

# A Royal 'Haagse Klok'

## SUPPLEMENTARY VIEWS

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### DOCUMENTS - Primary Sources - in the Public Domain

- [\(Freedom\)](#) Cromwell Elevates Fromanteel. 11 Jan.1656
- [\(Sureties\)](#) Freedom of the City of London. 11 Jan.1656
- [\(OC-525\)](#) Coster's Patent, *CH Pendulum* 16 Jun.1657
- [\(Contract\)](#) Ms. 'Akte', Coster-Fromanteel. 3 Sep.1657
- [\(OC-528\)](#) Douw's Patent. (*Ms. App.4 p.2*) 9 Aug.1658
- [\(Adverts\)](#) A.Fromanteel I, 'Regulator' Oct/Nov.1658
- [\(OC-557\)](#) Judgement by the States General 17 Dec.1658
- [\(Hartlib\)](#) Hartlib's letter. (*App.4 Annex 1*) 7 Mar.1659
- [\(OC1279\)](#) Huygens' Patent, 'Remontoir' 15 Dec.1664

### FACSIMILIES - Technical Drawings; Pend. Constructions

- [Pend.Esc.](#) Galileo pin/saw-wheel detent 'scapem't 1642
- [Patent H1](#) Huygens' Clock, Coster's Patent 16 Jun.1657
- [OP-Gear 1](#) Huygens OP-Gear (*first sketch*), Febr.1658
- [OP-Gear 2](#) Huygens OP-Gear (*Horologium*), Sept.1658
- [Turret](#) Medici Palace Clock (Boulliau's copy) 1659
- [F Crutch](#) Bruce: Double-Crutch F-inverted, Apr.1661
- [Cnoop](#) Huygens' Centres of Oscillation, 1660/1
- [Remontoir 1](#) Huygens' Sketch of Remonoir, Aug. 1662
- [Remontoir 2](#) Gould's Diagram clarifying Huygens' Sketch
- [Patent H2](#) Huygens' Remontoir Patent, Aug/Dec.1664
- [Triangular1](#) Huygens' Triangular Pendulum sketch, 1670

### COMPARABLES - Contemporary Pendule Constructions

- [Overview 1](#) [Overview 2](#)
- [Cases](#) cf. Earliest Box-Cases
- [Frontplates](#) Common Origins?
- [RH and D8](#) cf. Closest Frontplates
- [Backplates](#) Common Origins?
- [Going Side](#) Common Origins?
- [Strike Side](#) Common Origins?
- [Obliques](#) Evolution of Features

### MEMORANDA - Comparable Clocks in Public Domain

- [\(D0copy\)](#) Trefler's 'copy' of Sr.Burattinij's Coster 'D0'
- [\(D3\)](#) Salomon Coster Timepiece (Relic), aka 'N3'
- [\(D4\)](#) Salomon Coster Timepiece, aka 'N4'
- [\(D5\)](#) Salomon Coster Timepiece-Alarum, 'N5'
- [\(D8\)](#) Salomon Coster Hour-Striking Clock, 'N8'
- [\(D9\)](#) Severijn Oosterwijck Hour-Strike. No stop!
- [\(D18\)](#) Pieter Visbach? Hour-Striking Spring Clock
- [\(B#?\)](#) J.Bernard van Stryp, Antwerp, Timepiece
- [\(F#?\)](#) I.Thuret (Paris, Split-Barrel, French-strike
- [\(G#?\)](#) Aug:SB, Augsburg pendulum in preparation

