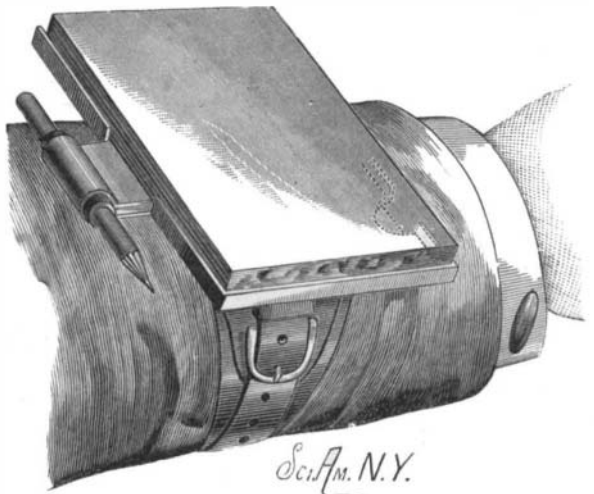


A WRIST-HELD MEMORANDUM PAD.

A means of avoiding the annoyance and inconvenience caused by misplacing memorandum pads and pencils, when one is occupied with work of various details, is shown in the accompanying illustration. Light metal plates are so made as to hold a pad by its paste-board bottom, and to these are attached a strap to pass around the arm at the wrist, and buckle. Integral with these plates is a looped strip with a rubber

**BOYLE'S HOLDER FOR TABLETS AND PENCILS.**

tube for holding a pencil. The device is such that pads can be conveniently renewed therein as desired, and, with it buckled on the left wrist, one can readily write on the pads as occasion may call for, with the least possible interruption to other work.

This invention has been patented by Mr. Peter Boyle, of No. 350 West Congress St., Chicago, Ill.

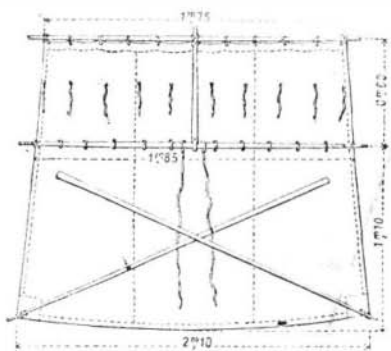
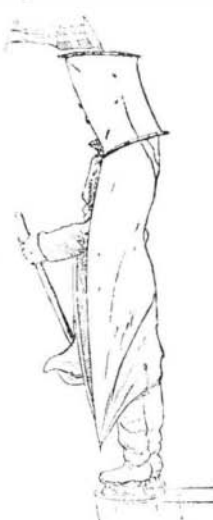
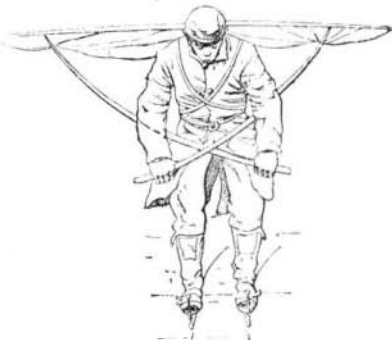
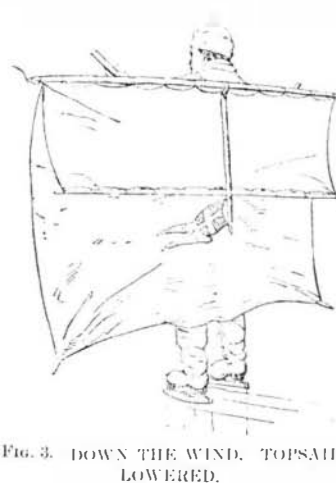
Sand Dunes.

