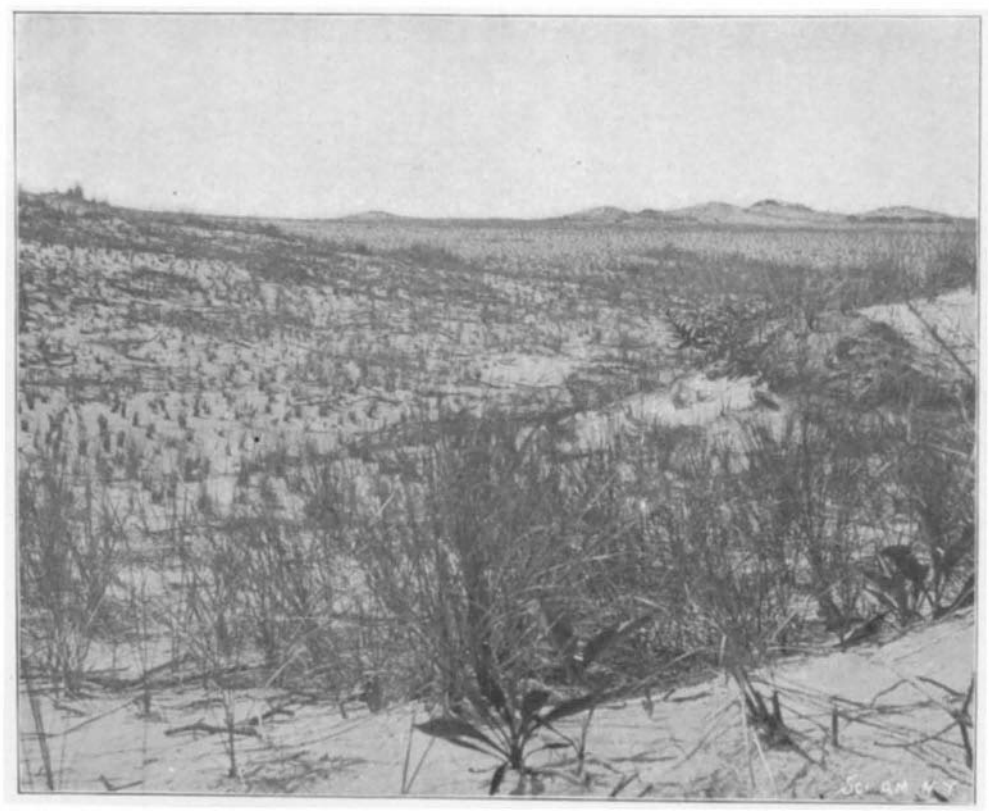
probably added at a later date—and the airshafts upon the deck. This is the only vessel in the whole collection containing the latter fittings.

A third war vessel shows the ship cleared for action. It has four masts, and the diminutive crew on the deck are carrying baskets of ammunition to the guns, while the gunners are standing with the sponges in their hands to clean the muzzles after the discharge. The captain is provided with a telescope with which he is scanning the horizon, and in the crow's nest are the sharpshooters or lookout men. The design on the hull depicts Venus rising from the sea with a host of Cupids. This example is Dutch, as may be determined from the bizarre horned mask with a protruding tongue from which the wine could be poured, constituting the figurehead. The model contains no hallmark, however, so that it is impossible to locate the date of its manufacture.

Although the majority of these nefs are mounted upon four wheels, some of them were treated much more fancifully. One is a single-masted ship with the deck merging into a huge shell. This specimen, which closely resembles our present-day bonbon dish, is mounted by means of a slim stem, comprising sea horses attended by boys, upon a tall stand, and measures twenty-four inches in total height. The sails are emblazoned with the arms of the Scottish lion and the French *fleur-de-lis*, respectively, interwoven. From the peculiarity of the figures on the deck it is surmised that they are supposed to represent Ferdinand, Alonzo, and Sebastian, while the winged figure on the mast is Ariel raising a storm.

The most modern example in the collection is inscribed with the year 1746, and was made at the town of Maestricht. It is not till one has closely examined the workmanship of the models that one can realize the immense amount of time and labor that must have been expended upon them. Without a doubt they are the finest specimens of silver carving and chasing in existence. The Nuremberg and Dutch silversmiths of the sixteenth and seventeenth centuries, to which period these nefs belong, were unrivaled in their skill and artistic taste, as this work abundantly testifies. It is mooted that the present Duchess intends bestowing them to the British Museum as a gift to the English nation. At any rate, it would be a matter of regret if such a unique collection should be permitted to be broken up and distributed in various directions.



INTRODUCTION OF DUNE GRASS TO PREVENT THE DRIFTING OF SAND.

THE SANDS OF CAPE COD.

BY L. P. GRATACAP. NATURAL HISTORY MUSEUM, NEW YORK CITY.