### REFERENCES -

- [Burgi's Split Barrel](#) Drives Hour and Quarter Strike
- [Burgi - Kassel I & II](#) Burgi Globes [*Split-H/Q-Barrel*]
- [Coster Tafelklok](#) Twisted Hexagonal Pillars
- [Dovetail Barrel Cap](#) D3 'Renaissance' clockmaking?
- [Dutch Escapement Block](#) Combines Verge and Potence
- [Fromanteel 1658](#) Block, Ratchet, 5-Wheels, Signed
- [Fromanteel Dial](#) Reconstructed, from broken relic dial
- [Fromanteel Boxes](#) Weight, Spring and Fusee Variants
- [Fromanteel Latch](#) AF's Dial-Latch
- [Huygens' Pendulum](#) Pulley Spreader [No banking plate]
- [Hague 3-Train Movement](#) Early Quarter Strike (*QS*)
- [Ratchet at Backplate](#) cf. AF, SO, SC, JBvS
- [Spring Maintaining Power](#) Fromanteel's B&SMP
- [Stopwork: Oosterwijck RH](#) Arbor-pin to stop-wheel
- [Stopwork: Reijnaert](#) Barrel arbor cut through
- [Tandem-Barrels](#) Nomenclature, multi-barrels to one train
- [Windmill](#) Dutch Veneer Overlaps
- [Wood Dials](#) French Dialplate of the Marot-Ceulen
- [Monograms](#) cf. Oosterwijck *RH* and Fromanteel@MHS

### Cited Components

### REFERENCES -

- [Brisson](#) A Dutch Horological Icon, by S & J Oosterwijck
- [Bartram](#) English Going+Strike Trains, Separate Barrels
- [Benoist](#) Jan van Ceulen Export Production (**nb. PQR**)
- [Ceulen 1](#) Marot & Ceulen Console Clock (*month, PQR*)
- [Ceulen 2](#) Rare 'Haagse Staande Klok', (*month, alarum*)
- [Ceulen 3](#) Franco-Dutch Cooperation (*English features*)
- [Ebsworth Turntable Clock](#) Converted to Huygens' way
- [Reconstruction of OP-Gear](#) Science Museum, London
- ['Liegere' Alarum](#) Oosterwijck silver mount dial, c.1661
- [Regulator on Weight](#) (Oosterwijck?) ex-Time Museum
- [Samuel Knibb, Kingwood Longcase](#) ex-Windsor Castle
- [Stryp: J.Bernard van -Anvers](#) A Flanders' 'Haagseklok'
- [Stryp: Pierre van -Roma](#) A Seconds' spring-clock
- [Tabernacle Clock](#) An early Clock Case of Wood, c.1625
- [Trefler's Pendulum](#) A Germano-Italian 'Coster' *D0* 1658
- [Trefler's Timepiece](#) Florence's Medici Pendulum 1658
- [Bruce's Sea-Clocks](#) First Longitude Pendulums, 1661-64
- [Triangular Pendulum](#) Last pendulum sea-clock, CH 1673
- [Planetarium](#) Chr.Huygens' invent J.van Ceulen fecit 1679

### Cited Clocks

### PATTERNS - Components / Codes proposed for Matrices

**NB.** Codes and Patterns are liable to being revised.

#### SHIELDS (PS) "Cartouche Signature Plates" [PS Overview](#)

- PS1 Coster (*D1*) *Met privilege* and 1657 date are scratched
- PS2 Coster (*D2*) *Met privilege* and 1657 date are scratched
- PS3 Replica (*D3*) Copy of unassociated STEN.659 [BvL #986]
- PS4 Coster (*D4*) *Met privilege* engraved, no scratched date
- PS4a S.O. (*RH*) *Met privilege* engraved, no scratched date
- PS5 Coster (*D5*) *Met privilege* engraved, no scratched date
- PS6 Pascal (*D6*) first 'Hagae Hollandiae', Vehmeyer LC12
- PS8 Coster (*D8*) *Met privilege* engraved, no scratched date
- PS9-engraved [Stryp](#) cf. Claude Pascal *D13*, Vehmeyer LC12
- PS9-repoussé (*D9*) *Fecit Met privilege*: Huygens Legacy #11
- PS10 Coster (*D10*) *Met privilege* engraved on simpler shield
- PS18 Visbach (*D18*) Shield (untypical for early Haagseklok)
- PS\_F4 Thuret (*LT*) Repoussé Shield ~ untypical for France
- PS 2nd Phase [Foliate](#) Repoussé ~ Naturalistic Flourishes
- PS 3rd Phase [Skeleton](#) Partial/Full Calligraphic Signatures
- PS 4th Phase [Classical](#) Atlas/Bacchus/Chronos Supporters

