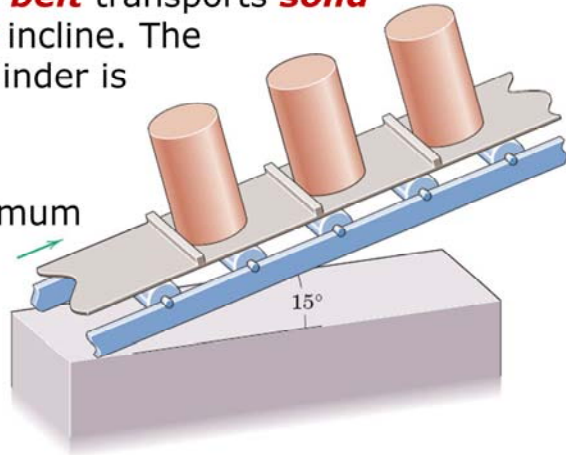


## Rigid-Body Translation: Yet Another Exercise

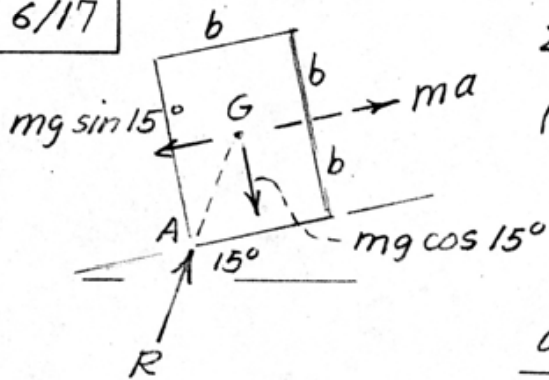
A cleated **conveyor belt** transports **solid cylinders** up a **15°** incline. The diameter of each cylinder is half its height.

Determine the maximum **acceleration** for the **belt** without tipping the **cylinders** as it starts.



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$$\sum M_A = mad$$

$$(mg \cos 15^\circ) \frac{b}{2} - (mg \sin 15^\circ) b = ma b$$

$$g \left( \frac{0.966}{2} - 0.259 \right) = a$$

$$\underline{a = 0.224g}$$