

ART. X – *An 18th Century Tobacco Box Log-Timer and other Seamen's Boxes*

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**A**MONG several articles of archaeological interest bequeathed to me by our member, the late Mrs Florence Emmeline Dawson of Drigg, were three brass boxes, one of which was identified by the National Maritime Museum as a “Log Timer”, which is also known as “The Dutchman’s Log”. Mrs Dawson told me that the boxes had belonged to her father, Joseph Graham, who had been a ship’s chandler in Whitehaven. I have not, so far been able to confirm this but according to the 1901 census Joseph Graham was born in Whitehaven about 1853. At the time of the census he was occupying Drigg Hall “living on own means”, so it seems certain that he was a successful businessman

### **The Dutchman’s Log**

This is a tobacco box, made of brass, 16 cm. long and 5 cm wide and 3.3 cm deep; the ends of the box are curved (Fig. 1). Boxes of this type are thought to have been designed around 1729 by Pieter Holm (1685/6-1776), a Swedish sailor who, on his retirement in his early fifties, established a nautical school in Amsterdam called “Regt door Zee”. This can be translated as “Steering a straight course”.

The boxes, which are made of brass or copper, range in length from 12 cm to 18 cm. and although there is no signature or other mark to indicate the manufacturer it is likely that they were made in Germany at Iserlohn and probably sold by Pieter Holm at the “Regt door Zee”. Where the engraving was done is not known but it was possibly Amsterdam. They are engraved on the lid, bottom and side (Fig. 2). However, my box is very worn from use so the drawings used are of a similar box; I will indicate any slight differences. Fig. 2 shows the engravings on the top and bottom of the box.

On the lid is a perpetual calendar (A). At one end is engraved a vignette of Julius Caesar (B). with the date 45 B.C. and at the opposite end a vignette of Pope Gregory XIII together with the date 1582 (C). These dates represent the introduction of the Julian and Gregorian calendars. The date on the Whitehaven box is 1482 but this is thought to be a mistake, although it has been noted on at least two other boxes. Most of the central part of the lid is taken up by a perpetual calendar, and at the lower right hand end of this is the date of manufacture 1750. On the Whitehaven box the date is 1766 (Fig. 2).

At one end, on the bottom of the box, is an engraving of a person, usually identified as Amerigo Vespucci, with a globe and a pair of dividers and the date 1497 below (D). It has also been suggested that the figure represents Bruce Cabot who made a voyage to the North-West in 1497. In a chronicle of Bristol about national events, written about 1565 by Maurice Toby, there is a brief mention of the voyage of 1497 which reads: “This year on St John the Baptist’s day the land of America was found by the Merchants of Bristowe in a shippe of Brtstowe, called the MATTHEW; which said shippe departed from the port of Bristowe the second day

