Claims

1. A retrofit device for stabilizing a ladder having at least ~~two frames~~a first frame and a second frame supported on a ground, each frame forming an angle with respect to the vertical, the retrofit device comprising:

an elongated structure for providing an additional support on the ground for the ladder; and

a brace structure coupled to the elongated structure, the brace structure having a left ~~portion~~ brace bracket and a right ~~portion~~brace bracket rotatably coupled thereto~~;~~ ,

wherein the left ~~portion~~ brace bracket is attachable to ~~one~~ the first frame of the ladder and the right ~~portion~~ brace bracket is attachable to ~~another~~ the second frame of the ladder;

wherein each of the left and right brace brackets is rotatable with respect to the brace structure for respectively corresponding to the angles formed by the first and second frames with the vertical; and

wherein the brace structure is configured for rigidly ~~maintains~~ maintaining a distance between the ~~one~~ first frame and the ~~other~~ second frame of the ladder.

2. The retrofit device as in claim 1, wherein at least one of the elongated structure and the brace structure is extendable.

3. The retrofit device as in claim 2, the elongated structure comprising an external portion and an internal portion telescopically arranged for moving relative to each other.

4. The retrofit device as in claim 3, the elongated structure comprising a plurality of locations, each location determining an overall length of the elongated structure.

5. The retrofit device as in claim 4, wherein the external portion and the internal portion are lockable at each of the plurality of locations.

6. The retrofit device as in claim 2, wherein the brace structure is lockable with respect to the elongated structure.

7. The retrofit device as in claim 1, further comprising a base bracket pivotally coupled to the elongated structure, wherein the base bracket provides the additional support on the ground.

8. The retrofit device as in claim 7, wherein the base bracket is lockable with respect to the elongated structure.

~~9. The retrofit device as in claim 1, wherein each of the left portion and the right portion of the brace structure comprises a brace bracket rotatably coupled to the brace structure.~~

~~10~~9. The retrofit device as in claim ~~9~~1, wherein each of the left and right brace bracket<u>s</u> is lockable with respect to the brace structure.

~~11~~10. The retrofit device as in claim 9 ~~or 10~~, further comprising a fastening mechanism for tightening each brace bracket on the ladder.

~~12~~11. The retrofit device as in claim 7 or 8, further comprising a ground pad attachable to the base bracket, wherein the ground pad supports the ladder on the ground.

12. The retrofit device as in claim 1, each of the left and right brace brackets comprising a gap for accommodating the first and second frames respectively, wherein each gap is adjustable in size by the left and right brace brackets, respectively.

13. The retrofit device as in claim 1, the first and second frames of the ladder forming a pivot angle therebetween, wherein a length of the brace structure is adjustable.

14. The retrofit device as in claim 1, wherein the brace structure comprising a sliding mechanism for adjusting the length thereof.

15. The retrofit device as in any one of claims 1, 13, and 14, wherein a distance between the left and right brace brackets is adjustable.