

Mostly About Dogs — The Art of Grooming



Before Unkempt and dirty, this wire-haired terrier named Wyrestone Fairly Decent looked like this before he was groomed.

Pictures Tell Story of Stripping

By BOB BECKER

● The art of stripping or trimming a terrier, an operation that removes the dead hairs in its coat and cuts the new ones, is one of the most important aids to a dog's health and smart appearance. Wire-haired terriers, Scotties, Sealyhams, Irish terriers, and other terriers especially are much better looking if their coats are stripped and trimmed occasionally. ● In the adjoining pictures Owen Craighead, Highland Park, Ill., terrier authority and nationally known handler of dogs, shows how the correct use of grooming articles on an unkempt, dirty wire-haired terrier changes it from an unattractive specimen to a stylish, good looking pet.



After Here's the same dog after being stripped, combed, and chalked. Notice how neat and good looking he is. (Tribune photos.)



1 Removing the excess and dead hair from the dog's head with a stripping knife is the first step.



2 Owen Craighead shows how a knife is used to strip surplus hair off the back of the dog.



3 After finishing the body the handler works on the dog's legs.



4 Filing the nails. This should be done occasionally for house pets.



5 Chalking—common practice on dogs that are all or partly white.



6 Combing out the terrier's whiskers parallel with his jaws, and down, not up, from the chin.



John Philip Holland

The Graphic Laboratory of Popular Science

The Story of Holland's First Submarines

By JOHN A. MENAUGH

THERE ONCE was an Irish youth who dreamed that the power and prestige of the British fleet could be destroyed by war craft capable of operating beneath the surface of the sea.

In addition to being a dreamer this young man was a doer. He pioneered in the field of submarine invention and construction. He almost lived to witness Great Britain's darkest hour, when German U-boats, developments of his own original submarines, maintained a ring of death around the British Isles. If the Anglophobe groups among his own Irish-American people had been able to keep America out of the World war the Germans would have won, largely through the activities of their submarines.

Next year will occur the one hundredth birthday of one of the most famous of that limited group—leap year day babies.

John Philip Holland was born on Feb. 29, 1840, in Liscannor, County Clare, Ireland, and was only 22 years old when the ironclads, the U. S. S. Monitor and the Confederate Merrimac, fought their famous battle, an American Civil war encounter that exerted a marked influence upon him. He realized from this engagement that naval warfare was to be revolutionized. He hit upon the idea that armored craft such as the Monitor and the Merrimac could be defeated by submarines. Thus it was that he conceived the submarine in his youth and as an Irish patriot saw how it might be employed against the British navy to obtain independence for Ireland.

Holland was a school teacher when he began the study of works on naval designing and construction. In 1870 he prepared plans for a submarine, but, being without adequate funds, he was forced to lay these plans aside. Late in 1873 he came to America, obtaining a teacher's job the following year in Paterson, N. J.

Pedagogy was merely his

means of livelihood. His main interests still centered on submarines. In 1875 he offered his plans to the United States navy. They were rejected as a fantastic scheme of a civilian landman. So he set about building his own submarine, a little cigar-shaped craft barely sixteen feet long and two feet in diameter amidships. It was a one-man affair, containing air chambers fore and aft and operated by a propeller turned by foot pedals. Air tubes led to a respirator shaped like a diver's helmet which was worn by the one-man crew.

In 1877 Holland launched his second submarine, a double-hulled craft driven by a four-horsepower petroleum engine of simple design. In this he carried on a series of experiments. After a number of trials on the Passaic river this vessel was abandoned. Its builder removed its engine and sank the craft in the river. (In 1927 it was recovered and placed in the Paterson museum.)

Holland then negotiated with the Fenian society, an Irish republican brotherhood, with the aim of building submarines to help win Ireland's independence. He was not a Fenian himself, but, as previously emphasized, he was thoroughly in sympathy with the Irish freedom cause. The Fenians supplied Holland with a sum of approximately \$23,000 to build a submarine that they hoped could cross the Atlantic and destroy the British fleet. Rear Admiral Philip Hichborn of the United States navy said this vessel was the first buoyant submarine to be steered down and up in the vertical plane by horizontal rudder action as she was pushed forward by her motor, instead of being pushed up and down by vertical-acting mechanism. The vessel, however, did not prove practical. In 1881 the fourth Holland submarine was launched. This was constructed at the Delamater yard on the Hudson river. Dubbed the "Fenian Ram" by New York newspapers, the craft

made frequent underwater cruises in New York harbor, once remained sixty feet below the surface for a full hour, and demonstrated that it was a very capable vessel under certain limitations.

The Fenian Ram, which carried a crew of three men, was 31 feet long, 6 feet in the beam, and displaced 19 tons. It was propelled by a one-cylinder internal combustion oil engine. Except for obvious defects in its power system it embodied the main principles of the modern submarine in balance, control, and compensation for weight lost with torpedo discharge. The vessel, virtually intact, remains today in a Paterson park, a memorial to its inventor.

