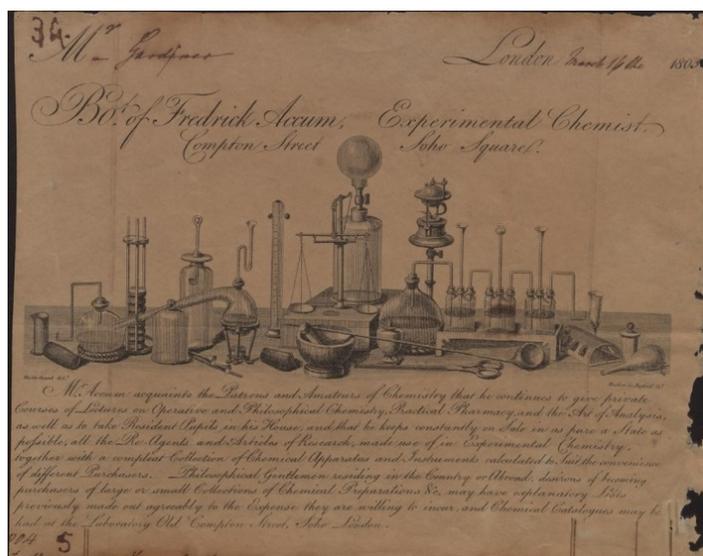


With a growth in literacy, advertising and marketing there was an increase in the printing of ephemeral material. Our print collection contains numerous advertisements for various items ranging from sundials, microscopes, telescopes, and other precision scientific instruments, for auction sales, as well as patent instruments such as the [Pilkington Sol-Horometer](#), [Mordan & Co's ever-pointed pencil](#), [Wilson's Hygrometer](#), and [Webb's polar watches](#).

The advertisement styles range from the predominantly textual to the more visually appealing, and reveal contemporary technological innovations and inventions.

### *Chemical Amusement Chest, Frederick Accum*



Print (Engraving) Advertisement for Fredrick Accum  
Experimental Chemist Compton Street, Soho Square,  
London, 1803. Inv [14373](#)

After being apprenticed as an apothecary with the Brande family (apothecaries to George III) in 1793 Frederick Accum (1769-1838) came to London from Germany, remaining for nearly thirty years. He set up his own business at Old Compton Street, Soho selling chemicals and apparatus. At the time of this advertisement he was also assistant to Humphry Davy at the Royal Institution.

He began giving his own private and popular lecture demonstrations and ran subscription courses on practical chemistry, one of the only laboratories of importance to give practical experience in chemistry. His lectures were popular with the London audience and drew men and women of all ages. Another print in our collection, an [etching by Rowlandson](#), illustrates one of Accum's lectures at the Surrey Institution. Accum believed the best proofs of chemistry appealed to the senses and so experiment, explained as simply as possible, featured heavily in his lectures. One of the audience members in the etching has a book marked 'Accum's lectures' in his pocket.

Accum's role in diffusion of chemical practice extended beyond lectures and teaching. He also wrote important and popular textbooks such as *A Theoretical and Practical Chemistry* (1803), the earliest published to have been based on Lavoisier's principles. He also wrote works intended for popular audiences such as his *Chemical Amusements* (1817) to accompany the chemical chests sold in his shop, as well as works about brewing, baking and wine-making.

