

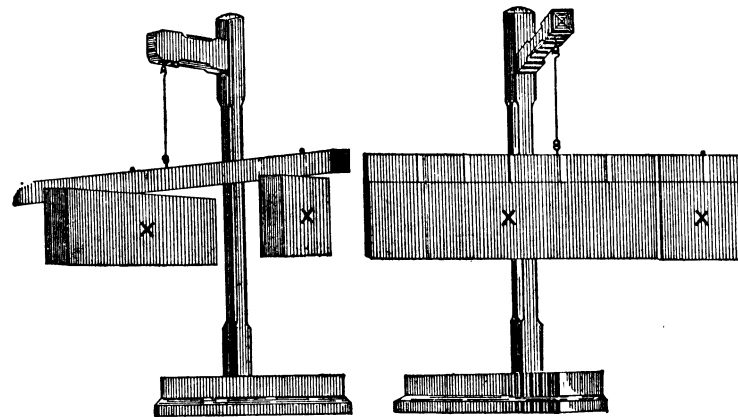
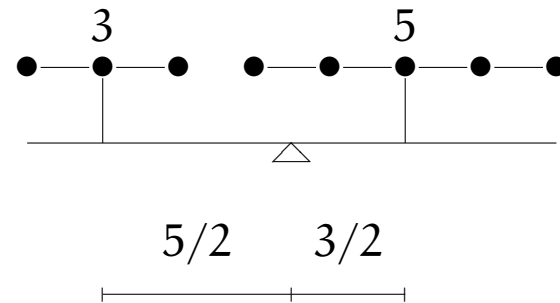
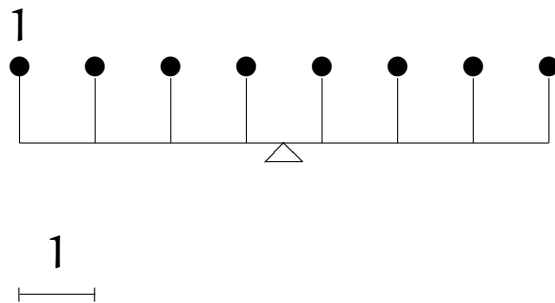
Materiale ad esclusivo uso degli studenti del corso di
Tecnica delle Costruzioni Meccaniche
<http://www.mecc.polimi.it/~miccoli/TCM/>
tenuto presso il Politecnico di Milano, Facoltà del Design.
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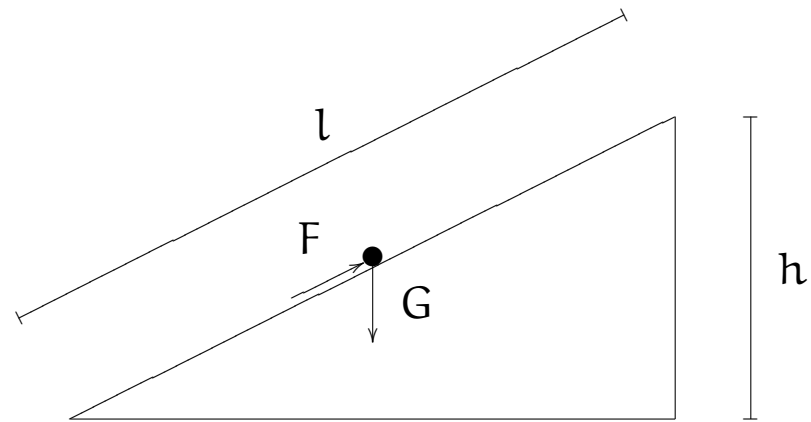
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Stefano Miccoli
Tecnica delle
Costruzioni Meccaniche

