



The Royal Armouries 17th Century marine salvage project

This is an important conservation project which is also enhancing our understanding of the design and evolution of Naval guns from a period when the Commonwealth had just fought the First Anglo-Dutch War (1652-1654) and by the time of the Restoration aspired to become a supreme tool of War and guarantor of Commerce.

The project focuses on 3 guns, 2 from the wreck of the *London* a warship which was blown asunder by an explosion of powder cartridges and sank in 1656, and one composite *Drake* gun. It is estimated as a 5 year elapse project and is supported by funding from The Arms and Armour Heritage Trust, the Radcliffe Trust and the Leche Trust.

The project is trialling the latest processes for removing chloride ions from metallic relics recovered from sea water, This will be of critical importance to other conservation initiatives that pre-dated these techniques developed between the 1960s and 1980s. This will be enable evaluation of the impact on the long term stability of items treated with earlier techniques.

The guns recovered from the *London* are both very rare bronze cannon, one by gun founder Peter Gill, thought to be the only surviving example of his work and the other bearing the Commonwealth crest and thought to be one of a handful of surviving examples of a bronze gun of the Commonwealth. The *Drake* is helping to increase our understanding of the evolution and production methods of this genre of solution to producing lighter weapons whilst preserving hitting power.

Talks run by Fort Nelson are also educating the public and schools about conservation, and have already provided the opportunity for graduates to get hands-on experience of specialised techniques. The project is led by Royal Armouries Conservator Matthew Hancock.

Photographs of the Composite Drake gun



Portrait of Pepys by John Hayls

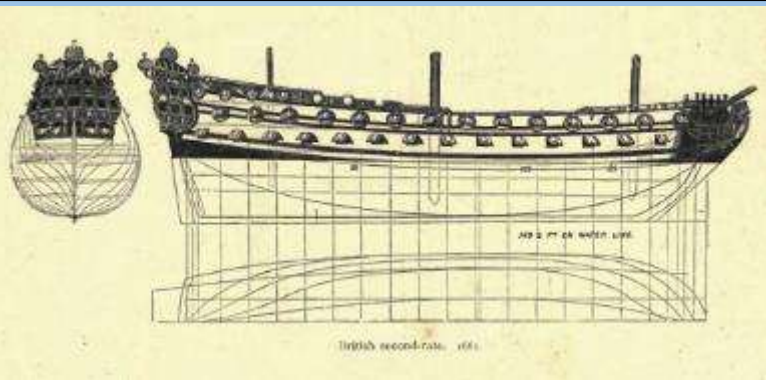


Conservator Matthew Hancock during a talk



HMS London was a 64 Gun second-rate Ship of the Line deigned by John Taylor a built in Chatham in 1656: see <https://threedecks.org>

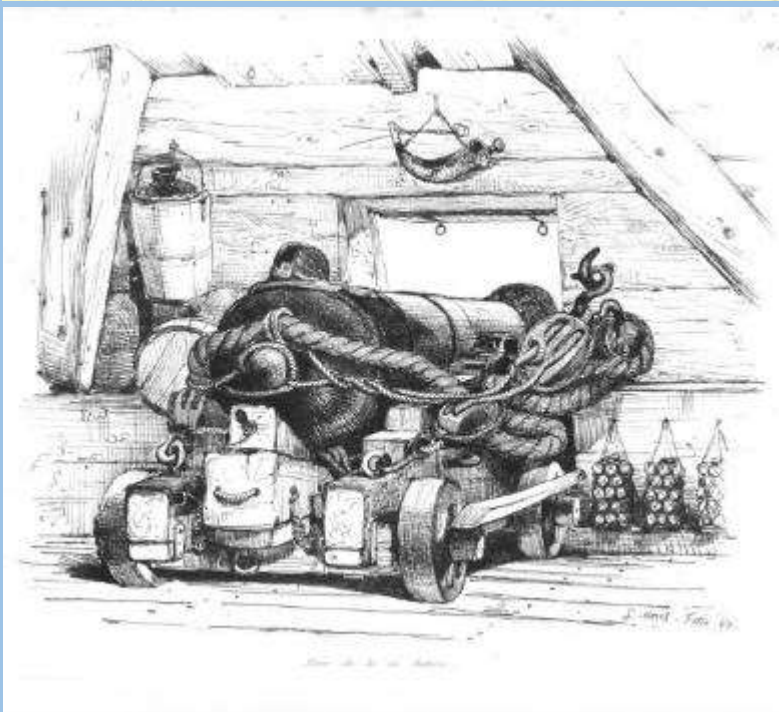
1660	Broadside Weight = 534 Imperial Pound (242.169 kg)
Lower Gun Deck	12 British Demi-Cannon (32 Lb)
Lower Gun Deck	12 British Culverin (17 Lb 5 ½ Oz)
Middle Gun Deck	12 British Culverin
Middle Gun Deck	12 British Demi-Culverin (8Lb - 9Lb)
Upper Gun Deck	16 British Demi-Culverin



