Problem

The bent rod *ADGB* supports two weights; one at the center of *AD* and one at the center of *DG*. There are ball-and-socket joint support at *A* and journal bearing at *B*. The bearing at *B* is properly aligned on the shaft. Determine the tension in cable *DC*.

Hint: Since the bearing at *B* is properly aligned on the shaft, there is no force along the *z* direction in joint *B* (i.e. only B_x and B_y exist in joint *B*).