July 10, 1962 R. J. LOHR 3,043,592

TABLE TENNIS PRACTICE DEVICE

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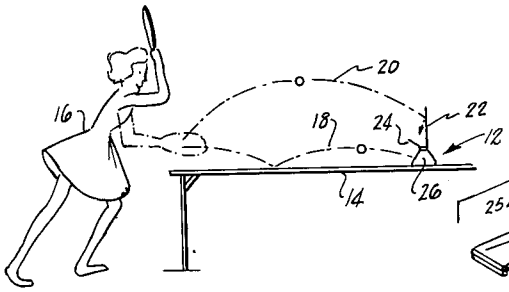

Fig. 1.

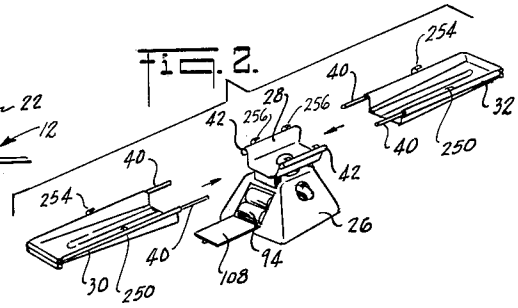

Fig. 2.

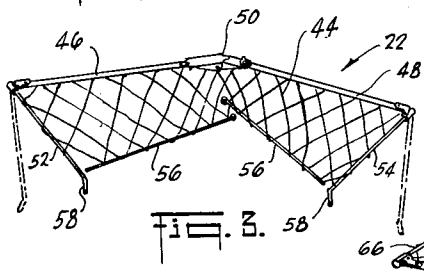

Fig. 3.

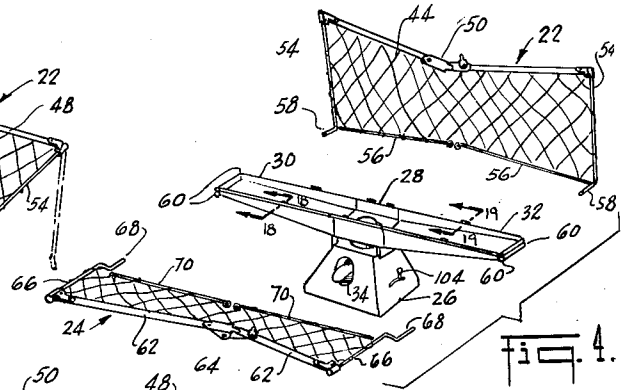

Fig. 4.

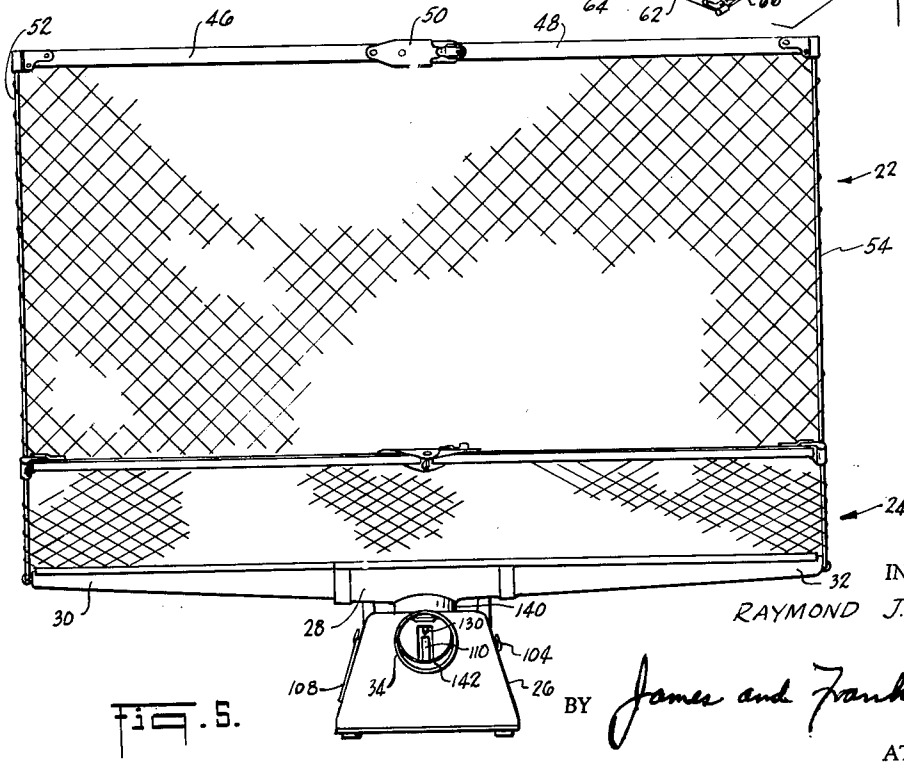

Fig. 5.