Nature gives the following interesting account of a successful scheme of overcoming the movement of sand dunes: M. Cambrelent, Inspector of Public Works, has made a report to the Agricultural Society of France on the subject of the sand dunes of Gascony. These sand hills cover a surface of more than 85,000 hectares; they are more than 80 meters high, and 5 to 6 kilometers wide. Before a method of arresting these was discovered, they were being constantly pushed inland by the winds, invading and covering fields, villages, and even burying churches up to their towers. In 1780 Bremon tier sought to render them immovable by planting them, after many experiments designed to develop a primary vegetation. His work has been continued with perseverance, and it is only recently that it has been completed, and these 85,000 hectares, which menaced all the country adjoining, have become covered with a rich forest vegetation which has fixed the dunes in one place. A great public danger has been converted into a large forest. But this work, which renders permanent dunes already existing, has not prevented the sea from throwing up on the coast new sand day by day, which forms dunes, which in their turn invade the permanent dunes. After having fixed the old sand hills, the problem was to prevent the formation of new ones. To solve this, it was decided to construct a dune above high water, in which all the conditions of the movable dunes would be reversed. The form given to the latter by the wind is such that on the side of the sea they present a gentle slope, which the sand can mount easily as on an inclined plane, in order to fall down a steep decline. It is by the gentle slopes forming a series of inclined planes that the sand moves forward. The formation of the new dune was encouraged, but it was directed in such a manner that it had a steep slope on the side of the sea. To secure this, a wooden palisade was erected about 120 meters away from the sea, all along the shore. The sand first struck against this in its progress and fell at its foot, a portion of it escaping through the interstices left between the planks. The latter was carried some distance by

the force of the wind, and fell, forming slight slopes, while the sand which fell at the foot of the palisade on the side near the sea formed a steep incline. Soon this reached the top of the palisade, and then the planks were drawn up by means of a special implement to the needed height, and the formation continued as before, the slope on the side of the sea growing steeper, while the other got more and more gentle. Ultimately the dune reached such a height (generally ten to twelve meters) that the sand can no longer get over it, and it is definitely arrested between the barrier and the sea. It falls back on the shore, unable to advance, until contrary winds come and blow it out to sea again. To fix the sand on the other side of the barrier, the *Arundo arenaria* is planted. The roots penetrate to a depth of four or five meters, and the plant always keeps its head above the increasing sand. The results obtained by this new dune (says M. Cambrelent) have been complete. The most violent storms have not been able to carry the sand over it; the latter has fallen back on the shore innocuous, and the advance of the inexhaustible sand coming from the sea has been absolutely arrested.

SAIL SKATING.

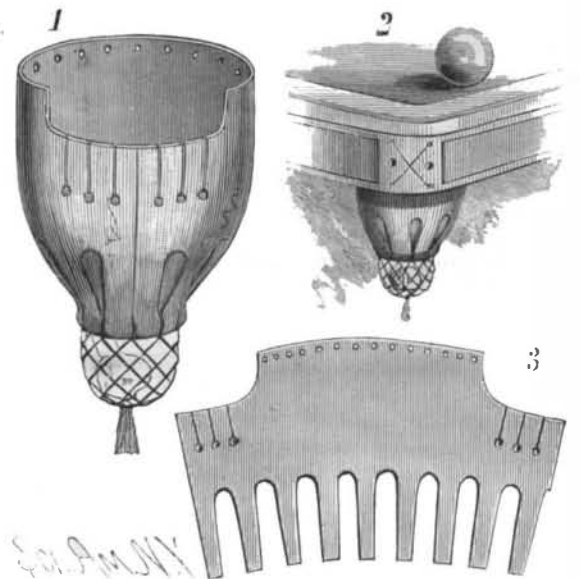
When the ports of the Baltic are closed by ice during winter, the pilots and sailors of Arnager Isle, at Copenhagen, delight to occupy their leisure hours with the exercise of skating by sail. This sport requires much skill and quite a long apprenticeship; but, after a person has become dexterous at it, it offers a very peculiar charm, and, when a swift wind causes him to glide over the surface of the ice, he feels himself lifted, as it were, and experiences a sensation analogous to that of flight. We give in Fig. 1 a diagram of the apparatus, such as we have seen it employed by the Danish skaters, and such as we have employed it ourselves. The sail, which is formed of a light but strong fabric,* is stretched over a bamboo frame whose dimensions are given in the cut. The center crosspiece, which must be placed at the level of the shoulders, is fastened to the skater's body by bands that cross the breast and afterward pass around the waist, so that they may be tied together in front. Large crosspieces of wood, attached to the lower corners of the system, are held in the skater's hands, so that he may trim the sail in one direction or another. When the skater wishes to be carried along by the wind, he must stand

