

THE AMPHIBICYCLE.

BY THE PARIS CORRESPONDENT OF THE SCIENTIFIC AMERICAN.

We hear from time to time of machines which are designed to float on the water and are propelled by the use of pedals. Such craft, however, are intended only for use upon the water. Inventors have also had the idea of craft which will run not only on water but also on land. Some time ago we illustrated such a craft—a combination automobile boat and road machine.

In order to obtain the same result but in a much simpler and inexpensive way a young inventor of Lyons, France, had the very practical idea of adapting a bicycle for use in this manner. To enable it to run on water he attached to it a pair of cylindrical floats, a propeller and a rudder. On leaving the water the cylinders and nautical gear are lifted so as to allow the wheels to run on the ground. The cyclist can then pedal his machine in the usual way. As the cylinders can be made of very thin sheet metal they need not be heavy.

The inventor was able to run his machine on the Saone in the neighborhood of Lyons and also on roads apparently with no difficulty. When in the water the machine is able to make 5 or 6 miles an hour quite easily.

The two cylindrical floats, which end in a conical point, are attached to the bicycle frame by jointed supports so that they can be raised and lowered as desired and can be fastened in place when the cycle is on the road. For operating the propeller a rubber-covered friction wheel is employed, which is mounted behind the tire of the rear cycle wheel, the small wheel's motion being transmitted by a bevel gearing to the propeller shaft. By using the proper combination of gearing the propeller can be reversed. In general, this reversing mechanism will not be needed. A small rudder is mounted at the front, and is controlled by a rod passing from the front cycle fork into the water.

The two cylinders are braced across by a rod which passes between the wheels and also by another like rod in the rear of the machine. The whole machine weighs about 270 pounds. As built at present it is about 8 feet long and 3 feet 6 inches in outside width. The cylinders are about one foot in diameter.

A NEW CLASS OF SUBMARINES FOR THE UNITED STATES NAVY.

The launching of the submarine boats "Narwhal," "Tarpon," and "Stingray," which occurred at the works of the Fore River Shipbuilding Company on Thursday, April 8th, was notable, not merely for the number of boats that entered the water on the same day, but for the fact that one of these, the "Narwhal," represents a new class, of greater size, power, and speed than the earlier vessels of our submarine fleet.

The "Tarpon" and "Stingray" are each 105 feet long, with 13 feet 10 inches beam. They are driven when at the surface by internal-combustion engines at a speed

of 11 knots. In the submerged condition, the internal-combustion engines are shut off, and the boats are driven by electric motors served by storage batteries of large capacity. The submerged speed is 10 knots. Steering in a horizontal plane is controlled by vertical rudders, and the degree of submersion is controlled by horizontal rudders acting in conjunction with submergence tanks, which are filled and emptied at will.

The boats are provided with a light superstructure, extending the full length of the hull, which is of an inverted V section at the forward and after portions and broadens out amidships, where it includes the conning tower. The latter extends about 6 feet above

the superstructure deck, and through its roof project the air intake and the periscope. Two torpedo-launching tubes are provided at the bow, and each boat carries four torpedoes.

The "Narwhal" is a much larger vessel, and the increased displacement has made possible a considerable increase in both the speed and the armament. Though the beam remains the same as in the "Tarpon," viz., 13 feet 10 inches, the length has been increased by 30 feet, from 105 to 135 feet. This gives a finer form, and reduces the wave-making, when the boat is steaming at the surface; the speed being 13 knots as against 11 knots for the "Tarpon." The powers of attack have



THE AMPHIBICYCLE TRAVELING ON LAND.



THE AMPHIBICYCLE TRAVELING ON WATER.

been practically doubled by the provision of four torpedo tubes, as against two in the "Tarpon."

All three vessels were launched in a practically complete condition, and will soon be given their trials.

Marking Patented Articles.

BY IRVING D. EIMBALL.

Many patentees do not realize the importance of marking their inventions as patented and affixing the date of their patent, in accordance with section 4,900 of the Revised Statutes, which reads:

"Sec. 4,900. It shall be the duty of all patentees, and their assigns and legal representatives, and of all persons making or vending any patented article for or under them, to give sufficient notice to the public that the same is patented; either by fixing thereon the word 'patented,' together with the day and year the patent was granted; or when, from the character of the article, this cannot be done, by fixing to it, or to the package wherein one or more of them is inclosed, a label containing the like notice; and in any suit for infringement, by the party failing so to mark, no damages shall be recovered by the plaintiff, except on proof that the defendant was duly notified of the infringement, and continued, after such notice, to make, use, or vend the article so patented."

to such restrictions as are necessary to protect the welfare of the public in general. If a man has a piece of land that he doesn't want people to walk upon, he surrounds it by a fence or puts up a sign, saying "No trespassing." If there is no fence or sign, one supposes that there is no objection to a person walking across it. If a man has a patented invention which other people must leave alone he should put a sign on it, in order that the public may know of his right.

The courts, in ruling upon questions arising under this statute, have as a rule held the contestants strictly to the wording of the statute.

