Golden Gate Park Museum in San Francisco is of this type, and is undoubtedly from the Kotzebue region. (See plate 12, fig. 3.) The length is $10\frac{3}{4}$ inches and the width, $9\frac{1}{4}$ inches. The material is clay slate.¹ One of the lamps in the Field Columbian Museum is made of wood.²

TRAVELING LAMP. Of soapstone; ovate triangular in outline, all corners being rounded for comfort in carrying. Bottom and floor of reservoir flat. Lamp does not incline. Walls of side slanting to reservoir floor. Wick edge bowed more than usual. Length, $6\frac{3}{4}$ inches; width, 5 inches; height, $1\frac{1}{2}$ inches. Hotham Inlet, Kotzebue Sound, Alaska. Collected by E. W. Nelson. 64223. Plate 12, fig. 1.

LAMP. Small model in soapstone of the typical semilunar shape of the Eskimo lamp from Greenland to Norton Bay. Length, $1\frac{3}{8}$ inches; width, $2\frac{1}{2}$ inches; height, $\frac{1}{2}$ inch. Eskimo, Cape Darby, Norton Bay, Alaska. Collected by E. W. Nelson. 48138. Plate 12, fig. 2.

THE LAMPS OF NORTON SOUND.

The lamps from the northern shore of Norton Sound are of the Kotzebue type, flat and with the outline of the clam shell.

The lamp from St. Michaels on the south shore seems to anticipate the sadiron lamp of the Alaskan Peninsula. It must be borne in mind that St. Michaels is the great emporium of this region, and specimens drift in there from many different localities.

LAMP. Shallow lamp of sandstone of the shape of the small lamp 44338, well made and evidently having seen long service. The wick edge is nearly straight; the corners rounded by use. This lamp is the Kotzebue type, which is extremely simple. Length of wick edge, 8 inches; width, $6\frac{1}{2}$ inches; height, $1\frac{1}{8}$ inches. Eskimo, Norton Sound, Alaska. Collected by E. W. Nelson. 49110. Plate 13, fig. 1.

SMALL LAMP. Small semilunar lamp, excavated from soapstone, with slanting walls and slightly curved bottom. The lamp is very shallow and the wick edge straight. It was probably used by hunters or travelers in the summer. Length, $3\frac{1}{4}$ inches; width, $4\frac{1}{8}$ inches; height, $\frac{3}{8}$ inch. Eskimo, Norton Sound, Alaska. Collected by E. W. Nelson. 44338. Plate 13, fig. 2.

¹ Outlines and sections of all the lamps in the San Francisco Museum were furnished through the kindness of the curator, Charles P. Wilcomb.

² Several Kotzebue lamps are in the Field Columbian Museum at Chicago. One of these, a small oval lamp with divided bridge is interesting in relation to the distribution of this feature. Through the kindness of Dr. George A. Dorsey a photograph of these lamps was secured which unfortunately came too late for insertion in this work.

STONE LAMP. Worked from tuffaceous rock; very much disintegrated. Shape that of a sadiron; bottom flat, rounding toward vertical sides. The reservoir is oval and shallow; the sides rise to uniform height all around it. The point where the wick has been laid is not specially worked for the purpose. This lamp bears no resemblance to those collected by E. W. Nelson in Norton Sound. In general appearance it more nearly resembles some varieties of the Kodiak lamp, and the narrow lip increases the resemblance. There are two lamps in the United States National Museum from the peninsula lying between Norton and Kotzebue sounds for comparison, which show that its affiliations are with those of Kodiak and the Alaskan Peninsula. Length, $11\frac{3}{8}$ inches; greatest width, $6\frac{1}{2}$ inches; height, 2 inches. Eskimo, St. Michaels, Norton Sound, Alaska. Collected by L. M. Turner. 30761. Plate 13, fig. 3.

SMALL LAMP. Formed of concretion of gray, shaly rock, of natural shape, not worked in any way. It is oval in shape and on one side there is evidence of the charring of the wick. This lamp was probably carried by hunters. Length, $3\frac{1}{8}$ inches; width, $2\frac{1}{2}$ inches; height, $\frac{3}{4}$ inch. Eskimo, St. Michaels, Norton Sound, Alaska. Collected by E. W. Nelson. 43470. Plate 13, fig. 4.

THE LAMPS OF ST. LAWRENCE ISLAND.

These lamps are of pottery, skillfully made and baked. The lamps with two wick edges are unique, and altogether the utensil in this locality and has assumed several curious forms. The bridged lamp of North Greenland is here repeated, but with various modifications, and are connected with Asia by the Siberian example. (See plate 17.)

The pottery lamp rests and drip catchers are unique. One of the rests in the collection is a whale's vertebra, with the spinous processes hacked off.

The drying frame does not exist. Its place is taken by pegs driven in the earth walls of the house.

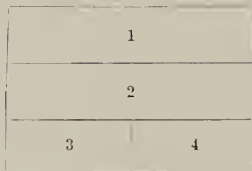
The shape of the St. Lawrence Island lamp seems to have followed that of the wooden platters.

EARTHENWARE LAMP. Made of clay, mixed with angular rock fragments, strong and well burnt. In shape it is the most divergent lamp in the collection. Viewed from above its outline is oblate, having a square projection from one side separated from the main reservoir by a low ridge. This lamp inclines slightly toward the wick edge. The wick edge curves gently, while in front of it is a low bridge with ends slanting down to the floor of the lamp, allowing a narrow space for the oil to flow around to the wick. The purpose of the rear projection and cavity is conjectural. It would seem very convenient for grasping the lighted lamp if it were desired to carry it. This lamp could be carried lighted, as the bridge would prevent the wash of the oil against the wick. This may be one of the functions of the bridge. This lamp is supplied with a wooden dish in which it rests. Width, $5\frac{3}{8}$ inches; length, $6\frac{1}{2}$ inches; height at rear, $1\frac{1}{16}$ inches; at front, $1\frac{3}{8}$ inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63543. Plate 14, figs. 1, 2, and 3.

LAMP. Pottery lamp, oblong, with rounded corners. Slanting bridges on either side springing from angle formed by side and floor. These bridges are divided by a central cleft into two equal portions. Length, 11 inches; width, $9\frac{1}{2}$ inches; height, $2\frac{1}{2}$ inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63570. Plate 15, fig. 1.

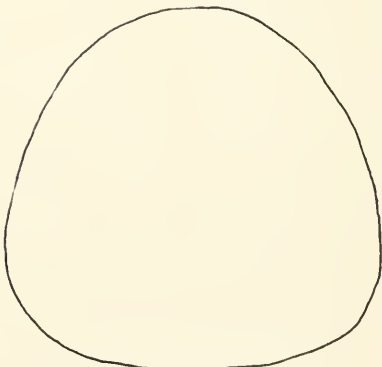
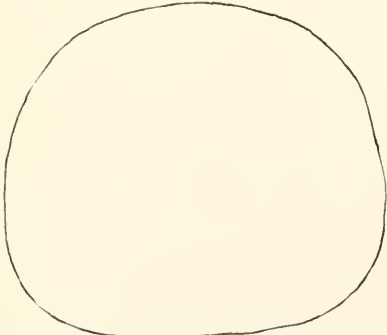
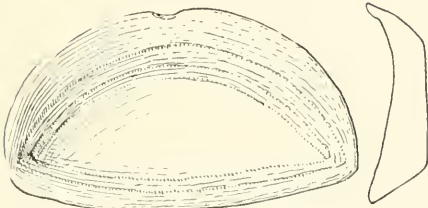
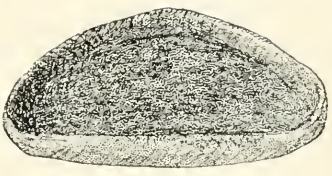
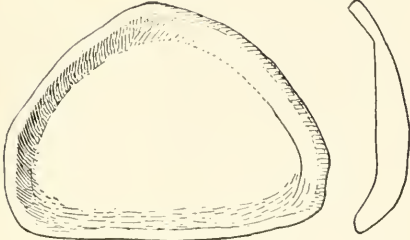
LAMP. Made of coarse pottery, oblong in shape. This lamp has continuous bridges on either side; that is, not cleft or pierced, but open around their ends for the

EXPLANATION OF PLATE 12.



LAMPS OF KOTZEBUE SOUND.

- Fig. 1. Traveling lamp. Soapstone.
(Cat. No. 64223, U.S.N.M. Collected by E. W. Nelson.)
- Fig. 2. Small toy lamp. Although this lamp is from Cape Darby, it is nearer to the Kotzebue type than to that of Norton Sound.
- Fig. 3. Outline of Kotzebue lamp in the Golden Gate Park Museum, San Francisco, California.
- Fig. 4. Outline of Kotzebue lamp.
(Cat. No. 75508, U.S.N.M. Collected by Lieut. Geo. M. Stoney, U.S.N.)



LAMPS OF KOTZEBUE SOUND.

EXPLANATION OF PLATE 13.

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LAMPS OF NORTON SOUND.

Fig. 1. Sandstone lamp.

(Cat. No. 49110, U.S.N.M. Norton Bay. Collected by E. W. Nelson.)

Fig. 2. Small lamp.