Cape Cod, the long forearm with clenched fist that holds back the surges of the Atlantic from Boston Harbor, is a sand ridge covering tertiary clays, mingled with alluvial material and vegetable débris, and sparsely covered with woods. Its surface is irregular, made up of groups of low hills separated by depressions, inundated swamp country, and broad long plains supporting a thin herbage. There is enough nutriment in the sands assisted by the rainfall to bring to maturity the more common fruits, and vegetables flourish, in some places perhaps precariously, upon a soil ninety per cent of which is pure silica.

It is an interesting region geologically, and, apart from its pictorial interest, furnishes the tourist with abundant opportunities of observing the shifting nature of sandbeds, and the topographical features their movements create or destroy.

The rounded extremity pushed eastward by the winds, or driven northward, forms a wide two-horned head or spit behind which a sea of little hills recedes from the shore line, surrounding Provincetown and blending into the "peaked hill" district, and the rolling plateau of North Truro. Dr. Julien has recently laid before the New York Academy of Sciences the results of his study of this capricious landscape, and the sands that give rise to its protean character. He remarks upon the obvious contrast between the sands of the Cape and those of the Atlantic coast southward. The former are almost pure silica, while in the latter there is a greater prevalence of garnet iron oxides, and in the sands of Staten Island, as the writer has noticed, of serpentine feldspar and even mica. The Cape Cod sands have been longer exposed to the separative action of wind and water, have undergone far more violent intervals of translation, and are less immediately subject to replenishment from continental drainage.

Dr. Julien notes the preponderant recession of the tops of the bluffs, observing that "a very large part of the damage has been done by the violence of the wind, reinforced by vast quantities of sand and spray lifted up and hurled continuously for hours against all opposing objects." At the Highland Light, North Truro, this is evident, but it can be in a measure also accounted for by the firmer barrier presented to the sea in the basal beds of more or less consolidated clays. The writer has noticed a process of detachment along the planes of contact between the sands and the underlying clays. Water penetrating the sand layers oozes out on the face of the cliff at the junction of the clay and sand, and, if the clay has a seaward dip, the superincumbent sands slip, by levigation, over the clays and spill outward on the beach, to be later carried away by wind and water.

The rapid movement of the sand, its constant volatility, under the influence of strong winds, is a menace to the harbor of Provincetown, where broad shoals and bars have been formed by its recurrent deposition. The Cape Cod Railroad also suffers from its mobility. The national government has, in recent years, attempted a systematic repression of this instability of the sand by planting over broad areas dune grass (Spartina) in regularly separated and alined bunches and covering the farmed area with pine boughs carrying cones. The rotting and dispersion of the grass, reinforced by the occasional dropping of the pine seed and its development was expected to furnish a substantial remedy for overcoming the unstable sands. It has proved a success. The illustration shows the long distances of sand, between the high hill, past the water station at Provincetown, and the Race Point Life-Saving Station, covered with the planted grass.

In the "peaked hill" district on the road to the life-saving station at that point is a desert of sand lying between elevated summits almost invariably topped by grass. These summits seem anchored by the grass, and form resistant points around which the sand accumulates. The extension of the government work is watched with interest. Its practical benefits will be great, and, as a demonstration, under the most obstreperous conditions, of the steadying effects of vegetation upon large non-coherent bodies of sand, subjected to the most powerful impacts of air, of great importance.

THE DUKE OF SAXE-COBURG-GOTHA'S COLLECTION OF NEFS.

The Rome correspondent of The Morning Post reports that, after several months of experiments and trial trips, the electric railway between Milan and Varese has been opened to the public. The railway, which is 90 kilometers (about 46 miles) in length, is the first line in Italy to be built on the "third-rail system." It consists of a double line of ordinary rails, between which runs a single conductor rail raised about a foot from the ground on earthenware insulators. The cars, which are about 40 feet long, are not unlike those of the Central London Railway, though they are somewhat more spacious. Each car is furnished with four projecting arms, at the end of which is a steel brush in contact with the conductor rail. On the journeys from Milan to Varese the arms to the right of the cars are in contact with the rail, and on the downward journey the left arms are in contact. At the level crossings the conductor passes underground, but as none of the crossings are 40 feet wide, the car remains in constant touch with the rail by means of its fore and aft arms. Under the car is placed an electric motor, and each car is furnished with an electric air pump for the Westinghouse brake and the whistle. The current is furnished from a station on the banks of the Ticino, where it can be generated either by water or by steam power, as the railway company has duplicate plant in case of a breakdown. Both plants dispose of 11,000 horse power. The current is conveyed from the generating station to the third rail by an elevated cable. Each car conveys 73 persons, and covers the distance from Milan to Varese in an hour. Departure takes place from Milan and Varese every 15 minutes.

Mr. J. Pierpont Morgan has purchased Raphael's Madonna of San Antonio for $500,000. This is the highest price ever paid for a picture, and the painting, which has been on the market for a number of years, is far from being one of Raphael's best. This sale naturally raises the question, What would a masterpiece like the Sistine Madonna sell for? Mr. Morgan is also said to have purchased the Psalmorum Codex, printed by Füst and Schoeffer, in 1459, for $26,000.