Crew Complement

Date # of Men

1660	360
1660	450 Establishment for war abroad
1660	360 Establishment for war at home
1660	280 Establishment for peace



A 36 Pounder rigged for action.

Drawing by Antoine Morel-Fatio,
Public Domain, Wikipedia

For a comprehensive review of the Royal Armouries restoration project please see:

<https://royalarmouries.org/17th-century-marine-salvage-project-hms-london-guns-why-historical-information-is-important-before-deciding-the-conservation-treatment/>

Three guns once on HMS *London* which sank off Southend in the Thames Estuary during the Second Anglo-Dutch War (1665-1667).

Some of the guns on the HMS *London* were originally used on Dutch warships before being placed on HMS *London*, the cannons are believed to have been involved in The Restoration, transporting the son of Charles II, the future King James II, from his exile in the Netherlands.

The cannons were sold to a buyer in the US at an auction in 2010 having been found by a diver in around 2007.

Following a two-year investigation involving the Essex and Kent police, Historic England, the UK Maritime and Coastguard Agency, the diver was prosecuted for making a fraudulent claim of where he had found the cannons. He had insisted they had been found in international waters. However following the investigation it was proved they were from HMS *London*, which was at the bottom off the estuary just off Chatham in Kent.

They have since been repatriated to the UK. (Antique traders Gazette, Laura Chesters 15 Dec 2017).

The Warship London is now designated as a historic wreck under the Protection of Wrecks Act 1973



Arming of a Naval Officer



“Flagmen of Lowestoft”: Admiral of the Red Sir John Lawson, Posthumous portrait by Peter Lely.

Lawson was formerly Captain of the *London* when in the Parliamentary Navy. In 1660 he again commanded the *London* as 2nd in command of the expedition to repatriate Charles II from the Netherlands †. On 3 June 1665 he was wounded in the knee at the Battle of Lowestoft, when engaging the Dutch Fleet. The wound became gangrenous, killing him 2 weeks later. He was buried at the Church of St Dunstan-in-the-East, London at night, only navy officers accompanying the coffin. By this date, in response to the growth in plague fatalities burial at night was mandated, so again compliance with this despite not being a plague death may have been expedient.

† (See “1666 Plague, War and Hellfire”, Rebecca Rideal, John Murray Publishers, London 2017).

Portrait: National Maritime Museum, Greenwich, London, Greenwich Hospital Collection.



An English buff coat c. 1640-1650. Typically made of oil-tanned cowhide. The lower skirt where it protects the thighs are up to 5cm thick. (See <http://collections.vam.ac.uk/item/O78845/coat-unknown/>)

Photo V&A T.34-1948

Admiral Sir John Lawson is portrayed wearing a buff coat over a sleeved jacket. Over this is a high quality but relatively plain blackened breast and back-plate. The rivets securing the liner, plated straps and hasps securing these are gilded.

Suspended from his sword belt is what is probably a ceremonial hanger distinguished by a robust lions head pommel. All elements of the hilt are also gilded. A similar style of hilt appears in other Lely portraits in the Flagmen of Lowestoft series. This might indicate a common naval pattern but could just as likely reflect Lely’s artistic preference or perhaps props. Below the portrait of (formerly) General-at-Sea George Monck, c.1665/66.

Portrait: National Maritime Museum, Greenwich, London, Greenwich Hospital Collection.