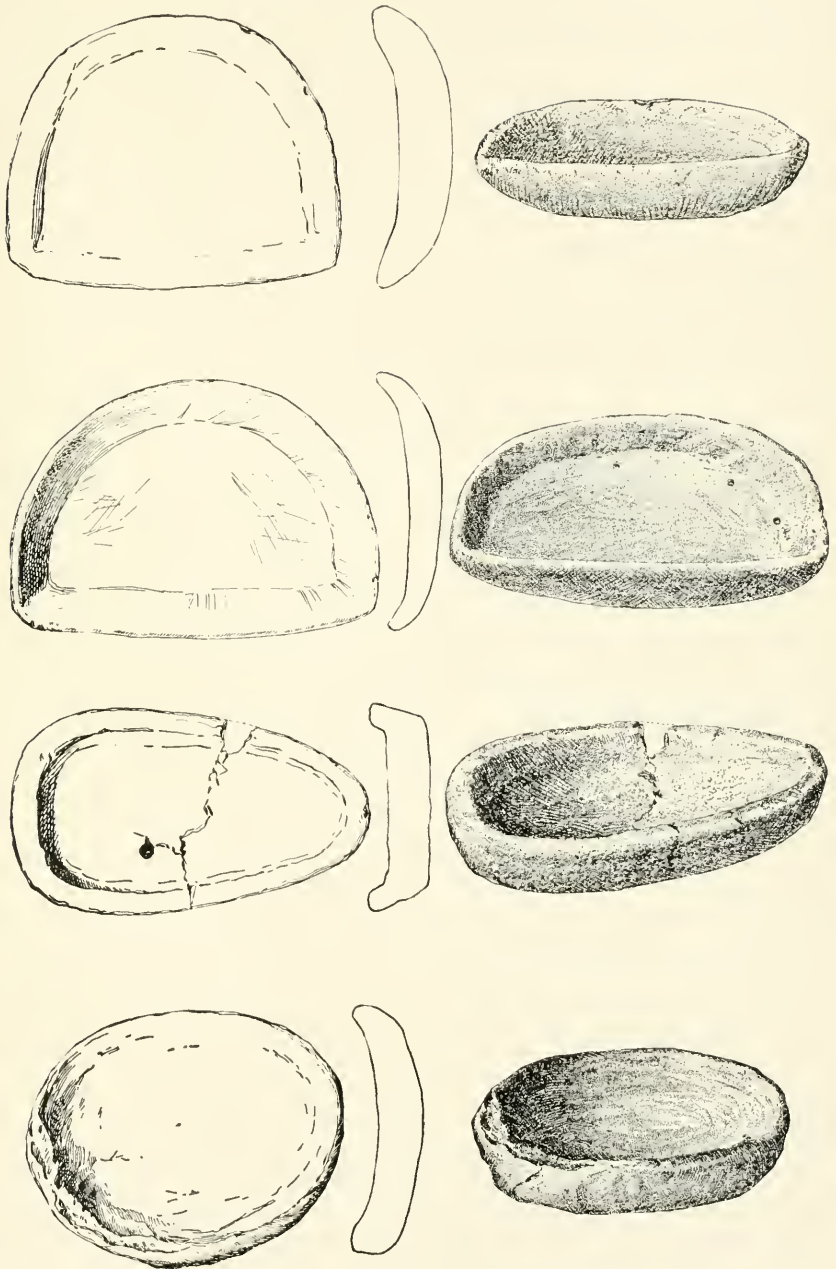
(Cat. No. 44338, U.S.N.M. Norton Sound. Collected by E. W. Nelson.)

Fig. 3. Sandstone lamp.

(Cat. No. 30761, U.S.N.M. St. Michaels, Norton Sound. Collected by L. M. Turner.)

Fig. 4. Lamp of concretion.

(Cat. No. 43470, U.S.N.M. St. Michaels, Norton Sound. Collected by E. W. Nelson.)



LAMPS OF NORTON SOUND.

flow of the oil. Length, $13\frac{1}{2}$ inches; width, $10\frac{1}{4}$ inches; height, 3 inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63569. Plate 15, fig. 2.

DOUBLE LAMP. Made of clay with large admixture of quartz fragments, strongly burnt and completely soaked with oil. In shape it is a large oblong platter having concave side with a step at either end above the bottom of the reservoir. At either side the step is raised into crescentic ridges, each pierced with two holes slanting down to the reservoir with the angle of the sides. Through these orifices the wick is fed. The wick is laid along the edge of either side of the lamp. This is the only example of a double Eskimo lamp, and from its capacity it must have been used where oil was plenty. The lamp bears a likeness to the wooden dishes of this region. Length, $15\frac{1}{2}$ inches; width, $12\frac{1}{4}$ inches; height, $2\frac{3}{8}$ inches. Eskimo, St. Lawrence Island, Bering Strait, Alaska. Collected by E. W. Nelson. 49196. Plate 15, fig. 3.

LAMP. This lamp is made of clay burning yellow, with coarse temper of subangular quartz fragments. It is oblong, with truncated corners resembling in shape the wooden dishes of the Norton Sound region, and is rather deep. The clay was probably formed in a wooden dish. The upper edge is flat, except on the side where the wick is placed, which is rounded off. At 2 inches from the lip and parallel with it there is a bridge $4\frac{1}{4}$ inches long, standing $1\frac{3}{8}$ inches above the bottom of the lamp at the rear and five-eighths of an inch in relief in front of the lip, thus forming a shelf. The office of the bridge may be to prevent particles of moss falling into the oil, to prevent floating masses of unmelted blubber from interfering with the wick, or it may be used as a secondary wick surface when the oil is low. The deposits on the ridge seems to point to the latter use. By the flattening of the base the lamp leans forward toward the wick edge at a low angle, as is observed in the Chukehis lamp (Plate 17, fig. 1) and in common with the latter it possesses a ridge. This lamp is set on a vessel which combines the functions of rest and drip catcher. Length, $8\frac{1}{4}$ inches; width, $6\frac{3}{8}$ inches; height, at rear, $2\frac{1}{2}$ inches; at front, 2 inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63541. Plate 15, fig. 4.

OBLONG COOKING POT. Made of coarse earthenware. At the upper corners the clay has been pinched up and pierced for the attachment of cords for suspending the pot. The vessel is rudely made and is much blackened with lamp smoke. Length, 6 inches; width, $4\frac{3}{8}$ inches; height, $2\frac{1}{4}$ inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63546. Plate 16, fig. 1.

OBLONG COOKING POT. Small oblong pot of coarse pottery, blackened and covered on the bottom with deposit from the lamp. Each corner is pierced with two orifices through which pass whalebone strips for suspending the pot. The vessel would seem too small for cooking food, but it has evidently been used over the lamp. Length, $4\frac{3}{8}$ inches; width, $3\frac{1}{2}$ inches; height, $1\frac{1}{4}$ inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63548. Plate 16, fig. 2.

OBLONG COOKING POT. Small oblong pot of very coarse earthenware, without lugs; probably a food vessel, as it is not smoked by the lamp. Length, $4\frac{7}{8}$ inches; width, $3\frac{7}{8}$ inches; height, $1\frac{3}{8}$ inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63547. Plate 16, fig. 3.

DRIP CATCHER. Long, narrow, shallow vessel of coarse burnt clay, rounded at the ends and slightly curved. This vessel is catalogued as a lamp. Its edges are not found for the wick, which is an infallible test for a lamp. It was probably placed under the lip of a lamp to catch dropping oil. Length, $8\frac{1}{2}$ inches; width, $2\frac{7}{8}$ inches; height $1\frac{3}{8}$ inches. Eskimo, St. Lawrence Island, Alaska. Collected by E. W. Nelson. 63545. Plate 16, fig. 4.

THE LAMPS OF EASTERN SIBERIA.

A full account of the Chukchis lamps of eastern Siberia is given by Baron Nordenskiöld in his "Voyage of the *Vega*." The method of installation is shown on plate 17, fig. 2, taken from that work.

The connection with Asia is one of a number which have been noticed recently.

LAMP. Excavated from soapstone, apparently with stone tools. The original surface of the stone shows in one place on the exterior. It is roughly hemispherical. When resting on the rounded and insecure base the rim of the lamp slants at an angle of about 37 degrees, the walls of the cavity being high at the rear, running down and merging into the wick edge. The floor rises from the middle toward the back and front. The bridge is divided into two equal sections by a V-shaped cut in the middle, the oil thus flowing to the wick through three channels. The wick edge is slightly curving and wider than the back of the lamp. Width, $6\frac{1}{2}$ inches at wick edge; length to rear, 6 inches; height at rear, $4\frac{3}{8}$ inches; front, $1\frac{1}{2}$ inches. Chukchis, eastern Siberia. Collected by E. W. Nelson. 64222. Plate 17, fig. 1.

THE LAMPS OF BRISTOL BAY.

South of Norton Sound the lamp becomes a shallow saucer of baked clay, rarely of stone, without wick edge, so that in absence of knowledge of their use they never would be classed as lamps. As has been mentioned, they are affiliated with Asiatic saucer lamps.

The number of specimens in the United States National Museum from the north shore of Bristol Bay has given this type its name. Perhaps a more descriptive name would be lamp of the Yukon-Kuskokwim tundra.

These lamps are set up on a stake, having the top hollowed out to receive the bulging bottom of the lamp. The wick is laid along a small space on the edge, following the Kadiak method. It is not known whether this lamp is ever furnished with a single solid wick or burned with a floating wick. The former supposition seems to be borne out by the model from Nushagak (fig. 1).

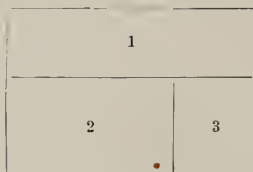
The cooking pot of this region is circular, and designed for placing on an open fire, as driftwood is plentiful.

In the southern portion of this region an admixture of forms takes place. The lamps are of stone, circular, but in nearly every case have the wick edge worked out. A similar mixture of form occurs between Kadiak, the Alaskan Peninsula, and Aleutian Chain. Four of these lamps are shown on plate 20.

LAMP. This is the smallest lamp among the series of pottery lamps in the United States National Museum. It apparently has been little used, probably for some special purpose or as a toy. Eskimo, Cape Vancouver, Alaska. Collected by J. H. Turner. 153703. Plate 18, fig. 1.

LAMP. Of pottery, similar in form to typical Bristol Bay lamps. Diameter $3\frac{3}{4}$ inches; height, $1\frac{5}{8}$ inches. Eskimo, Cape Vancouver, Alaska. Collected by J. H. Turner. 153702. Plate 18, fig. 2.

EXPLANATION OF PLATE 14.