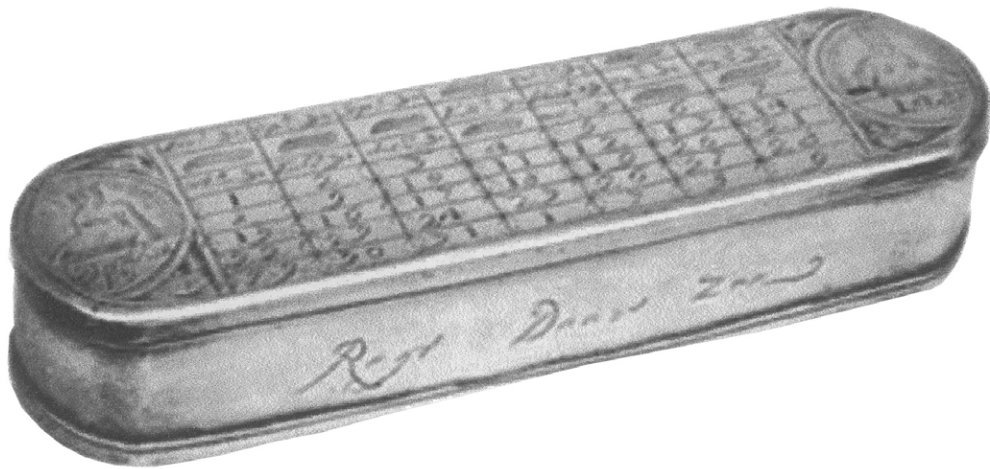


FIG. 1. Log-Timer

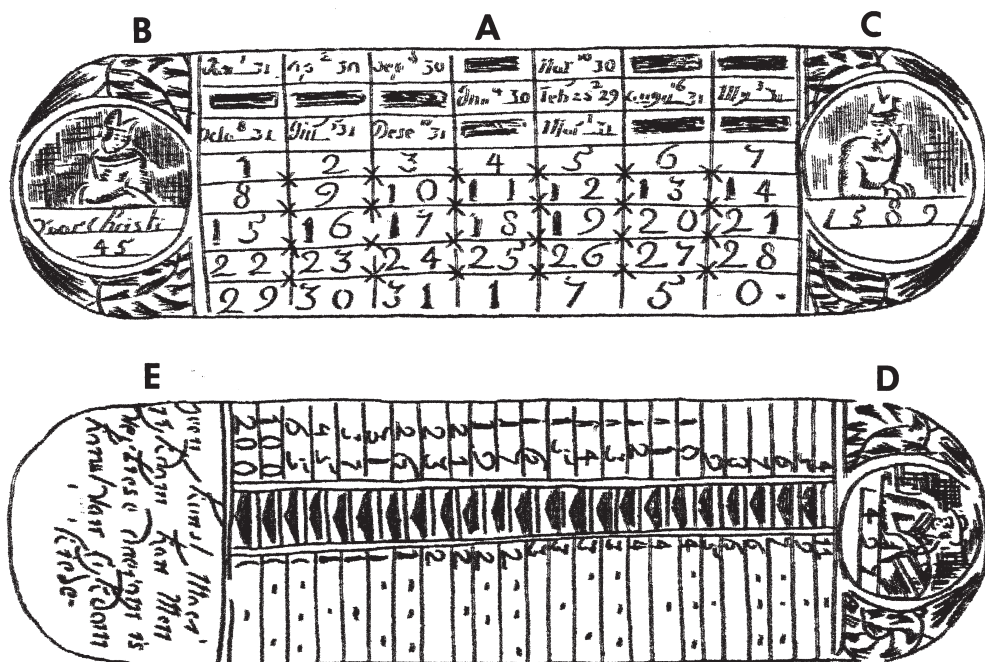


FIG. 2. The engravings on the lid and base of the log-timer.

of May and came home again the 6th of August next following". At the other end of the box is an inscription (E). As far as I have been able to deduce from the worn engraving on my box this seems to read as follows: "*Geen konst maar rijkdom kan men verliesen. Daarom is konst voor rijkdom te keizen*", which can be interpreted as "Not experience but riches can be lost. Choose therefore experience above riches".

Other box inscriptions which have been noted so far are: "*Den eeuwigh duerende almanak*" (The everlasting almanack) and "*Verlaet den Weerelt*" (Abandon the world). On the side of the box is the name of the nautical school, "*Regt door Zee*", probably inscribed there as a guarantee of authenticity.

Between the end engravings and occupying most of the underneath of the box is speed table (F), by which a log of wood tossed over the side of the ship was timed by counting rhythmically between two marks on the vessel's side. The slots cut down the centre would no doubt be "clicked" by the thumb or finger-nail until the log had passed between the marks, when the scale at the side would be read.

The manufacture and sale of these boxes continued after the death of Pieter Holm in 1776 and dated boxes are known from as late as 1817. While on holiday in Portugal in 1986 in the National Maritime Museum in Lisbon we noticed among a group of items with no identification, two log-timers, and drew the curator's attention to these. He later sent us a letter of thanks and confirmation that the objects were indeed log-timers. There are 91 of these boxes so far recorded throughout the world and are distributed as follows: Holland 31, England 20, USA 16, Germany 7, Norway 6, Denmark 4, Belgium 3, Portugal 2, Ireland 1, Iceland 1. There is a problem when counting the boxes from England and America since 13 boxes in England and eight boxes in America are in the hands of dealers, which means they could be counted more than once. In addition there are a small number of undated boxes known to exist; these were probably made after 1817 and are copies rather than originals.

The quality of the engraving varies throughout the series, being sometimes rather crude.

