United States Patent [19]

Kyre et al.

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[45] **Date of Patent: Dec. 4, 1990**

[54] **SAW EXERCISE BOX**

[75] Inventors: **Martin T. Kyre; Joan R. Kyre,** both of Lubbock, Tex.

[73] Assignee: **Magic Box, Inc.,** Lubbock, Tex.

[21] Appl. No.: **250,906**

[22] Filed: **Sep. 29, 1988**

[51] **Int. Cl.**[5] **A63B 23/00**

[52] **U.S. Cl.** **272/93;** 272/32; 434/62

[58] **Field of Search** 272/132, 93, 131; 434/62, 219, 260; 446/144, 145

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,295,847	1/1967	Matt	272/96
4,471,957	9/1984	Engalitcheff	272/132

FOREIGN PATENT DOCUMENTS

0241221	7/1946	France	446/145

OTHER PUBLICATIONS

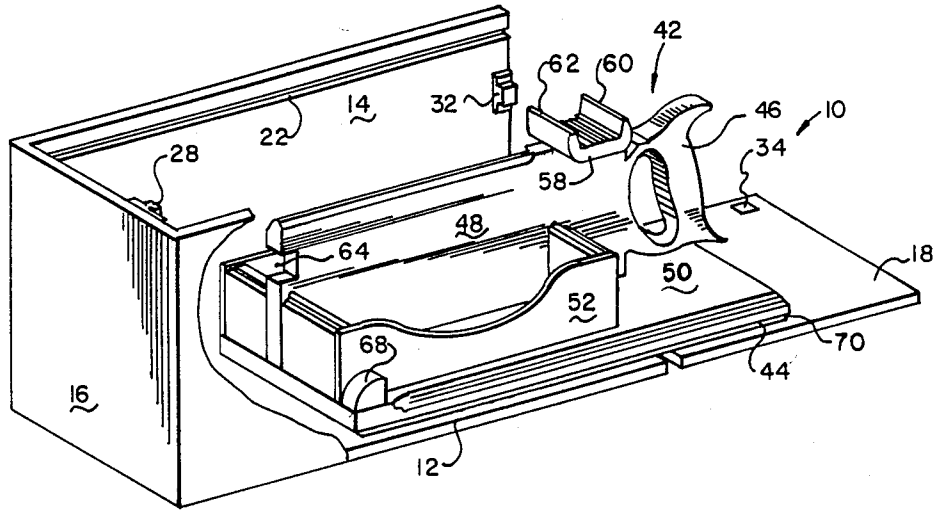
Disston saw, tool and file manual, 1942, p. 11 TJ 1195 D5, Copy located in Scientific Library.

Primary Examiner—Stephen R. Crow
Attorney, Agent, or Firm—Wendell Coffee

[57] **ABSTRACT**

An exercise device includes a shoe having a wooden sole resting upon a wooden base plate. A backsaw handle is attached to the shoe. Therefore, stroking the handle causes the shoe to reciprocate upon the base plate providing a satisfying sound of the wooden shoe rubbing on the wooden base plate. A heel notch on the top of the shoe provides means for stroking the shoe with the foot. The weight of the shoe may be increased by placing weight straps in a tray upon the shoe. In a second embodiment the shoe includes a backsaw and miter box. The base plate forms the bottom of a box which encloses the shoe.

