1. Determine the reactions at the roller A and pin B. Show the direction each force acts with respect to a horizontal line. **Free-Body-Diagram required.**
2. The boom $AC$ is supported at $A$ by a ball-and-socket joint and by two cables $BDC$ and $CE$. Cable $BDC$ is continuous and passes over a frictionless pulley at $D$. Calculate the tension in the cable and the $x$, $y$, $z$ components of the reaction at $A$ if a crate, having a weight of 100 lbs, is suspended from the boom. **Free-Body-Diagram required.**
3. Determine the reactions at the wall $A$ and the rocker $C$. The two members are connected by a pin at $B$. **Free-Body-Diagrams required.**
4. Determine the force in members $AB$, $AH$, $FC$, and $GF$ using whatever method or methods you wish. Indicate whether the members are in tension or compression. **Free-Body-Diagrams required.**