

RACK AND PINION EXERCISE

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On behalf of The World Association of Technology Teachers

W.A.T.T.



World Association of Technology Teachers

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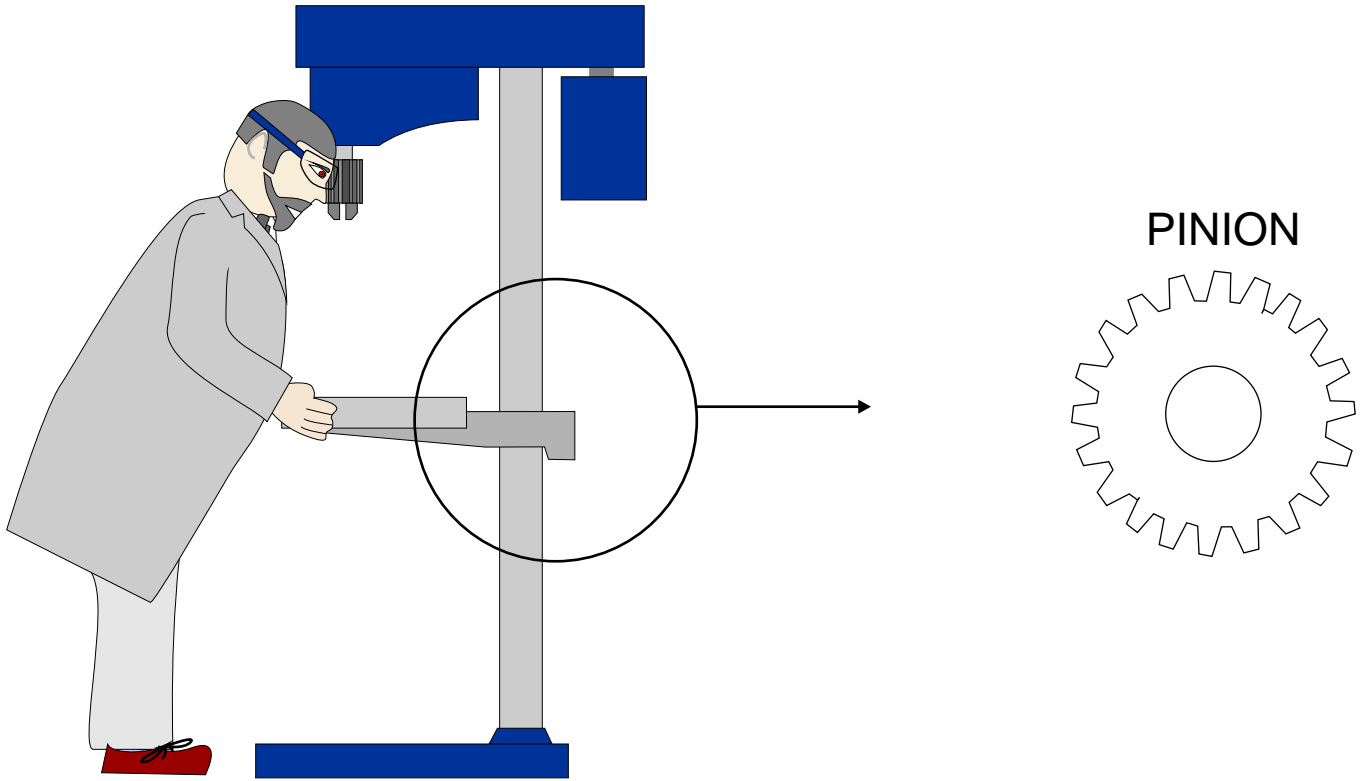
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Below is a basic machine drill. The table is heavy and awkward to move, if there is a need to adjust the height. If adjustment is made regularly by the same operator, damage to his/her back can occur.

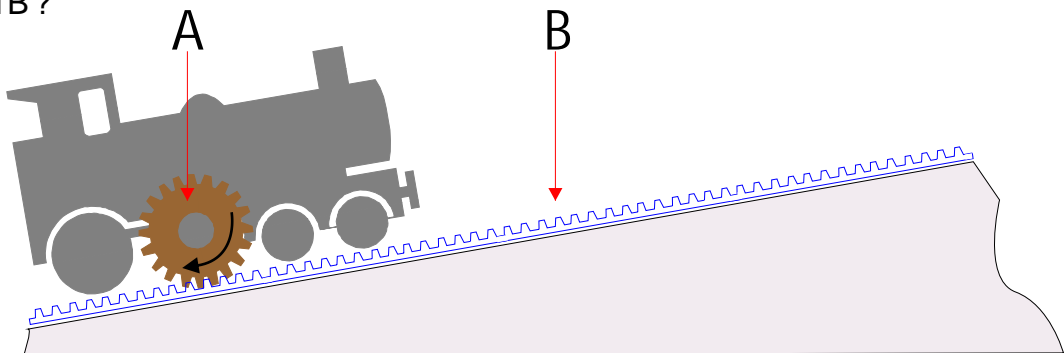
A well designed mechanism such as the rack and pinion, would ensure damage to the operators back did not happen. A rack and pinion system is normally found in the area 'circled' on the diagram.

Complete the enlarged diagram of a rack and pinion, by drawing the RACK in a vertical position, as it would be on a drilling machine. Add notes to explain how this type of mechanism works on a drilling machine



NOTES:

2. The train shown below has a special gear system. The gear system is marked A and B. What are the correct names for parts A and B?



PART A: _____

PART B: _____

Explain how the train benefits from the rack and pinion system, when going up down hill.
