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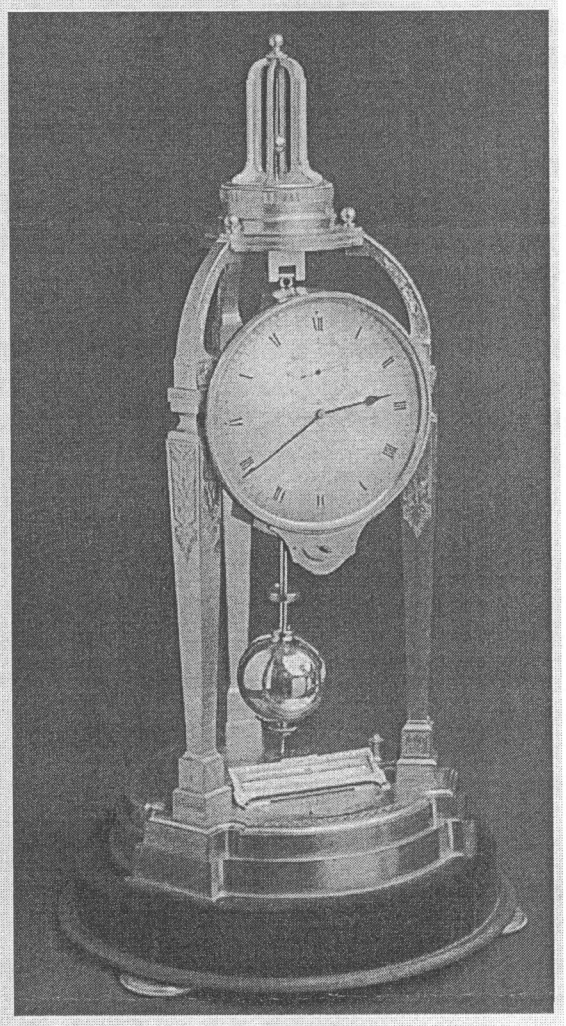
EDITORIAL

Our front page article is a little off topic this month - a small editorial self indulgence to back up my blather in the May issue. As well as being scientifically and technologically exciting, the Victorian era was also the high point of the mechanical arts. Clocks do not come much better than those of the Victorian era, as



witnessed by this superb tripod clock by Thomas Cole. This clock and a score or more of other Cole clocks of similar quality are in Australian collections. To learn more, read Thomas Cole & Victorian Clockmaking by J.B. Hawkins - a very special book from Sydney.

Why was this so? Technology was fashionable. And, before automated mass production, the very large, prosperous and knowledgeable market of the Victorian era had two particular effects. The manual mass production methods meant that tradesmen became specialised experts in producing one or two components. The volume demanded required many tradesmen to satisfy and this increased the chances of there being many outstanding craftsmen and technologists in the trade

AT THE BENCH

with Tony Roberts

The last two months have been interesting and challenging. The first challenge came in early June when I was assisting a friend remove an English eight day long case movement from its cardboard box. It was nearly on the bench when the hour wheel fell off and on its way to the rubber floor matting, it hit my aluminium long case movement test frame. Needless to say one of the teeth on the hour wheel was bent, but to make the job more challenging it was under the snail at the two o'clock position.

I tried a couple of times to straighten the tooth and on the third attempt, the tooth snapped and the screwdriver kept going and imbedded itself in my finger. After a few helpful words and band aids I inspected the wheel trying to decide the best method of restoration. Firstly the snail had to be removed, it was held on by brass rivets through a large thick brass washer and into the hour wheel. I centre punched and drilled the rivets then removed them with a purpose made punch. The problem missing tooth was now easy to work on from both sides of the wheel.

I considered several ways to replace the tooth and thought of the many diagrams I had seen in horological publications, with specially cut dovetails and the tooth soldered in place and thought there must be a better/ simpler method. I decided I would saw out the space with a circular slitting saw to slightly more than the tooth width. In this case the tooth width was 1.5mm so I cut a space with parallel sides of 1.6mm, with two passes of the slitting saw. To carry out this task the hour pipe was held in a three jaw chuck in a small milling machine and the cut made to 1.5 times the tooth height. A piece of 1.6 mm brass was soft soldered into place and the excess was removed with a jeweler's saw and file, then the tooth hand-filed to shape.

The snail was then replaced with new rivets. You can see the replaced tooth as the new brass is a different colour from that of the hour wheel.

The biggest challenge of June was the complete restoration of a Synchronome master clock and four slave clocks from a tower installation with three foot diameter dials. The system belongs to a provincial secondary college. The system was probably installed between the 1930's and 1950's although I can find no record of the installation in the Synchronome records.