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TABLE TENNIS PRACTICE DEVICE

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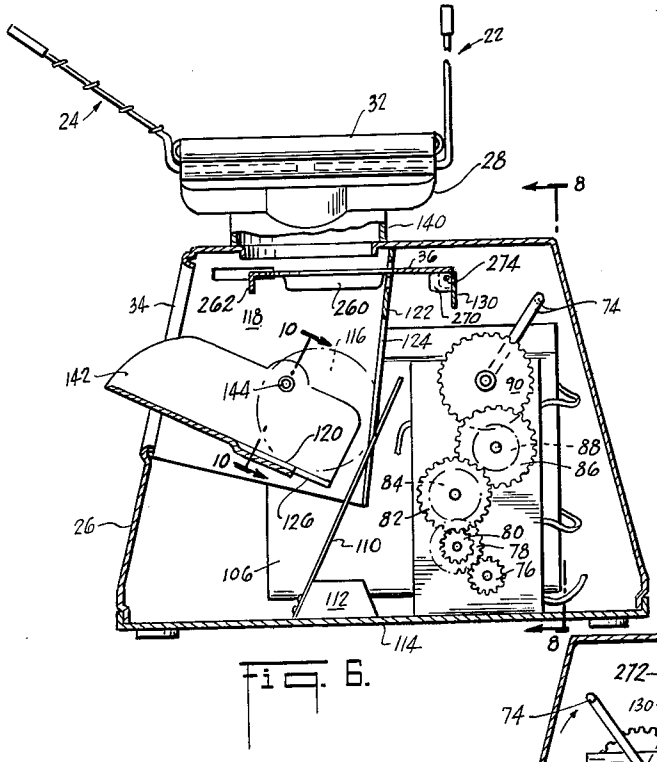

Fig. 6.

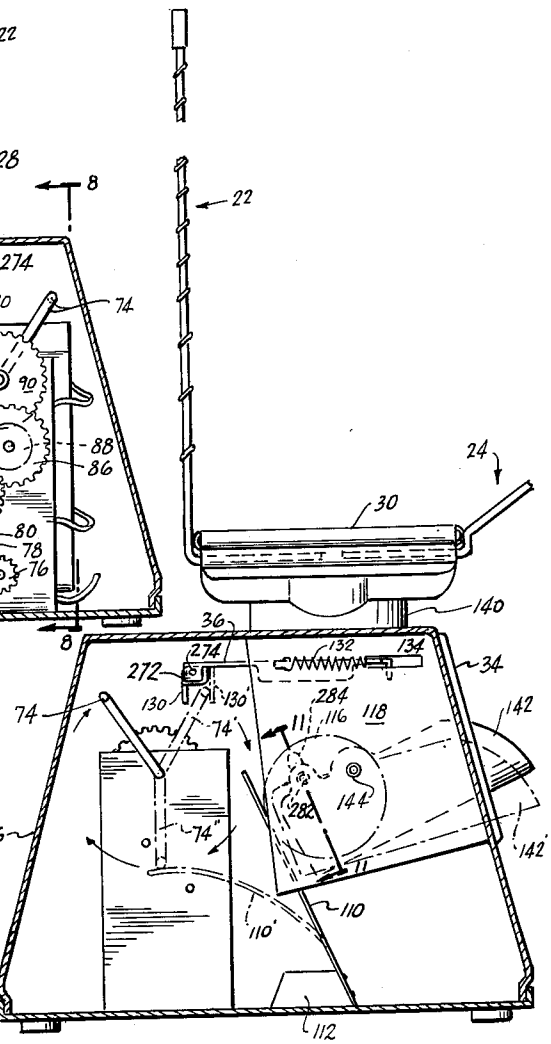

Fig. 7.

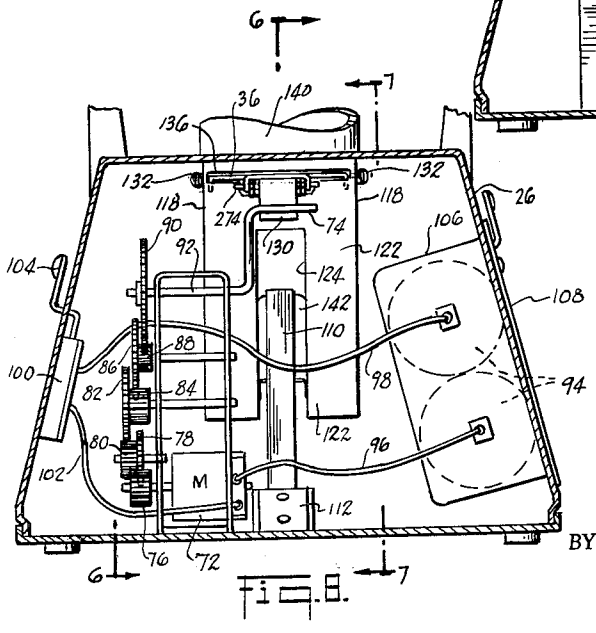

Fig. 8.

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TABLE TENNIS PRACTICE DEVICE

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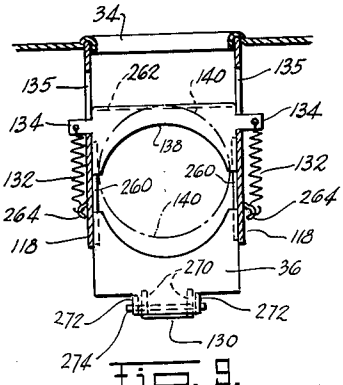

Fig. 9.