### The Perpetual Calendar

Jan (31) 1	April (30) 2	Sept (30) 6	Jun (30) 4	Nov (30) 10	Aug (31) 6	May (31) 3
Oct (31) 8	Jul (31) 5	Dec (31) 10		Feb (28/29) 2 Mar (31) 1		
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	Year	of	fabi	cation

Each month lists the number of days in the month (in brackets) and the second figure gives the lunar age on the first day of the month. The table is arranged so that if, for instance, the particular weekday on 1 January is known, then the same weekday will occur on the 1 October, 2 April and 2 July, 3 September, 3 December and so on. So that it is only necessary to know the weekday of the 1 January to be able to deduce the days for the current year.

The number listed in the same compartment as the month was used to calculate the lunar age, so that if the lunar age on 1 January happened to be one day, then the lunar age on 1 February would be two days, one day on 1 March and so on.

Example: To find the lunar age on 5 April, assuming the lunar age on 1 January to have been 12 - the age on 1 April would have been 13 and therefore the lunar age on 5 April would have been 17.

For sailors, the lunar age was very important, as it was a major factor in determining the state of the tides. Knowledge of high and low water was essential for seamen employed in coastal trade.

## The Speed Table

This is a modern version of Holm's original table.

Time Interval*	Speed in knots	Quartile Intervals		Time Interval*	Speed in knots	Quartile Intervals
4	11.25	8		16	3.00	1
5	9.25	7		17	2.75	1
6	7.5	3		19	2.50	1
7	6.75	3		21	2.25	1
8	6.00	3		23	2.00	1
9	5.25	2		26	1.75	1
10	4.75	2		31	1.50	1
11	4.25	1		37	1.25	1
12	4.00	1		45	1.00	1
13	3.75	1		65	0.75	1
14	3.50	1		100	0.50	1
15	3.25	1		200	0.25	1

\* The time was to be counted in such a way that the sequence 21, 22, 23 etc. up to 74 should take exactly 30 seconds. The time interval can be calculated by counting the swings of a pendulum consisting of a small, heavy ball suspended on a piece of string that was exactly 31.39 centimetres (one Rhineland foot). This method was preferred because it was cheap and easy to construct – a ship's carpenter would always have a Rhineland measure in his toolkit.

The unit used by Holm was the "Rhineland foot" which is 31.39 cm.

First determine the time taken for a log thrown into the water to travel between two marks 40 Rhineland feet (approximately 12.5 metres) apart on the side of the ship above the waterline. This value is entered under "Time interval" and read off the ship's speed in knots. This is expressed in German miles or geographical miles per four-hour watch. Assuming a constant speed, multiplying this figure by six would give the distance travelled daily.

A German or geographical mile is equal to four nautical miles, which means that Holm's speeds are equivalent to the later measure of the same quantity in knots (nautical miles per hour).

The accurate manipulation of the log-timer would require some training and it would seem likely that its use would be confined to the more senior members of the ship's company.