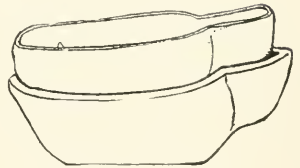
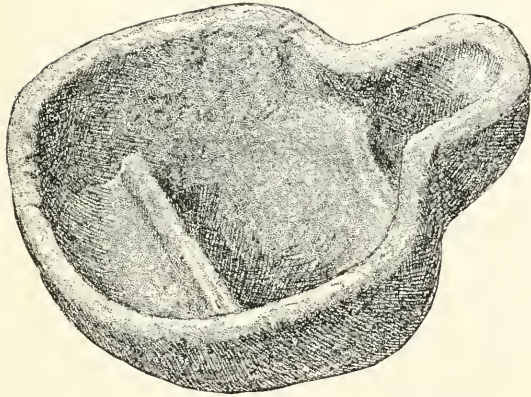
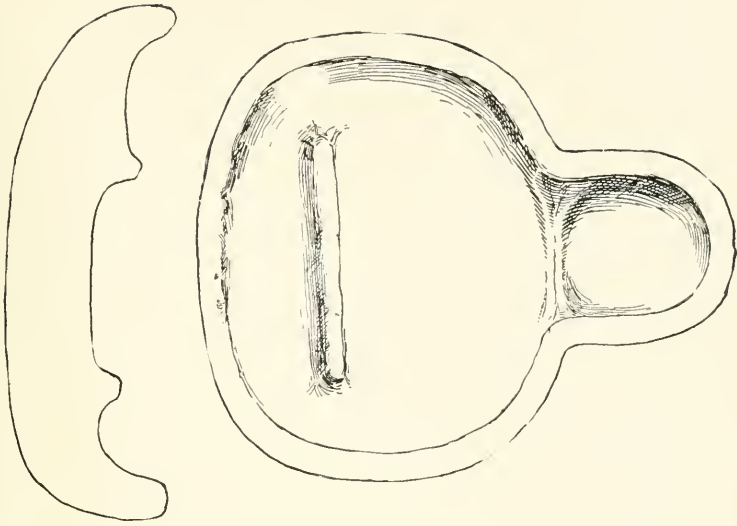
LAMPS OF ST. LAWRENCE ISLAND.

Fig. 1. Section and outline of pottery lamp.

(Cat. No. 63543, U.S.N.M. Collected by E. W. Nelson.)

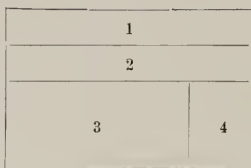
Fig. 2. Side view of same.

Fig. 3. Same lamp in wooden rest or dish carved out to accommodate the lamp. The rest is No. 1270181 of the Museum catalogue and was collected by E. W. Nelson.



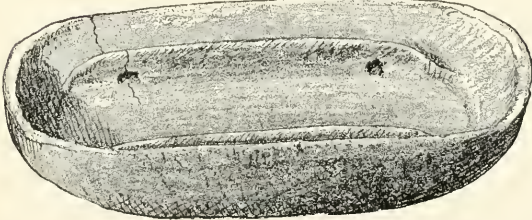
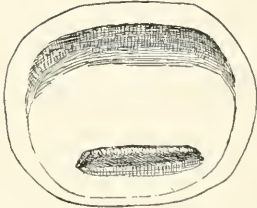
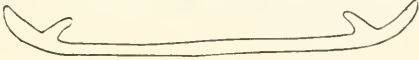
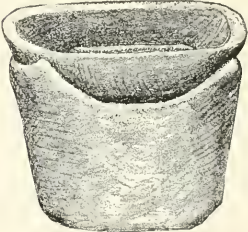
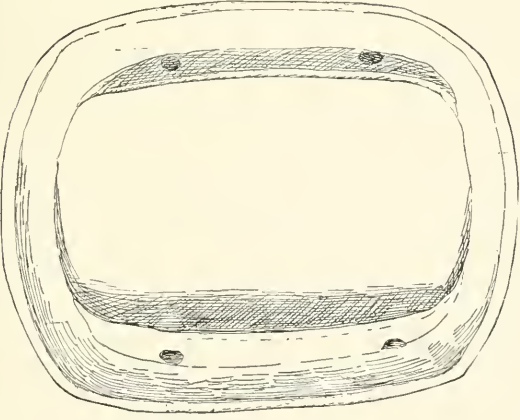
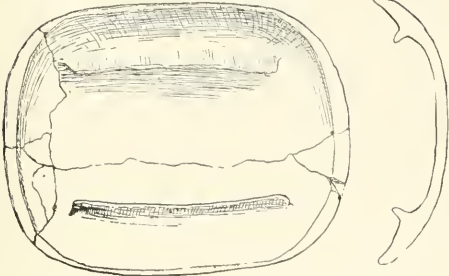
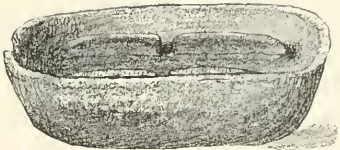
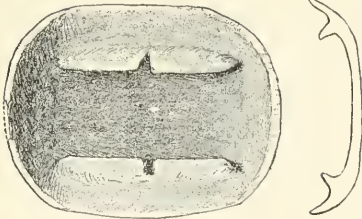
LAMPS OF ST. LAWRENCE ISLAND.

EXPLANATION OF PLATE 15.



LAMPS OF ST. LAWRENCE ISLAND.

- Fig. 1. Double earthenware lamp, with divided bridges.
(Cat. No. 63570, U.S.N.M. Collected by E. W. Nelson.)
- Fig. 2. Double earthenware lamp, with continuous bridges.
(Cat. No. 63569, U.S.N.M. Collected by E. W. Nelson.)
- Fig. 3. Large double earthenware lamp, with pierced bridges.
(Cat. No. 49196, U.S.N.M. Collected by E. W. Nelson.)
- Fig. 4. Balanced earthenware lamp, with single bridge. In the upper drawing the lamp is shown set upon the pottery rest and drip catcher.
(Cat. No. 63544, U.S.N.M. Collected by E. W. Nelson.)



LAMPS OF ST. LAWRENCE ISLAND.

EXPLANATION OF PLATE 16.

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COOKING POTS OF ST. LAWRENCE ISLAND.

Fig. 1. Earthenware. St. Lawrence Island is the southern limit of cooking pots hung over the lamp. The jar-shaped cooking pots from Norton Sound and southward are set on a fire of driftwood.

(Cat. No. 63546, U.S.N.M. Collected by E. W. Nelson.)

Fig. 2. Earthenware.

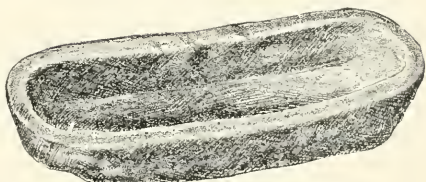
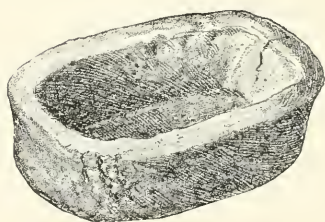
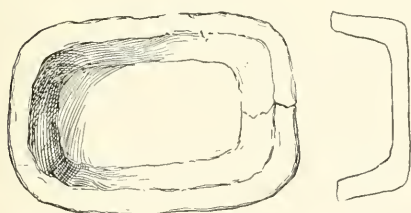
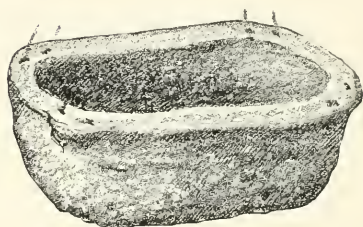
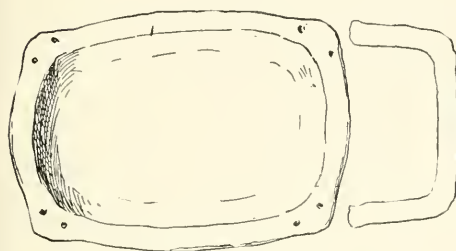
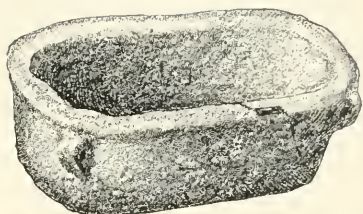
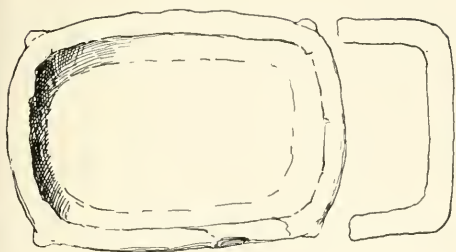
(Cat. No. 63548, U.S.N.M. Collected by E. W. Nelson.)

Fig. 3. Earthenware. Probably a food vessel.

(Cat. No. 63547, U.S.N.M. Collected by E. W. Nelson.)

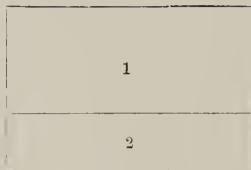
Fig. 4. Earthenware. Probably a drip catcher.

(Cat. No. 63545, U.S.N.M. Collected by E. W. Nelson.)



COOKING POTS OF ST. LAWRENCE ISLAND.