la dimostrazione di Archimede

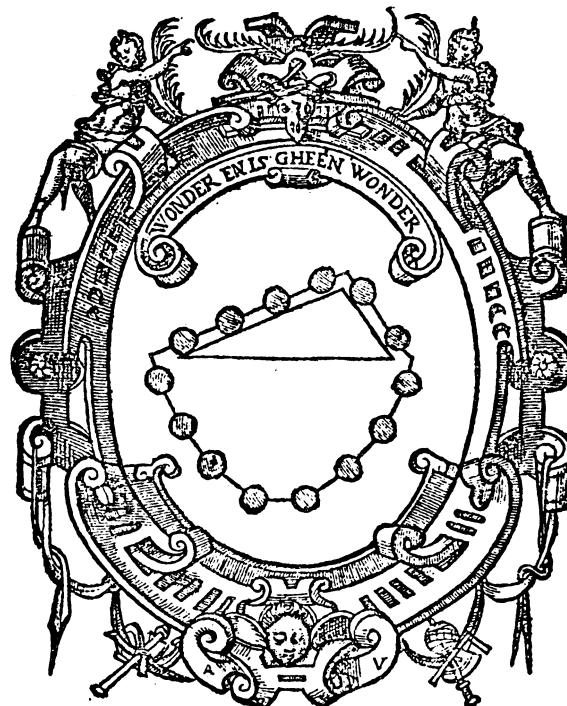


legge del piano inclinato



$$F : G = h : l$$

la dimostrazione di Stevino



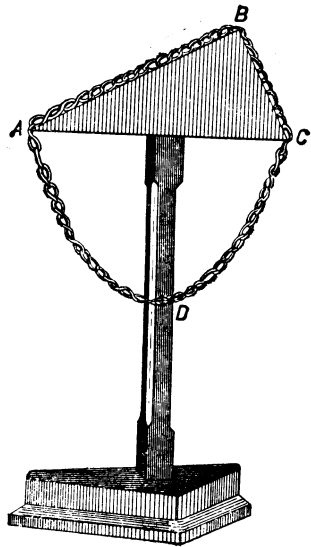


Figura 19

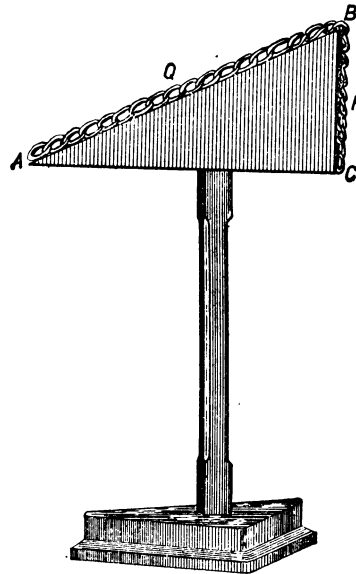


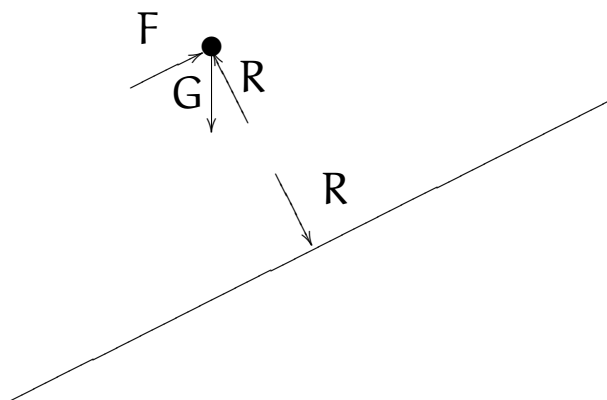
Figura 20

$$\frac{G_{AB}}{G_{BC}} = \frac{\overline{AB}}{\overline{BC}}, \quad F_{AB} = F_{BC}$$

In figura 20:

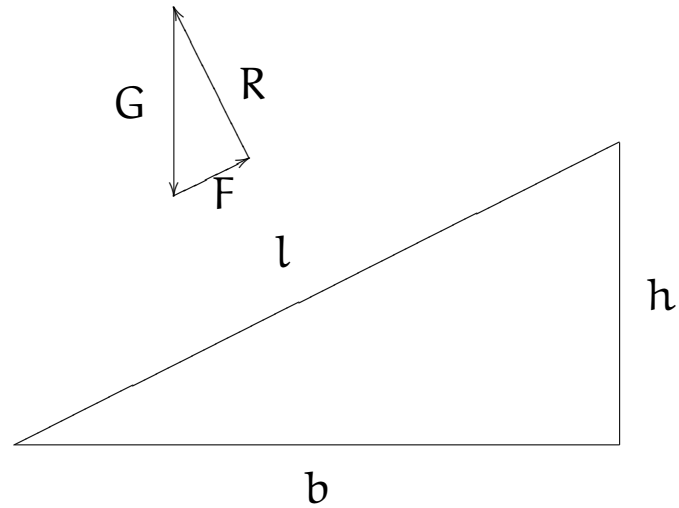
$$F_{BC} = G_{BC} \quad \Rightarrow \quad F_{AB} = G_{BC} \quad \Rightarrow \quad \frac{F_{AB}}{G_{AB}} = \frac{G_{BC}}{G_{AB}} = \frac{\overline{BC}}{\overline{AB}} \quad \Rightarrow \quad \boxed{F : G = h : l}$$