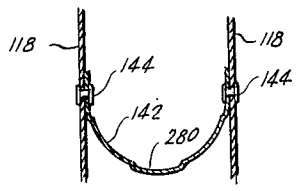

Fig. 10.

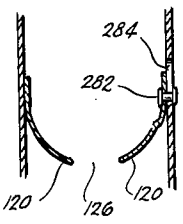

Fig. 11.

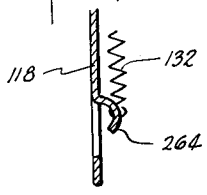

Fig. 9A.

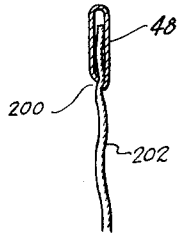

Fig. 12.

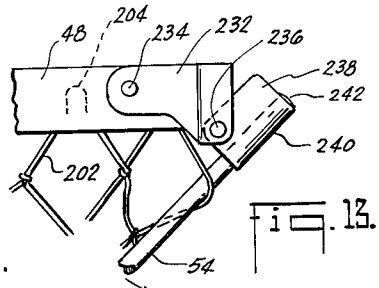

Fig. 13.

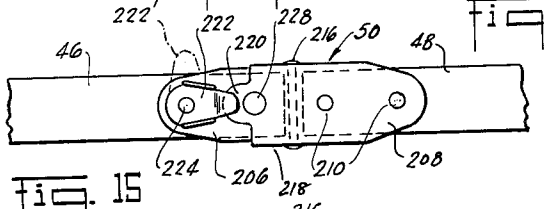

Fig. 15

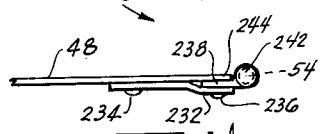

Fig. 14.

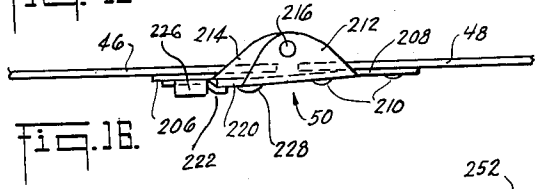

Fig. 16.

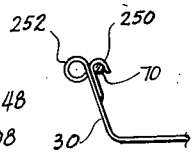

Fig. 18.

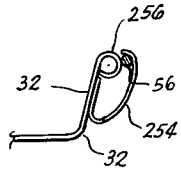

Fig. 19.

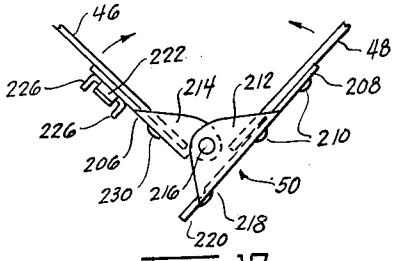

Fig. 17.

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United States Patent Office

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Patented July 10, 1962

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TABLE TENNIS PRACTICE DEVICE

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Filed Apr. 28, 1959, Ser. No. 809,414
17 Claims. (Cl. 273—30)

This invention relates to games, especially table tennis, and more particularly to an apparatus or device affording practice by a single player.

The primary object tof the present invention is to provide a device to serve table tennis balls to a player for practice or for solo play.

A further object is to provide such a device which is adapted to handle and work with either one ball or many balls, and in the latter case to feed and serve only one ball at a time at uniformly spaced intervals.

Still another object of the invention is to provide for adjustment or control of the serve.

Further objects are to provide such a device which is inexpensive, which may be placed on any table without marring the same, and which is readily stored because it may be knocked down and folded to very small size.

To accomplish the foregoing general objects, and other more specific objects which will hereinafter appear, my invention resides in the table tennis practice device, and the elements thereof and their relation one to another, as are hereinafter more particularly described in the following specification. The specification is accompanied by drawings in which:

FIG. 1 shows the invention in use;

FIG. 2 is a perspective view showing how the trough ends may be disassembled from the base;

FIG. 3 shows how the back stop may be folded to compact dimension;

FIG. 4 shows how the back stop and front stop are both foldable and detachable from the trough;

FIG. 5 is a front elevation of the assembled device;

FIG. 6 is a section through the mechanism, and is taken approximately in the plane of the line 6—6 of FIG. 8;

FIG. 7 is a section through the base taken approximately in the plane of the line 7—7 of FIG. 8;

FIG. 8 is a section through the base taken approximately in the plane of the line 8—8 of FIG. 6;

FIG. 9 is a fragmentary horizontal section explanatory of the ball feed plate;

FIG. 9A is explanatory of a detail;

FIG. 10 is a fragmentary generally upright section taken in the plane of the line 10—10 of FIG. 6;

FIG. 11 is a fragmentary generally upright section taken in the plane of the line 11—11 of FIG. 7;

FIG. 12 is a fragmentary section through the top bar of the net;

FIG. 13 is a fragmentary elevation showing how the end rods are hinged to the top bar of the net;

FIG. 14 is a plan view of the same, but with the end rod at right angles to the bar;

FIG. 15 is a fragmentary elevation showing the hinge at the middle of the top bar, with the cords of the net omitted;

FIG. 16 is a plan view thereof with the bar in extended condition;

FIG. 17 is a similar view but showing the bar partially folded;

FIG. 18 is a fragmentary section taken at the line 18—18 in FIG. 4; and

FIG. 19 is a fragmentary section taken at the line 19—19 in FIG. 4.

