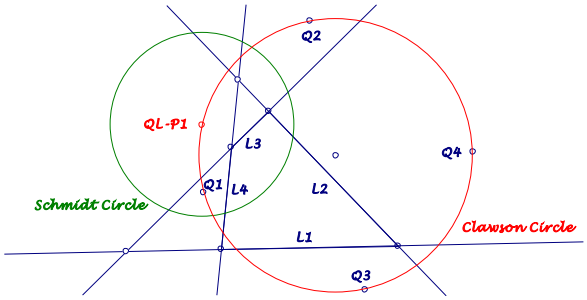
EQF-Note 2014-02-01

Background for these notes is:
Chris van Tienhoven: Encyclopedia of Quadri-Figures
http://chrisvantienhoven.nl/

Clawson's Polar Reciprocation

Clawson describes for quadrilaterals the pole-polar-relation wrt circles centered in the Miquel Point QL-P1. For these circles the poles for the lines of the quadrilateral give a cyclic quadrangle with the Miquel Point on its circumcircle (Ref. EQF [22], page 257). This constellation shall here be studied for the Schmidt Circle (see QL-Tf1). – The results are only Cabri-controlled.



Let L_1, L_2, L_3, L_4 define a quadrilateral and Q_1, Q_2, Q_3, Q_4 be the poles of L_1, L_2, L_3, L_4 wrt the Schmidt Circle (see *EQF*, *QL-Tf1*). As a result of Clawson the *Q*-quadrangle is cyclic with the Miquel Point on its circumcircle. This circle here shall be named as Clawson Circle.

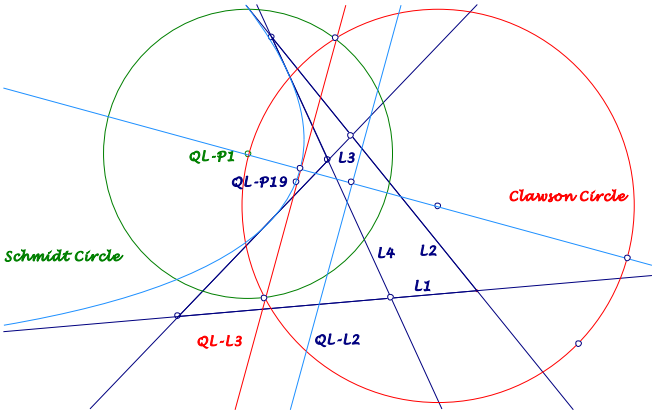
Properties:

- The Clawson Circle contains the Miquel Point *QL-P1*.
- The Clawson Circle is the reflection of the Pedal Line *QL-L3* in the Schmidt Circle.
- The *CSC*-image of the Clawson Circle is the the reflection of the Pedal Line *QL-L3* in the 1st Steiner Axis.
- The reflection of *QL-P19* (on *QL-L3*) in the Schmidt Circle is a point of the Clawson Circle.

There are significant relationships between the Clawson Circle and the Inscribed Parabola *QL-Co1*.

- The midpoint of the Clawson Circle is the reflection of the intersection of the axis and the directrix of *QL-Co1* in the Schmidt Circle.
- The vertex of *QL-Co1*, reflected in the Schmidt Circle, gives the second intersection of the axis of *QL-Co1* and the Clawson Circle.

- The Clawson Circle is the locus for the poles of *QL-Co1*-tangents wrt the Schmidt Circle.
- The Newton Line cuts *QL-Co1* in a point, for which the pole (wrt the Schmidt Circle) of its tangent is the reflection of *QL-P19* in the Schmidt Circle.



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