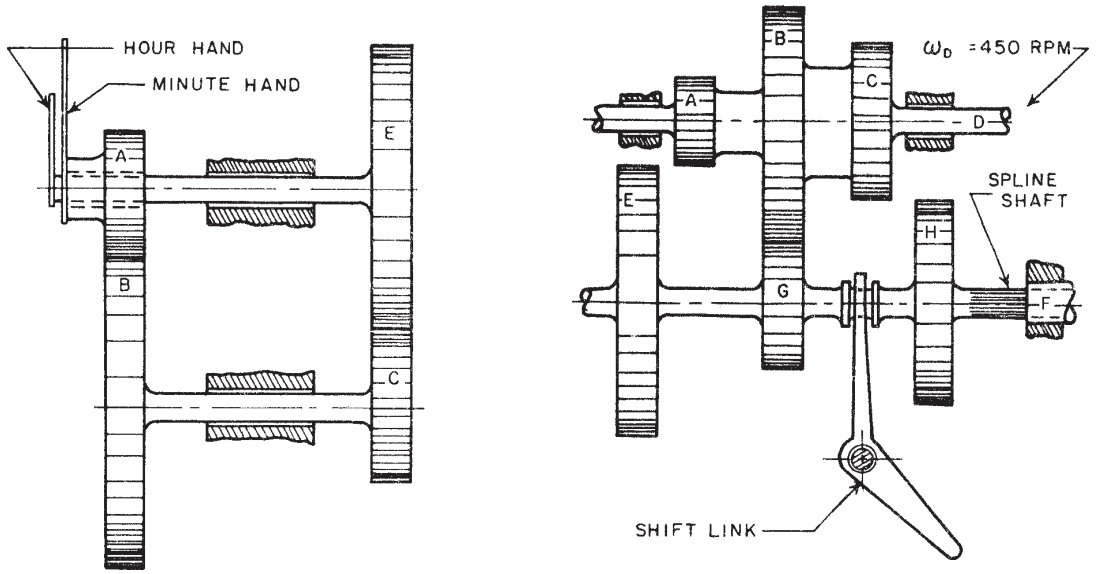

(a) (b)

FIGURE P9-4

Problems 9-33 to 9-34 *From P. H. Hill and W. P. Rule. (1960). Mechanisms: Analysis and Design, with permission*

†9-40 Figure P9-7b shows an epicyclic train used to drive a winch drum. The arm is driven at 250 rpm CCW and gear *A*, on shaft 2, is fixed to ground. Find speed and direction of the drum on shaft 1. What is train efficiency if the basic gearsets have $E_0 = 0.98$?

*†9-41 Figure P9-8 shows an epicyclic train with its tooth numbers. Gear 2 is driven at 800 rpm CCW and gear *D* is fixed to ground. Find speed and direction of gears 1 and 3.

†9-42 Figure P9-9 shows a compound epicyclic train. Shaft 1 is driven at 300 rpm CCW and gear *A* is fixed to ground. The tooth numbers are indicated in the figure. Determine the speed and direction of shaft 2.

* Answers in Appendix F.

† These problems are suited to solution using *Mathcad*, *Matlab*, or *TKSolver* equation solver programs.

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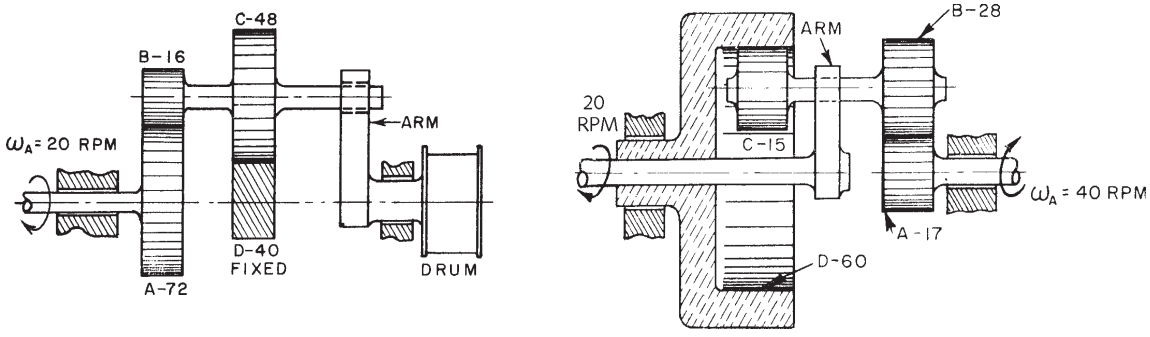

(a) (b)

FIGURE P9-5

Problems 9-35 to 9-36 *From P. H. Hill and W. P. Rule. (1960). Mechanisms: Analysis and Design, with permission*