1 Claim, 3 Drawing Sheets



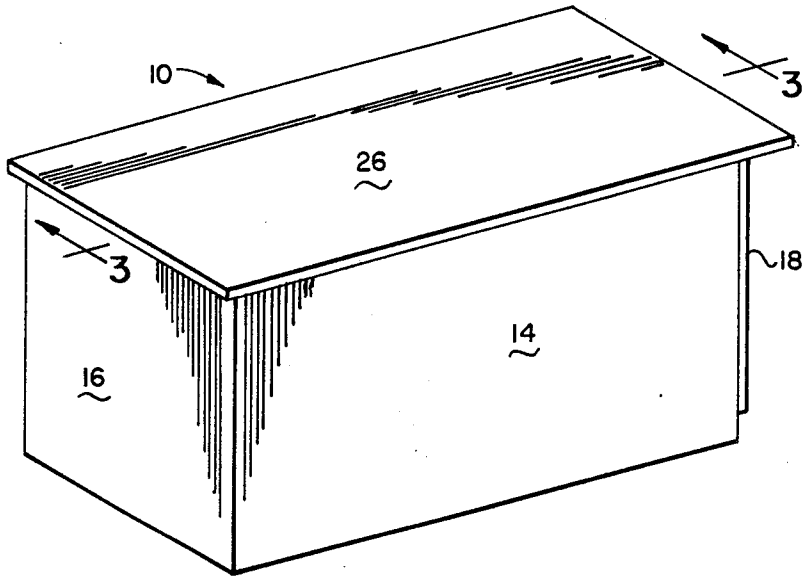


FIG-1

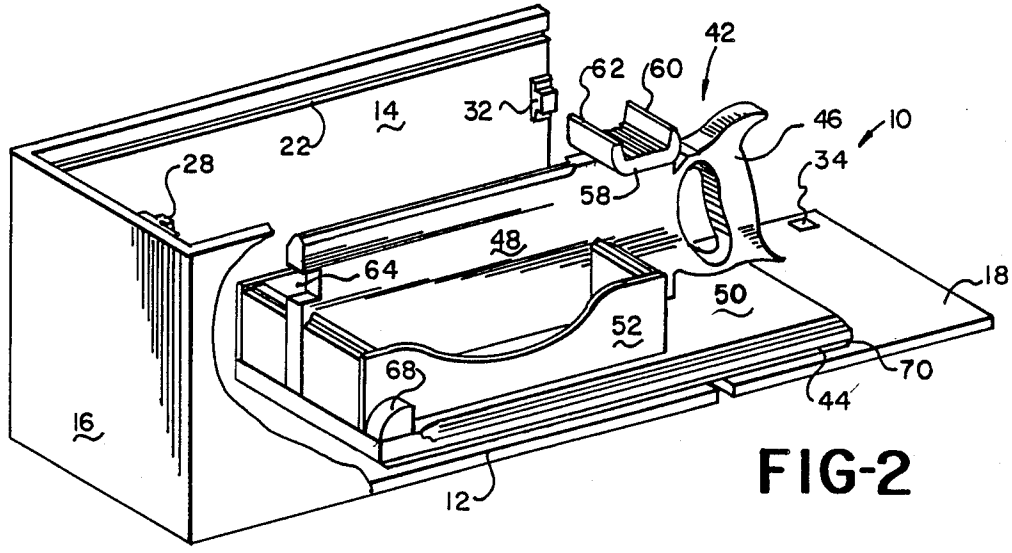


FIG-2

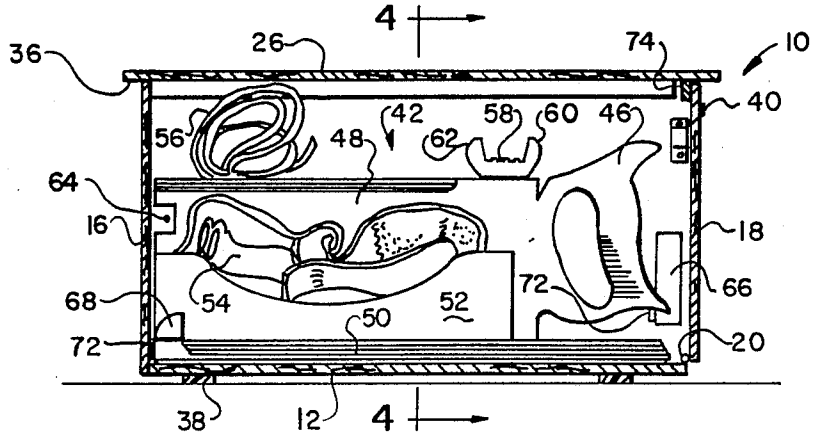


FIG-3

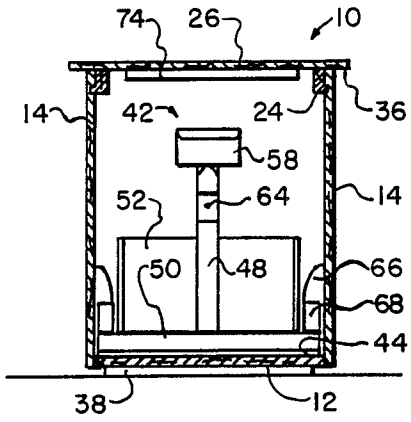


FIG-4

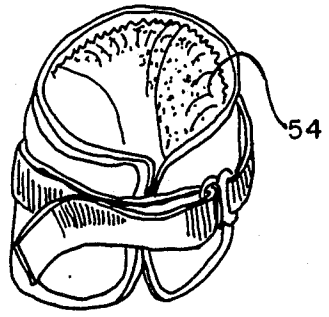


FIG-5

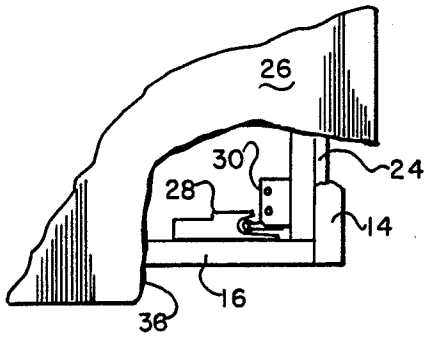


FIG-6

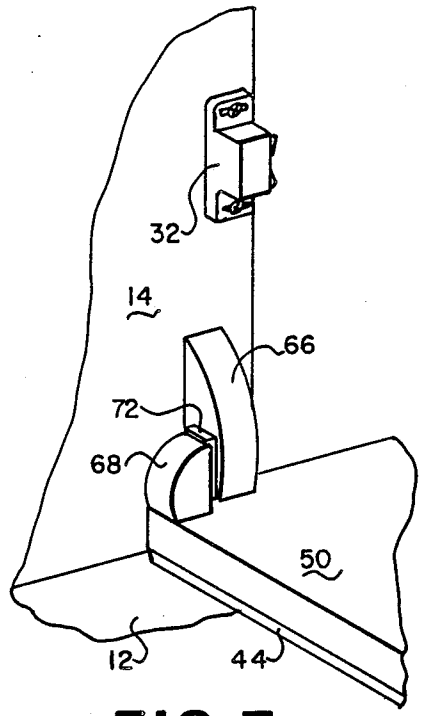


FIG-7

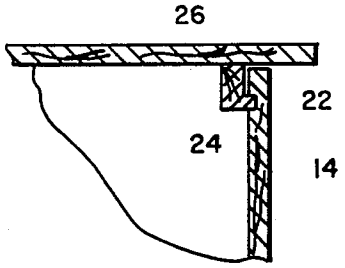


FIG-8

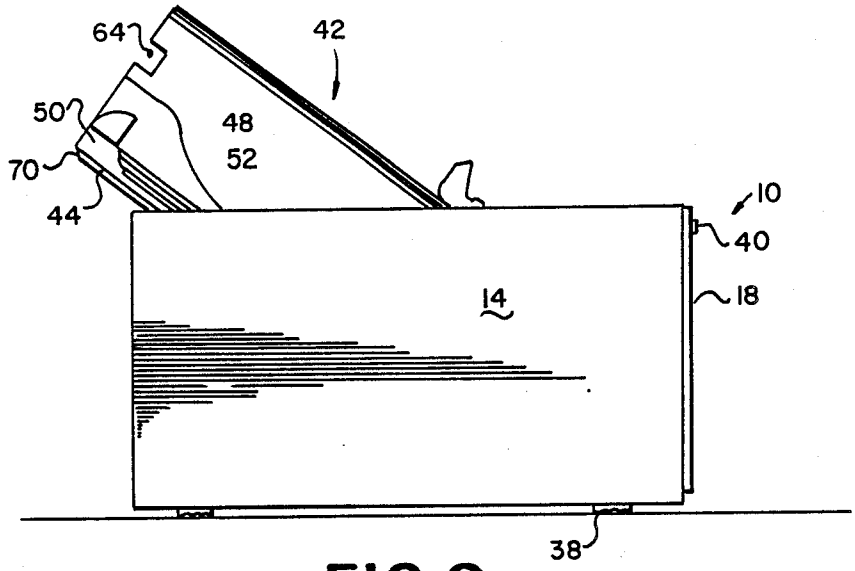

64
42
50
48
52
70
44
10
40
18
14
38

FIG-9

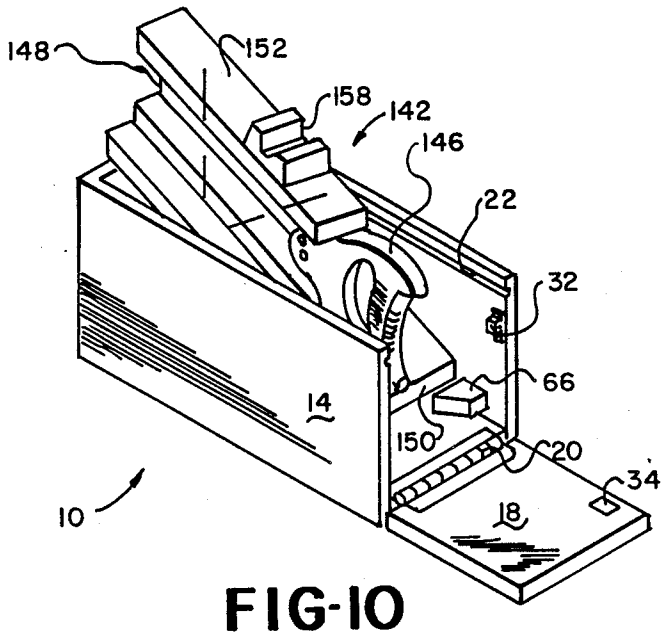

148
152
158
142
146
22
32
66
14
150
20
34
18
10

FIG-10

SAW EXERCISE BOX

RIGHTS TO INVENTIONS UNDER FEDERAL RESEARCH:

There was no federally sponsored research and development concerning this invention.

BACKGROUND OF THE INVENTION:

(1) Field of the Invention

This invention relates to the exercise devices for physical therapy for an elderly or injured person. A physical therapist is one having ordinary skill in this art.

(2) Description of the Related Art

The benefits of exercise and bodily movement and movement of joints is recognized for elderly persons as well as those persons who are recovering from injury.

Many elderly people suffer from arthritis. In any event, it is recognized that normally any impact type exercise is detrimental to an elderly person. Also, characteristic with aging is a clinging to older, familiar objects and surroundings including feel and sound.

For the above reasons, it will be seen that chopping wood with the resulting impact would not be recommended for elderly people. Sawing wood would be recommended. For many elderly people, the feel of the saw handle in the hand would be familiar. Also, the resulting rasping would be a familiar and reassuring sound to the person.

Before this application was filed, the applicant was aware of the following United States patents:

Inventor	U.S. Pat. No.
Schmidt	1,418,401
Feist	2,097,273
Uhl	2,830,816
Matt	3,295,847
Dalton	3,807,730
Dienner	3,654,917
Roman	4,229,001
Kaiser	4,395,039
Killen	4,513,961

Applicant does not consider that these patents are pertinent but believes that the Examiner would be interested in any patent reported by an experienced patent searcher.

