

**"A Royal 'Haagseklok'", Appendix Three, Open-Research.  
MEMORANDUM D4: A Salomon Coster Pendulum Timepiece**

Reviewed by Keith Piggott

**D4 Timepiece**; cartouche signed '*Salomon Coster Haghe met privilege*'.  
Special features: **none**. Reference 1, 119. (Science Museum, London).

Excerpt from Dr.Ir. Reinier Plomp, (<http://www.kunstpedia.com/articles/46/3/The-earliest-DUTCH-and-FRENCH-pendulum-clocks-1657-1662/Page3.html>)  
published on 13 March 2008.



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**KP NOTES:**

**Salomon Coster pendulum timepiece, c.1657**, (Science Museum Inv. 1980-108, Berry van Lieshout archive nr. 981, Dr.Reinier Plomp "Spring-driven Dutch pendulum clocks 1657-1710", Nr 37, p.119, (Interbook International BV. Schiedam, 1979), being given D4 in Dr.Plomp's new chronology ("Earliest etc.", Op.Cit.). Although considered by Dr.Plomp, it was necessary to examine the wheel train for Horological Foundation's "*A Royal 'Haagseklok'*", *Appendix Three*, [open-research matrix](#)).

**COSTER 'D4'** was inspected at the Science Museum, London, on 23rd November 2009. The clock was presented on the bench and then stripped down to the basic movement - the plates were not separated, it is not due to be overhauled. Those present, Richard Horton (Engineering Conservator), Francis Brodie (Horologist), the author. Oosterwijk's Royal clock was compared.

Counting the assembled train's lower teeth proved problematical, however the **D4** train appears to be:  
**G1 72, G2 7/70, G3 5/64, G4 5/25 = 149.33 beats/min**, having a notional pendulum of **16.049 cm**.

Of Coster's extant movements, this is the lowest wheel-count I have yet recorded, with the smallest dial of all "Coster clocks", therefore I was intrigued to look further into its irregular construction, with a superior dialplate and ebony veneered case, but also a movement having crude frontplate components.

**Noteable features:** Inspection revealed noteworthy features, (some unrecorded), which bear on this *movement's* chronology in Coster's tiny surviving *oeuvre* of just seven Hague clocks;

1. No evidence on either barrel cap of any site for a stop-wheel, there is anyway no space on the rear cap, due to deep centre-wheel overlap, (compare Coster D2/D3).
2. No evidence on barrel arbor of pinion leaf or hole for pin to stop-wheel, (cf.D2/D3).
3. **Contrate- kroonrad (5/64 typical)**, partially ringed and hand cut, however it has an untypical ogee-collet sited to front (compare Coster D2), probably original to train.
4. **Escape- gangrad or schaekeelrad (5/25 unique)**, 3-spokes, fixed to pinion, teeth are sharp, unringed, no obvious marking out- originality uncertain? Nb. This is the lowest individual escape-count of any Coster spring-clock. Pointer to chronology? (see "*Horologium*", cf. Huygens' 1658 "OP" weight clock, beating 1/2 Seconds', has an escape wheel of **6/25**).
5. Motion bridge is formed by an elongated 8-sided IRON plate fixed by single brass rivets onto two shaped BRASS pedestals, each being screwed onto the frontplate. Dr.Plomp provided image of an identical bridge on Coster 'D2', (Vehmeyer Coll.)
6. All cocks and potences have red-copper steady pins I do not recall seeing before.
7. Suspension "cheeks" have untypical leaf-shaped cocks- I considered possibility of being reconstructions (very thin and Cycloid); given the doubt, probably reshaped.
8. Triangular verge cock with untypical semi-circular bowed arm to the verge pivot.
9. Rectangular sector cut-out in dial, to receive the long vertical cock to the reverse-minute wheel, due to the very short round dial feet of just 6 mm (0.5 mm shorter than Oosterwijck's Royal clock). A dial foot length of just 8mm would have avoided the extra dial work.
10. Backboard to the case is **Oak**, not framed by box but is full-span - like Oosterwijck **RH**.
11. The box's frame is Deal. [nb. the Bernard van Stryp Anvers timepiece (British Museum) also has an Oak backboard but is framed by its box - untypically also made from Oak]
12. 'Ophangers' iron loops set into the case at an angle - to provide added security?
13. Ratchet wheel, click and brass spring are most crudely made, the click being held by a screw, the brass spring being held in place by its own integral fixing pins.
14. Pillarhead rivets in frontplate are irregular and rough, like 'D2' (see below).
15. Barrel arbor extends beyond backplate, with untypical (unique) turned flourishes.
16. Barrel has a segment repair that includes 4 teeth, probably the original barrel.
17. Centre arbor untypically highly tapered with integral iron 'collet' against frontplate.
18. Both upper and lower potence cocks are internally screwed into backplate, (cf.D3).
19. Pillars are thick square sections (7x7mm by 29.5mm spacing - '*Horologium*' gives "1.5 inches"), yet having relatively thin studs at the back plate - for fixing pins.
20. Dial hinges (formerly gilded) have domed hinge-pins. Case plates under veneer.
21. Door on own hinges (under veneers), internally rebated for the dial hinge posts.
22. Brass hands are typical Coster, gilded but not highly finished, and there also is no collet to the minute hand, (both features unlike Oosterwijck RH).
23. Chapter ring 123mm/18mm anulus is smallest of all Coster-type Hague clocks.
24. Chapter ring has an inner line without Quarters, the single minutes are not scored through, ie. my putative Second State, ("A Royal Haagseklok" - Chapter Ring).
25. Superior quality of the dialplate, its several components, and superior engraving of both chapter-ring and signature plate, (but not having a date, nor inferior scribing of the dated plates), may well be Coster's best pendulum dial work extant - a visual credit to himself, harking back to his superb pre-pendulum clocks, perhaps being suggestive of an earlier chronology - before the rush to meet the market demand.