#### CHAPTER RINGS (PCR)

- PCR1 [First State](#) Coster *D1, D2, D5*
- PCR2 [Second State](#) Coster *D4*
- PCR3 [Third State](#) Coster *D8*
- PCR4 [Fourth State \(RH\)](#) Severijn Oosterwijck
- PCR5 [Fifth State](#) Coster *D10*
- PCR6 [Sixth State](#) Oosterwijck *D9*, Visbach *D18*
- PCR/FP [Paris](#) 1st Period, I.Thuret Paris, c.1665
- PCR/FR [Rheims](#) 2nd Period, Vandestric Rheims, c.1677
- PCR/N [Nonsequitur](#) Provincial French? Coster relic *D3*
- PCR/Z [Zig-Zag](#) Interpolated Minutes JBvStryp Anvers

#### [PCR Overview](#)

#### HANDS (PH)

- PH0 [Teardrop](#) As found on Salomon Coster *D3*
- PH1 [Lobed](#) (*D4*) Salomon Coster
- PH1 [Lobed \(RH\)](#) Severijn Oosterwijck
- PH2 [Reverse Lobed](#) (*D5*) Salomon Coster
- PH6 [Looped](#) (*D10*) Claude Pascal (V50)
- PH7T [Teardrop-2](#) (*D9*) Severijn Oosterwijck
- PH7TL [Teardrop-3](#) (*Lieberge*) Severijn Oosterwijck
- PH9 [Fancy](#) (*D18*) Pieter Visbach/Visbach?
- PH6E1 [Crescent](#) (*Eng1*) Ahasuerus Fromanteel I
- PH6E2 [Ornate](#) (*Eng2*) Ahasuerus Fromanteel I
- PH6E3 [Looped](#) (*Eng3*) Ahasuerus Fromanteel I

#### [PH Overview](#)

#### GATES (PG) 'Strike Detents' [PG Overview](#) [PG Chronology?](#)

- [PG1](#) Simple Scrolls, *RH* 1st Strike Gates: **NL** on 'III-side'
- [PG1v](#) Simple Scrolls, *D18* Pieter Visbach *Fecit Hagae* (mp)
- [PG2](#) Elaborate (Steel) Johannes van Ceulen Hagae, 1680
- [PG3](#) Vestigial (Brass) Johannes Tegelbergh *Fecit Hagae*
- [PG4](#) Foliate, I.Thuret, French strike typically on 'IX-side'

**PILLARS (PP)**

**PP Overview**

PP0	<a href="#">Twists</a>	Salomon Coster, balance clock
PP1	<a href="#">Huygens</a>	1657 Patent Weight Timepiece
PP2	<a href="#">Square</a>	Coster <i>D1, D2, D3, D4, D5</i>
PP3	<a href="#">Octagonal</a> (RH)	<b>Severijn Oosterwijck</b>
PP4	<a href="#">Bellied</a>	Coster <i>D8</i>
PP5a	<a href="#">Vase 1</a>	Coster <i>D10</i>
PP5b	<a href="#">Vase 2</a>	
PP6	<a href="#">Cannon</a>	Severijn Oosterwijck <i>D9</i>
PP7a	<a href="#">Heavy Baluster</a>	J. Bernard van Stryp - Anvers
PP7b	<a href="#">Club Baluster</a>	Christiaan Reijnaert - Leijden
PP-F1	<a href="#">Conic-Ball</a>	Isaac Thuret, Paris 1660
PP-E1	<a href="#">Knop-Ring</a>	AFromanteel-1649
PP-E2	<a href="#">Knop-Ring</a>	AFromanteel-1661
PP-E3	<a href="#">Bellows</a>	(English-rare)

In preparation, Patterns of other evolving components, e.g.