**FIG. 1.—DIAGRAM OF THE SAIL AND ITS FRAME.****FIG. 2.—DOWN THE WIND. FULL SAIL.****FIG. 4.—STARBOARD TACK.****FIG. 6.—IN THE WIND'S EYE.****FIG. 3.—DOWN THE WIND. TOPSAIL LOWERED.****FIG. 5.—LARBOARD TACK.****SAIL SKATING.**

very erect, without stiffening his body too much, and bend backward in proportion as the wind blows fresher. Confidence is acquired by practice. Fig. 2 gives the position of the skater going with the wind and under full sail. When the wind is too violent, the topsail may be readily lowered (Fig. 3), so as to thus moderate the impulsion derived from the moving air. By inclining the sail in one direction or the other, the skater may

tack to the larboard or starboard (Figs. 4 and 5). Finally, when it is desired to move against the wind, by skating in the usual way, the body is bent forward in such a way that the sail lies horizontally, and no longer offers a purchase to the aerial current (Fig. 6). The skater can thus return to his starting point, and from thence be driven forward again by the wind.

This exercise is a very agreeable one, and not very dangerous; and the falls that a person gets in beginning are not to be dreaded, because they almost always occur backward. The degree of speed that can be at-

**SEELY'S BILLIARD TABLE POCKET.**

tained by a practiced skater is considerable, and yet is less than that of certain ice boats when these are sailing in high winds. When the skater gets through using his apparatus, he detaches it from his shoulders, winds the sails around the bamboo sticks, which may be separated from them, and thus has an object that is no more trouble to carry than an umbrella would be. When the winters are severe, it is not unusual to meet upon the ice numerous groups of skaters by sail who are endeavoring to excel each other in speed. Young people are often seen, too, setting out on an expedition over the frozen sea between Denmark and Sweden, and traversing the entire Sound. These latter use the sail when the wind is favorable, but fold up the apparatus when the contrary is the case, and make use of their skates in the ordinary way.

Danish hunters, likewise, often have recourse to skating by sail in order to rapidly reach points where wild ducks and geese have been observed. On one of these hunting excursions we chanced to pursue an unfortunate stray fox over the ice, and competed with him in speed when he was running in the direction of the wind. We came very near catching him in the race.—*La Nature*.

IMPROVED POCKET FOR BILLIARD AND POOL TABLES.

A billiard and pool table pocket in which the chalk cannot be broken by the striking of the balls is shown in the accompanying illustrations, where Figs. 1 and 2 represent the pocket unattached and in position on the table, and Fig. 3 shows the blank for making the body of the pocket. These pockets are preferably made of leather colored green, to correspond with the cloth on the table. It will be seen that the blank is so formed that its lower end strips may be contracted and folded over a ring to give the proper shape to the pocket, the ring leaving an opening to allow the chalk to pass through, but affording a seat to receive the ball. Attached to this ring is also an additional

or lower pocket, of netting, to receive and hold the chalk in such separate compartment.

This invention has been patented, and the pockets are manufactured, by Mr. David W. Seely, of No. 118 Lake Street, Elmira, N. Y.

OXYGENATED water, or peroxide of hydrogen, for bleaching, is being manufactured in England in a concentrated condition, and sold at the rate of 5¼ d. per pound, in quantities not less than one carboy.

* Chinese pongee silk is admirably adapted for the purpose.