

# CHRONOMETERS

Marine, Land, and Household Controllers,

# CHRONOGRAPHS

Industrial, Wireless, Longitude and  
Geodetic Survey, etc.



BRITISH  
Regd. Trade Mark

*With the Compliments of the Inventors and Manufacturers:*

**T. & F. MERCER,**

**Eywood Road,**

**St. Albans,**

**Eng.**

Code: A.B.C., 5th Edition.

ESTABLISHED 1858

# CHRONOMETERS



THOS. EARNSHAW

Born 1749—Died 1829

Inventor of the Marine Chronometer Escapement

One hundred years have gone, and to-day, realising his great merits, we are putting memorials to the memory of Thomas Earnshaw, the inventor of the present day Marine Chronometer. 1858 saw the commencement of the firm of Thomas Mercer manufacturing this instrument, to the model of the illustrious inventor, and carried on by the founder till 1900, whose ability to manufacture these high grade timekeepers is never questioned. But what of those that follow; have they carried forward this heritage? It is concerning this the following is written.

From 1900 a new policy was adopted, to counteract the fast disappearance of the highly trained hand worker, the trend of modern ideas with regard to hours, and the call to other, often higher paid and less skilled trades. This policy has been, to have under one roof and one eye the whole procedure of making these instruments, and with the aid of modern equipment this feature has been accomplished.

To date nearly 20,000 of our instruments have been despatched to all parts of the world. The standard design has been arrived at during our long years of research, and is a duplicate in all cases to the instrument which holds so high a place in the Observatories of the world.

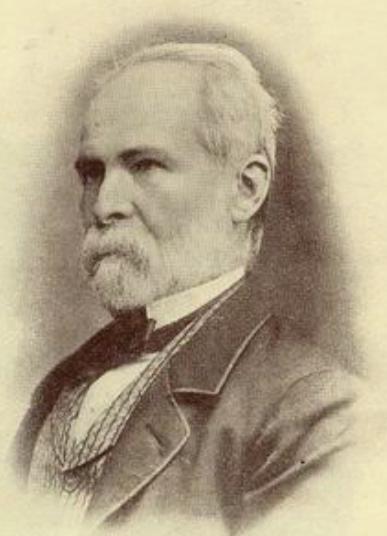
It is with, we think, pardonable pride if we record the triumphs of this Standard Instrument, by the rewards received since the finish of the Great War :

- 1923 International Trial at Neuchatel, Switzerland. Five instruments submitted, all gained prizes and secured the Group Prize and Medal for the best Group exhibited.
- 1925 National Physical Laboratory Temperature Record Broken and repeated again in 1928 and 1929.
- 1926 British Engineering Standards Association Aircraft Test at National Physical Laboratory for extreme temperatures 40 C. to -20 C., open to the world. Chronometer No. 34 not only gained the highest points in the test, but also received the following report :—

“ The change of rate with temperature of marine chronometer No. 34 (that of Messrs. Mercer) is very small and remarkably sustained throughout the whole range of temperature. In this case, if it were found practicable by fine adjustment of the bi-metallic affixes to compensate the small temperature coefficient, it would appear possible to make the total rate come within the extremely fine limits of one or two seconds at all temperatures.”

Highest marks of yearly performances at Kew Observatory :

- 1920-1921.
- 1923-1924.
- 1925. Record.
- 1927.
- 1928. Record Repeated.
- 1929. Record Repeated.
- 1930.



THOS. MERCER

Born 1822—Died 1900

Founder of the firm of Chronometer Manufacturers

# SURVEYING CHRONOMETER

*Overland Transport Pattern*



By the above illustration it is easy to follow the distinctive features of this instrument.

**STOP & START.** This mechanism securely holds the balance by a slide actuated from outside, and transport without fear of harm to these delicate instruments is possible with ordinary care.