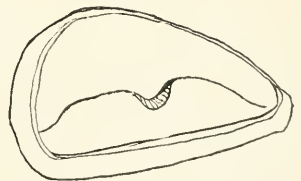
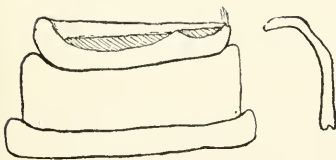
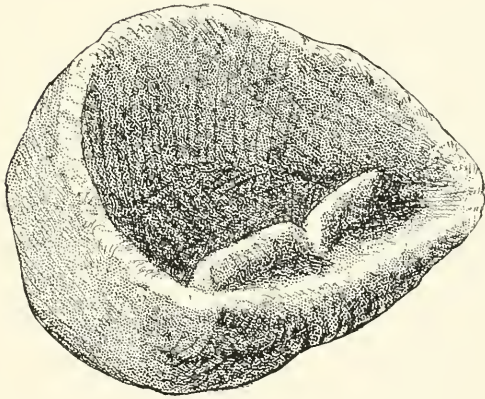
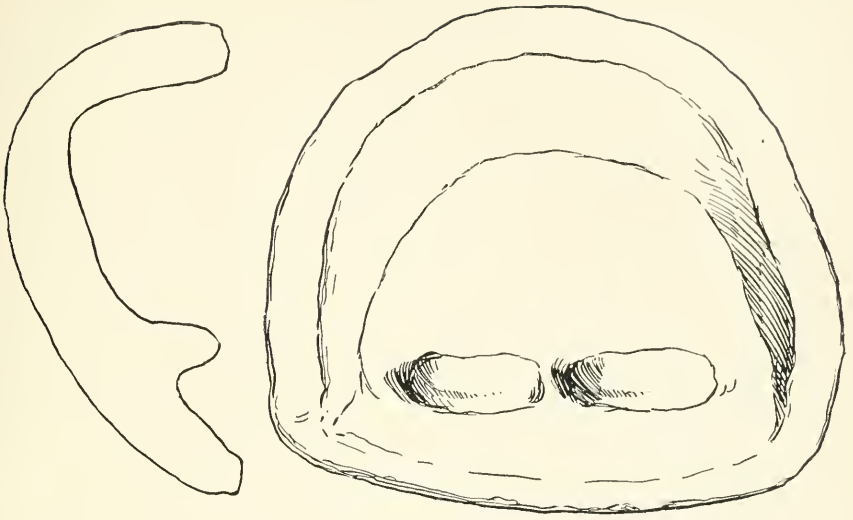
EXPLANATION OF PLATE 17.



LAMPS OF EASTERN SIBERIA.

Fig. 1. Outline, section, and front view of balanced soapstone lamp with bridge.
(Cat. No. 64222, U.S.N.M. Collected by E. W. Nelson.)

Fig. 2. Outline and section showing method of installation of Chukchis lamp. From
the "Voyage of the Vega."



LAMPS OF EASTERN SIBERIA.

- LAMP. Old pottery lamp of the ordinary Bristol Bay type. The edge shows marks of charring and the lamp is soaked with oil. Diameter, $7\frac{1}{2}$ inches; height, $2\frac{3}{4}$ inches. Eskimo, Bristol Bay, Alaska. Collected by C. L. McKay. 56020a. Plate 18, fig. 3.
- LAMP. Saucer-shaped lamp of pottery, soaked with oil. This lamp is plain. There is a very shallow depression on the interior just below the edge, which defines the rim. Diameter, $5\frac{1}{4}$ inches; height, $1\frac{3}{4}$ inches. Eskimo, Ugashik, Bristol Bay, Alaska. Collected by J. W. Johnson. 127660b. Plate 18, fig. 4.
- LAMP. Saucer shaped lamp of pottery, neatly made, soaked with oil. The walls are decorated with horizontal parallel shallow grooves scratched in the paste. The exterior of the beveled rim is decorated in the same way. In the center of the vessel is an outlined circle, from which radiate at right angles four arms, formed of grooves scratched in the paste, which Mr. Nelson informs the writer is a personal mark. Diameter, $4\frac{3}{8}$ inches; height, $1\frac{1}{2}$ inches. Eskimo, Big Lake, Alaska. Collected by E. W. Nelson. 38077. Plate 19, fig. 1.
- LAMP. Of pottery, soaked with oil; saucer-shaped. In the bottom is a square cross in a circular field bounded by the lowest of the four grooves around the side. The outside of the rim has three grooves; the bottom is quite smooth and even in outline. Traces of moss are found in the grooves. The function of the grooves, if they are more than decorative, is not known. The lamp may have been burned by means of a piece of moss placed in the center or floating in the oil, like those of the Novaks.¹ Diameter, $3\frac{5}{8}$ inches; height, $1\frac{1}{2}$ inches. Eskimo of Lower Yukon, Alaska. Collected by E. W. Nelson, 38078. Plate 19, fig. 2.
- LAMP. Pottery lamp with horizontal grooves around the inside of the walls and with beveled edge. The lamp is well-shaped and is shallower than 56022. It is incrustated with grease. Diameter, $8\frac{1}{2}$ inches; height, $2\frac{3}{4}$ inches. Eskimo, Bristol Bay, Alaska. Collected by C. L. McKay. 56021. Plate 19, fig. 3.
- LAMP. Heavy, clumsily made, saucer-shaped, dish of unbaked clay without temper. The object has never been used. Diameter, 5 inches; height, 2 inches. Eskimo, Ugashik, Bristol Bay, Alaska. Collected by J. W. Johnson. 127660a.
- LAMP. Evenly-shaped bowl lamp of pottery, with numerous horizontal ridges on the inside. Along a portion of the rim there is a charred crust, as though the lamp had been tilted and burned with a moss wick as in other lamps. The base is somewhat flattened. Diameter, 7 inches; height, $3\frac{1}{4}$ inches. Eskimo, Bristol Bay, Alaska. Collected by C. L. McKay. 56022.
- LAMP. Made of fine homogeneous clay; burned. It is the largest circular pottery lamp in the United States National Museum. The edge is beveled and grooved. The grooves inside are shallow, and in the floor of the lamp is a circle with radiating arms, forming a cross. From the incrustation around the edge it would seem that a moss wick was used. Diameter, $10\frac{1}{2}$ inches; height, $3\frac{1}{4}$ inches. Eskimo, Bristol Bay, Alaska. Collected by C. L. McKay. 56020.
- LAMP. Heavy saucer-shaped lamp of pottery; soaked with oil from use. This lamp is plain, and has evidently seen long service. There is no well-marked wick edge, and it is probable that the wick floated in the oil or was placed in the center. This lamp was used in the house. Diameter, $8\frac{1}{2}$ inches; height, $2\frac{3}{4}$ inches. Eskimo, Ugashik, Bristol Bay, Alaska. Collected by J. W. Johnson. 127660c.
- LAMP. This lamp is of hard crystalline rock. It has been worked apparently from a beach pebble by pecking. The lower portion is rounded without flattened portion for a base of support; the lamp, however, is stable and has a slight inclination toward the wick edge; around the side a wide groove has been worked, making a decided rim. The reservoir is shallow and perfectly oval in outline with a flat edge, which has been worked down at one apex of the oval to form a narrow lip for the wick. The reservoir and edge have been rubbed smooth. The lamp is

¹ Kennan, *Tent Life in Siberia*, p. 175.

a very fine specimen of stone working. It is like the Kadiak lamps in the lip, but the general appearance is that of the pottery lamps of the Bristol Bay region. Dimensions, $5\frac{1}{2}$ inches by $4\frac{1}{2}$ inches; height, $2\frac{3}{4}$ inches. Eskimo, Bristol Bay, Alaska. Collected by C. L. McKay. 56024. Plate 20, fig. 3.

THE LAMPS OF KADIAK.

There is a full series of lamps from Kadiak in the United States National Museum. They are of hard dioritic rock and are usually carefully worked and finished. It would be difficult to mention better specimens of stone working. Some of the lamps are very large, one in the collection weighing 67 pounds. They are oval in outline, with a shallow reservoir, low walls with flat top, the sides are often grooved, the bottom convex. The wick edge is a small groove cut through the wall at the apex of the oval leading to it.

There is no information concerning the installation of these lamps, the specimens, like those of the Aleuts, having been taken from old village sites.

An oval lamp of the type exists in the collection of the Alaska Commercial Company, Golden Gate Park Museum at San Francisco, California. It is curious, having the channel for the wick deeper than the bottom of the lamp and two conical projections rising from the floor of the reservoir near the back of the lamp. The material is diorite.

LAMP. Cut out of greenish diorite; upper surface polished; bottom showing hammer marks. The lamp is of sad-iron shape, the shallow reservoir surrounded by a broad flat rim. The edge of the lamp below the rim has been rubbed into a groove. The bottom is rounded, but the lamp is stable on its base. The wick lip is narrow. Length from front to back, $11\frac{1}{2}$ inches; width, 8 inches; height 4 inches. Eskimo, Kadiak Island, Alaska. Collected by Commander L. A. Beardslee, U. S. N. 42321. Plate 21, fig. 1.

LAMP. Of hard, gray rock, originally perhaps a beach boulder; bottom rounded, edge flat, cavity well worked out. A small lip has been cut into the edge at the apex of the oval, where there is an accumulation of charred wick. The cavity of the lamp has been employed for grinding red paint. Measurements, 6 by 8 by $3\frac{1}{4}$ inches. Eskimo, Karluk, Kadiak Island, Alaska. Collected by W. J. Fisher. 74724. Plate 21, fig. 2.

LAMP. This lamp is of metamorphic or volcanic rock. It is oval in outline, the sides straight and the bottom curved. The reservoir is neatly hollowed out and polished; the wick space or lip a shallow trough cut through the edge at the apex of the oval. When placed on its base, the lamp inclines strongly toward the lip. Length, $4\frac{1}{2}$ inches; width, $3\frac{3}{4}$ inches; height in front, $1\frac{1}{2}$ inches; at rear, $2\frac{1}{2}$ inches. Eskimo, Kadiak Island, Alaska. Collected by Dr. Tarleton H. Bean. 131237. Plate 21, fig. 3.

LAMP. Small oval lamp of hard rock (basalt), with rounded sides and flat bottom, the latter showing the fractured surface. The cavity is elliptic; the lip is worked at one end and shows traces of charred moss. This lamp was taken from an ancient dwelling and is probably a convenient pocket lamp used in traveling. Length, 3 inches; width, $2\frac{1}{4}$ inches; height, 1 inch. Eskimo, St. Paul, Kadiak Island, Alaska. Collected by W. J. Fisher. 90483. Plate 21, fig. 4.

LAMP. Lamp of greenish-gray rock, finely worked and polished. It is oval in shape, broader at the back than at the front, with almost flat, slightly rounded bottom, upon which it firmly rests. The reservoir shallow, the upper edge wide and flat. The lip is worked in the edge at the apex of the oval, slanting down



EXPLANATION OF PLATE 18.

