THOMAS CHARLES ROBINSON, BALANCE-MAKER

by

Barry J. Oliver, C.Chem., FRSC



THE AUTHOR (left) published in 2020 a massive monograph on the balance-maker Ludwig Oertling, his company and its many products. For this endeavour the author drew on his forty years of practical laboratory experience in the latter half of the 20th century. Much of that laboratory work included a great deal of weighing at a very high professional level. He also began collecting and restoring old chemical balances, assisted by a clock-maker and by much unofficial instruction from Oertling service engineers.

Thomas Charles Robinson (1792—1841) was one of three principal influences upon Ludwig Oertling, alongside R.B. Bate and August Oertling of Berlin. Robinson is well-known as a maker of fine scientific instruments, mainly in the areas of optics and magnetism, although high-precision balances were also included amongst many other items in his price lists.

The book opens with chapters on Robinson the man and his business. It is therefore in part a biography and in part a company history, but is hindered in these aspects by a distinct lack of raw data. There follows next a very long and detailed chapter describing fine balance-making in England as it was c.1821 when Robinson entered the field in collaboration with the well-known Captain Henry Kater, FRS. For those interested in the history of English fine scales and fine balances, it is worth buying the book for this chapter alone. There follows a description of a typical Robinson chemical balance, and an assessment of the origins of the Robinson/Kater designs. It then examines the evolution of their balance designs over the next twenty years.

Whilst there has been a limited amount of modern research on various aspects of Robinson as an instrument-maker generally, academics have, with one exception, entirely ignored Robinson's balances and his importance as a balance-maker. That exception was the late Professor John T. Stock. He was the first scholar to point out the existence of Robinson's balances as a group and their importance in the development of high-precision weighing. He was somewhat hindered in his understanding by the unfortunate fact that he had only three Robinson balances to study.

His lead was followed some years later by the late Dr Peta Buchanan, who brought the number of known surviving Robinson balances up to eleven during her research for her PhD thesis on the development of the chemical balance generally. More recent research by the author and others has brought the number of Robinson balances, their precursors and their copies, up to twenty.

Thus there are now enough of Robinson's balances known and studied for the author to deduce the stepwise development of Robinson designs from the simple

scales of c.1821 through to his impressive balances at the time of his death, and onward to their final development by Henry Barrow. He took over the Robinson business and marketed the developed designs under the 'Robinson & Barrow' name.

The primary emphasis of the book is therefore on the progression of the designs with time. It has become clear that Robinson was working *very* closely with Captain Kater, who was an important metrological consultant to the British Government. Crucially, Kater designed an 'economy hydrostatic balance' which Robinson then made as a routine production item. At this remove it *appears* that it was sales of this first model which put Robinson 'on the map' as an instrument-maker, but this is probably an illusion created by lack of data. Kater not only assisted Robinson with his balance designs, but also with the design of some of his other instruments.



What is not in doubt is that Robinson and Kater developed their very basic hydrostatic scale into a single balance model created at three very different capacities, and these evolved over the next twenty years into a set which greatly influenced later balance-makers. Therefore the bulk of this book is a detailed account of each known surviving Robinson balance, mainly one chapter for each, placed in what appears to be the logical order of balance development.

A typical intermediate Robinson balance is shown here. Robinson also made a few larger balances for the critical comparison of international mass standards by leading Natural Philosophers. One of these larger balances has been rediscovered recently and is covered in depth in the book.

The intended readership is primarily:

Serious and casual collectors of scales, balances and weights;
Serious collectors who have already bought the Oertling monograph;
Historians of Science and Scientific Instrumentation;
Historians of Metrology and Fine Engineering;
Museum Curators specialising in sciences and fine engineering;
Auction House specialists in scientific instruments and fine engineering;
Antiques Dealers tending towards the science and fine engineering sectors;
Reference Libraries.

This is a hard-bound book printed on acid-free paper because it has to last. The author hopes it will be *the* reference work on Robinson as a maker of fine balances for years to come. The price has been slightly subsidised.

Format: A4 Printed pages: 242

Illustrations: 167, mostly in colour

Price: £30 plus postage; in UK £34; overseas dependent on location

Available from: barryoliver.frsc@outlook.com