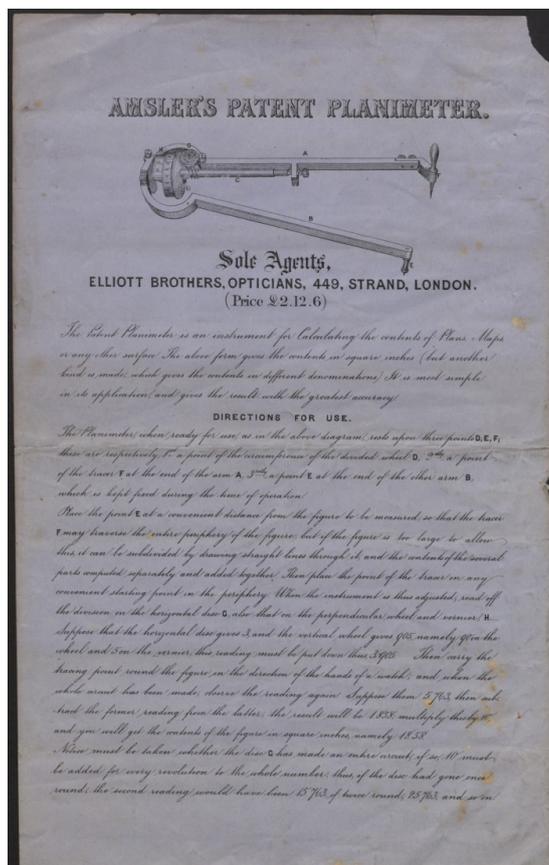
Portable and amusement chemical chests, such as the one in this advertisement, were pioneered by Accum, and became particularly popular from the 1830s onwards with other producers. According to

the manufacturer of Accum's chest 'the object of the chest is to blend chemical science with rational amusement'. This kind of rational amusement appealed to a public accustomed to the popularisation of science, and familiar with Henry Brougham's appeal for a scientific approach to everyday life, a philosophy promulgated by the Society for the Diffusion of Useful Knowledge.

Accum was also involved with more industrial and technical chemistry, assisting the development of gas lighting and becoming a director of the Gas Light and Coke Company. He also contributed to the passing of a food adulteration act in 1860 publishing 'A Treatise on Adulterations of Food and Culinary Poisons' on methods of adulteration and how to detect them.

This work, and his naming of influential merchants and manufacturers as adulterers of food and drink made Accum unpopular. He left London in disgrace following a complaint made to the Royal Institution that he was secretly mutilating library books. Following the discovery of several leaves from books held by the Royal Institution library in his house, he was charged with mutilation of books and chose to return to Germany rather than attend trial.

Any further publications made by Accum were published either anonymously or under the pseudonym Mucca. The damage to his reputation and the subsequent attempts to suppress his name in published materials contributed to the neglect of his deserved legacy.



Print, Advertisement for Amsler's Patent Planimeter, London, Early 20th Century.

Inv [14392](#)

### Amsler's Patent Planimeter

Jakob Amsler (1823 - 1912) was a Swiss mathematician, physicist and engineer. Previously focusing on mathematical physics, in 1854 he began to focus on precision mathematical instruments. This

resulted in the Polar Planimeter, a device for measuring areas enclosed by plane curves. Previous versions of the device were based on a Cartesian coordinate system (and were bulky and expensive). Amsler's improved version used a polar coordinate system (where each point on a plane is determined both by its distance from a fixed point and its angle from a fixed direction, instead of using linear x-y axes). It was smaller, less expensive, and easier to use, with two arms connected with a pivot rather than the more complex mechanism of earlier versions.

He established his own precision tools workshop in 1854 and by the year of his death in 1912 his shop had produced 50,000 polar planimeters and 700 momentum planimeters. A few [examples](#) are stored in our museum collections.



Print, Advertisement for the Patent Self-Operating Fire Escape, Printed by George Smeeton, London, 1812-1828. Inv [14056](#)

### Self-Operating Fire Escape

The patent self-operating fire escape was intended to enable evacuation from upper floors. It could be bolted to the floor next to a window and concealed by a window seat and drapery which, in the event of a fire, was placed outside the window forming a balcony and sash. This, through a system of pulleys and levers, conveyed a person safely to the ground. A family of eight could be safely evacuated in this way within two minutes.