SUMMARY OF THE INVENTION:

(1) Progressive Contribution to the Art

This invention discloses an exercise device which, in the manual mode of operation, is reminiscent of sawing. A saw handle is mounted upon a shoe which is stroked over a wooden base plate. The reciprocation results in a smooth, nonimpact movement. The sliding of the wooden shoe against the wooden base plate produces a familiar reassuring sound. The exercise moves various joints in the body so the joints do not tend to "freeze up" as arthritic joints tend to do if there is no movement. However, the movement is neither strenuous enough and is free of impact that it does not aggravate, traumatize nor inflame the joints.

A tray is placed upon the wooden shoe so that weights may be placed in the tray to increase the force required to stroke the saw handle. However, in extreme cases, resulting either from injury or from advanced age, the weights may be removed so that little more than movement of the joints results.

It will be understood that a person may adjust his body and the movement so that not only arm and shoulder joints are moved, but also the back and the leg joints may be moved if the body is so positioned for such movement.

Likewise, a heel notch or foot support may be placed upon the shoe so that the shoe may be reciprocated upon the base plate by stroking the shoe with foot motion

Also, the weights which may be put in the tray are provided in the form of lead shot in bands so that they may be strapped to the wrist or ankle to provide additional exercise in this form as well as to weight the shoe to produce additional frictional resistance to movement.

Also, the base plate is made in the form of a box having a top so that when the box is closed and the top in place, the exercise device is in the form of a footstool or low table. This, too, provides a familiar object for the elderly person, which, unlike other exercise devices, does not constantly remind the person that he no longer receives his exercise by labors as he did during his earlier years, but now is forced to use "artificial" devices to obtain the needed movement for his deteriorating joints.

Thereby, the total results of the invention is to provide an exercise devices which is comforting and familiar to either the injured or handicapped person or the aging person, and it is not disturbing to the person, either when in use or when in storage.

(2) Objects of this Invention

An object of this invention is to provide exercise for elderly or injured persons.

Further objects are to achieve the above with devices that are sturdy, compact, durable, lightweight, simple, safe, efficient, versatile, ecologically compatible, energy conserving, and reliable, yet inexpensive and easy to manufacture, adjust, operate and maintain.

Other objects are to achieve the above with a method that is rapid, versatile, ecologically compatible, energy conserving, efficient, and inexpensive, and does not require skilled people to adjust, operate, and maintain.

The specific nature of the invention, as well as other objects, uses, and advantages thereof, will clearly appear from the following description and from the accompanying drawing, the different views of which are not scale drawings.

BRIEF DESCRIPTION OF THE DRAWING:

FIG. **1** is a perspective view of the box in the closed position.

FIG. **2** is a perspective view of the box with the top panel removed, one side broken away for clarity, and the shoe in an intermediate position.

FIG. **3** is a longitudinal section of the shoe in the box with the top on and the hinged end panel closed, taken substantially along line **3—3** of FIG. **1**.

FIG. **4** is a cross section of the shoe in the box taken substantially along line **4—4** of FIG. **3**.

FIG. **5** is a perspective view of one of the weight bands in the buckled condition.

FIG. **6** is a detailed top plan view of the latch on the closed end with the top broken away.

FIG. **7** is a detailed view of the position of the stops when the shoe is fully extended.

FIG. **8** is a detailed sectional view of the top panel tongue in the side panel grooves.

FIG. **9** is a side elevational view with the shoe in a partially removed position.

FIG. **10** is a perspective view showing a second embodiment of a shoe partially removed from the box.

