

Published on *Mechanical Engg Simple Notes ,Solved problems and Videos* (<https://mechdiploma.com>)

[Home](#) > Explain with neat sketch how to find the velocity of a slider in slider crank mechanism by Klein's construction.

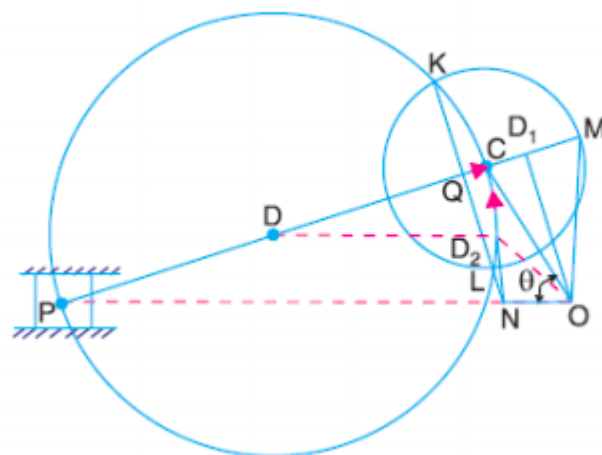
Explain with neat sketch how to find the velocity of a slider in slider crank mechanism by Klein's construction.

Question:

Explain with neat sketch how to find the velocity of a slider in slider crank mechanism by Klein's construction.

Answer:

Velocity of a slider in a slider crank mechanism by Klein's construction method



Let OC be the crank and PC the connecting rod of a reciprocating steam engine, as shown in Fig. below. Let the crank makes an angle θ with the line of stroke PO and rotates with uniform angular velocity ω rad/s in a clockwise direction.

First of all, draw OM perpendicular to OP ; such that it intersects the line PC produced at M . The triangle OCM is known as Klein's velocity diagram.

In this triangle OCM , OM may be regarded as a line perpendicular to PO ,

CM may be regarded as a line parallel to PC , (since it is the same line) and CO may be regarded as a line parallel to CO .

op_1 represents v_{PO} (*i.e.* velocity of P with respect to O or velocity of cross-head or piston P) and is perpendicular to OP , and

c_1p_1 represents v_{PC} (*i.e.* velocity of P with respect to C) and is parallel to CP .