(a) Extreme CCW position of link 6   (b) Mid position of link 6   (c) Extreme CW position of link 6

$O_4 O_6 = 1.00$	$L_3 = AB = 4.248$	$L_6 = 1.542$	$DB = 3.274$
$L_2 = 1.556$	$L_4 = 2.125$	$CD = 2.158$	$\angle CDB = 36°$

FIGURE 3-34

Stephenson's III sixbar with 180° oscillation of link 6 when crank 2 revolves fully (*Source: Hain*[22], *pp. 448-450*)

6-72   Figure 3-34 (p. 143) shows a Stephenson's sixbar mechanism. Find all its instant centers in the position shown:

    a.   In part (*a*) of the figure.
    b.   In part (*b*) of the figure.
    c.   In part (*c*) of the figure.

6-73   Find the angular velocity of link 6 of the linkage in Figure 3-34 part (*b*) (p. 143) for the position shown ($\theta_6 = 90°$ with respect to the *x*-axis) assuming $\omega_2 = 10$ rad/sec CW.

    a.   Using a graphical method.
    b.   Using the method of instant centers.
    †c.   Using an analytical method.

†6-74   Write a computer program or use an equation solver such as *Mathcad, Matlab,* or *TKSolver* to calculate and plot the angular velocity of link 6 in the sixbar linkage of Figure 3-34 (p. 143) as a function of θ_2 for a constant $\omega_2 = 1$ rad/sec CW.

† These problems are suited to solution using *Mathcad, Matlab,* or *TKSolver* equation solver programs.