Referring to the drawing and more particularly to FIG. 1, the device generally designated 12 has been

placed on a table 14 in front of the player 16. The device 12 serves a ball on a trajectory such as that indicated at 18, and after the ball bounces on the table the player hits the ball on a trajectory such as that indicated at 20, so that the ball hits the upright back stop 22. However, the ball must be high enough to pass over a sloping front stop 24. The ball returns to ball ejecting mechanism located in the base 26 of the device, and the ball again is automatically served to the player. A number of balls may be used instead of one, and in such case they may accumulate in the apparatus 12, but they are served only one at a time at spaced intervals.

Referring now to FIGS. 5 and 6 of the drawing, the apparatus comprises a base 26 carrying a ball collecting trough 28 extending across the top of the base. This trough slopes downward from the ends 30 and 32 toward the middle portion 28 at the base 26. The ball ejecting mechanism is located in the base 26 beneath the trough, and ejects the balls through a mouth opening 34. The ball ejecting mechanism is shown in FIGS. 6, 7 and 8 and is housed within the base 26. A ball feed means or plate is shown at 36, and this serves to release only one ball at a time to the ball ejecting mechanism, regardless of how many balls may be in the trough above the base. The back stop 22 and front stop 24 are shown in FIG. 5, and only fragmentarily so in FIGS. 6 and 7, but it will be seen that the back stop 22 is upright, while the front stop 24 is generally horizontal but slopes downward toward the trough.

The function of the back stop 22 is self-evident. The function of the front stop is two-fold. One purpose is to insure that the ball will be hit above a minimum height. This corresponds generally to the requirement when playing table tennis that the ball be hit over a net. The other purpose is to help gather the hit balls into the trough, because a ball hit against the back net may bounce forward somewhat instead of falling directly down to the trough, and in such case it is caught by the front net 24 and rolls down to the trough.

Referring now to FIG. 2 of the drawing, the mid portion 28 of the trough is preferably fixedly secured on the base 26. The much longer end portions 30 and 32 are preferably detachably related to the middle portion 28, and for this purpose the upper edges of the end portions 30 and 32 are rolled around and hold pins 40. These are frictionally slidable in mating sockets formed in the middle portion 28. Such sockets are most simply made by rolling the edges of the trough around as shown at 42, thus providing tubular passages dimensioned to snugly or frictionally receive the pins 40. When assembled, the parts become a continuous trough as shown in FIG. 5.

Referring now to FIG. 3, the particular form of back stop here shown is made of intersecting flexible cords 44 making up a net which is spread by a metal frame. A fabric net is preferred over a solid panel, so that the ball will not bounce back. The frame comprises two main straps of metal 46 and 48 which are hingedly connected at 50 to facilitate folding the same. The part 46 has a stiff heavy wire or rod 52 secured to its outer end, and the part 48 has a similar rod 54 secured at its outer end. Bottom wires 56 of small diameter may be used at the lower edge of the net to draw the same downward. These preferably have eyes at one or both ends receiving a part of the net so that the wires cannot escape longitudinally. The lower ends of the rods 52 and 54 are bent as shown at 58, and these act as pins which are detachably received in sockets 60 (FIG. 4) at the outer ends of the parts 30 and 32 of the trough. These sockets may be formed like the sockets 42 in FIG. 2, that is, by rolling over sheet metal at the ends of the trough to form tubular passages, which here run transversely of the trough. FIG. 4 also

shows the net when opened out to nearly spread condition.

The top bar is not a solid thick metal strap, but instead preferably is made of thin sheet metal rolled over to form a flattened hollow tube, as is best shown in FIG. 12. This construction is preferred not only for lightweight, but also because the upper edge of the net may be received within the hollow bar and may be clamped in position as indicated at **200**, the cords of the net being marked **202** in FIGS. 12 and 13. In addition, tongues of the sheet metal side wall may be struck inward to form hooks on which the loops of the net are hooked before the sides of the bar are closed together as shown in FIG. 12, thus anchoring the net in the bar with additional security. One of a series of such tongues is indicated at **204** in FIG. 13.

The folding in half of the top bar is accomplished with the aid of a hinge **50**, the details of which are better shown in FIGS. 15, 16 and 17. The bar **46** is riveted to a hinge member **206**, and the bar **48** is riveted to a companion hinge member **208**, the two rivets for the latter being shown at **210**. In the construction here shown, the rivets pass through only one side of bar **48**. Hinge member **208** has a pair of sidewardly bent ears **212**, and hinge member **206** has a pair of ears **214** received between the ears **212**. The hinge pin **216** passes through the four ears. The bars **46** and **48** may be folded in one direction as shown in FIG. 17, but when opened out the motion is stopped when the bars **46** and **48** are in alignment, and hinge member **208** has an extension **218** for this purpose. It preferably has an additional tongue **220** which cooperates with a pivoted lock **222**. As here shown, the latter is pivoted on one of the rivets **224** holding the hinge member **206**. The lock **222** has tabs **226** turned outward at its side edges to facilitate turning the lock from the locking position shown in FIGS. 15 and 16 to the unlocked position shown in FIG. 17. The latter position is also shown in broken lines at **222'** in FIG. 15. It will be evident that when the bars **46** and **48** are in extended relation, and the lock **222** is turned over the tongue **220**, the bars remain locked in extended relation. The convexity **228** on hinge **208** is merely to clear the rivet **230** (FIG. 17) of hinge **206**.