As an aid to correlating the terms of the claims to the exemplary drawing, the following catalog of elements and steps is provided:

10 box
12 base plate
14 side panel
16 closed end
18 hinged end
20 hinge
22 groove
24 tongue
26 top
28 latch
30 top latch
32 magnetic
34 plate
36 ledge
38 nonskid strips
40 nonskid strips
42 shoe
44 sole
46 handle
48 replica
50 slide platform
52 tray
54 weight
56 cord
58 heel notch
60 forward flange
62 rear flange
64 finger hole
66 side stop
68 shoe stop
70 bevel
72 bumpers
74 lid pull
142 shoe
146 handle
148 backsaw
150 slide platform
152 miter box
158 heel notch

DESCRIPTION OF THE PREFERRED EMBODIMENT:

Referring to the drawings, there may be seen box **10**. The box will include a bottom panel or wooden base plate **12**. Two side panels **14** are attached to the base plate **12**. Closed end plate **16** closes one end while hinged end panel **18** closes the other. The hinged end panel is hinged to the base plate by piano hinge **20**.

Groove **22** at the top on the inside of each side panel mates with lid guides or tongue **24** attached to the underside of the lid or top panel **26**.

Catch or latch **28** is mounted on the inside of the closed end panel **16**. It cooperates with the other half of the top latch **30** so that when the lid is closed, it latches the lid in place so it will not accidentally slide open. However, the lid may be pushed against the latch; therefore, freeing it to slide open. Such latches are well known and commonly used for cabinet doors.

Magnetic holder **32** on the inside of one of the side panels **14** near the top and the hinged end panel cooperates with plate **34** upon the hinged end panel to hold the hinged end panel closed.

The box, as measured by the sides, is about 10″ wide, 10″ high, and 20″ long. The top **26** projects over the sides and the ends approximately ¾″ and forms overhang or ledge **36**. This provides not only an aesthetically pleasing appearance, but also provides a convenient grip so that the box may be lifted by placing the fingertips under the overhang or ledge **36** when the top panel **26** is in place.

So that the base plate **12** does not scratch table tops or the like and also so that it is stable in use, nonskid strips **38** are placed upon the bottom of the base plate **12**. Also, a single strip **40** is placed near the outside top of the hinged end panel **18**. When the hinged end panel is down, the nonskid strip **40** will rest upon the same supporting surface as the base plate.

Shoe **42** is mounted within the box **10**, resting upon the base plate **12**. The shoe includes a friction board or wooden sole **44** which has the same dimensions as the inside dimensions of the base plate **12** with clearance. The sole **44** has approximately 1/32″ clearance between the sides **14**. i.e., when the sole is against one side, it will be 1/16″ from the other side. Therefore, the bottom of the sides **14** form a portion of guide means on the base plate **12** for guiding the shoe **42** with its sole **44** on the base plate. The shoe has about ⅛″ clearance from end to end. I.e., when the shoe is against the closed end panel **16**, it is about ¼″ from the sides at the hinged end **18**.

Handle **46** is attached to the shoe **42**. The handle is located adjacent to the hinged end panel **18** of the shoe. The handle is either the handle of a carpenter's backsaw or a replica thereof.

In the embodiment shown in FIGS. **2**, **3**, **4**, **8**, and **9**, the handle **42** is a portion of replica **48** of a backsaw. I.e., it is a rectangular board, the bottom edge which would be the tooth edge of a real backsaw, is resting on and attached to sliding platform **50**, which is that part of the shoe to which the sole **44** is attached. Tray **52** is built upon the platform **50** and facilitates the attachment of the replica **48** to the platform. The tray also provides a convenient receptacle for weight bands **54**. As explained above, normally the weight bands **54** would be in the tray **52** to increase the frictional resistance of the movement of the sole **44** upon the base plate **12**. Also, the tray provides a convenient storage place for the weight bands as well as stretch rope or elastic shock cord **56**. The stretch rope is also used for other exercises for the person using the box; however, it structurally has no other relationship to the box.

Foot support or heel notch **58** is attached to the top of the replica **48** adjacent to the handle **46**. The heel notch is a block of wood having a notch between forward flange **60** and rear flange **62**. It provides a convenient place for a person to place the heel of a shoe or the heel of the foot if no shoe is worn, to stroke or reciprocate the shoe **42** upon the base plate **12**.

