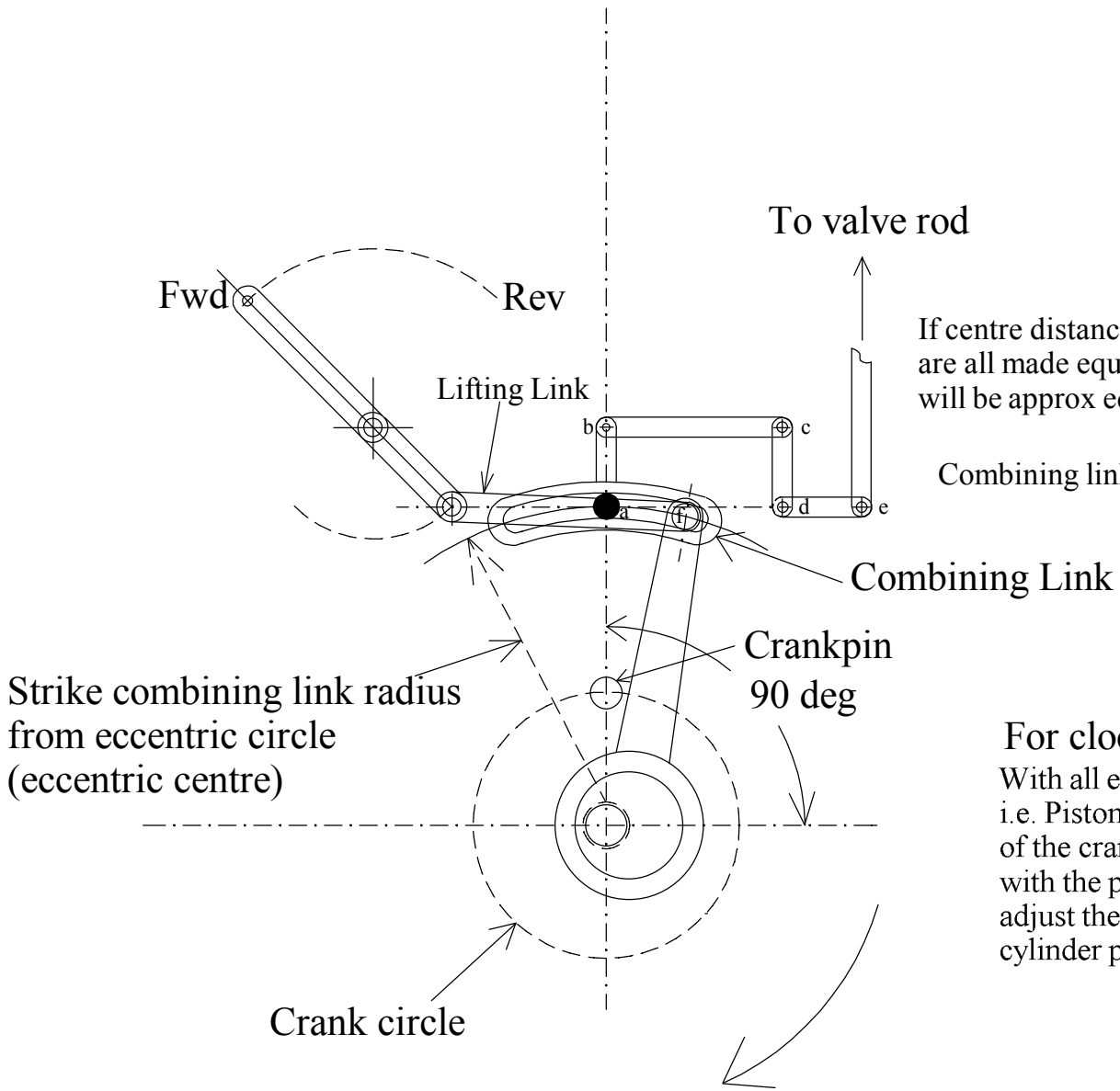
Basic 'Crampton type' link motion valve gear.



If centre distances a-b, c-d, d-e and a-f
are all made equal then total valve movement
will be approx equal to eccentric throw (2 x eccentric radius)

Combining link should be pivoted at 'a'

For clockwise rotation.....

With all element in positions shown,
i.e. Piston at TDC and eccentric at 90 deg advance
of the crankpin, and combining link arm a-b in line
with the piston rod, place the gear in full FWD then
adjust the valve to be just about to open the upper
cylinder port to steam.