The end rods of the two nets are hinged to the bars so that they can fold parallel thereto, and the construction for this purpose is shown in FIGS. 13 and 14. A stationary hinge part **232** is riveted to bar **48** by rivets **234** and **236**. The latter acts also as a hinge pivot and passes through the movable hinge member **238**. The part **240** is rolled tightly around the upper end of the rod **54**, and the top of the rod may be riveted or swaged as shown at **242**, thus additionally guarding against any possibility of rod **54** being pulled out of the hinge. Referring to FIG. 14, it will be seen that the hinge **238** is received between the hinge part **232** and the endmost portion **244** of top bar **48**. This limits outward swinging movement of rod **54**, which has a travel of only 90° between a position parallel to bar **48**, and a position at right angles to bar **48**.

The front net is constructed much like the back net except that it is narrower, and in FIG. 4 it will be seen that there are main straps of metal **62** hinged at **64** and carrying end rods **66**, the free ends **68** of which act as pins which are detachably slidable into the sockets **60**. The pins **68** enter the socket passages at the front, while the pins **54** of the back stop enter the socket passages at the back, so that the nets are disposed on opposite sides of the trough. The wires **70** complete the framing of the front net.

The forward edge of the ball-receiving trough is preferably provided with spaced hooks to receive and hold the wires **70**. In the present case there are four such hooks, the location of which is best shown in FIG. 2. The trough ends **30** and **32** each have a hook **250**, while the middle part **28** has two hooks. When the trough is assembled, the two hooks at the left receive one of the wires **70**, while the two hooks at the right receive the other wire **70**. This construction is better shown in FIG. 18 in which trough **30** with its rolled edge **252** has a hook **250** receiving the wire **70**. This holds the net over the top edge of the trough so that the balls may run freely down the inclined net into the trough.

The wires **56** of the back net are similarly held by four spaced hooks along the rear edge of the trough. These hooks could be on the inside edge of the trough, like the hooks **250**, but in the present case I employ hooks which are on the outside of the trough. In FIG. 2 the trough ends **30** and **32** have hooks **254**. The rear edge of the middle part **28** of the trough has hooks **256**. The left hooks **254**, **256** receive one of the bottom wires **56** of the net, while the right hooks **256**, **254** receive the other wire **56** of the net.

The hook construction is better shown in FIG. 19, where it will be seen that hook **254** is secured outside the trough **32** and holds bottom wire **56**. In this case there is no need for the wire to be inside the trough because the net is vertical and the ball runs freely into the trough even through the wire **56** is at the back of the rolled edge **256** of the trough.

The ball ejecting mechanism may be described with reference to FIGS. 6, 7 and 8 of the drawing. There is a motor **72** (FIG. 8), which in this case is a battery operated electric motor. This drives a train of reduction gearing which terminates in a crank **74**. In the specific case shown, the motor drives a pinion **76** meshing with a gear **78** turning a pinion **80** meshing with a gear **82** turning a pinion **84**. This meshes with a gear **86** carrying a pinion **88** which meshes with a gear **90** on the shaft **92** of crank **74**. The high ratio reduction gearing causes the crank **74** to turn slowly so that the successive serves are at well spaced intervals.

The motor is energized by a pair of dry cells of the flashlight type indicated at **94**, and current is supplied through conductors **96** and **98**. The latter runs to a switch **100**, and thence through conductor **102** to the motor, so that the operation may be started or stopped readily, the switch being operated by a handle **104**. Access for loading batteries into the battery compartment **106** is obtained by means of a door **108** on the side of the base. This door **108** is shown open in FIG. 2.

Reverting to FIGS. 6, 7 and 8, the ball is ejected by means of a catapult spring **110** fixedly mounted at its lower end, as on a block **112** secured to bottom **114**. The spring is free to bend at its upper end, as shown by the change in FIG. 7 from the solid line position **110** to the broken line position **110'**.

A ball **116** is positioned on what may be termed a ball seat, which is located adjacent the upper end of the spring. As here shown, the ball seat is in a compartment having side walls **118**, bottom surface **120**, and a back wall **122**. Because of the slope of the walls **120** and **122**, the ball positions itself in the bottom rear of the seat.

The back wall **122** is cut away at **124** (FIGS. 6 and 8), and the bottom wall **120** is cut away at **126** (FIGS. 6 and 11), thus providing a passage which is ample for movement of the spring **110** through the seat region, so that the spring when retracted and released can hit the ball and thereby serve it to a player in front of the device.

From inspection of FIG. 7 it will be seen that the crank **74** and the spring **110** are so relatively disposed that the crank in the broken line position **74''** bends the spring back. On slight further movement the crank releases the spring abruptly to hit and thereby serve the ball **116**.

