



Construction

Key global statistics



US\$1.37T estimated cost of annual workplace injuries



9.6 deaths per 100,000 workers



2.4 non-fatal injuries per 100 workers



Falls, electrocution and striking by an object

are the greatest risk factors.



Manufacturing

Key global statistics



US\$1.03T estimated cost of annual workplace injuries



2.5 deaths per 100,000 workers



3.2 non-fatal injuries per 100 workers

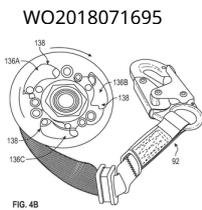


Heavy machinery use and chemical exposures

are the greatest risk factors.

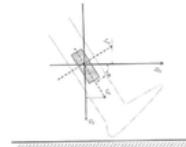
Illustrative patents

Prediction



Problem: Fall-protection gear lacks real-time hazard detection.
Solution: Sensor-equipped self-retracting lifelines feed predictive analytics for instant alerts.
Effect: Early warnings cut fall risks

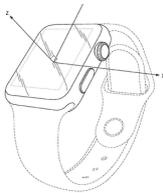
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Problem: Ambulatory monitoring of running performance is difficult.
Solution: A wearable sensor system measures key biomechanics using a wavelet-based algorithm.
Effect: Objective, real-time feedback

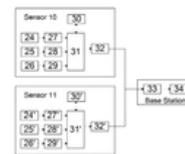
Detection

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Problem: Mobile device fall detection is often inaccurate.
Solution: A mobile device uses falling data to accurately detect a fall and alert others.
Effect: Fewer false alarms and faster

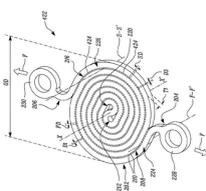
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Problem: Injury rehabilitation monitoring is limited to labs.
Solution: A wearable sensor system creates a "dynamic signature" to track a body's status.
Effect: Faster, data-driven decisions

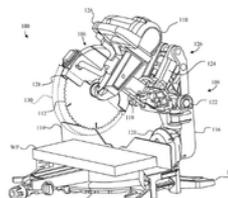
Protection

WO2021001711



Problem: Manufacturing complex fall-protection energy absorbers is costly and inefficient.
Solution: A single-piece energy absorber with spiral tear paths is designed to absorb fall energy.
Effect: Simpler manufacturing, lower cost

WO2015073405



Problem: Power tools can't sense hands near the blade.
Solution: Capacitive sensors with spatial-recognition auto-stop the blade on human approach.
Effect: Avoiding false trips by instant blade stop