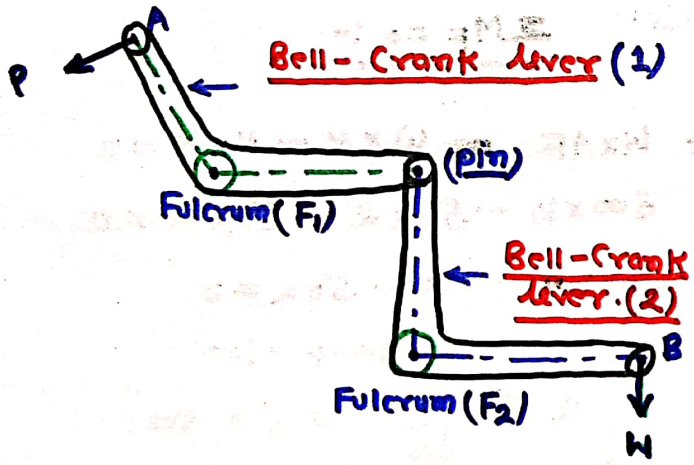
COMPOUND LEVER:-

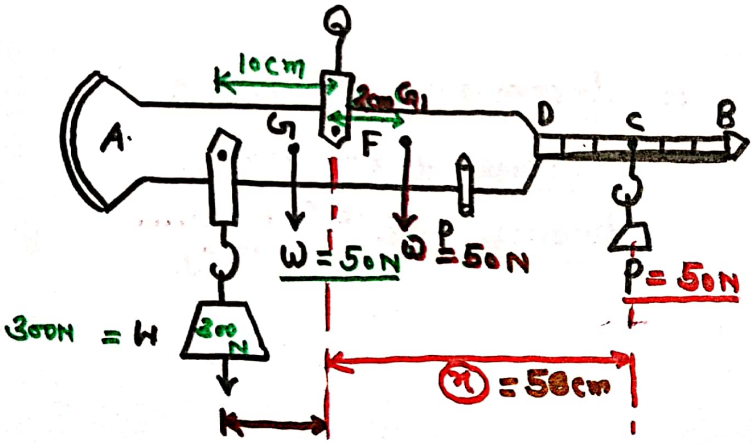
- Made by joining 2 or more than 2 simple lever (or) Bell-Crank lever.
- Its leverage is very high.
- Max. load can be lifted by small amount of effort.



Leverage of Compound lever :-

= leverage of 1st lever × leverage of 2nd lever × leverage of 3rd lever....

STEEL YARD :-



- first type of lever.
- Use to measure fast weighting balance.
- One Arm is long and another is short in length.

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The weight of steel yard is 50 N. A 300 N weight is hanging apart 10cm from fulcrum F. The centroid of steel-yard is 2 cm away from fulcrum. and 50 N weight is moving towards that side. Find the moving weight position while steel yard be horizontal.

Solve :- $\Sigma M_F = 0$:-

$$+ W \times AF = \omega \times 2 - P \times x = 0$$

$$300 \times 10 - 50 \times 2 - 50 \times x = 0$$

$$3000 - 100 - 50x = 0$$

$$50x = 3000 - 100$$

$$\left[x = \frac{2900}{50} = 58 \text{ cm} \right]$$