Claims

What is claimed is:

1. An upper body exercise apparatus, comprising:

two identical devices wherein a user grasps a cylindrically shaped handle generally oriented parallel to a supporting surface, on each device with each of his hands, being mounted in, and supported by a support structure that is generally oriented perpendicular to said supporting surface, said support support structure being connected to and supported by a solid base, in said solid base there are three or more spherically shaped balls placed in recesses within said base, a means to retain said spherical balls within their respective recesses in said base being provided, high hertz contact strength bearing surfaces being provided in sakJ recesses located within said base thereby providing a low friction interface of the moving spherically shaped balls and the stationary recesses in said base, and said recesses capturing the upper half of said balls, said spherically shaped balls then permiting a user positioned in the prone position, to slide each of the two identical devices simultaneously while said user is grasping the handles of each devices in each of his hands, across a relatively flat surface, and in any direction simultaneously and independently, thereby allowing said user the capability of exercising said user's muscles and joints in said user's saggital plane, and laterally in said user's frontal plane, and through said user's arm sweep rotation motions about a user's shoulders in the transverse plane, or in any possible combination of these aforesaid motions.

2. The apparatus of claim 1, wherein there is also a brake bar mounted parallel to said device's handle, and located so that a user may grasp and then squeeze said brake bar to increase the resistance for said spherical balls rolling, said resistance being increased by having said brake bar actuating, through connecting links or cable, friction material mounted within said base and said friction material applied to said spherical balls through open slots located in the spherical ball recesses in said base, thereby giving the user greater control of his own exercise mobility and resisitance.

3. The apparatus of claim 1, wherein the base and handle support structure are fabricated as one molded piece.

4. The apparatus of claim 2, wherein the base and handle are an assembly of two separate pieces.

5. The apparatus of claim 1, wherein the handle is an assembly of two cylindrically shaped solid pieces, wherein said two pieces are concentrically asembied with a small radial clearance between said two pieces, thereby allowing said two pieces to rotate relative to one another, while the user is grasping the outer cylindrical handle piece.

6. The apparatus of claim 1, wherein the high hertz contact strength bearing surfaces are of the friction type having two self-lubricated solid surfaces sliding relative to one another.

7. The apparatus of claim 1, wherein the high hertz contact strength bearing surfaces are of the anti-friction type wherein the sliding friction between the stationary base and the rotating ball surfaces is replaced with primarily rolling

friction by placing a plurality of cylindrical or spherical rollers mounted in cradles in the recesses in the stationary base and said rollers contacting with point or line contact, and rolling with the spherical ball located in each recess in the base.

8. The apparatus of claim 1, wherein the user grasps and utilizes only one device with one or both of his hands and proceeds to move said device across a relatively flat surface, and in any direction simultaneously and independently, thereby allowing said user the capability of exercising said user's muscles and joints in said user's saggital plane, and laterally in said user's frontal plane, and through said user's arm sweep rotation motions about a user's shoulders in the transverse plane, or in any possible combination of these aforesaid motions.

9. The apparatus of claim 1, wherein said apparatus has access holes at the bottom of the recesses traversing through the base to facilitate removal of the spherical balls and to facilitate cleaning and maintenance of the apparatus.

10. An upper body exercise method, comprising:

two identical devices having a user grasping a cylindrically shaped handle generally oriented parallel to a supporting surface, on each device with each of his hands, being mounted in, and supported by a support structure that is generally oriented perpendicular to said supporting surface, said support support structure being connected to and supported by a solid base, in said solid base there are three or more spherically shaped balls placed in recesses within said base, a means to retain said spherical balls within their respective recesses in said base being provided, high hertz contact strength bearing surfaces being provided in said recesses located within said base thereby providing a low friction

interface of the moving spherically shaped balls and the stationary recesses in said base, and said recesses capturing the upper half of said balls, said spherically shaped balls then permiting a user positioned in the prone position, to slide each of the two identical devices simultaneously while said user is grasping the handles of each devices in each of his hands, across a relatively flat surface, and in any direction simultaneously and independently, thereby allowing said user the capability of exercising said user's muscles and joints in said user's saggital plane, and laterally in said user's frontal plane, and through said user's arm sweep rotation motions about a user's shoulders in the transverse plane, or in any possible combination of these aforesaid motions.

11. The method of claim 10, also having a brake bar mounted parallel to said device's handle, and with a user grasping and then squeezing said brake bar to increase the resistance for said spherical balls rolling, said resistance being increased by having said brake bar actuating, through connecting links or cable, friction material mounted within said base and said friction material applied to said spherical balls through open slots located in the spherical ball recesses in said base, thereby giving the user greater control of his own exercise mobility and resistance.

12. The method of claim 10, having the base and handle support structure being fabricated as one molded piece.

13. The method of claim 12, having the base and handle are an assembly of two seperate pieces.

14. The method of claim 10, having the handle as an assembly of two cyltndrically shaped solid pieces, wherein said two pieces are concentrically asembled with a small radial clearance between said two pieces, thereby allowing said two pieces to rotate relative to one another, while the user is grasping the outer cylindrical handle piece.