**ALARUMS (PA)** Alarum Mechanisms; Constructions, Positions

**LOCKING-PLATES (PLP)** Hand to Hour Struck, *J.Thuret AParis*

**FRETTE PARTS (PF)** Maxima, *JvCeulen Hagae Hollandiae*

**QUARTER REPEAT (PQR)** Knibb's, *JvCeulen Hagae Hollandiae*

**NB.** Codes and Patterns are liable to being revised.

**CURIOSA - Interesting Rarities, and Overlooked Constructions**

[Analemma](#): The Ancients' *Solar Figure* by time-lapse Photography

[Helio Astronomy](#): *Solar Declination* mechanism, Fromanteel c.1649

[First Solar Clock](#): Relic of Mr Dudley Palmer's famous '*Sun-Clock*'

[Secret Constructions](#): *Remontoir, Cross-Beat*, etc., Fromanteel c.1649

[Palmer's Sun-clock](#): Reconstructions of principal Dials and Motions

[Automata](#): Sir Robert Paston's '*Froe*' Wine-Cup, Fromanteel c.1650

[Hague Relics](#): Weight Timepiece and Spring Striker, Hague, c.1658

[Musical-Automata](#): '*Davis Mell*' ~ attributed to Fromanteel c.1660

[Alarum Discs](#): Pendulum Clock Dials, *Engravers' Art in Miniature*

[Variable Fly](#): Fromanteel's *double-cocked Fly with adjustable Vanes*

[Train Shunts](#): Wedge or Lever *Hammer-Shunts* in dual Strike Trains

[Roller Cage](#): Fromanteel's *Roller-Cage* (experimental pivot) c.1661

[Sea-Clocks](#): Alexander Bruce's English and Dutch relics, 1661-1664

[Back-Dial for Navigation](#): Bruce's '*Longitude*' Sea-Clocks c.1661-64

[Detached Click-work](#): Ratchet on Barrel, Click on Front-Plate, 1662

[Pendulum Cross-Beat](#): *Tic-Tac* (PXR1) and *Anchor* (PXR2) c.1664

[Experimental Tidal Dials](#): [1994 thesis] *Dr John Wallis'* Tides, 1666

[Experimental Equations](#): A *Manual Equation* Dial, Fromanteel 1669

[Obliterations](#): *Deciphering* defacements (on theft?) to restore Maker

[Fromanteel Hage](#): A *Fromanteel*, previously unknown Hague address

[Seconds' Dial](#): A *Fromanteel*, a spring-clock showing the Seconds'

[Tic-Tac1](#): A *Fromanteel*, '*Tic-Tac*' escapement, showing Seconds'

[Tic-Tac2](#): Detail, A *Fromanteel* '*Tic-Tac*' Seconds' escapement

[Octagonal Collets](#): Early Month Weight Clock having *secure* Collets

[Back to Back Arbor](#): Two Pulley/Great-wheels set onto *one* Arbor

[Doubled Great-Wheels](#): *Concentric wheels*, driving Centre and Third

[Plate Ports](#): Unusual Cruciform Slot to '*set-up*' the Locking-Detent

[Tidal Dial](#): James Ferguson's '*Eclipse and Pictorial*' Tidal Dial 1756

**WANTED:** Unrecorded Features, (give Dimensions, Maker, Date).

**OPEN RESEARCH: Download / Upload Early Pendulum Data.**

**DATA MATRICES (xls):** [Spring and Weight Data](#)

**USERS' DATA (xls):** [Submit Data](#)

Enter your clock's data, and email your description; add images to form a composite Matrix **ID** (optional); eg. "[DeMire03](#)".

