'Pinion

Meccano ratios

I WAS very interested to see the article in your August issue about an astronomical clock made by Mr Geoffrey Weir largely from Meccano, but was sorry to find that the impression was given at some points that the Meccano system is more restricted than is in fact the case. I will confine my further remarks to the subject of accurate gear ratios, arising from the statement '1:366.4, which is the nearest attainable with Meccano parts' (to the tropical year).

(a) Mr Weir seems to have overlooked the sprocket of 73 teeth – $5 \times 73 = 365$.

(b) There are many ratios close to unity which can be used to trim a first choice of gear train. Useful ones here are 224/225 and 360/361. Applied to 366.4 these give 364.8 and 365.4, much closer to the calendar and Tropical years respectively. Trimmers using higher numbers can be used repeatedly to get even closer, but as each one uses two or three extra arbors, friction soon sets a limit to this approach.

(c) In an unpublished paper, *Gear Trains for Astronomical Ratios,* I have shown that one can, with Meccano or any other standard gears, get as close as one wants to any chosen ratio, even to eight or ten figures, without frictional penalty, by the use of differentials. I will send a copy for £1 to any reader who requests one.

In the Model Engineer Exhibition at Wembley in 1980 I showed a Jovilabe which took first prize in its class. The drivers from Jupiter to 14 satellites are all accurate to 1 in 10,000, mostly using differential trains, several of which are visible in the accompanying photograph.

Incidentally imported Meccano outfits and a wide range of spare parts can be bought from Everything Meccano, 4 Grays Road, Henley-on-Thames.

A B Patridge
63 Clifton Road
Sutton Coldfield
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B73 6EN

Robert Davy link?

BY LINKING the Robert Davy clock to the launch date of the warship and assuming it to be 1781 Mr Turner (*Clocks,* November) in his article 'A clock for the Royal George' has made a glaring error.

The Royal Goerge was in fact completed in 1756 and served a long and illustrious life with the Royal Navy until 1782 when she was ignominiously allowed to capsize in calm water at Spithead.

The style of the dial is admitted in the article to being 15 years out of date (from 1781). At the same time I would not consider it to be early enough in style to be made in 1756. The Royal George's 'finest hour' was as Hawke's flagship at the battle of Quiberon Bay late in 1759. The French were soundly defeated and their invasion plans ruined. Such was the jubilation in England at this outcome that the Navy became highly popular. Perhaps the clock was made some time in 1760 to commemorate this event.

