

Claims:

1. A fitness training apparatus comprising:
 - a base;
 - at least one retractable line provided in or on the base, the retractable line having a free end region for operation by a user, wherein the at least one retractable line is configured and arranged to be extended from a retracted state in or on the base to an extended state upon application of a force to the free end region of the retractable line by the user;
 - a load generator provided in or on the base for applying a selectively adjustable load to the at least one retractable line, wherein the load applied to the retractable line by the load generator resists or acts against the force applied to the free end region by the user for extending the retractable line from the retracted state to the extended state
 - a force measurement device to measure the load applied to the retractable line;
 - wherein the load applied to the retractable line by the load generator is modified based on the load measured by the force measurement device.
2. A fitness training apparatus according to claim 1, wherein the base provides a training platform for the user, upon which the user may stand, sit, or lie while performing training exercises, wherein the training platform is preferably configured as a step that preferably has a height in the range of about 100 mm to about 300 mm.
3. A fitness training apparatus according to claim 1 or claim 2, wherein the base includes a portion that is removable or separable to form a training bench for the user, preferably having a length in the range of 500 mm to 900 mm.
4. A fitness training apparatus according to any one of claims 1 to 3, wherein the load generator comprises at least one electric motor, preferably a torque motor, that is variably operable to generate a range of torques for applying the selectively adjustable load to the at least one retractable line.
5. A fitness training apparatus according to any one of claims 1 to 3, wherein the load generator comprises a direct drive motor, that is variably operable to generate a range of torques for applying the selectively adjustable load to the at least one retractable line.

6. A fitness training apparatus according to any one of claims 1 to 5, wherein the force measurement device is a strain gauge.
7. A fitness training apparatus according to any one of claims 1 to 6, wherein the at least one retractable line is flexible and is arranged to retract into a wound or coiled configuration in the retracted state, preferably onto a spool or drum provided in or on the base; wherein the at least one retractable line preferably comprises any one of a cable, a cord, a rope, a strap, or a band.
8. A fitness training apparatus according to any one of claims 1 to 7, wherein the at least one retractable line is configured and arranged to be extended from the retracted state in a direction away from the base, preferably in an upwards or vertical direction, or through any of a range of angles to the vertical direction, or alternatively in a horizontal direction.
9. A fitness training apparatus according to any one of claims 1 to 8, wherein the at least one retractable line is configured for attachment of a handle at the free end region thereof for manual operation by the user.
10. A fitness training apparatus according to any one of claims 1 to 9, wherein the load generator is configured or controlled to adjust the load applied to the at least one retractable line during extension of the retractable line to the extended state and/or during retraction of the retractable line to the retracted state.
11. A fitness training apparatus according to any one of claims 1 to 10, comprising two retractable lines provided in or on the base, and two load generators, wherein each load generator is operatively associated with a respective one of the retractable lines.
12. A fitness training apparatus according to claim 11, wherein the retractable lines are preferably arranged spaced apart from one another by a distance in the range of about 1.0 m to 2.0 m; wherein the base is preferably adjustable to vary the distance by which the retractable lines are spaced apart from one another.
13. A fitness training apparatus according to any one of claims 1 to 12, wherein each retractable line is provided or incorporated in the base, with the free end of each retractable line emerging from an outer surface of the base for access and operation by the user.

14. A fitness training apparatus according to any one of claims 1 to 13, wherein a path of travel of each retractable line is guided by one or more pulleys mounted in or on the base, wherein a pulley for guiding the path of travel of each retractable line into the retracted state is configured to pivot or swivel to promote even spooling of the line as it retracts.

15. A fitness training apparatus according to any one of claims 1 to 14, comprising a control device provided in or on the base having one or more sensor(s) for sensing use or operation of the or each retractable line, such as current position, motion, speed and/or extension of each retractable line, wherein the control device is configured to adjust the load applied to each retractable line by the respective load generator in dependence on the use or operation of the or each retractable line.

16. A fitness training apparatus according to claim 15, wherein the control device is configured for communication with a user device, such as a smart phone and/or a display monitor, for input of training settings by the user and/or for displaying training information to the user during training; wherein the control device preferably includes a processor, an electronic data storage, and wireless communication hardware.

17. A fitness training system comprising:
a fitness training apparatus according to any one of claims 1 to 16; and
a user device, such as a smart phone or a display monitor, for communication with the apparatus, preferably with a control device of the apparatus, for input of training settings by the user and/or for displaying training information to the user during training.

18. A fitness training system according to claim 17, further comprising a software application for installation on the user device for communication with the apparatus for input of training settings and/or for display of training information to the user.

19. A fitness training system according to claim 17 or claim 18, wherein the control device of the apparatus is configured to calculate training performance from the use or operation of the or each retractable line sensed or detected by one or more sensor(s) of the control device for display on the user device.