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.