

## FIGURE P6-32

## Elliptical trammel -Problems 6-88 to 6-90

- 6-88 Figure P6-32 shows a fourbar double slider known as an elliptical trammel. Find all its instant centers in the position shown.
- 6-89 The elliptical trammel in Figure P6-32 must be driven by rotating link 3 in a full circle. Points on line *AB* describe ellipses. Find and draw (manually or with a computer) the fixed and moving centrodes of instant center  $I_{13}$ . (Hint: These are called the Cardan circles.)
- 6-90 Derive analytical expressions for the velocities of points *A* and *B* in Figure P6-32 as a function of  $\theta_3$ ,  $\omega_3$ , and the length *AB* of link 3. Use a vector loop equation.