15. The method of claim 10, having high hertz contact strength bearing surfaces being of the friction type having two self-lubricated solid surfaces sliding relative to one another.

16. The method of claim 10, having high hertz contact strength bearing surfaces that are of the anti-friction type wherein the sliding friction between the stationary base and the rotating ball surfaces is replaced with primarily rolling friction by placing a plurality of cylindrical or spherical rollers mounted in cradles in the recesses in the stationary base and said rollers contacting with point or line contact, and rolling with the spherical ball located in each recess in the base.

17. The method of claim 10, having the user grasping and utilizing only one device with one or both of his hands and proceeds to move said device across a relatively flat surface, and in any direction simultaneously and independently, thereby allowing said user the capability of exercising said user's muscles and joints in said user's saggital plane, and laterally in said user's frontal plane, and through said user's arm sweep rotation motions about a user's shoulders in the transverse plane, or in any possible combination of these aforesaid motions.

18. The method of claim 10, wherein said method having access holes at the bottom of the recesses traversing through the base to facilitate removal of the spherical balls and to facilitate cleaning and maintenance of the apparatus.

19. An upper body exercise system, comprising:

two identical devices wherein a user grasps a cylindrically shaped handle generally oriented parallel to a supporting surface, on each device with each of his hands, being mounted in, and supported by a support structure that is generally oriented perpendicular to said supporting surface, said support support structure being connected to and supported by a solid base, in said solid base there are three or more spherically shaped balls placed in recesses within said base, a means to retain said spherical balls within their respective recesses in said base being provided, high hertz contact strength bearing surfaces being provided in said recesses located within said base thereby providing a low friction interface of the moving spherically shaped balls and the stationary recesses in said base, and said recesses capturing the upper half of said balls, said spherically shaped balls then permitting a user positioned in the prone position, to slide each of the two identical devices simultaneously while said user is grasping the handles of each devices in each of his hands, across a relatively flat surface, and in any direction simultaneously and independently, thereby allowing said user the capability of exercising said user's muscles and joints in said user's saggital plane, and laterally in said user's frontal plane, and through said user's arm sweep rotation motions about a user's shoulders in the transverse plane, or in any possible combination of these aforesaid motions.

20. The system of claim 19, wherein the user grasps and utilizes only one device with one or both of his hands and proceeds to move said device across a relatively flat surface, and in any direction simultaneously and independently, thereby allowing said user the capability of exercising said user's muscles and joints in said user's saggital plane, and laterally in said user's frontal plane, and through said user's arm sweep rotation motions about a user's shoulders in the transverse plane, or in any possible combination of these aforesaid motions.

CLAIMS

What is claimed is:

1. An upper body exercise apparatus, comprising:

two identical devices wherein a user grasps a cylindrically shaped handle generally oriented parallel to a supporting surface, on each device with each of his hands, being mounted in, and supported by a structure that is generally oriented perpendicular to said supporting surface, said structure being connected to and supported by a solid base, the base and handle support structure are fabricated as one molded piece,

in said one molded piece solid base there are three or more spherically shaped balls placed in recesses within said base, in said same one molded piece a reduced diameter interference fit to retain said spherical balls within their respective recesses in said base being provided, high hertz contact strength bearing surfaces being integral in said recesses located within said single molded piece base thereby providing a low friction interface of the moving spherically shaped balls and the stationary recesses in said base, and said recesses capturing the upper half of said balls, said spherically shaped balls then permitting a user positioned in the prone position, to slide each of the two identical devices simultaneously while said user is grasping the handles of each devices in each of his hands, across a relatively flat surface, and in any direction simultaneously and independently, thereby allowing said user the capability of exercising said user's muscles and joints in said user's sagittal plane, and laterally in said user's frontal plane, and through said user's arm sweep rotation motions about a user's shoulders in the transverse plane, or in any possible combination of these aforesaid motions.

2. The apparatus of claim 1, wherein the high hertz contact strength bearing surfaces are part of the single molded base piece are of the friction type having two self-lubricated solid surfaces sliding relative to one another.

3. The apparatus of claim 1, wherein the high hertz contact strength bearing surfaces are of the anti-friction type wherein the sliding friction between the stationary base and the rotating ball surfaces is replaced with primarily rolling friction by integrating a plurality of cylindrical or spherical rollers mounted in cradles which are a part of said single molded base piece in the recesses of said single molded piece stationary base and said rollers contacting with point or line contact, and rolling with the spherical ball located in each recess in the base.

4. The apparatus of claim 1, wherein said apparatus has access holes as part of the single molded base piece at the bottom of the recesses traversing through the base to facilitate removal of the spherical balls and to facilitate cleaning and maintenance of the apparatus.