Prob. 1 (4.17)

Determine the reactions at A and B when (a) \( \alpha = 0 \), (b) \( \alpha = 90^\circ \), (c) \( \alpha = 30^\circ \).

Prob. 2 (4.35)

Neglecting friction, determine the tension in cable ABD and the reaction at C when \( \theta = 40^\circ \).

Prob. 3 (4.69)

To remove a nail, a small block of wood is placed under a crowbar, and a horizontal force \( P \) is applied as shown. Knowing that \( l = 88 \) mm and \( P = 130 \) N, determine the vertical force exerted on the nail and the reaction at B.

Prob. 4 (4.77)

The clamp shown is used to hold the rough workpiece C. Knowing that the maximum allowable compressive force on the workpiece is 40 lb and neglecting the effect of friction at A, determine the corresponding (a) reaction at B, (b) reaction at A, (c) tension in the bolt.