The same crank **74** also may be used to reciprocate the feed plate **36**. For this purpose the rear end of the plate has a depending part **130** which is disposed in the path of the crank **74**. The feed plate **36** is normally pulled rearward by one or more return springs **132** (FIGS. 7, 8 and 9). As the crank moves from the solid line position **74** (FIG. 7) to the broken line position **74'**, it bears against the part **130** and moves it to the dotted line position **130'**. The plate then is released from the crank and returns to initial position.

Referring now to FIG. 9, the ball feed plate **36** has

outwardly projecting ears 134 which are slidable in horizontal slots 135 in the side plates 118 previously referred to. The rear portion of the plate projects through a mating slot 136 (FIG. 8) in the back wall 122 of the ball seat. Plate 36 has a large hole 138 (FIG. 9) dimensioned to freely pass a table tennis ball, but in its normal or rear position, the hole 138 is out of registration with the tubular neck 140 (FIGS. 5, 6 and 7) between the trough 28 and the base 26. The location of the neck 140 is shown in broken lines in FIG. 9, and it will be evident that when the plate 36 is pushed forward by the crank, the hole 138 will come into registration momentarily with the neck 140, thus permitting a ball to drop from the trough to the seat. The action is fast so that only one ball drops, even when there are more in the trough.

Referring to FIG. 6, the plate 36 preferably has flanges 260 bent downward on each side just inside the upright walls 118. These act as guides for the reciprocation of plate 36. The forward edge may also be turned downward to provide a stiffening flange 262. These flanges are also shown in FIG. 9 which additionally shows the restoring springs 132 anchored on hooks 264. FIG. 9A shows how the hooks 264 are struck from the upright walls 118.

As so far described, the depending part 130 might be integral with plate 36, and such a construction will operate satisfactorily. However, when using a miniature motor with a permanent field, the motor will run backward if the cells are inserted in reversed polarity. In such case, the crank 74 will turn up to and be stopped by the part 130, and this may lead to drainage of the battery when used by an unwary or ignorant person. I therefore prefer to pivot the part 130 so that it can turn freely up out of the way should the crank 74 be turned in reverse direction.

This construction is clearly shown in FIGS. 6, 7, 8 and 9 of the drawing, the part 130 having forwardly bent ears 270 pivoted on the downwardly bent ears 272 of slide 36 by means of a pin 274. The ears 270 extend well forward of the pin 274, and prevent the depending part 130 from turning forward when engaged by the crank 74. The slide is pushed forward exactly as though the part 130 were rigidly fixed on plate 36. However, on reverse turning of the crank, the part 130 tips harmlessly up out of the way each time the crank passes. Thus the motor will not be stalled, and even an unwary person will hear the motor and gearing operate.

It will be understood that if the apparatus is used with only a single ball, the ball feed means 136 may be eliminated. It is preferably used because most players prefer to play with a group of balls which may accumulate in the trough, and in such case it is desirable to drop only one ball at a time to the ball seat.

While not essential, the apparatus preferably is provided with additional means to control the service of the ball to the player. Referring to FIGS. 6 and 7 of the drawing, a trough-like ball control tongue 142 is disposed in front of the catapult spring 110, and for accessibility the forward end of tongue 142 projects beyond the mouth 34. The tongue 142 is pivoted at 144, and its angle may be tilted somewhat, as shown by the change in FIG. 7 from the solid line position 142 to the broken line position 142'. The rear end of the tongue is open, and the tongue acts as a part of the ball seat.

The arcuate section of the tongue is shown at 142 in FIG. 10, including also the eyelets 144 which pivot the tongue on the side walls 118. A part of the tongue may be depressed at the bottom as shown at 280, thus forming a more accurate guide for the ball.

The rivets 144 provide a frictional fit so that the tongue will remain in adjusted position. However, additional means may be provided to ensure this, and referring to FIG. 7 another eyelet 282 may be provided which is slidable in a slot 284. This construction is more clearly shown in FIG. 11, in which eyelet 282 is riveted across a slot 284, and may move up or down as the angle of the tongue is adjusted. Any frictional restraint provided at this spacing from the pivot is much more effective than at the pivot itself.

It will be evident that when the tongue is tilted upward, the service is slowed for several reasons, one being the greater upward angle, and the other being the greater friction or resistance to movement of the ball when first hit. When the tongue is lowered, the ball is served on a lower or flatter trajectory, with little resistance to movement as it is hit, and the serve then becomes harder to return. To manipulate the same, the player simply moves the projecting forward end of the tongue.

It is believed that the method of constructing, assembling and using my improved table tennis practice device, as well as the advantages thereof, will be apparent from the foregoing detailed description. The device is readily portable and completely self-contained. The combination of back and front stops provides the player with a definite target at which to hit the ball. The device may be placed on any table or playing surface. It requires no screws and does not mar the table. If placed on a regular table tennis table it does not prevent immediate use in the normal way by two opposing players, for the device is readily picked up and removed from the table. It serves a ball realistically to the player, and the angle and speed of serve may be adjusted. The reduction gearing is such that the balls are served at spaced intervals affording a reasonable time for the player to recover from one serve before being required to hit the next serve.

The device may be disassembled and folded for compact storage. For this purpose both the back and front stops are removable, and most of the trough is removable. Moreover, the back stop and the front stop use foldable and collapsible frames, and the trough itself comes apart in two places, so that the maximum length is only half the length of the nets. When a net is folded, all six of its frame parts lie closely together with the net cords to form a single small slender unit. A box no bigger around than the base portion, and no longer than half the net, will receive the entire device including the paddles and balls.