P A Wimpenny
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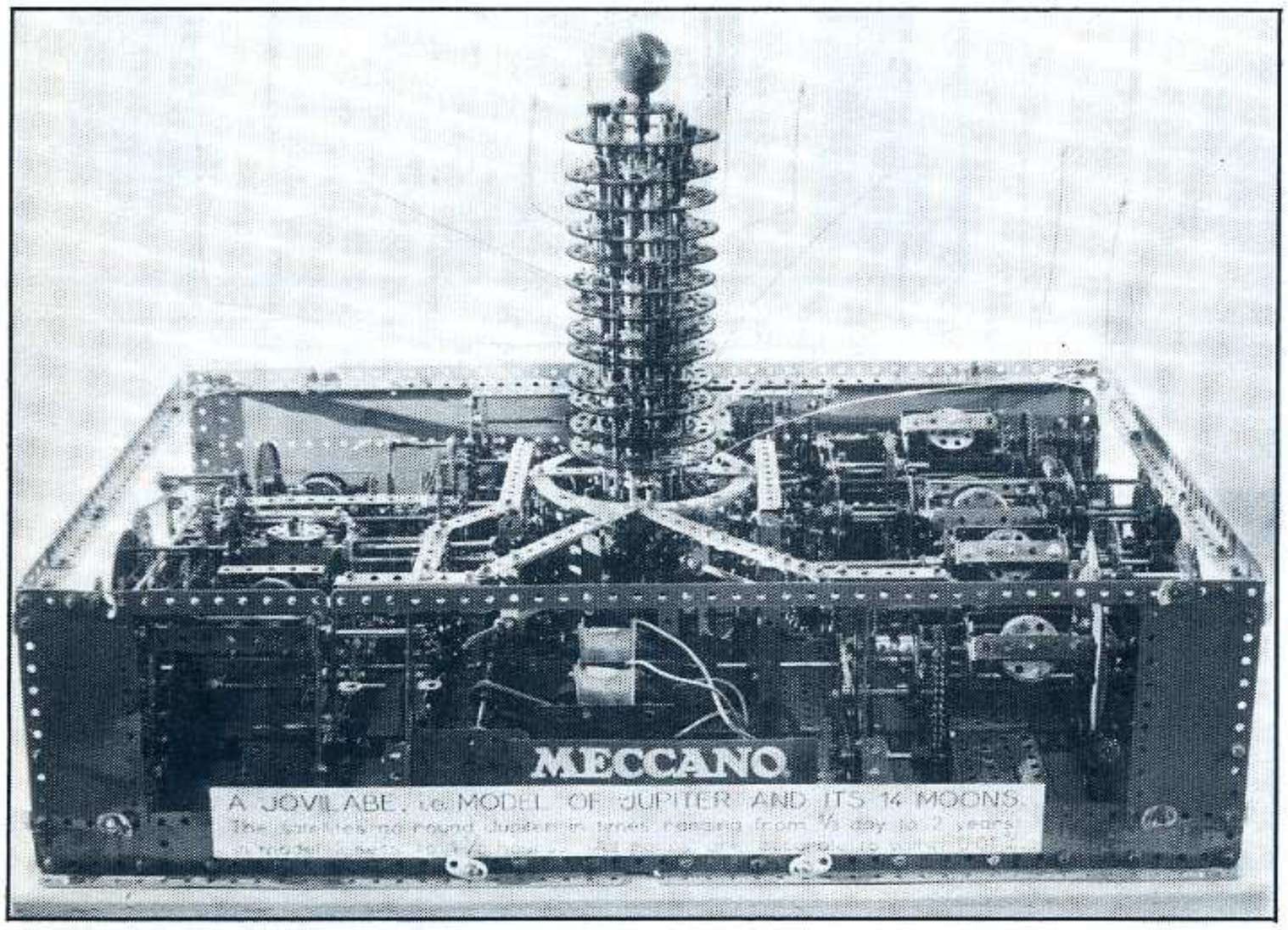

A B Partridge's Meccano Jovilabe.

Pendulum length

WITH reference to WB's letter in the December issue ('Interface' – page 46), he may be interested to know that the great majority of French movements have the pendulum length marked on the back plate. Therefore I am pretty certain that the figures 7-2 represent the length in 'pouce' (French inches) which means that the length would be approximately $7.2 \times 1.0657 = 7.67$in.

An experimental pendulum of this length would save a tedious train count.

L W Cawse
Manchester

Older at Aldingfleet

CONTRARY TO the report in your December issue, it is my opinion that the Adlingfleet clock is considerably older than the one at Whitgift.

Adlingfleet was clearly constructed with a verge and foliot escapement – ie prior to about 1660. The end-to-end trains and central jumped out cross-bar are quite indicative. The finials resemble those of the Dover Castle clock and the 'Cockleshell' clocks. The general view is that these were made in the early part of the 17th century. (Like all but two known clocks, it has been converted to anchor escapement.)

The Whitgift clock was made with an anchor escapement and is not a conversion. It was therefore made after the introduction of the anchor escapement, probably towards the end of the 17th century.

Moreover, many early clocks did not possess dials and told the time only by striking on a bell. Although my village had a clock in 1626, it was not until the third one was installed in 1910 that it had a dial.

It is not surprising, therefore, that your reporter could find no signs of a dial. There wasn't one. And there is every reason to believe the lady in Adlingfleet who said her father heard the clock strike a century ago.

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