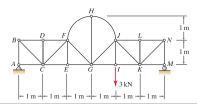
Determine the force supported by each member of the truss if  $P = 1000 \, \text{lb}$ .



- (a) Determine if the truss is statically determinate or indeterminate.
- (b) Determine the force supported by the five members that emanate from joint G.



The tool shown is used for picking up items that otherwise would be out of a person's reach. In the position shown, the torsional spring at C supports a moment of 10 in.·lb which tends to open the jaws of the tool. Neglect the significant weights of the individual members and neglect friction at points H and G. Determine the forces supported by all members of the tool and the force applied by the tool to the item being gripped at H and G.



The shovel of an end loader has pins at points A, B, C, and D. The scoop supports a downward vertical load of 2000 lb, which is not shown in the figure, at point E.

- (a) Draw four FBDs, one each for parts AB and AC, hydraulic cylinder AD, shovel CDE, and member BD, labeling all forces.
- (b) Determine the force the hydraulic cylinder AD must generate to keep the shovel in equilibrium.