In one case the patentee of wooden dishes stamped them "Oval Wooden Dish," and the crates in which they were shipped with the word "Patented," and the date of the patent. The court held that the stamping of the word "Patented" on a crate containing patented articles could not be construed to be either a marking of the word upon the articles or affixing it to them as required by the statute. The statute clearly states that the notice can only be affixed to the package when the nature of the patented article does not admit of its being marked. The assertion that to mark the notice on the dishes would so add to their cost that they could not be sold at a profit does not permit a deviation from the letter of the law.

From this it is clear that the inventor or manufacturer must carefully determine what method of marking will give him the protection of the law. On a machine it is a simple matter to have the notice cast on or fastened to the machine in the shape of a name plate. But on such an article as a hair-pin, for instance, it would be necessary to place the notice upon the box or wrapper containing them.

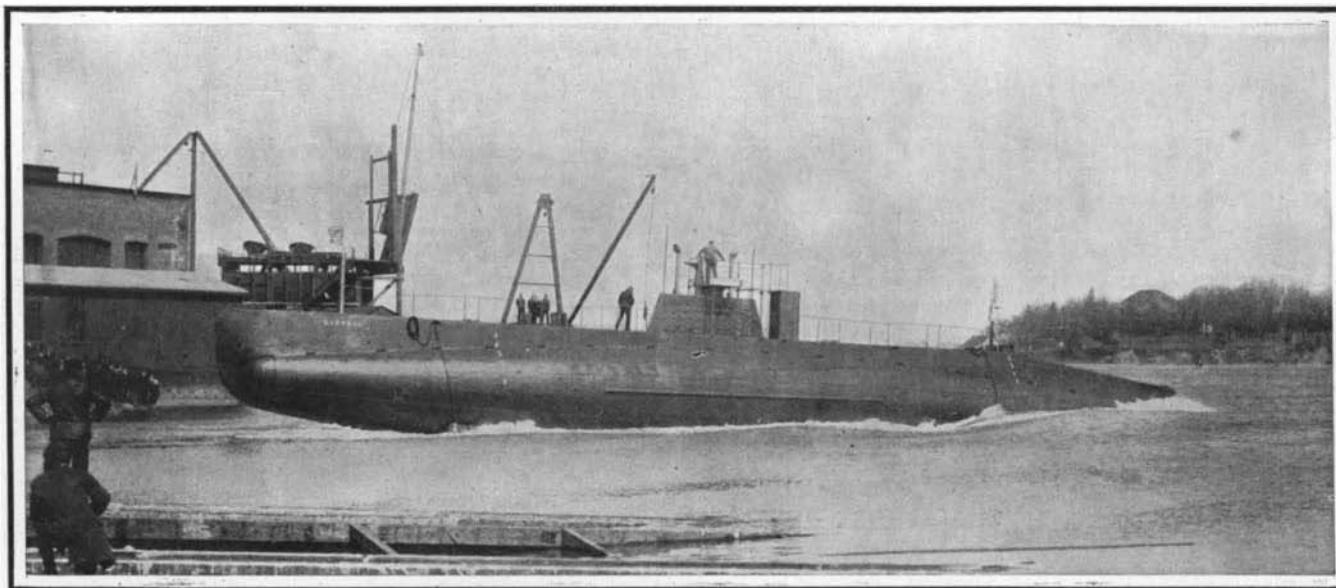
It is necessary that each article should be stamped with the day and year, but this is sufficient even if the word "patented" is abbreviated.

Marking an article "patented," not with the day and year of the patent which covers it, but with the date of a previous patent to the same inventor upon which the later patent is an improvement, is not a compliance with the statute and gives the patentee no right to recover damages.

Manufacturers and inventors should see to it that as soon as a patent issues, its date, with the word "Patented" or "Pat.," is put upon the article; or, if this is impossible owing to its nature, that a label is affixed either to the article or the package containing it, giving the information. Having paid out good money for a patent, it is a simple matter lawfully to

notify the public of such right, thereby avoiding misunderstandings and expensive lawsuits.—
American Machinist.

Quite a stir is being made in England by the opening of a large American department store in London. Not only is the system of conducting business thoroughly American, but the equipment as well. This applies particularly to the electrical equipment. There are 286 arc lamps



THE "NARWHAL," ONE OF A NEW CLASS OF SUBMARINES FOR THE UNITED STATES NAVY.

To illustrate in a simple manner, let us suppose A has a valuable patent, but neglects to mark the article covered thereby. B may suppose in absence of such notice that it is not patented and may make and use or sell a large number of them. This may result in a serious loss to A's business; but as he has not notified the public that his article is patented, he is not protected by law and can collect no damages. If, however, upon finding that B is making his invention, A notifies him to stop such infringement, B can be held accountable for any which he manufactures after the receipt of such notice.

A patent is a public grant which is rightly subject

and 6,000 incandescent lamps in the store, many of the latter being tantalum or tungsten lamps. The show windows have been very effectively illuminated, as well as the showcases along the aisles. Electricity is used for operating the fans, pumps, vacuum cleaner outfit, hair-drying machines, ice-breaking machines, etc. There are nine electric passenger elevators, each provided with an up-and-down signal light. The store is provided with a private telephone exchange, with 60 main lines, and 400 local stations. There is also a system of electric clocks, and controlled by these clocks is a system of electric bells which announce meal time and hour of opening and closing.