It will be understood that while I have shown and described the invention in a preferred form, changes may be made in the structure shown without departing from the scope of the invention, as sought to be defined in the following claims.

I claim:

1. A table tennis practice device comprising a small base, a ball-collecting trough mounted on and extending over the base and projecting from each side of the base, a generally upright backstop mounted on and extending upward directly behind said trough, said trough sloping downward toward said base and having a width corresponding to a single line of table tennis balls, ball ejecting mechanism housed in said base beneath the trough, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals affording time for the player to recover from one serve before being required to hit the next serve, and ball feed means beneath said trough to feed one ball at a time from said trough for each operation of the ball ejecting mechanism regardless of how many balls have collected in the trough, said backstop being a soft flexible net supported by a frame.

2. A table tennis practice device comprising a small base, a ball-collecting trough mounted on and extending over the base and projecting from each side of the base, a generally upright backstop mounted on and extending upward directly behind said trough, said trough sloping downward toward said base and having a width corresponding to a single line of table tennis balls, ball ejecting mechanism housed in said base beneath the trough, a

drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals affording time for the player to recover from one serve before being required to hit the next serve, ball feed means beneath said trough to feed one ball at a time from said trough for each operation of the ball ejecting mechanism regardless of how many balls have collected in the trough, and a front stop disposed generally horizontally but sloping rearwardly and downwardly to the front edge of the trough and mounted on and supported by said trough, said back and front stops each being a soft flexible net supported by a frame.

3. A table tennis practice device comprising a small base, a ball-collecting trough mounted on and extending over the base and projecting from each side of the base, a generally upright backstop mounted on and extending upward directly behind said trough, said trough sloping downward toward said base and having a width corresponding to a single line of table tennis balls, ball ejecting mechanism housed in said base beneath the trough, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals affording time for the player to recover from one serve before being required to hit the next serve, ball feed means beneath said trough to feed one ball at a time from said trough for each operation of the ball ejecting mechanism regardless of how many balls have collected in the trough, and a front stop disposed generally horizontally but sloping rearwardly and downwardly to the front edge of the trough and mounted on and supported by said trough, said back and front stops each being a soft flexible net supported by a frame, said frames being foldable for compact storage, and said frames being readily detachably secured to said trough.

4. A table tennis practice device comprising a small base, a ball-collecting trough mounted on and extending over the base and projecting from each side of the base, a generally upright backstop mounted on and extending upward directly behind said trough, said trough sloping downward toward said base and having a width corresponding to a single line of table tennis balls, ball ejecting mechanism housed in said base beneath the trough, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals affording time for the player to recover from one serve before being required to hit the next serve, ball feed means beneath said trough to feed one ball at a time from said trough for each operation of the ball ejecting mechanism regardless of how many balls have collected in the trough, and a front stop disposed generally horizontally but sloping rearwardly and downwardly to the front edge of the trough and mounted on and supported by said trough, said back and front stops each being a soft flexible net supported by a frame, said frames being foldable for compact storage, said frames being readily detachably secured to said trough, and at least a part of said trough being readily detachable from said base.

5. A table tennis practice device as defined in claim 1 in which said ball ejecting means includes a crank driven at slow speed by the reduction gearing, a catapult spring fixedly mounted at one end and free to bend at its other end, the crank and spring being so relatively disposed that the crank bends back the free end of the spring and releases it abruptly to hit and thereby serve a ball, said ball feed means comprising a plate normally preventing the drop of a ball from the trough, and means disposed in the path of the crank and moved thereby to momentarily shift the plate to a position permitting feed of a ball.

6. A table tennis practice device as defined in claim 1 in which said ball ejecting means includes a crank driven at slow speed by the reduction gearing, a catapult spring fixedly mounted at one end and free to bend at its other end, the crank and spring being so relatively disposed that the crank bends back the free end of the spring and releases it abruptly to hit and thereby serve a ball, said ball feed means comprising a plate normally preventing the drop of a ball from the trough, and means disposed in the path of the crank and moved thereby to momentarily shift the plate to a position permitting feed of a ball, a ball guide disposed in front of the catapult spring for supporting a ball in position to be struck by the free end of the spring, said ball guide being disposed beneath the ball feed plate to receive a ball which is to be served, and means pivoting the ball guide to said base for adjustment of its angle as a control of the service of a ball being ejected by the catapult spring.

7. A table tennis practice device comprising a small base, a ball-collecting trough mounted on and extending over the base and projecting from each side of the base, a generally upright backstop mounted on and extending upward directly behind said trough, said backstop being a soft flexible net supported by a frame, said trough sloping downward toward said base, ball ejecting mechanism housed in said base beneath the trough, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals, a ball guide disposed in front of the ball ejecting mechanism, and means pivoting said ball guide to said base for adjustment of its angle as a control of the service of the balls being ejected by the ball ejecting mechanism.

