

HISTORY & DEVELOPMENT OF THE MARINE ANCHOR

F183-4A

IT is a matter of conjecture as to who first had need of and utilized some ready instrument for mooring his vessel, but much of the early evolution has been traced by learned men through ancient sculpture, coins, paintings, etc. Earliest records of moorings come from Egyptian tomb furniture 2200 B.C., where ship models were equipped with conical stakes and papyrus ropes for mooring the vessels to the shore. Later tombs 1600 B.C. yielded ship models with grooved or perforated anchor-stones (Figure 1). When the 1400 B.C. tomb of King "Tut" was opened, anchor stones shaped in a T were found. Four hundred years later, about 1000 B.C., Homeric poems still specify "anchors of stone."

Crooked sticks or wooden frames weighted with stone (Killieks) are known to have been in use in ancient times; and are still used in remote regions. Figures 2, 3, and 4 illustrate this period. Notice that some of these crude anchors show the equivalent of rudimentary stocks.

800 B.C. Two-armed hooks, without stocks, were cast in bronze on the island of Malta. (Fig. 5). A Sardinian scarab 650 B.C. shows a stockless two-armed anchor, which was probably the first anchor made of iron. (Figure 6.)

Greek writers 500 B.C. mention "stone anchors with iron hooks." Herodotus relates that stone anchors were towed astern to steady ships coming down the Nile.

A coin of 400 B.C. shows a two-armed stocked anchor apparently filled with lead. Its form begins to approximate the "Admiralty" pattern of recent times. (Figure 7.)

An anchor shown on a Greek coin of about 375 B.C., (Fig. 8), certainly includes the essentials of an Admiralty anchor, except palms. The anchor shown on a Syrian coin of about 312 B.C., (Fig. 9), is even more modern in appearance.

By 300 B.C. vessels of the Athenian navy were equipped with iron anchors weighing up to 440 pounds. Greek coins of 280 B.C. show anchors with rudimentary palms.

An English anchor shaped from the fork of a yew-tree is ascribed to 100 B.C. A Cyrene iron anchor without palms, and inscribed with the ship's name, is attributed to about 50 B.C. Depletions of iron anchors of the time of King Herod, about 35 B.C., (Fig. 10), show curious enlargements on the shanks believed to be carry-overs from the times when cylindrical perforated stones were strung on wooden anchor-shanks, and also show palms on the arms. Sculptures on the Arch of Tiberius, about 20 A.D., (Fig. 11), show similar enlargements on the shank, but no palms.

About 40 A.D. the ship of Emperor Caligula was equipped with a 16-foot iron-tipped oaken anchor with a heavy leaden stock, (Fig. 12). This was discovered intact when Lake Nemi, near Rome, was drained in 1929. At the same time there was discovered, after 1800 years of submersion, a wood-sheathed iron anchor weighing about 1,000 pounds, (Fig. 13), and distinguished by the fact that it had a portable stock, which was an invaluable convenience lost to the world until "invented" again some 1700 years later and finally adopted by the Admiralty in 1854.

88-97 A.D. St. Clement, the fourth Pope, is said to have been thrown into the sea, tied to an anchor—a method of execution not uncommon in those days. From ancient times St. Clement has been the patron saint of anchorsmiths, who formerly observed his Feast Day on the 23rd of November.

Iron anchors are said to have been first forged in England (East Anglia) in 578 A.D. The Danish "Oseburg anchor," about 800 A.D., had very small palms, and was constructed for use with a wooden stock.

The medieval anchor of 1066 A.D. as depicted in the Bayeux tapestry, (Fig. 14), looks almost modern.

The Statutes of Genoa of 1441 A.D. required a 1500 ton ship to carry 12 iron anchors of from 1600 to 1800 pounds each. A Florentine engraving of 1450 A.D. shows a two-piece wooden stock of the style popular for the following 400 years.

The "Sovereign of the Seas," 1600 tons, in 1637 carried 12 anchors of 4000 pounds each. In 1690 Sir Wm. Phipps in his attack on Quebec lost a thirteen-foot anchor recovered in modern times, (Fig. 15).

Anchors of about 1700 had long shanks, straight arms at 50 degrees, sharp points at the crown, large diameter rings, and wooden stocks the length of the shank or longer. (Fig. 16) shows an anchor of this style marked "1703," reclaimed from the wreck of a 100-gun ship sunk at Sheerness, England.

In 1723 Reaumur issued in France the first notable public exposition of the science and art of anchor construction.

By 1780 iron stocks began to emerge from the experimental stage, but the popular anchors of the period still had wooden stocks and relatively long shanks and straight arms.

In 1801 and succeeding years Richard Pering of England greatly improved the quality of welds in anchors, shortened the shanks and put more curvature into the arms.

In 1804 Capt. Hawke of the Royal Navy applied for an iron-stocked anchor for his ship and was de-



BALDT