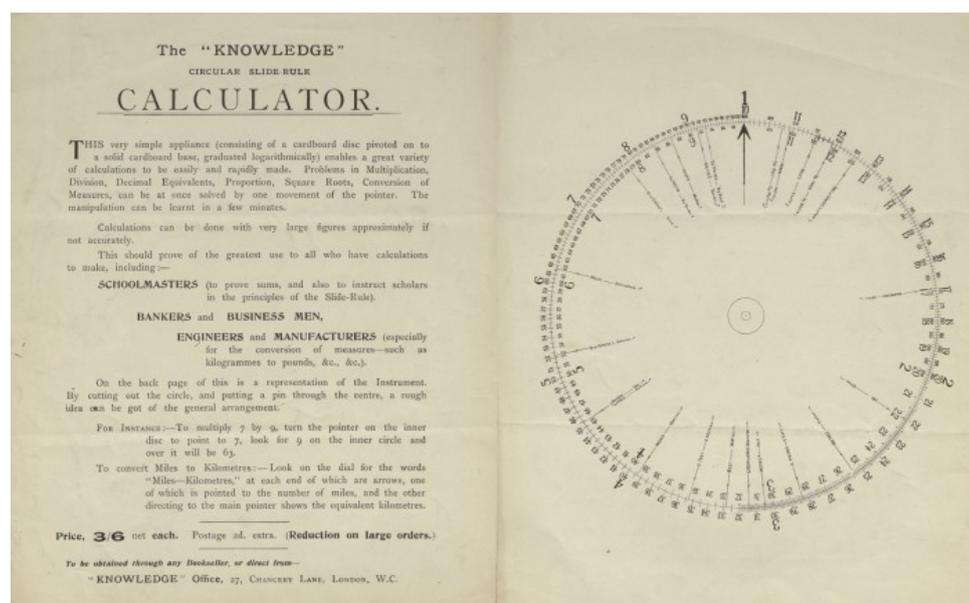
The publisher of this print, George Smeeton, witnessed the total destruction of the Covent Garden Theatre by fire in 1808 and produced a pamphlet describing the “dreadful conflagration of Covent garden theatre... September 20th, 1808”. It was perhaps witnessing this event that provided his motivation for publishing this advertisement.



scale to perform multiplication and division using a set of calipers. Oughtred placed two Gunter rules together held together by hands to make what is recognisably a modern slide rule. He also invented the circular slide rule in 1630.

In 1677 Henry Coggleshall invented a more practical timber and carpenters rule for gauging the volume of ale, wine and spirit barrels, useful for calculating tax excises. This design was used until the late nineteenth century.

The modern form was developed by French Artillery Officer Amedee Mannheim using a set of four scales for the most common calculation requirements.



Print, Advertisement for the "Knowledge" Circular Slide Rule Calculator, London, Late 19th - Early 20th Century. Inv [13670](#)

Despite being only used predominantly in England for a long period, slide rules have had a significant impact. In facilitating precision engineering with calculations accurate to three significant figures, engineers such as James Watt and James Boulton were able to use slide rules to develop the steam engine. The importance of the slide rule in the Industrial Revolution is demonstrated by the proliferation of designs during the period. Between the early seventeenth and late eighteenth centuries around 40 types of rule were developed, but during the nineteenth century alone some 250 types were created. And in the first decade of the twentieth century over 90 designs were made.

It wasn't just in engineering that slide rules played a significant role. In the Second World War, bombers and aerial navigators used specialised slide rules to calculate range, fuel use, and altitude.

Specialised slide rules had a variety of uses and for a variety of different industries, being useful for excise, mathematical proof, engineering, navigation, banking and business calculations, as well as some particularly specific roles in estimating the weight of a cow from its measurements, for example, [Cary's Cattle Gauge](#).

They were used well into the twentieth century, but were eventually superseded by the development of the HP-35 pocket scientific calculator by Hewlett Packard in 1972. There are many examples of different types of slide rules in our collection, including examples of late nineteenth century and early twentieth century circular slide rules (See Invs [50922](#), [41139](#), [48365](#) and [34185](#)).

Postcards were also popular forms of advertisement. Visit our [Postcards](#) page to find out more.