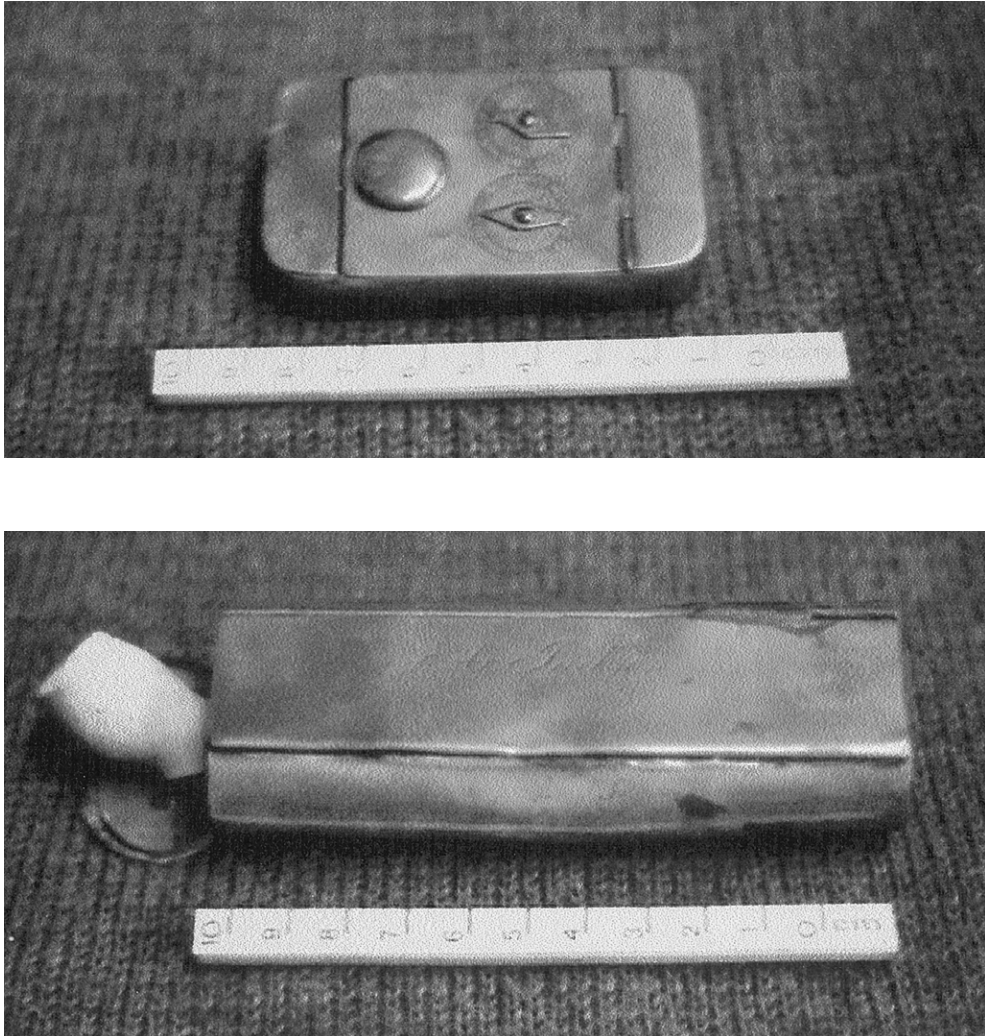


PLATE 1. Seamen's boxes from Whitehaven

The Dutchman's log was so called because the Dutch preferred this method of determining the speed of a vessel over that used by the English which had been developed in Elizabethan times.

The other seaman's boxes (Fig. 3) include a brass "smoker's companion" in which access to the main tobacco compartment is through the lidded top of the box, on the lid is inscribed the name *A. Jackson*. This is professionally engraved. The box is 12 cm long and 4.5 cm wide and 2.5 cm deep; inside the main compartment is a slot for a pipe (Fig. 3) with a small pipe (broken) still in place. The pipe can be accessed by means of a lid in the end of the box. At the other end there is a small compartment whose purpose seems to have been to hold small matches or some other combustible. The lid is missing from this.

The smallest box is 7.5 cm. Long 4.2 cm. wide and 1.4 cm deep; its purpose is more obscure. The lid can be securely fastened by means of a sliding knob (a). On the inside of the lid are traces of solder round the edges suggesting that it has been repaired at some time. In contrast with the outside of the box, which has obviously been highly polished, the inside is almost black and quite rough. On the lid are two small dials each marked in roman numerals from I to XII and "fingers" which can be rotated. The "fingers" suggest fishes as although they are pointed at one end the opposite end is a definite fishtail. It has been suggested that the dials were connected with scoring from a game, but since they number up to twelve it seems more likely that they are some sort of timing device to remind the user of some task to be performed. On the bottom of the box is scratched. *Jim Smith Jny 1854*; and on one side again *Jim Smith* and on the opposite side the date *1854*. It must be emphasised that the name and date have been very crudely scratched on the surface of the box presumably by Jim Smith himself to denote ownership.

Unfortunately, it would appear that the proud owners of all three boxes had seen fit to keep them bright and shiny by use of a metal polish and this combined with general wear from handling has resulted in the engravings being almost worn away.

Between 1752 and 1969 there were more than 300 ships wrecked off the Cumberland coast and many lives were lost. With every ship that was wrecked there would be a loss of personal effects even if the crew were saved, so few belongings of the sailors from the by-gone age of sail still remain and artefacts such as these boxes are all that is left to remind us of the men who followed this dangerous trade.

### **Acknowledgements**

I wish to thank the British Maritime Museum for their initial information and identification of the box. I was also helped by the staff of the Beacon Museum of Whitehaven. I am especially grateful for all the information and help I have received from Dr Robert Van Gent of the Institute for History and Foundations of Mathematics and the Natural Sciences in Utrecht.