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LAMPS OF BRISTOL BAY.

Fig. 1. Earthenware lamp.

(Cat. No. 153703, U.S.N.M. Cape Vancouver. Collected by J. H. Turner.)

Fig. 2. Earthenware lamp.

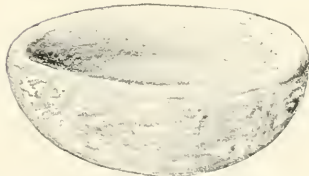
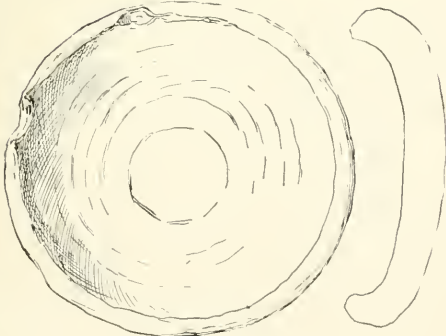
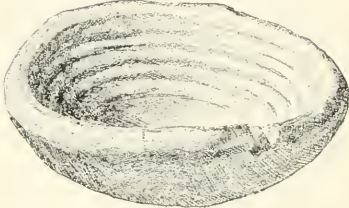
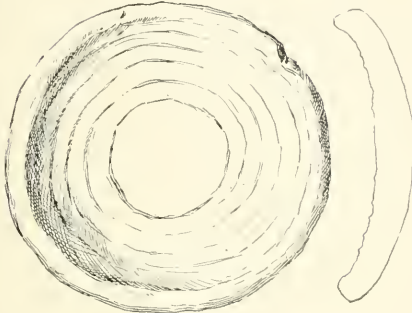
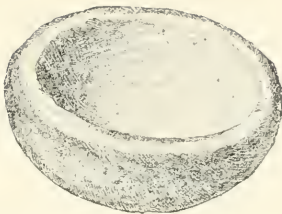
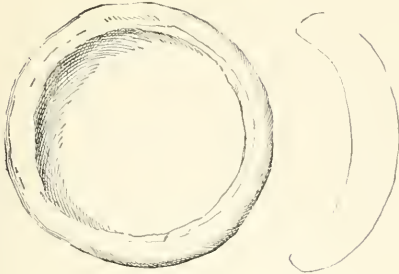
(Cat. No. 153702, U.S.N.M. Cape Vancouver. Collected by J. H. Turner.)

Fig. 3. Earthenware lamp.

(Cat. No. 56020a, U.S.N.M. Bristol Bay. Collected by C. L. McKay.)

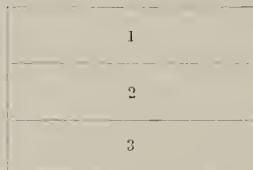
Fig. 4. Earthenware lamp.

(Cat. No. 127630b, U.S.N.M. Ugashik, Bristol Bay. Collected by J. W. Johnson.)



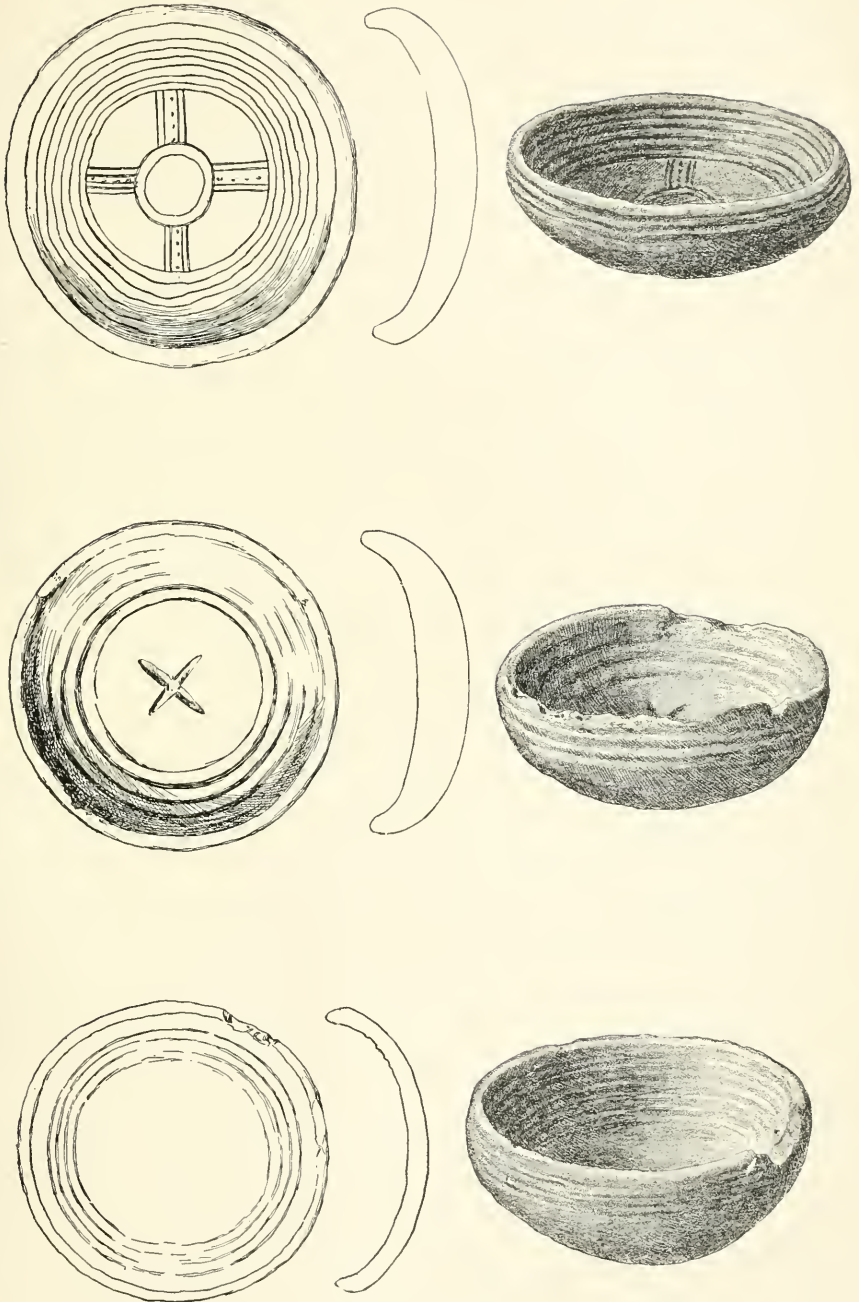
LAMPS OF BRISTOL BAY.

EXPLANATION OF PLATE 19.



LAMPS OF BRISTOL BAY.

- Fig. 1. Earthenware lamp with personal mark.
(Cat. No. 38077, U.S.N.M. Big Lake. Collected by E. W. Nelson.)
- Fig. 2. Earthenware lamp with personal mark.
(Cat. No. 38078, U.S.N.M. Lower Yukon. Collected by E. W. Nelson.)
- Fig. 3. Earthenware lamp.
(Cat. No. 56021, U.S.N.M. Bristol Bay. Collected by E. W. Nelson.)



LAMPS OF BRISTOL BAY.

into the reservoir, and a small portion of the flat edge is left whereon to place the moss. The side, edge, and reservoir are polished. Length, $8\frac{1}{2}$ inches; width, $7\frac{1}{4}$ inches; height, $2\frac{1}{4}$ inches. Eskimo, Katmai, Shelikoff Strait, Alaskan Peninsula. Collected by W. J. Fisher. 90476. Plate 21, fig. 5.

LAMP. Very finely worked from green metamorphic stone; ovate in outline, with squared edges and rounded bottom, on which the lamp accurately balances. Reservoir deep, uniformly concave; upper edge flat; lip narrow, cut in the edge at the point of the oval. The edges and reservoir have been polished; the bottom shows marks of hammer stone in working the lamp out. This is a splendid specimen of stone working. The lamp approximates the round shape of the Yukon Delta lamps. Length, 11 inches; width, 10 inches; height, 4 inches. Eskimo of Afognak Island, Alaska. Collected by W. J. Fisher. 74726.

LAMP. Oval lamp of fine-grained hard stone, nicely worked out. The lamp is a true oval, with a wick area at the smaller apex. The side of the lamp is worked with a broad, shallow groove, and the bottom is rounded. Length, $6\frac{1}{4}$ inches; width, $4\frac{3}{8}$ inches; height, $1\frac{1}{8}$ inches. Eskimo, Ugashik, Alaskan Peninsula, Alaska. Collected by W. J. Fisher. 90472.

LAMP. Of hard, gray rock from the beach; original surface showing on portions of the lower side. Sad-iron shape; upper edge slightly concave; reservoir shallow; lip narrow. The bottom is rounded; the sides plain, nearly vertical. The lamp sits nearly horizontal—that is, the rear only $\frac{1}{4}$ inch higher than the point. Length, $9\frac{3}{4}$ inches; width, $7\frac{1}{2}$ inches; height, $2\frac{3}{4}$ inches. Eskimo, Afognak Island (Kadiak Group), Alaska. Collected by W. J. Fisher. 90473.

LAMP. Worked from a beach pebble of greenish-gray volcanic rock, of which the original surface shows in two places beneath. The cavity is shallow, uniformly concave, and is ovate in outline. There is no lip specially worked out for the wick, though the lamp inclines toward the apex of the oval. It resembles the Bristol Bay type. Length, 6 inches; width, $5\frac{1}{2}$ inches; height, $2\frac{7}{8}$ inches. Eskimo, Lesnova, Kadiak Island, Alaska. Collected by W. J. Fisher. 90481. Plate 20, fig. 1.

THE LAMPS OF THE ALEUTIAN ISLANDS.

The most primitive lamps on earth are those of the ancient Aleuts. Many of them are merely unmodified rock fragments, and by far the larger number which have been adapted show little modification. Very rarely a completely worked lamp is found. These lamps were, with few exceptions, collected by Mr. W. H. Dall from prehistoric village sites.