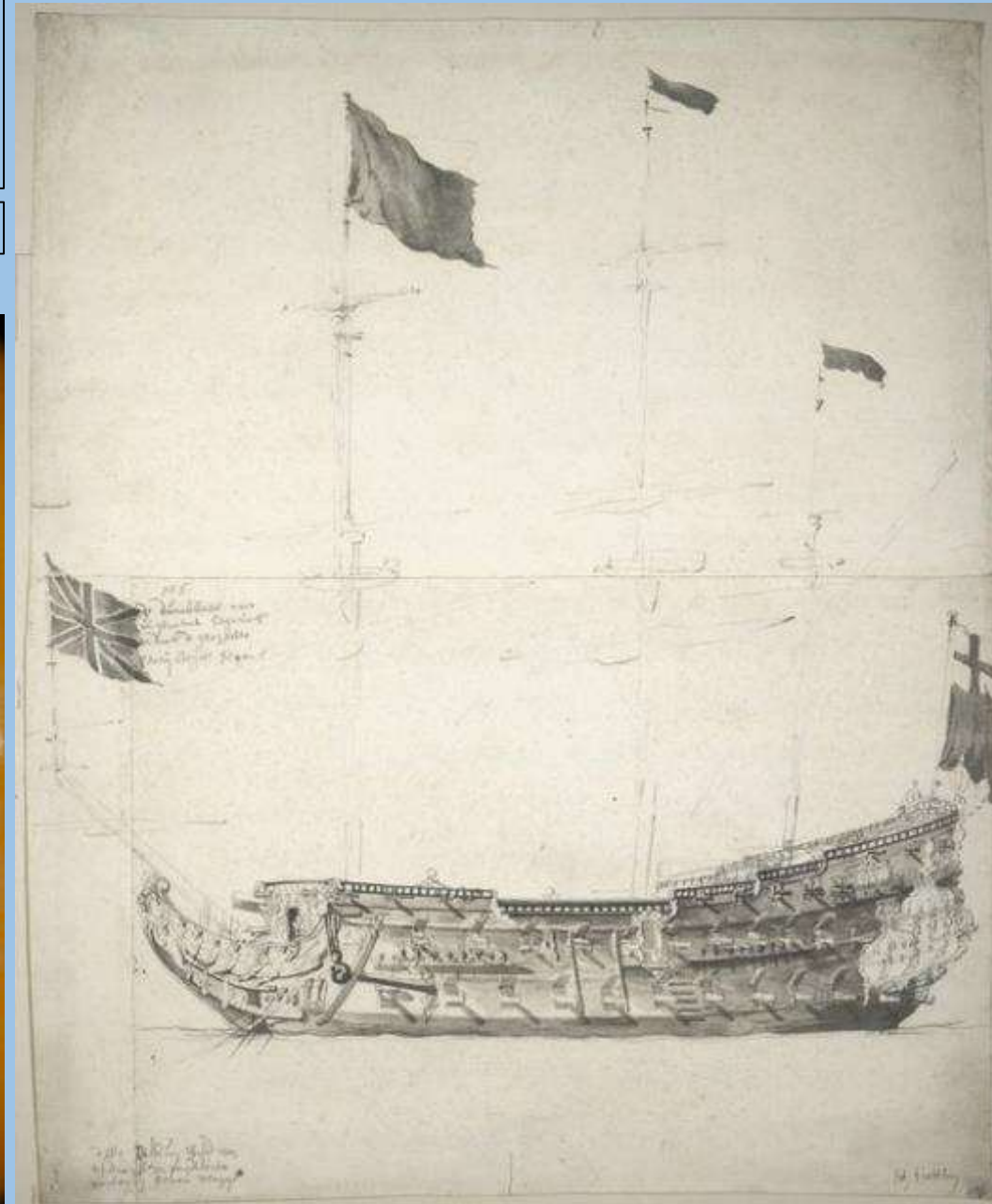


"This morning is brought me to the office the sad newes of "The London," in which Sir J(ohn) Lawson's men were all bringing her from Chatham to the Hope, and thence he was to go to sea in her; but a little a'this side the buoy of the Nower, she suddenly blew up. About 24 [men] and a woman that were in the round-house and coach saved; the rest, being above 300, drowned: the ship breaking all in pieces, with 80 pieces of brass ordnance. She lies sunk, with her round- house above water. Sir J(ohn) Lawson hath a great loss in this of so many good chosen men, and many relations among them. I went to the 'Change, where the news taken very much to heart." Diary of Samuel Pepys, March 1665

The Commonwealth Gun recovered from the wreck of HMS London resting within its desalination bath.