**Part II** already touched on the "unknown originator" of the combination of split-barrel with stop work, also the likelihood that this innovative mechanism was not Coster's contribution but a device obtained through negotiation, possible being the '*secreet*' in the 3rd September 1657 Contract. Therefore, I am unsurprised to discover another of Coster's going-barrel timepieces, like D3, apparently never fitted with stopwork. The evidence lends support to my hypothesis and might also infer pre-contract dates to at least two Coster timepieces having square pillars. It might also explain the curious absence of stop-work on the Coster derivatives, "*Early French Pendulum Clocks - Pendule Religieuses, 1658-1700*" (Dr.R.Plomp has privately published this invaluable new reference work).

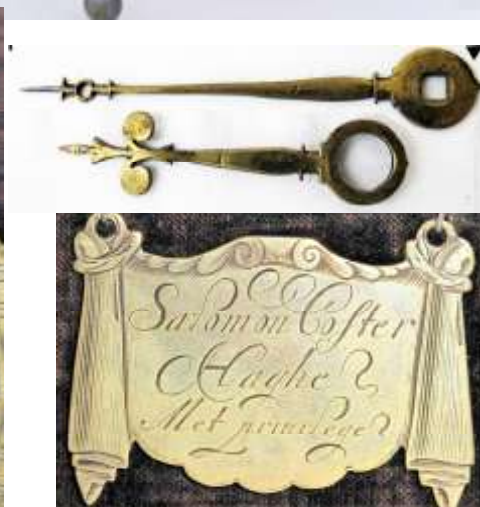
In my opinion there is sufficient evidence to justify re-consideration of this Coster's chronology which Dr.Plomp has proposed as D4. I suggest it might even be considered as a contender to be **DI**, although I have yet to gain access to that timepiece at Museum Boerhaave, Leiden. Berry Van Lieshout believes Coster **D3** also might well merit advancement as the only "Coster-Coster" extant.

Professional horologists may form a view on this new data, perhaps relating certain features or parts to Coster's pre-pendulum *oeuvre*, or even to Fromanteel's contemporary pendulum *oeuvre*, which bear on the modern presumption that all square-pillar Coster's were made in the Contract period. My concern at such single-feature dating is expressed in my perspectives, and justifies open-research to establish fuller data for a better informed study of the evolutions and chronologies.

The following images of Salomon Coster's timepiece (putative chronology '**D4**'), were taken with the consent of the Science Museum, but remain my personal copyright and may not be copied or published without consent by myself and the Science Museum. However, and for research purposes only, any image may be had in higher-resolutions by an application.

**SALOMON COSTER 'D4' c.1657**

**OOSTERWIJCK'S ROYAL CLOCK**



The Chapter Ring has now a single inner line but still no Quarter divisions, ie. "*Second State*".