There is quite a number of small lamps in the collection from these islands. Mr. Dall informs the writer that the Aleuts used small lamps to take to sea in the fishing boats. As the men get chilled on these trips, the little lamps are useful to warm the hands or body. In the latter case they fill the lamp from the oil bottle, place it in the lap under the gnt coat, light it, and let it burn awhile. These lamps are often put to the same use in the house when the weather is cold.

The Aleuts always built the fire outside of the house, as the climate is mild. They are also said by early explorers to have done little cooking.

LAMP. Subangular, water-worn beach stone, elliptic in shape, having a natural cavity on the upper surface forming the lamp reservoir. Crusts of charred moss still adhere to the lamp near the lip where the wick was laid, and the lamp shows evidence of long and constant usage. The specimen was taken from a mound. Length, 9 inches; width, $6\frac{1}{4}$ inches. Aleuts, Illiulik, Unalaska Island, Alaska. Collected by W. H. Dall. 14894. Plate 22, fig. 1.

- LAMP. Natural shell of volcanic rock, which, from its shape, has been found suitable for a lamp. Length, $5\frac{1}{4}$ inches; width, $4\frac{3}{8}$ inches. Aleuts, Bay of Islands, Alaska. Collected by W. H. Dall. 13017. Plate 22, fig. 2.
- LAMP. Made from volcanic breccia; nearly circular in outline. The reservoir is shallow; the front portion has been broken away. Length, $5\frac{3}{8}$ inches; width, $4\frac{7}{8}$ inches; height, $2\frac{1}{4}$ inches. Aleuts, Constantine Harbor, Alaska. Collected by W. H. Dall. 13020.
- LAMP. Somewhat water-worn fragment of metamorphic rock, with a natural concavity and slant, which have been taken advantage of by the Aleuts for use as a lamp. The stone is absolutely unmodified, but it serves the purpose as well as though designed by art. The wick edge is irregular, and it must have been possible to lay the wick along a line of about three inches. The edge shows traces of charred moss and the action of fire. This lamp is the most primitive which has come to my knowledge, and it might well begin the entire developmental series of lamps if there were not a question whether or not it is a makeshift. The Aleuts of the peninsula, at least, did work their lamps from stone with some degree of finish. Length, $9\frac{1}{4}$ inches; width, 6 inches; height at rear, 3 inches. Aleuts, Unalaska, Alaska. Collected by W. H. Dall. 14891. Plate 22, fig. 3.
- LAMP. Worked from an oval beach pebble; the reservoir is shallow and oval in outline; there is no definite lip worked out. The bottom of the lamp is irregular; when in use, the lamp must be propped up. Length, $4\frac{1}{2}$ inches; width, $3\frac{3}{4}$ inches; height, 2 inches. Aleuts, Alaska. Collected by W. H. Dall. 14896. Plate 22, fig. 4.
- LAMP. Oblong beach pebble with cavity worked in it. It is probably a toy, if ever designed for a lamp. Length, 3 inches; width, $1\frac{5}{8}$ inches. Aleuts, Unalaska, Alaska. Collected by W. H. Dall. 16061. Plate 22, fig. 5.
- LAMP. Oval, worked from coarse volcanic breccia. The reservoir is shallow, with the bottom flat. This specimen has seen long use and the remains of charred wick indicate that the lamp was lighted around the entire edge. There is, however, a lip worked out on the edge, as in Kadiak lamps. Length, $6\frac{5}{8}$ inches; width, $6\frac{1}{2}$ inches; height at front, 2 inches; at back, $2\frac{3}{4}$ inches. Aleuts, Alaska. Collected by W. H. Dall. 14897. Plate 20, fig. 4.
- LAMP. Oblong-oval lamp excavated in a gray volcanic beach pebble, having a tendency to split into layers. The bottom has cracked off. The reservoir is elliptic in outline and shows markedly the effect of the oil and burning. Length, 6 inches; width, $3\frac{1}{2}$ inches; height, $1\frac{1}{2}$ inches. Aleuts, Alaska. Collected by W. H. Dall. 14899. Plate 23, fig. 1.
- LAMP. Small oval lamp of yellow volcanic rock, having an oval cavity worked out apparently with a sharp-edged tool. There is no defined lip, the wick being applied at the narrower point of the oval. This lamp was taken from a mound or village site. Length, $4\frac{1}{4}$ inches; width, $3\frac{1}{4}$ inches; height, $1\frac{1}{2}$ inches. Aleuts, Ulatka, Alaska Peninsula. Collected by W. H. Dall. 14911.
- LAMP. Small oval lamp worked from a beach pebble of gray volcanic rock. The cavity has been rudely excavated and is oval in outline. Length, 4 inches; width, 3 inches; height, $1\frac{3}{4}$ inches. Aleuts, Alaskan Peninsula, Alaska. Collected by W. H. Dall. 14898. Plate 23, fig. 2.
- LAMP. Shallow reservoir worked out in the surface of a rounded beach pebble of volcanic rock. The outline of the reservoir is oval and its surface is roughly finished. Length, $5\frac{1}{2}$ inches; width, $4\frac{1}{2}$ inches; height, 2 inches. Aleuts, Alaska. Collected by W. H. Dall. 14900. Plate 23, fig. 3.
- LAMP. Made from gray volcanic rock. The reservoir is shallow and semicircular in outline, resembling the Greenland lamp. This is due to the shape of the original beach pebble. There are slight traces of burning on this lamp. Length, 5 inches; width, $3\frac{3}{4}$ inches; height, $1\frac{1}{2}$ inches. Eskimo, Unalaska, Alaska. Collected by W. H. Dall. 16395. Plate 23, fig. 4.

EXPLANATION OF PLATE 20.

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LAMPS OF KADIAK AND THE PENINSULA.

Fig. 1. Stone lamp.

(Cat. No. 90481, U.S.N.M. Kadiak Island. Collected by W. J. Fisher.) (See p. 1055.)

Fig. 2. Stone lamp.

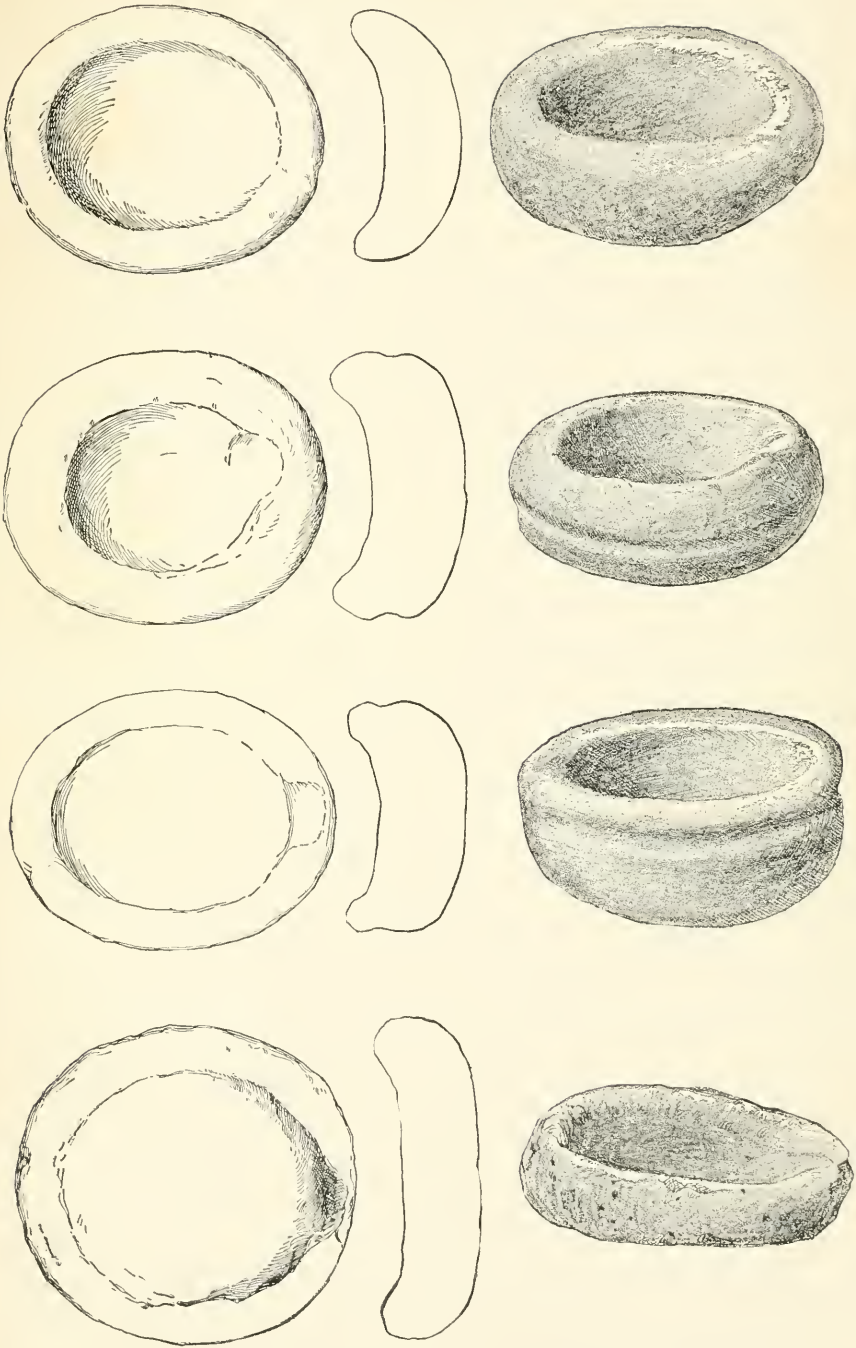
(Cat. No. 140961, U.S.N.M. Oukivok Island. Collected by the U. S. Fish Commission.)
(See p. 1057.)

Fig. 3. Stone lamp.

(Cat. No. 56024, U.S.N.M. Southern shore of Bristol Bay. (Alaskan Peninsula.) Collected by C. L. McKay.) (See p. 1054.)

