

Wampum.

This is the English name for the shell beads used for ornament and as currency among the northern tribes of Indians previous to the settlement of the country. They were made chiefly on Long Island and around New York Bay, and were of two kinds, one made of conch or periwinkle shells and the other of hard clam shells. The making of wampum, to be sold for ornaments, has been carried on for nearly a hundred years by the Campbell family at Pascack, N. J., and they are now said to be the only persons who know how to bleach and soften the conch shells used in making white wampum or to drill holes through the still harder clam shells that are made into the more valuable black or deep purple wampum. The conch shells are brought from West Indian ports by schooners. The clam shells are of the largest size obtainable, the smaller ones being too thin for the purpose.

The white wampum and hair pipes are, according to the New York Sun, made from the lip of the shell, which is cut into suitable sizes after being detached from the body and put through a softening process that also bleaches it white. The hair pipes are somewhat thicker than a clay pipe stem, tapering from the center to both ends, and are graduated in length, by half inches, from one to six inches. They have a hole through the center lengthwise. They were used to ornament the long hair of the chiefs, which was run through the holes and secured with gaudy colored strings.

Black or dark purple wampum has always been more costly than the white because it was worn only by the chiefs and medicine men and because of the difficulty of drilling the holes. But a small portion of a clam shell yields material of the proper hue, and when it is cut in sections there is so much waste by breakage that only the most expert workman can be intrusted with the task. The dark shell is cut in lengths like the white. A number of sections having been drilled, they were, according to the old process, strung on a wire and placed in alternating grooves running around a fine grindstone. As the stone revolved Rockaways sand and water were dropped on it and a piece of hard board was rubbed back and forth across the face, thus moving the wampum and rounding its outer surface. Then it was washed, dried, dipped in olive oil to give a gloss, and afterward made into strings for market. The clam shell could not be softened without ruining its color.

NEW ARMY BICYCLES.

The new army tandem and the model 40, mounted with a Colt's automatic machine gun, which have been made by the Pope Manufacturing Company, were exhibited at the Madison Square Garden Cycle Show and attracted great attention.

The tandem is one of the Pope Company's regular model 43s taken directly from stock and finished plainly in enamel and nickel. On the front handle bars are tightly strapped two army overcoats, and on the rear bars a pair of blankets. Resting safely in brackets on either side of the machine is a twelve shot repeating rifle, and hanging on each seat post a Colt quick action revolver of the latest pattern. In addition to this there is a case of signal flags extending almost the whole length of the machine, but not interfering with the riders in the least; and this is the case with all the equipments, being as well and safely placed, ready for use in a moment, and yet causing not the slightest interference.

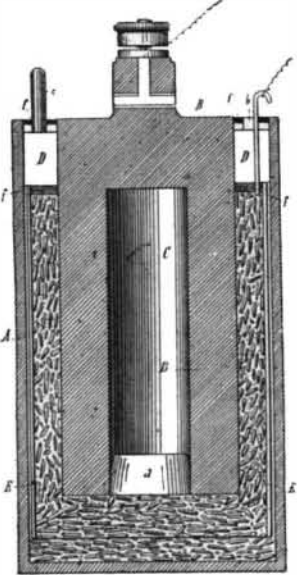
The Colt automatic gun mounted on the model 40 is the one recently adopted by the government for our navy. This gun weighs between thirty-nine and forty pounds, shoots two hundred and fifty or five hundred times—being automatically fed—and is remarkably accurate. It is fastened securely to the head of the machine, can be easily directed at any angle, and does not interfere with the rider or affect the steering of the machine.

These two wheels are as perfectly equipped with the necessary accouterments of war as would seem possible, and the interest which army people and civilians alike have shown in them leads one to believe that it will not be long before the wheel will form a very effective adjunct to regular army service.

It is proposed to construct a railroad from the city of Mexico to the harbor of Acapulco, on the Pacific coast. Acapulco has one of the finest lock harbors to be found anywhere, with 25 feet of water, and capable of floating all the navies in the world.

A NEW DRY BATTERY.

The battery represented herewith is said to be more durable than its congeners when not in operation. It consists of a glass vessel, A, in which is placed a carbon electrode, B, and a zinc one, E, which is closely applied to the inner surface of the vessel. In the carbon electrode there is a cavity, C, which may be filled with any kind of depolarizer and then be closed with a stopper, a. The space between the zinc and the carbon, as well as the lower part of the battery vessel, is filled with chopped rye straw, to which adheres bichloride of mercury, and which is quite strongly compressed. This filling extends to within three-quarters of an inch or an inch and a half of the upper



NEW DRY BATTERY (VERTICAL SECTION.)

edge of the vessel, so that a space may be reserved for the reception of the liquid before the reaction is brought about. Upon the filling, moreover, there is placed a cap of hemp, f, designed to prevent the element from emptying when it chances to be inverted. The aperture of the glass, likewise, is closed with a cap of hemp, f, impregnated with a resinous substance, and to which is applied a coating of asphalt cement. Finally, three filling apertures are formed in the cover and are closed with stoppers, c.

