V03462 Pendulum clock
1866
h 162, w 50, d 30
Signed on dial 'Knoblich Altona 1711'
By Theodor Knoblich, Altona

The director of the Leiden Observatory, Frederik Kaiser, bought this clock in 1866. It served as a timekeeper for the large refractor, showing sidereal time. Its electrical pulses were used to control two chronographs made by Knoblich and Mayer & Wolf. The clock was renovated by Hohwü on several occasions. From 1946 the regulator was placed in the vestibule of the observatory, where it showed Greenwich Mean Time.

The clock is still in its original case, although the back of the case is missing. The silvered dial has a central minute hand (0-55, divided in 60 parts). It has a subsidiary dial above the centre for the seconds (0-55, divided in 60 parts) and one below for the hours (0-23).

The movement is weight-driven and has a Kessels-type dead-beat anchor escapement, with adjustable pallets, a brass escape wheel. The brass anchor has adjustable pallets and jewelled impulse faces. Both anchor and escape wheel run jewelled holes. Maintaining power is of the Harrison double-ratchet type. Duration is eight days.

The crutch with its hinged action on the pendulum rod is also a Johann Heinrich Kessels design, as is the pendulum itself. The steel rod of the pendulum is suspended on a knife-edge. The mercury-filled glass vessel is an invention of George Graham, which a glass float to prevent evaporation and acts as the pendulum weight. When the temperature rises the rod expands, as does the mercury, but in opposite direction. This is so balanced that the pendulum time stays the same. For course regulation there is a regulator disc above the mercury jar and for fine regulation a small conical jar is attached halfway the rod, in which lead shot can be inserted.

Knoblich, Theodor
Theodor Knoblich (1827-1892) worked for the firm of Krille, Altona, which was the continuing business of Kessels. After the death of Krille in 1863, Knoblich took over the workshop and later moved to Hamburg. Knoblich made mainly regulators and chronometers, which were numbered in a single sequence following Kessels and Krille. Knoblich retired in 1891 and sold the firm to A. Meyer. It passed through several hands, coming to an end in 1991.

Hans Hooijmaijers, July 2005