**User suggestions to:** <ahasuerus@btinternet.com>

**Re. PATTERNS: ADDENDUM**

All early pendulum enthusiasts will know of *Hans van den Ende Sr.* and *Hans van den Ende Jr.*, a father and son team whose interests are legion. I am pleased to receive a signed copy of their newest survey\*

'*De Eerste Nederlandse Slinger-klokken (De 'kistjes' 1657-1664) Analyse van de wijzerplaten*', [*The First Dutch Pendulum Clocks (The 'boxes' 1657-1664) Analysis of the dial-plates*"], published as supplement to the Dutch clock enthusiasts' magazine, **TLJDSchrift**, (nr.10/4, Dec. 2010). [Link](#) [\*ascribes **RH** as a gift by the **States General** in 1660]

It is of interest to reflect how selected features on dial-plates alone, (see **PS, PCR, PH** above), ignoring all other features of movements† also of cases, might nevertheless suggest a workable chronology for box-cased '*Haagseklokken*' the first Dutch pendulums. Open research infers open dialogue, an open debate is anticipated. †In determining earliest chronologies, my own approach begins with the movement's components and construction; seeing dials and cases as subordinates, only representing the then prevailing tastes and changing fashions.

Our new attempts to systematically collate and analyse every feature of these few remaining first period box-cased '*Haagseklokken*' might inform more about their makers, manufacture, secrets, evolution, also their remarkably rapid take-up right across western Europe. It is to be hoped that an open dialogue will eventually bring a right consensus, based on *all* the several components of these fascinating and historic Dutch pendulum clocks that had first originated in The Hague.

The Hans van den Endes' paper also suggests the **Royal Haagseklok**, with a unique solid Kingwood and Ebony veneered box-case was one of the personal gifts to Charles II, presented by the States General of the Netherlands in the fore-year of 1660, which the King distributed among retainers and supporters. It is suggested that Sir John Shaw then received Charles' **Royal Haagseklok**. I had not considered that possibility. Yet, on reflection, that new hypothesis appears to raise more questions than it answers; i.e would the Dutch '**States General**' have ordered all those several, also *unique*, technical features which only the '**RH**' presents? Further, if made in late 1659, or early 1660, would Oosterwijck, then, have included those '*Fromanteel*' features also uniquely presented? And would Oosterwijck, then, have used an outmoded strike system, instead of the new French standard, using the vertical hammer post? I suggest the evidence cited in this paper points to an earlier construction. Might Dutch States General records, or the English Royal inventories, resolve such still open questions?

I was also privileged to be given access to the *Hans van den Endes' 'Archief - Pendules Religieuses (2010)'* an invaluable private image library, created to record and test authorships also chronologies.

Keith Piggott, 31st Dec.2010.

**APPENDICES - For Convenience of Researchers.**

**Appendix One:** Dimensions, components, wheel-trains (**RH**)

**Appendix Two:** Conservation to preserve unique case (**RH**)

**Appendix Three:** '*Open-research*' project, for early Pendulums

**Appendix Four:** Simon Douw's patent and '*Longitude*' potential

**Appendix Five:** Alexander Bruce, *Longitude Sea Clocks 1661-64*

**Appendix Six:** Royal provenance, via Sir John Shaw (1615-80)

**Appendix Seven:** Pendulum *Æquations* and Tides, (1666-1669)

**Appendix Eight:** Early Weight-Driven Hague-Timepiece (1658)

**Appendix Nine:** Unknown *A-Fromanteel Hage* workshop c1680

'*Going Dutch*' MNU Symposium, 3 Dec. 2011, Author's paper; (Museum "Call" investigations; Zagreb's unknown Fromanteel 'Hage' workshop, c.1680; Rare Hague weight-timepiece, c.1658).

**TENDER SERVICE:**

Offers of any unpublished early pendulum clock/s for our Open Research project. Or mark your collecting interest in acquisition or de-acquisition. Post offers also interests in strict confidence.

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