The favorable attention that Holland had attracted with the Fenian Ram and several subsequent craft finally awakened submarine interest in the United States naval department. At various times from 1888 on he



(Photo courtesy Electric Boat Co.)

The Holland, first submarine sold to the United States navy, on test run. Holland stands at the right.

Works in Baltimore, Md., but the vessel, which was named the Plunger, was not a success. Holland's plans were ignored in its construction. Although the vessel was launched in 1897, it never was finished. Holland persuaded the government to allow his company to pay back the money already spent on the Plunger

the Spanish-American war. Holland pleaded to be allowed to take his vessel into the harbor at Santiago de Cuba to attack Cervera's squadron. Naval authorities, however, would not consent to his bold plan. The Holland did not become a United States war vessel until Oct. 13, 1900, when it was placed in commission under the command of Lieut. Harry H. Caldwell. It had been purchased during the previous April for \$150,000; had cost \$236,000 to build.

The Holland was 53 feet 10 inches long, 10 feet in diameter, and had a submerged displacement of 75 tons. Its armament consisted of one bow torpedo tube, one bow pneumatic dynamite gun, and several Whitehead torpedoes. It was powered with a gasoline engine for surface propulsion and an electric motor and batteries for submerged cruising. It was the first vessel to be thus equipped, and the first capable of operating for any great distance below the surface.

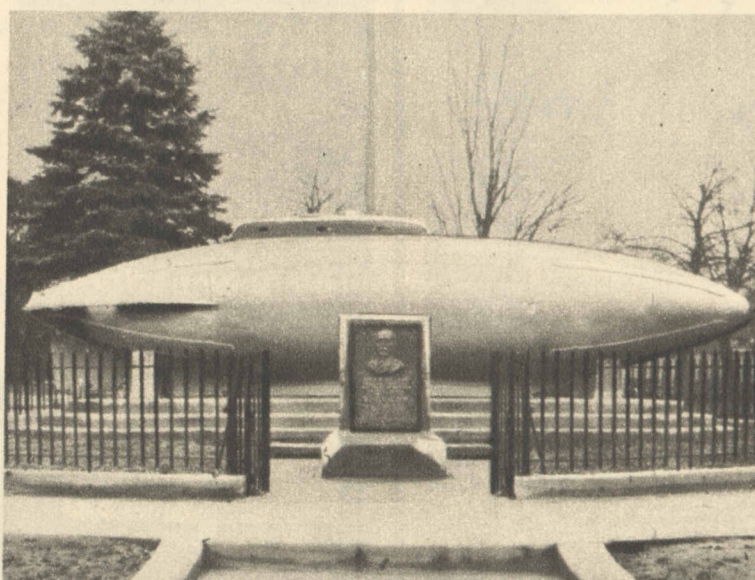
The success of the Holland caused the government to contract with the Holland Torpedo Boat company for the construction of six more submarines. Soon after five similar craft were ordered through the agency of Vickers Sons & Maxim for the British admiralty, which before

long was able to acquire the British rights to all the Holland patents—this in spite of the fact that Holland's avowed purpose in inventing a workable submarine was to overcome British supremacy at sea.

The original Holland—the vessel that was offered to the government for use against the Spaniards in 1898 and subsequently purchased by the navy—was condemned in 1915 and broken up for junk.

Holland withdrew from the Holland Torpedo Boat company in 1904. The company was absorbed by the Electric Boat company, which to this day has been actively engaged in constructing submarines. The inventor, at about the time of his retirement from the Holland company, devised a respirator for use in escaping from a submerged disabled submarine. His final years were devoted to experiments in the aeronautical field.

He died on Aug. 12, 1914, eight days after Great Britain declared war on Germany. And thus he did not live quite long enough to obtain the satisfaction that might have been his when German submarines, developed from his own inventions, more than held at bay for months and months Great Britain's power upon the sea.



Early Holland submarine, part of memorial to inventor in a Paterson, N. J., park. (Associated Press photo.)

submitted submarine plans to the navy in competition with other inventors, and in each instance his designs were selected. But federal appropriations were lacking. The vessels could not be built.

In 1895, however, the Holland Torpedo Boat company, in which the inventor possessed an interest, procured a navy contract to construct a submarine according to navy specifications. The price was fixed at \$150,000. Work was started at the Columbian Iron

and construct an entirely new submarine.

This was the eighth undersea craft to be built by Holland. But it also proved a failure. Construction on the ninth vessel was begun. This turned out to be the first of the general type of the modern submarines. It was laid down and finished in a shipyard in Elizabethport, N. J., christened the Holland at its launching in the spring of 1898, and offered to the government for use against the Spaniards in



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