

ABSTRACT

Disclosed is a smart ladder. The smart ladder may be A-frame type of ladders, such as A-frame ladders and A-frame platform ladders. The smart ladder includes right and left outrigger leg units which are swiveled coupled to the right and left sides of the ladder to provide side support. The ladder includes brace units facilitate in folding and unfolding of the ladder as well as the outrigger legs. An electronic system, which includes a sensor network, a processor and a warning system, is provided. The sensor network senses side inclination angle of the ladder and side force on the outriggers and predict potential hazards from exceeding load and angle thresholds. This enhances safe operation of the ladder and avoids injuries to the user and others in the vicinity.

Fig. 1a