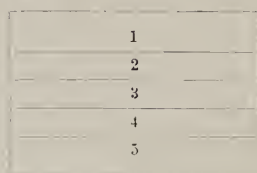
Fig. 4. Stone lamp.

(Cat. No. 14897, U.S.N.M. Alaskan Peninsula. Collected by Dr. W. H. Dall. (See p. 1056.)



LAMPS OF KADIAK AND THE PENINSULA.

EXPLANATION OF PLATE 21.



LAMPS OF KADIAK ISLAND.

Fig. 1. Stone lamp.

(Cat. No. 42321, U.S.N.M. Collected by Commander L. A. Beardslee, U. S. N.)

Fig. 2. Stone lamp.

(Cat. No. 74724, U.S.N.M. Collected by W. J. Fisher.)

Fig. 3. Stone lamp.

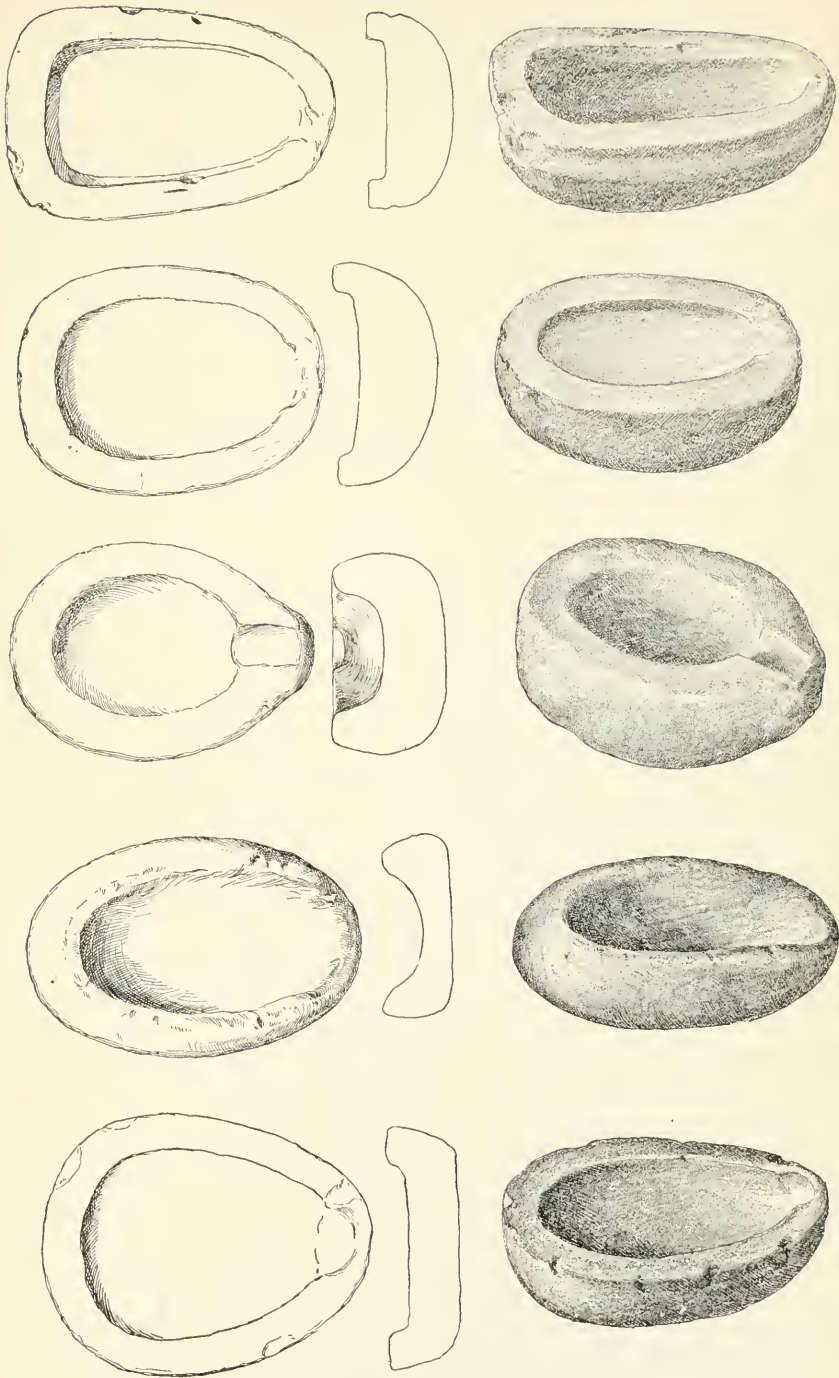
(Cat. No. 131237, U.S.N.M. Collected by Dr. Tarleton H. Bean.)

Fig. 4. Stone lamp.

(Cat. No. 90483, U.S.N.M. Collected by W. J. Fisher.)

Fig. 5. Stone lamp.

(Cat. No. 90476, U.S.N.M. Alaskan Peninsula, opposite Kadiak. Collected by W. J. Fisher.)



LAMPS OF KADIAK.

EXPLANATION OF PLATE 22.

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LAMPS OF THE ALEUTIAN ISLANDS.

Fig. 1. Rude lamp.

(Cat. No. 14894, U.S.N.M. Unalaska Island. Collected by W. H. Dall.)

Fig. 2. Rude lamp.

(Cat. No. 13017, U.S.N.M. Bay of Islands. Same collector.)

Fig. 3. Rude lamp.

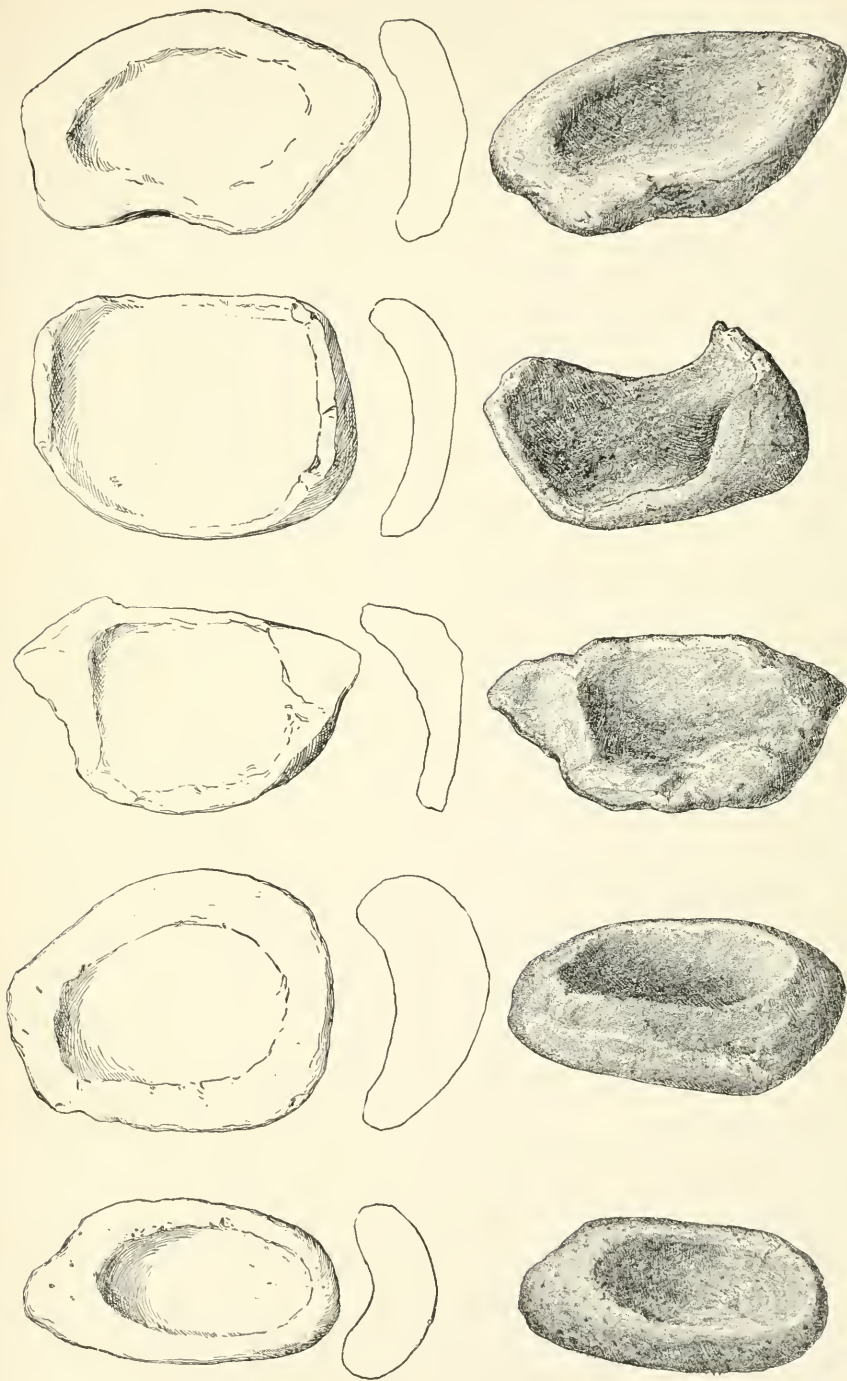
(Cat. No. 14891, U.S.N.M. Unalaska Island. Same collector.)

Fig. 4. Rude lamp.

(Cat. No. 14896, U.S.N.M. Aleuts. Same collector.)

Fig. 5. Rude lamp.

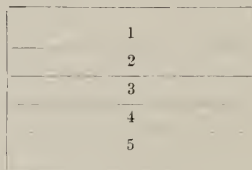
(Cat. No. 16061, U.S.N.M. Unalaska. Same collector.)



LAMPS OF THE ALEUTIAN ISLANDS.