The 'London', as depicted by van de Velde in 1656. © National Maritime Museum



Prior to recovery of the Gun from the *London* only one cannon still marked with the Arms of the Commonwealth existed. This was the Royal Armouries Leeds - 4.5" demi-culverin - The Commonwealth gun (1649-1653). This cast iron cannon was found in an area which was most probably the site of the Battle of Schveningen fought between the English and the Dutch fleets on 31 July 1653. It seems likely it had been shipped from the Tower to Tilbury for outfitting the *Oak*, one of two English ships lost that day.

When compared to the example at Fort Nelson we can see that the escutcheons are of a simpler design, without the cusped upper edges (also seen on commonwealth coinage). However, there are stylistic features common to both guns (such as a very narrow vent field – the section within which the vent hole is found; annular groove to the rear of the 2nd reinforce moulding, above the commonwealth arms etc.) which are found on cannon manufactured. (Nautical Archaeology, 17.1; the Commonwealth Gun, G.M. Wilson).

The bronze *London* gun appears to bear a more sophisticated representation of the Arms of the Commonwealth. After the Restoration of Charles II Commonwealth Arms would have been effaced hence the extreme rarity of extant pieces.

The Royal Armouries Leeds Commonwealth Gun - also far right

The *London* Commonwealth Gun



Commonwealth Guns



Close-up of the Commonwealth Gun showing (left) the outline of the Arms of the Commonwealth of England.

The Council of State on 22 February 1649 stated: "that the ships at sea in service of the State shall onely beare the red Crosse in a white flag". The order was signed by Oliver Cromwell on 23 February. On 5 March 1649 the Council ordered "that the Flagg that is to be borne by the Admiral, Vice-Admiral, and Rere-Admiral be that now presented, viz., the Armes of England [Red St. George Cross on white] and Ireland [gold harp on blue] in two severall Escotcheons in a Red Flagg, within a compartment." (see www.crwflags.com)

Thus by March 1649 the coat of arms of the Protectorate became two escutcheons, one bearing the Cross of St George, the other the Harp of Ireland.

The London which was launched in 1656. Her cannon would most likely pre-date that year but based upon the commonwealth arms would not pre-date 1649. Whilst Scotland was reunited with England by an Ordinance of 12 April 1654, coinage of 1656 still bears the twin escutcheons charged with the English Cross of St George and the Harp of Ireland. It is possible to discern the Harp within the right escutcheon on this cannon.

Commonwealth Guns



Commonwealth silver Half-Crown of 1656. Obverse.



Photographs courtesy of the Royal Armouries, Fort Nelson 2018

Left the patinated bronze barrel. Right the same image manipulated to enhance contrast in black white





Far Left: Possibly the only known example of a Cannon produced by Peter Gill and bearing his name – Royal Armouries 17th C