8. A table tennis practice device comprising a small base, a ball-collecting trough mounted on and extending over the base and projecting from each side of the base, a generally upright backstop mounted on and extending upward directly behind said trough, said backstop being a soft flexible net supported by a frame, said trough sloping downward toward said base, ball ejecting mechanism housed in said base beneath the trough, means to pass said balls from said trough to said ejecting mechanism, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals, said ball ejecting mechanism including a crank driven at slow speed by said reduction gearing, a catapult spring fixedly mounted at one end and free to bend at its other end, the crank and spring being so relatively disposed that the crank bends back the free end of the spring and releases it abruptly to hit and thereby serve a ball.

9. A table tennis practice device comprising a small base, a ball-collecting trough mounted on and extending over the base and projecting from each side of the base, a generally upright backstop mounted on and extending upward directly behind said trough, said backstop being a soft flexible net supported by a frame, said trough sloping downward toward said base, ball ejecting mechanism housed in said base beneath the trough, means to pass said balls from said trough to said ejecting mechanism, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals, said ball ejecting mechanism including a crank driven at slow speed by said reduction gearing, a catapult spring fixedly mounted at one end and free to bend at its other end, the crank and spring being so relatively disposed that the crank bends back the free end of the spring and releases it abruptly to hit and thereby serve a ball, a ball guide disposed in front of the catapult spring for supporting a ball in position to be struck by the free end of the spring, said ball guide being disposed beneath the trough to receive from the trough a ball which is to be served, and means pivoting the ball guide to said base for adjust-

ment of its angle as a control of the service of a ball being ejected by the catapult spring.

10. A table tennis practice device comprising a small base adapted to rest gravitationally on top of a table, a ball-collecting trough mounted on and extending over the base, said trough being supported by and projecting for a substantial distance at each side of the base, said trough sloping downward from each end toward said base and having a width corresponding to a single line of Ping-pong balls, ball ejecting mechanism housed in said base beneath the trough, means to pass said balls from said trough to said ejecting mechanism, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals, a generally upright backstop mounted on and extending upward directly behind said trough, and a front stop disposed generally horizontally but sloping rearwardly and downwardly to the front edge of the trough and mounted on said trough, said back and front stops each being a soft flexible net supported by a frame, and said frames being detachably secured to and being supported by said trough, whereby the entire device is carried by the aforesaid small base.

11. A table tennis practice device as defined in claim 10 in which there is a ball guide disposed in front of the ball ejecting mechanism, and means pivoting said ball guide to said base for adjustment of its angle as a control of the service of the balls being ejected by the ball ejecting mechanism.

12. A table tennis practice device as defined in claim 10 in which said ball ejecting means includes a crank driven at slow speed by the reduction gearing, a catapult spring fixedly mounted at one end and free to bend at its other end, the crank and spring being so relatively disposed that the crank bends back the free end of the spring and releases it abruptly to hit and thereby serve a ball.

13. A table tennis practice device as defined in claim 10 in which said ball ejecting means includes a crank driven at slow speed by the reduction gearing, a catapult spring fixedly mounted at one end and free to bend at its other end, the crank and spring being so relatively disposed that the crank bends back the free end of the spring and releases it abruptly to hit and thereby serve a ball, a ball guide disposed in front of the catapult spring for supporting a ball in position to be struck by the free end of the spring, said ball guide being disposed beneath the trough to receive from the trough a ball which is to be served, and means pivoting the ball guide to said base for adjustment of its angle as a control of the service of a ball being ejected by the catapult spring.

14. A table tennis practice device as defined in claim 10 in which the frames include a top bar, and in which said top bar is a flat hollow bar formed of folded sheet metal with the upper edge of the net caught and held within said hollow bar.

15. A table tennis practice device comprising a small base adapted to rest gravitationally on top of a table, a ball-collecting trough mounted on and extending over the base, said trough being supported by and projecting for a substantial distance at each side of the base, said trough sloping downward from each end toward said base and having a width corresponding to a single line of Ping-pong balls, ball ejecting mechanism housed in said base beneath the trough, means to pass said balls from said trough to said ejecting mechanism, a drive motor in said base to operate said ball ejecting mechanism cyclically, a train of high ratio reduction gearing between said motor and said mechanism whereby the mechanism is operated at well spaced intervals, a generally upright backstop mounted on and extending upward directly behind said trough, and a front stop disposed generally horizontally but sloping rearwardly and downwardly to the front edge of the trough and mounted on said trough, said back and front stops each being a soft flexible net supported by a frame, said frames being foldable for compact storage, said frames being detachably secured to and being supported by said trough, whereby the entire device is carried by the aforesaid small base, and the portions of said trough which project sidewardly from the base being readily detachable from said base.

16. A table tennis practice device as defined in claim 15 in which the frames include a top bar hinged in the middle so that it may be folded in half for compactness, the halves of said top bar each being a flat hollow bar formed of sheet metal with the upper edge of the net caught and held within said hollow bar, end rods at the outer ends of said top bar, and means hinging said rods to said bar so that they either may be folded parallel to the bar or turned to a working position substantially perpendicular to the bar.

17. A table tennis practice device as defined in claim 15 in which the frames include a top bar hinged in the middle so that it may be folded in half for compactness, end rods at the outer ends of said bar, means hinging said rods to said bar so that they either may be folded parallel to the bar or turned to a working position substantially perpendicular to the bar, and two bottom wires at the bottom edge of the net, and in which the edge of said trough has spaced hooks to detachably receive said bottom wires.

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