piano inclinato e equilibrio: risultante



$$\vec{F} + \vec{G} + \vec{R} = \vec{0}$$

composizione delle forze



$$R \perp l, G \perp b \Rightarrow \angle GR = \angle lb \Rightarrow \triangle GFR \sim \triangle lhb \Rightarrow \boxed{F : G = h : l}$$

carrucole

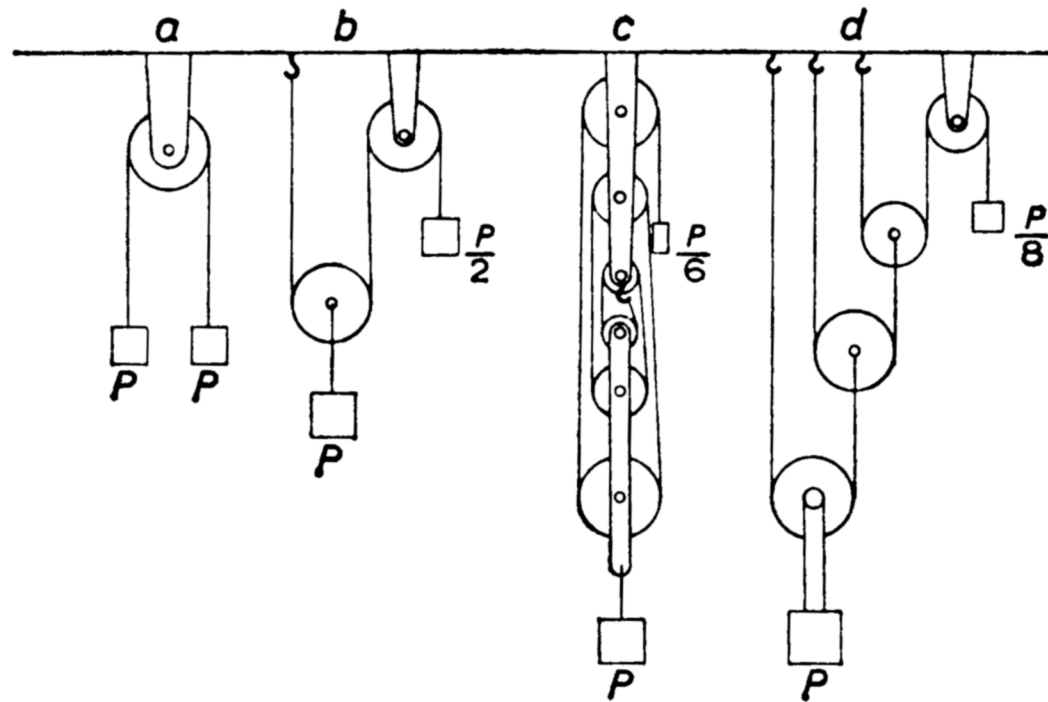


Figura 39

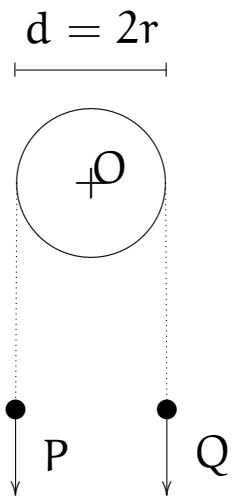
una classica lampada sali-scendi



un (brutto) stendi-biancheria



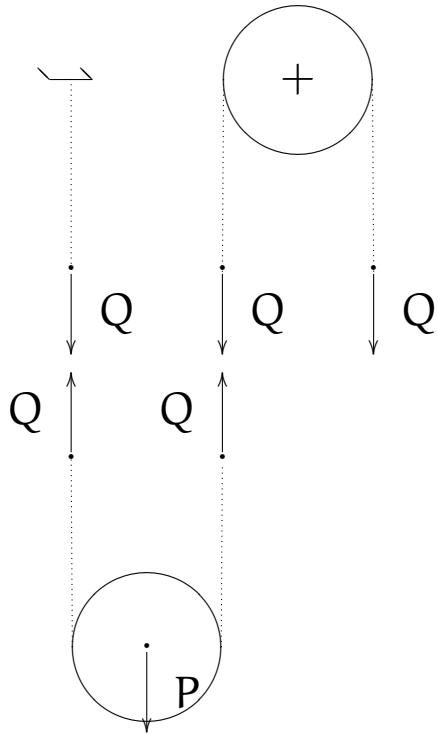
carrucola semplice



$$\sum M_O = 0 \quad \Rightarrow \quad P \cdot r - Q \cdot r = 0 \quad \Rightarrow$$

$$\boxed{P = Q}$$

carrucola doppia



$$2Q - P = 0$$

\Rightarrow

$$Q = \frac{P}{2}$$