Typical hands. Superbly engraved Lambrequin has no 'scribed date.

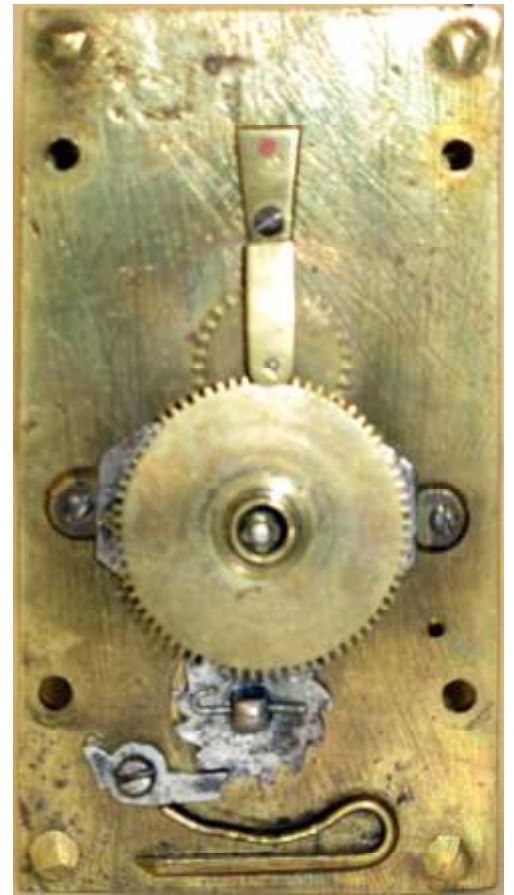




**D4 IRON BRIDGE, CRUDE RATCHET**

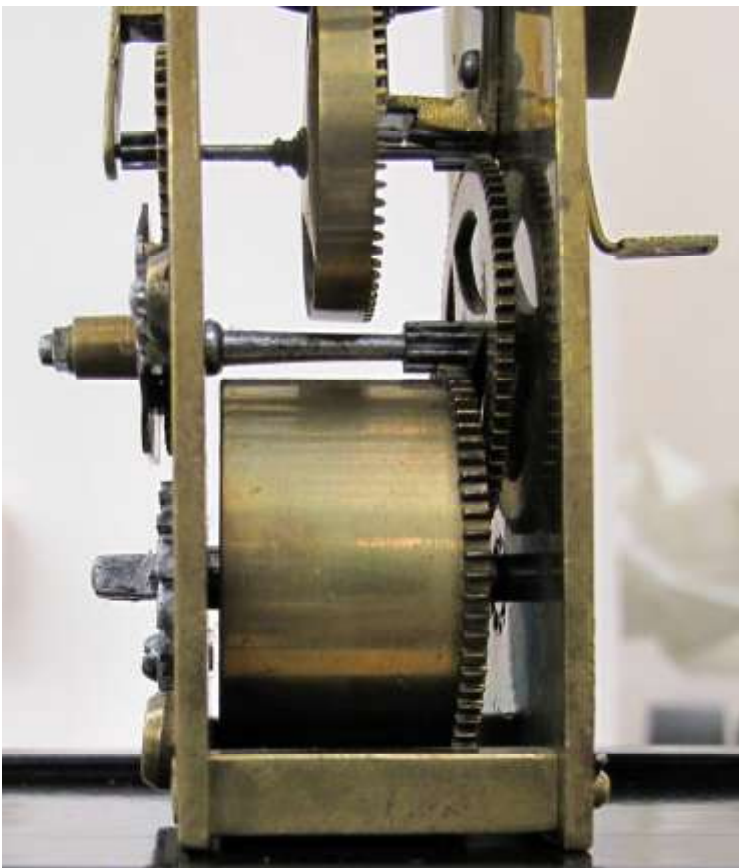
(Compare Coster **D2** Frontplate, below)

(Note. **D3** has a brass Bridge with a combined Cock for the reverse-minute-wheel)



