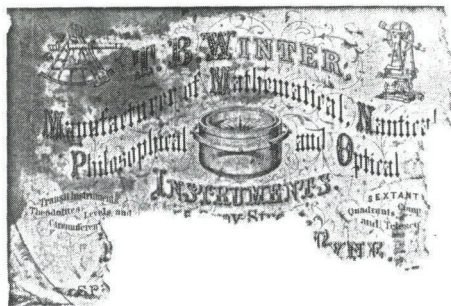


GREAT HEAVENS SOME UNUSUAL SLIDES

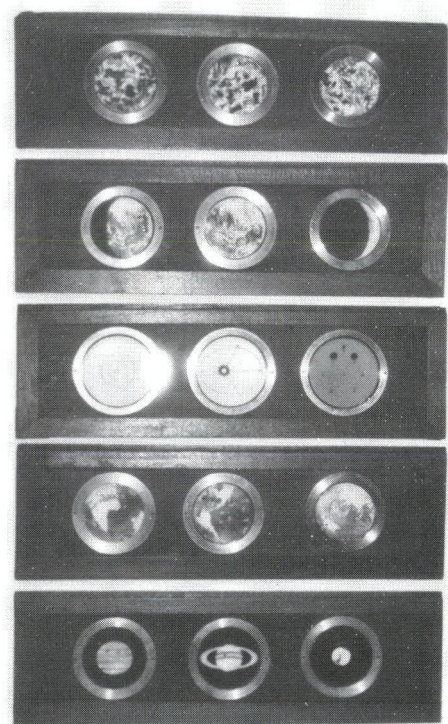
DEREK GREENACRE

At a local auction I recently purchased an early tinplate magic lantern of the bent chimney variety in its original box which carried the tattered label of T. B. Winter, manufacturer of mathematical, nautical, philosophical and optical instruments (1). Although incomplete, the address 55 Grey Street, Newcastle-upon-Tyne could be inferred and has been confirmed by reference to a similar complete label in the collection of trade cards in the Science



Museum (item 451 in the published catalogue). This also describes the address as being on the corner of High Bridge Street. These premises, it turns out, were occupied by Winter from 1856, while by 1886 the firm had moved to 21 Grey Street, becoming T. B. Winter & Son – a change acknowledged in all subsequent labelling of their products. Consequently the lantern, presumably of Winter's own manufacture, must have been originally sold by him in this period.

Also in the lantern box, in a partitioned section, were five long astronomical slides in mahogany frames which enclosed long pieces of tinplate in which three holes had been cut – each hole containing a circular brass-bound slide (2). These showed: (i) coloured pictures of the signs of the zodiac, (ii) the phases of the moon, (iii) the relative positions of the planetary orbits, Kepler's Laws, the relative size of the planets, (iv) views of the earth and (v) Mars, Saturn & Jupiter. Slide (iii) showed eight planets – which would date it as being painted later than 1846, the date of the discovery of Neptune

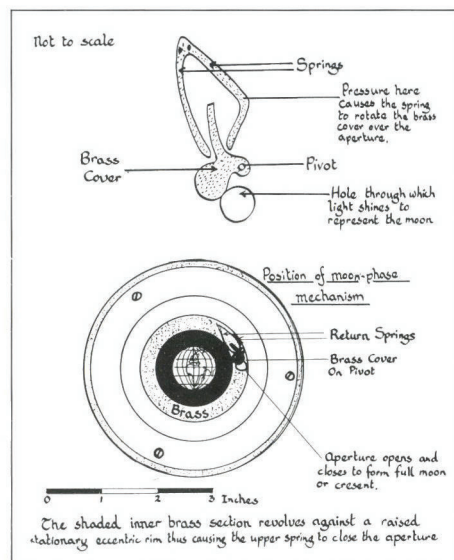
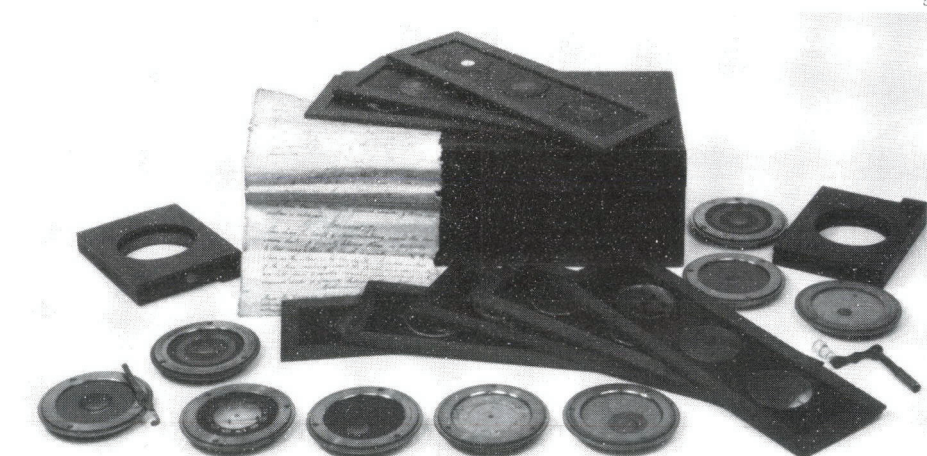
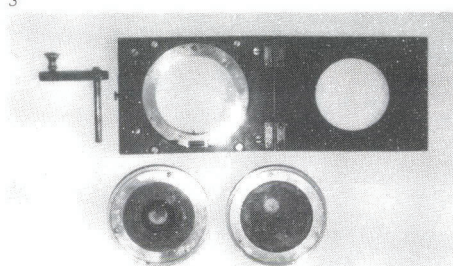


