V3459 Pendulum clock
1816
h 190, w 42, d 21
Signed on dial 'F. Knebel Fecit AMSTERDAM Aº 1816'
On back plate 'F. Knebel fecit Amsterdam'
By Herman Friedrich Knebel, Amsterdam

This clock was bought by the director of the Leiden Observatory, Cornelis Ekama. On his arrival in 1811, the observatory was in need of a mayor overhaul. Ekama restructured the building and apart from this regulator bought other instruments from Knebel like a chronometer. There is no record that the clock was used for precision time measurements after it moved to the new observatory in 1860.

The clock case is the original one. The silvered dial has a central second hand (5-60, divided in 60 parts). There is a subsidiary dial on the left for hours (I-XII) and on the right for minutes (5-60, divided in 60 parts).

The movement is weight-driven and the maintaining power is a Huygens cord with a free ratchet wheel below the dial. Duration is eight days.

The compensated pendulum is driven by a pinwheel type escapement after Amant with a steel anchor and brass escape wheels and pins. the anchor has an adjustable opening and the pallets have jewelled impulse faces. The escape wheel runs in jewelled bearings. The asymmetrical pendulum after Lepaute is supported on a knife-edge suspension. It consists of a steel rod and a brass rod. The brass rod expands more than the steel rod, which lifts the bob when the temperature rises and keeps the centre of gravity in place. The degree of compensation can be adjusted by two setting screws above the bob. Fixed just above these setting screws is a mechanical thermometer hand (running from 45 Cold to 45 Warm), which is operated automatically by the compensation, and can act as a check on the amount of compensation.

Knebel, Herman Friedrich
Herman Friedrich Knebel (1770-1829), son of clockmaker Johann Gerhard Knebel, was born in Neukirchen, Westphalia. After moving to Amsterdam he settled at the Vijzelstraat 109 with one of his brothers. He established his reputation with the supply of a regulator for the Utrecht Observatory in 1805. His first known chronometer dates from 1806, one of the first Dutch made marine chronometers. However, Knebel imported most of the components from England. When Knebel died his nephew Bernard Rudolph Knebel took over the workshop.

Hans Hooijmaijers, July 2005