Finger hole **64** is cut in the replica along the face adjacent to the closed end.

As seen in the drawings, side stops **66** are mounted on sides **14** immediately above the top surface of the sliding platform **50**. Therefore, normally they hold the shoe **42** within the box **10** and prevent the shoe from bouncing against the top panel of the box. To remove the shoe from the box, a finger may be engaged in finger hole **64** and elevate the end of the shoe, and thus remove the shoe from the box (FIGS. **9** and **10**).

Shoe stop **68** is mounted upon each side of the sliding platform **50** at the rear of the platform, which is the end away from the handle **46**. The shoe stop and the side

stops are so constructed and arranged so that the shoe does not slide from the box when the shoe is being stroked or reciprocated upon the base plate **12** (FIG. 7).

In the embodiment shown in FIG. **10**, it may be seen there is a shoe **142** which is very similar to the shoe **42**. I.e., the shoe will have a sole, handle **146**, and sliding platform **150**. However, in this embodiment, there will be a real backsaw **148** attached to the handle **146**. The backsaw will be attached to the bottom of miter box **152**. The miter box is in turn, attached to the top of the sliding platform **150**. Heel notch **158** is attached to the top of the miter box. The same unchanged box **10** is used.

It is preferred to use bolts with thumb screws to attach the saw **148** to the bottom of the miter box **152** and also to attach the miter box to the sliding platform **150** as shown in the drawing. Therefore, the thumb screws can be readily removed and the miter box removed from the sliding platform **150** and the backsaw **148** removed from the miter box, and then the saw and miter box used for cabinet making or woodworking purposes.

It will be noted that the front and the back of the sole **44** has bevel **70** for convenient stroking or sliding or reciprocation. Also, the sole is preferably attached by wood screws to the sliding platform **50** for replacement if it wears thin.

Lid pull **74** is attached to the underside of the top panel **26** adjacent to the hinged end panel **18**. The lid pull **74** provides a convenient finger hold to slide the top panel **26** to remove it from the sides.

Bumpers **72** are provided at the bottom of the closed end panel and the inside surface of the side stops to prevent shock. Sponge rubber is suitable material for the bumpers **72**.

The embodiment shown and described above is only exemplary. We do not claim to have invented all the parts, elements or steps described. Various modifications can be made in the construction, material, arrangement, and operation, and still be within the scope of our invention.

The restrictive description and drawing of the specific examples above do not point out what an infringement of this patent would be, but are to enable one skilled in the art to make and use the invention. The limits of the invention and the bounds of the patent protection are measured by and defined in the following claims.

I claim as my invention:

1. An exercise machine comprising:

a. a wooden base plate,

b. a shoe with

c. a wooden sole slideably resting on the base plate,

cc. said wooden sole contacting said wooden base plate,

d. a handle attached to the shoe,

e. guide means on the base plate for guiding the shoe for reciprocation thereon,

f. said base plate being a bottom portion of a box,

g. said box having two side panels, a top panel, a hinged end panel, and a closed end panel,

h. the hinged end panel hinged to the base plate,

i. said handle is a backsaw handle adjacent to the hinged end panel,

j. the bottom of said side panels being a portion of the guide means,

k. a side stop on each side panel adjacent to the hinged end panel,

l. shoe stops on the top of the shoe so constructed and arranged that the shoe stops and the side stops prevent the shoe from being sliding removed from the box when the shoe is being reciprocated upon the base plate,

m. the upper portions of the side panels are grooved,

n. a tongue extending on either side of the top panel engaged in said grooves so that the top panel is mounted for sliding within the grooves,

o. said hinged end panel projecting above the slots so that the top panel cannot slide when the hinged end is in a closed position, and

p. a latch means on the closed end panel for latching the top panel to the closed end panel.

* * * * *