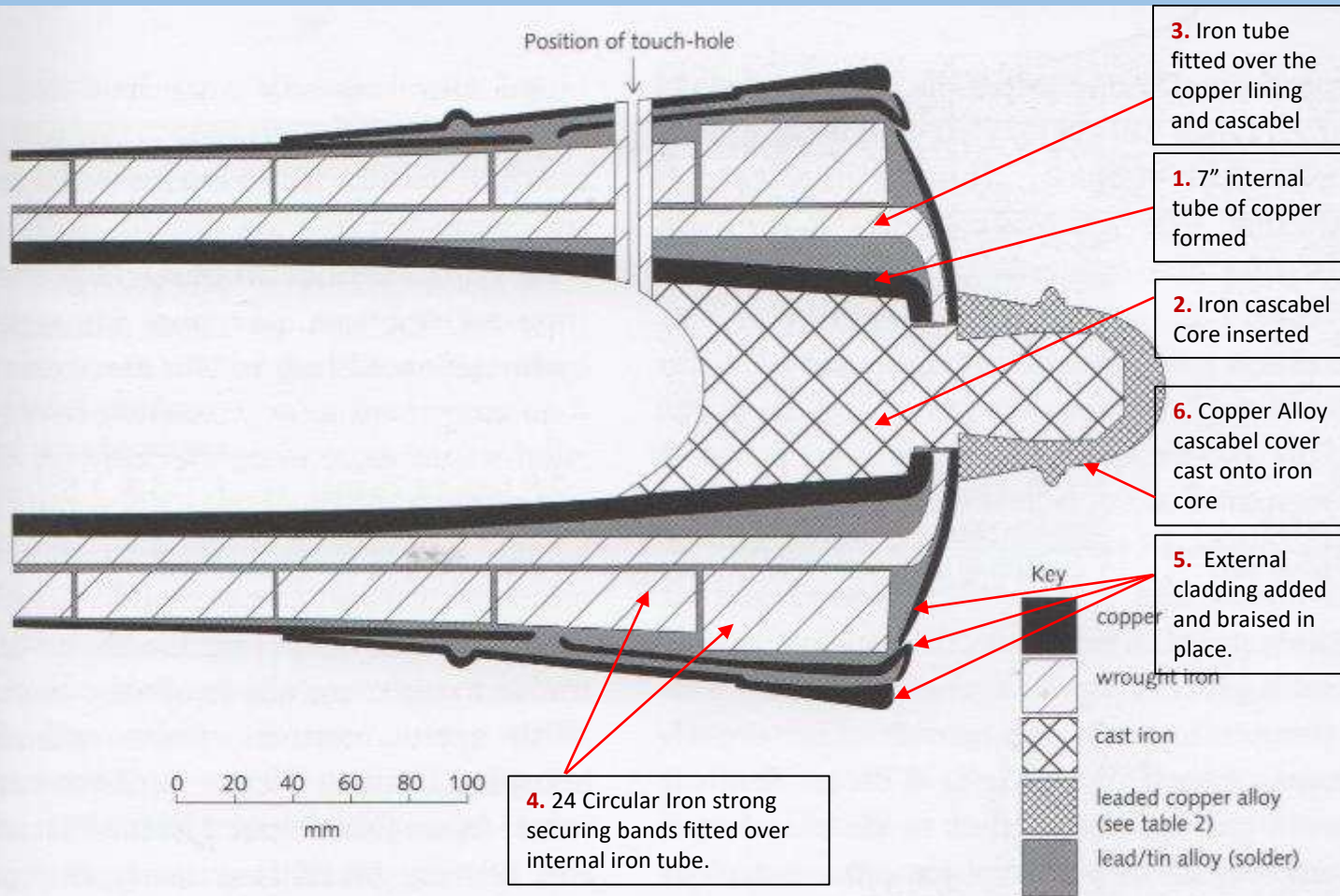
The Peter Gill Bronze Cannon

Left: The Crowned Tudor rose remaining on the upper part of the barrel. Compare this with a full Charles I cypher with a chained anchor enclosing a Tudor rose. This latter appears on R. Roth's drawings of a Bronze demi-culverin drake from the *Sovereign of the Seas* which is inscribed "JOHN BROWNE MADE THIS PEECE ANO 1638". (Jean Boudriot publications/ *Sovereign of the Seas: The Seventeenth-Century Warship* By James Sephton, Amberley Publishing 2013).

The Gill gun has been re-bored indicating re-use of an earlier weapon for the *London*.



The Dutch Composite Drake gun – an attempt at producing lighter but effective naval cannon.



The Composite Drake from the *Batavia* now sectioned to show sectional construction. Here the main iron tube consists of banded staves indicative of an earlier design than the Fort Nelson example which has a longitudinal tube.



Donated by the Receiver of Wreck on 8th August 2014. Found on or near Goodwin Sands and reported by Mr Aaronovitch, who kindly waived his right to a salvage award.

Built up of copper alloy and iron, probably soldered using lead alloy.

The copper alloy covering is ornamented with bands of interlace at the main mouldings and cascabel, including button. It is provided with dolphins. According to the inscription behind the vent, it weighs 260 Amsterdam pounds.

Calibre 60-70 mm

Diagram of the composition of the Rotunda Drake, a 4 Lb 3 ¼ " cannon. Approx. 4 ft 9 " long.

The composite Drake was designed to deliver a lighter cannon without reducing the weight of shot or force of charge that could be accommodated. The extant pieces were produced in Amsterdam and English Ordnance records confirm purchase by the English Navy occurred. As can be seen, however, the composition has inherent potential weakness and would be prone to error in manufacture. An aspirant innovation which failed to capture volume uptake.