**MICROPHONE.** If fitted with head-phone or trumpet. Cells of  $1\frac{1}{2}$  to 6 volts. The tick of chronometer or contact can be accurately conveyed to any distance.

**BREAK CIRCUIT.**  $\frac{1}{2}$  or 1 seconds or multiples—Patent No. 26/261655. Adjustable, to give any length of make or break from outside instrument, robust and visible, as used by H.M. Admiralty, War Office, Air Force, Crown Agents, Marconi R.A.C. and Radio Corporation of America, and Geodetic Wireless Survey Parties all over the world.

**WINDING.** Through Glass.

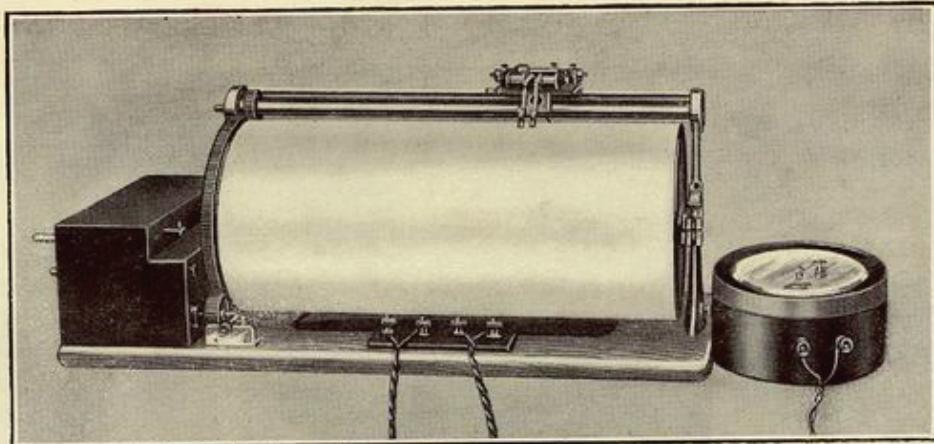
**CASE.** Metal. Dust and damp proof, and fitted in stout leather case with key pocket. Outside case in teak Willesden canvas covered.

**MOVEMENT.** Standard pattern. Palladium, rustproof and non-magnetic hairspring. 2 day and duplicate of National Physical Laboratory record holder.

Guaranteed certified. With or without "KEW A" certificate. Dialed 24 Hour, Sidereal or Solar.

In this latest patent granted to us, we have embodied the possibility of a short and sharp contact. The duration of this contact may be varied at will without interference with the working of the instrument. Spares for these are interchangeable.





## CHRONOGRAPH

GEODETIC SURVEY.

TIME RECORDING.

OBSERVATORY.

Our entry into the manufacture of Chronographs was the outcome of our Surveying Chronometer by which, fitted with Microphone, Electric Contacts, visible, and variable, robust and interchangeable, Stop and Start mechanisms and with special weather-tight casing, it is now possible for the observer to stop his instrument, and feel sure it is safely packed by an operation outside the movement, and when the observations are required, to, in a minute, release the stop work and with his instrument he will be able to continue his time registrations without fear of damage in transport, had ordinary care been exercised. In short, it has been made for the job, and not a Marine Chronometer made to do for land purposes also. So with the Chronograph, the use of the long drum and the large sheet of paper, the ideal for accurate recording purposes, compact, complete, and the result of observations seen at a glance.

To combat with local conditions met with, special details largely extend into this design, and every care has been taken to obviate the risk of dust, sand and wet, and in spite of its robustness throughout, with the teak case covered with Willesden canvas and edges bound with aluminium strips, the weight is within easy reach of bearer, camel or mule.

These Chronographs, then, are the outcome of suggestions given us by actual users in this surveying work. Its pen work is designed to record either automatically, or by ear and eye, Transit or Wireless records at the same or in separate periods, and we feel sure that with moderate care both the Chronometer and the Chronographs will be capable of giving a maximum service with a minimum of trouble.

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