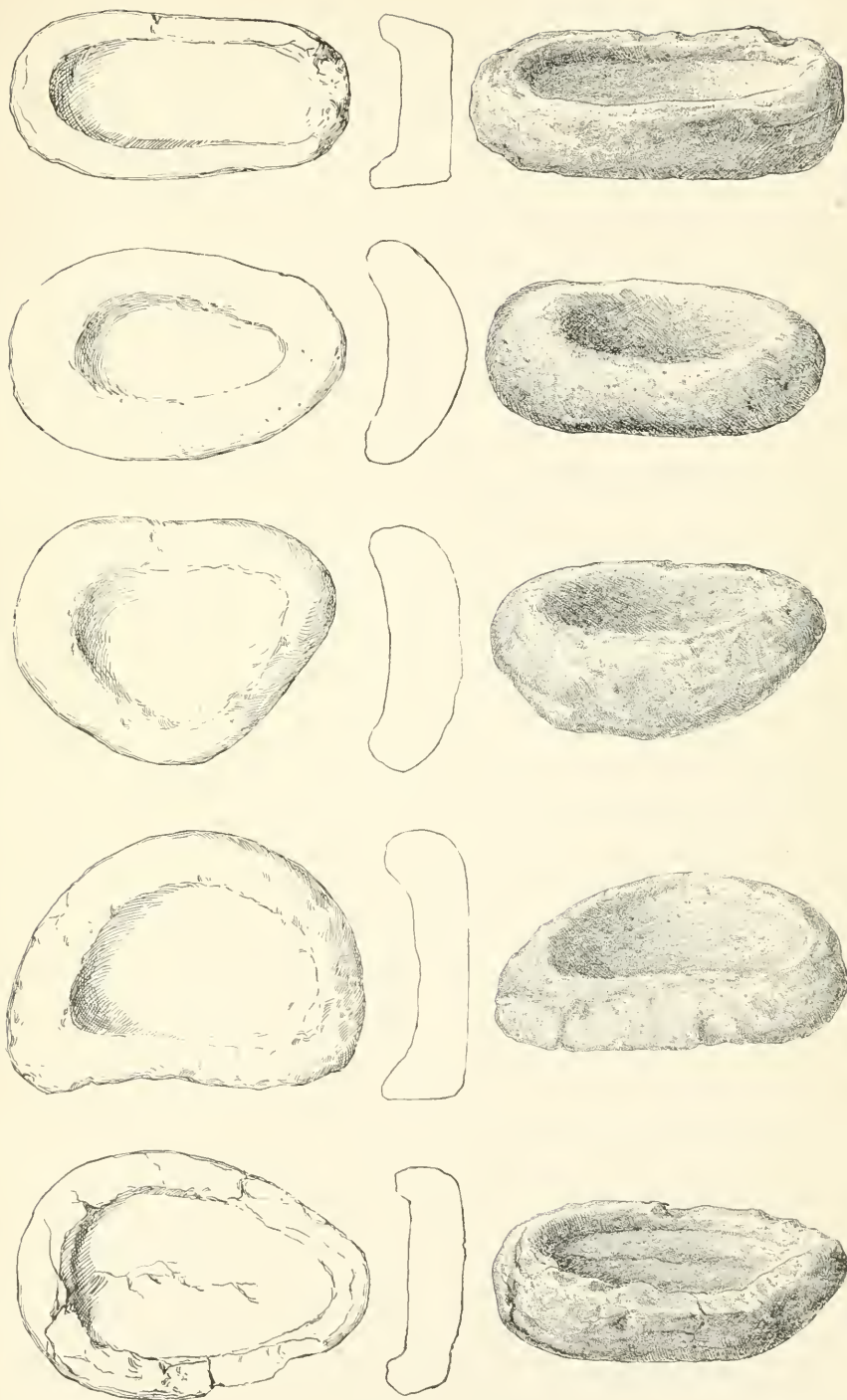


EXPLANATION OF PLATE 23.



LAMPS OF THE ALEUTIAN ISLANDS.

- Fig. 1. Rude stone lamp.
 (Cat. No. 14899, U.S.N.M. Aleuts. Collected by W. H. Dall.)
- Fig. 2. Rude lamp.
 (Cat. No. 14898, U.S.N.M. Aleuts. Same collector.)
- Fig. 3. Rude lamp.
 (Cat. No. 14900, U.S.N.M. Aleuts. Same collector.)
- Fig. 4. Rude lamp.
 (Cat. No. 16395, U.S.N.M. Unalaska Island. Same collector.)
- Fig. 5. Rude lamp.
 (Cat. No. 16396, U.S.N.M. Unalaska Island. Same collector.)



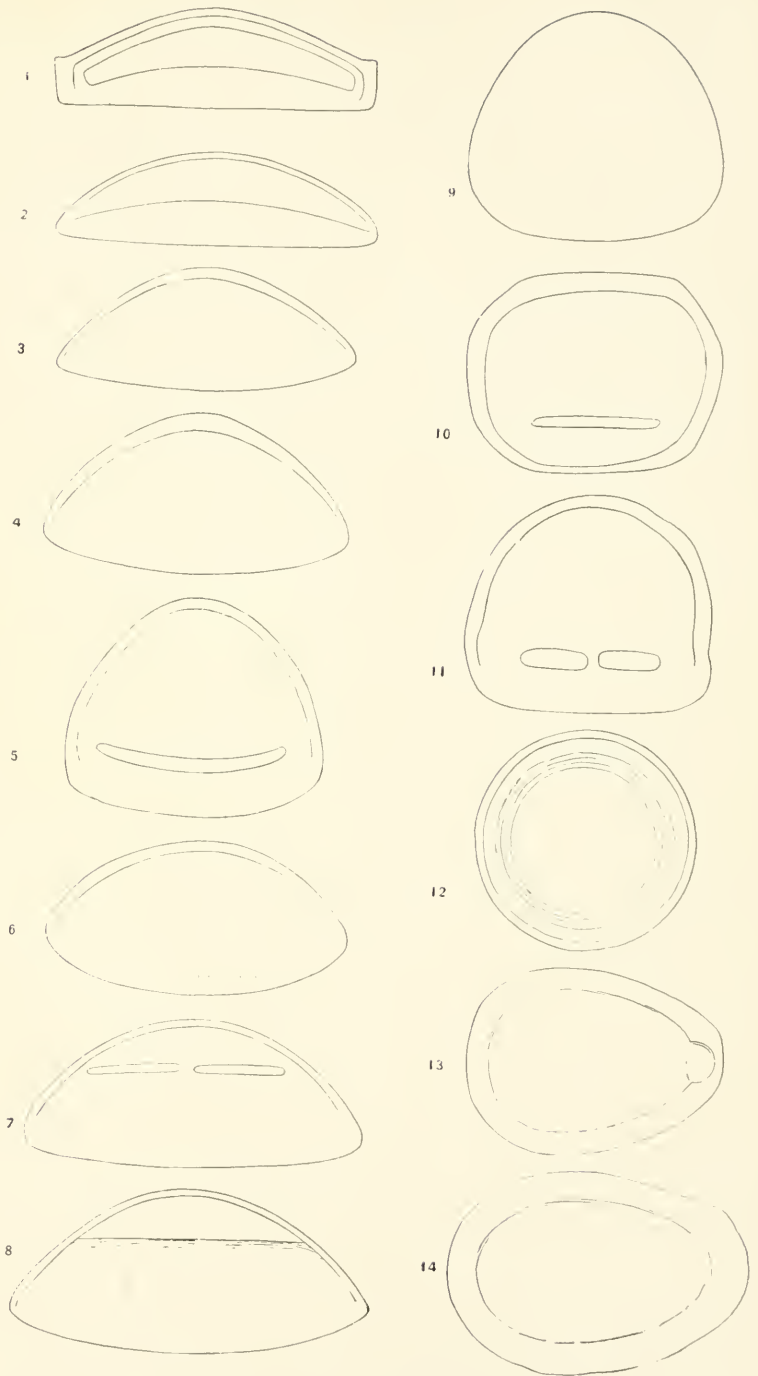
LAMPS OF THE ALEUTIAN ISLANDS.

EXPLANATION OF PLATE 24.

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TYPICAL OUTLINES OF ESKIMO LAMPS.

1, Labrador; 2, Cumberland Gulf; 3, Smith Sound; 4, Repulse Bay; 5, North Greenland; 6, East Greenland; 7, Mackenzie River; 8, Point Barrow; 9, Kotzebue Sound; 10, St. Lawrence Island; 11, Eastern Siberia; 12, Bristol Bay; 13, Kadiak, and 14, Aleutian Islands.



TYPICAL OUTLINES OF ESKIMO LAMPS.

LAMP. Oval lamp of stone, the wick lip being at the narrower point. This lamp has seen constant use, the stone having spalled off from heat. Length, $6\frac{1}{4}$ inches; width, $4\frac{3}{8}$ inches; height, $1\frac{3}{8}$ inches. Eskimo, Unalaska, Alaska. Collected by W. H. Dall. 16369. Plate 23, fig. 5.

LAMP. Small circular lamp smoothly worked from stone; this has a groove worked around the outside and a lip is worked in the edge; the reservoir is cup-shaped. Apparently at times the wick has been installed around the edge, probably to secure a greater light than the width of the wick edge or lip would admit. While identical in form with the lamps from Bristol Bay the lip cut in the edge relates it to the Kadiak region. Length, $4\frac{1}{2}$ inches; width, $4\frac{1}{2}$ inches; height, $2\frac{1}{4}$ inches. Alents, Onkivok Island, Alaska. Collected by United States Fish Commission. 140961. Plate 20, fig. 2.

LAMP. Suboval, with rounded bottom, vertical sides, and rounded edge. The walls of the reservoir are nearly vertical and the bottom nearly flat. A large chip has been knocked off the edge, apparently with design, in order to place a moss wick, the remains of which are found on the broken surface. This lamp seems to be a connecting type between those of Kadiak and the pottery lamps of Bristol Bay. It was taken from a burial place. Length, $4\frac{3}{8}$ inches; width, $4\frac{3}{8}$ inches; height, $2\frac{1}{16}$ inches. Alents, Cheranoffsky, Unalaska Island, Alaska. Collected by Marcus Baker. 46203.