(the eighth planet), a date consistent with those already mentioned. While it seems clear that the slides were sold by T. B. Winter, as with the lantern, he may or may not have also been their maker.

The final item in the auction lot, but one without a place in the lantern box, was an unusual moving slide which opened out by means of a hinge to reveal a well into which component slides could be slotted (3). This economical design allowed the maker to provide a single gear mechanism with a large number of 'plug-in' components. Two of these accompanied this slide frame, one depicting the rotation of the earth and moon around a common centre of gravity (the so-called baricentre), while the second was a most ingenious device for portraying the changing phases of the moon as it rotated around the earth – both movements being worked from the single rotating handle (4). As these moving slides were separate from the lantern box, with its label and the fixed slides, it was clear that they did not necessarily originate from the same source, although the probability was that they did.

Having acquired these slides, I began what seemed like an endless chain of research trying to uncover more information about them. I wrote to the Science Museum, the Barnes Museum of Cinematography, Project Simon (this is an organisation in Oxford University which specialises in research into early British scientific industry) and also contacted scores of individual collectors, enthusiasts and specialists (including Patrick Moore!) and, although many kindly offered information on astronomical slides in general, these particular types seemed unknown to them. However, one rather tantalising lead did materialise.

Christie's sale of scientific instruments on 4 June 1987 included a similar (although more complete) set (5). This was housed in a wooden case unfortunately without any indication of a maker's name – and included nine of the circular 'plug-in' components illustrating: (a) eclipses, partial and total, (b) signs of the zodiac, (c) the motion of the tides caused by the moon, (d) the umbra and penumbra and their movements in eclipses, (e) Saturn with its seven moons, (f) Jupiter with its four moons, (g) rotation of the earth and moon around their baricentre



(this corresponds to one of my slides), (h) rotation of planets relative to the zodiac, and (i) moon with changing phases rotating around the earth. This last slide corresponded to my second moving slide, as already described, but had a separate lever for producing the change of phase effect – a much more primitive (and presumably therefore earlier) device than that seen in figure 4. Interestingly, however, though my slide does not require the presence of this lever, as can be seen from figure 3, the wooden frame still carries the groove into which the lever would originally have fitted – a feature of my slide previously unexplained. The presence of this seemingly unnecessary groove suggests either a late modification by the original maker (as I suspect) – or, perhaps, a subsequent modification by someone else.

The set also contained eight long astronomical slides on the pattern already described and thus confirmed that my moving and fixed slides had originally been part of a single group as suspected. These slides duplicated the five in my possession (although varying the order of the images within each slide), while the three additional slides showed: (i) diagrams of the earth relative to other planets, (ii) diagrams of the earth and axis of rotation and (iii) diagrams of the planetary system. Also included was a fixed holder – identical in outline to the frame for the rotating slides – through which the long slides were passed. Once this had been correctly mounted in the lantern, an L-shaped notch corresponding to a similar notch along the top edge of the slides made it impossible for them to be inserted upside down – an easy mistake to make with astronomical subjects, since, during projection, a quick examination of the slide image would seldom reveal an obvious 'right way up', as with more helpful terrestrial subjects. This holder was not present with my slides but was clearly originally called for as the slides themselves carry the same notch.