**D4 FRONTPLATE - MOTION WORK**

**REVERSE-MINUTE-WHEEL COCK**

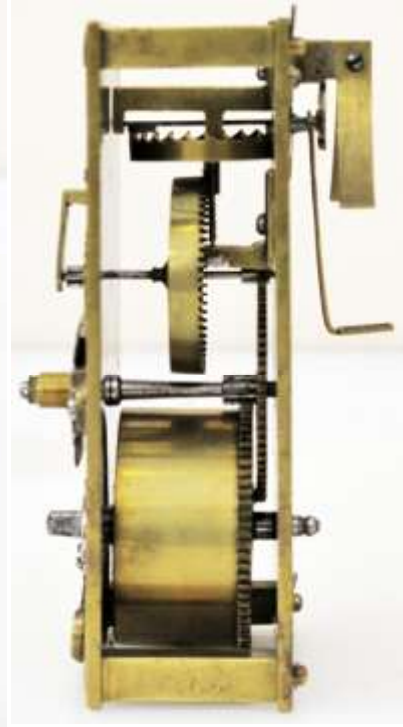


**D4 ABSENCE OF STOP-WORK**

(Compare with **COSTER D3**)



**SCREWED CLICK, PEGGED SPRING,  
PINNED RATCHET WHEEL.**



#### **COSTER *D4* BACKPLATE FEATURES**

PLOMP'S CHARACTERISTIC '**P5**' - TWO POTENCE  
STEADY HOLES AT TOP EDGE OF BACKPLATE

LEAF-SHAPED FLOURISHES ARE UNTYPICAL.

BOWED VERGE COCK IS ALSO UNTYPICAL

THE UNTYPICAL ARBOR EXTENSION, (cf. *D3*)  
ALSO HAVING UNIQUE TURNED FLOURISH





COSTER'S TYPICAL EBONY AND PADOUK VENEERED BOX CASE,  
INNER FACE OF DOOR HAVING "DUST SILLS" ON THREE EDGES



BRASS DIALPLATE, INTEGRAL BRASS HINGES, A CUT-OUT FOR MOTION COCK, (Cf. RH).

PENDULUM RELIEFS, ARE CHOPPED OUT FROM THE SIDES.

THE DOOR LOCK HAS A RARE FURNITURE KEY

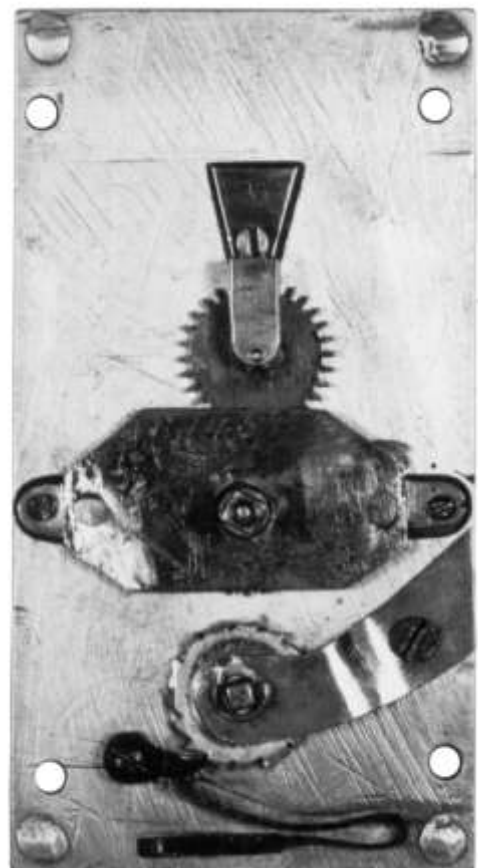
4 ROUND DIAL FEET

TYPICAL DIAL ACCESS HOLE TO RESTART THE PENDULUM

USUAL 3-SPOKE CROSSING, USUAL NOTCHED PLATES, THICK (2.5mm), PLATES TO NARROW PILLAR STUDS. (Coster. 'D3' has thicker plates).



CHEEKS ON UNUSUAL LEAF COCKS PRONOUNCED BOW VERGE COCK, UNUSUAL RED-COPPER STEADY PINS CHEEKS OF PRONOUNCED CYCLOID FORM, (PERHAPS EMPIRICAL, MORE LIKELY REFORMED AT LATER DATE)



**COSTER 'D2' FRONT PLATE**  
Note the similar iron-plate Bridge, steel spring, but a cocked ratchet.

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(nb. D3 combines bridge & motion cock)





IRON "OPHANGERS" ARE CANTED;  
REPAIR - OR GREATER PURCHASE?



THE UNTYPICAL OAK BACKBOARD

UNUSUAL FULL-SPAN BACKBOARD, (LIKE OOSTERWIJCK'S), BUT OF OAK.



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