After the liquid that is to dissolve the exciting salt of the battery has been introduced, the electric current produced decomposes the bichloride of mercury into chlorine and mercury. The latter amalgamates the zinc, and thereafter prevents it from being attacked when the battery is at rest. As for the chlorine, that combines with the hydrogen of the reaction and forms hydrochloric acid, which, when the bat-

tery is not in operation, dissolves the layer of oxide of zinc, and thus permits of a new attack of the positive electrode over its entire surface.

At rest, the element, however, remains perfectly dry, and so no reaction occurs, and it loses neither its electromotive force nor the force of its current. Thus is explained the longer duration of this new battery.—*La Vie Scientifique.*

Egypt's History Traced from its Plants.

Dr. Schweinfurth made recently before the Egyptian Geographical Society, of Cairo, an address on the origin, or, more exactly, on the history, of cultivated plants in Egypt. He spoke in the first place on the route of the Hamitic race to the Nile valley, and concluded that they first lived in Northern Abyssinia and Southern Nubia as cattle breeders. From this point a nation of herdsmen could easily spread, and they certainly brought the ass with them from Somaliland and Nubia—an animal that had been used by man in Africa from prehistoric ages. The agriculture, literature, and religion of the ancient Egyptians were connected in the widest sense with the cultivation of plants. If all means of historical research are directed toward this subject, we find that of the 1,320 existing plant species of Egypt, of which 150 are useful plants, cultivated in great quantity, only 50 species of the latter were known before the Christian era, of which 40 are pictured on the monuments and the remaining 10 are mentioned in the inscriptions. If we would have a conception of the agriculture of the ancient Egyptians, we must exclude fully two-thirds of the plants cultivated in Egypt to-day. Dr. Schweinfurth distinguishes six epochs, according to the kinds of plants that were introduced into the country, as follows:

Epoch I.—Egypt is covered with grassy plains and forests, inhabited by the primitive African race, now extinct. Part of the cultivated plants belonged to the primitive flora of the Nile valley, whose representatives yet flourish over about 15° of latitude. . . .

Epoch II.—Colonization of Egypt by the Hamitic race. Disappearance of the forests, spread of the pastures, beginning of agriculture.

Epoch III.—Beginning of civilization; development of religion and art. Introduction of frankincense; acclimatization of the sacred trees of Arabia. . . . Toward the end of this epoch the cereals were brought in from the Euphrates valley. Beginning of the cultivation of corn, barley, flax, and the vine.

Epoch IV.—Epoch par excellence of Egyptian agriculture. The three kingdoms and the Lybian-Ethiopian domination.

Epoch V.—Egyptian agriculture spreads to foreign lands and the land receives in return many useful plants from abroad. This epoch includes the Persian, Greek, Roman, Byzantine, and Arabian periods.

Epoch VI.—Decay of Egyptian agriculture, about A. D. 1517. In the latter half of this epoch a regeneration followed and a return to civilization. By means of the Venetians the land received useful plants from America, such as maize, tomatoes, sweet potatoes, pimento, and tobacco. Tropical Africa gave it sesame, rice, sugar cane, and sorghum; Arabia, the sycamore, the fig, the pomegranate; Babylonia, cereals, speltz, corn, barley, etc. . . . and America again the most valuable of all her plants, namely, cotton.—Gaea, Leipsic.

Poisoning by Stale Eggs.

Dr. Cameron has reported the occurrence of vomiting and purging in seventy-four nuns and girl pupils in the boarding school attached to a convent in Limerick, following a dinner at which mutton and a custard composed of eggs, milk, corn flour, and sugar were eaten. The corn flour was suspected to contain arsenic, but analysis showed it to be free from poison of any kind, and to be of good quality. The sugar also proved to be pure. No other constituents of the meal could be obtained. The vomit and the stools were intensely green from the presence of biliary matter, but careful analysis failed to disclose the presence of ordinary poison. The viscera of two patients who had succumbed were also examined, but no poison was found. Ptomaines were found present, but in small quantity. The milk used had been boiled, and the meat was above suspicion. The eggs, however, were not fresh, and one presented a reddish-brown color and was thought to be bad. Some of the custard given to pigs induced severe diarrhoea.—*Dublin Medical Journal.*



NEW ARMY BICYCLE MOUNTED WITH A COLT MACHINE GUN.



NEW ARMY TANDEM BICYCLE.