



$O_4O_6 = 1.00$	$L_3 = AB = 4.248$	$L_6 = 1.542$	$DB = 3.274$
$L_2 = 1.556$	$L_4 = 2.125$	$CD = 2.158$	$\angle CDB = 36^\circ$

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 shows a Stephenson's sixbar mechanism. Find all its instant centers in the position shown:
- In part (a) of the figure.
 - In part (b) of the figure.
 - In part (c) of the figure.
- 6-73 Find the angular velocity of link 6 of the linkage in Figure 3-34 part (b) for the position shown ($\theta_6 = 90^\circ$ with respect to the x -axis) assuming $\omega_2 = 10$ rad/sec CW.
- Using a graphical method.
 - Using the method of instant centers.
 - 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 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.