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(54) **BOXING AND MARTIAL ARTS TRAINING APPARATUS**

(52) **U.S. Cl.**

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(57) **ABSTRACT**

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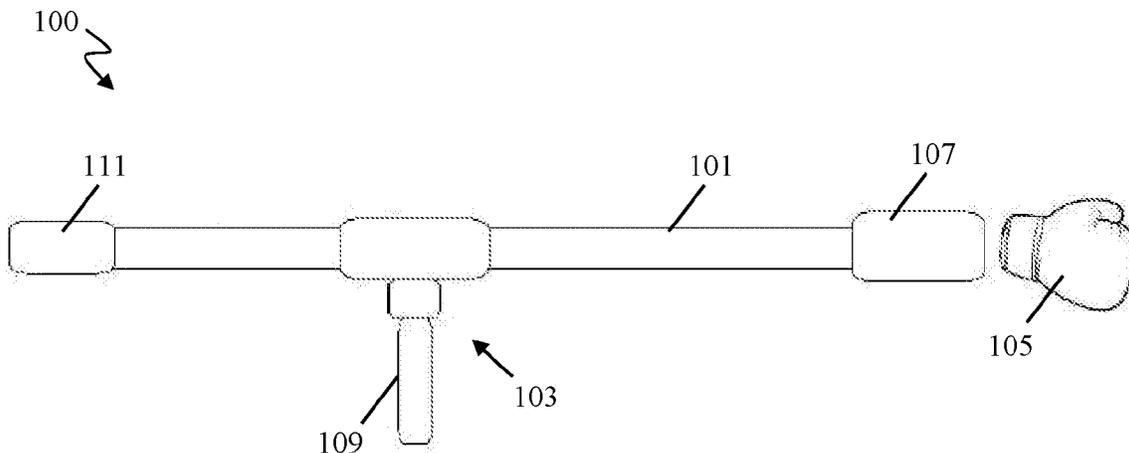
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A training device that can provide offensive and defensive training in the field of boxing, martial arts, self-defense, and any other combative sport is contemplated. The training device typically comprises a rod, a slider and a pad. The slider can be coupled to the rod and can be configured to slider between a first end and a second end of the rod. A pad is coupled to the slider to thereby receive a strike from a trainee. A user can manipulate the position of a cushioned member on a second end of the rod via a hand grip on a first end of the rod and the slider.



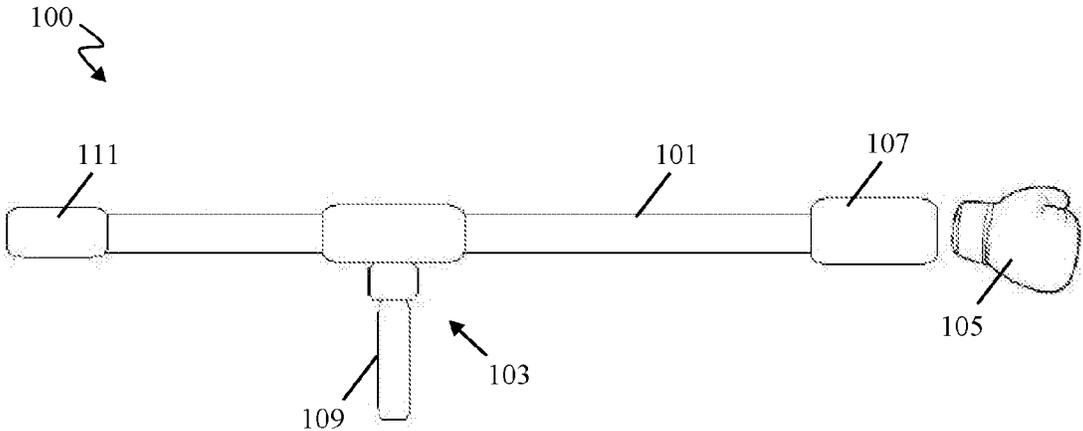


Figure 1

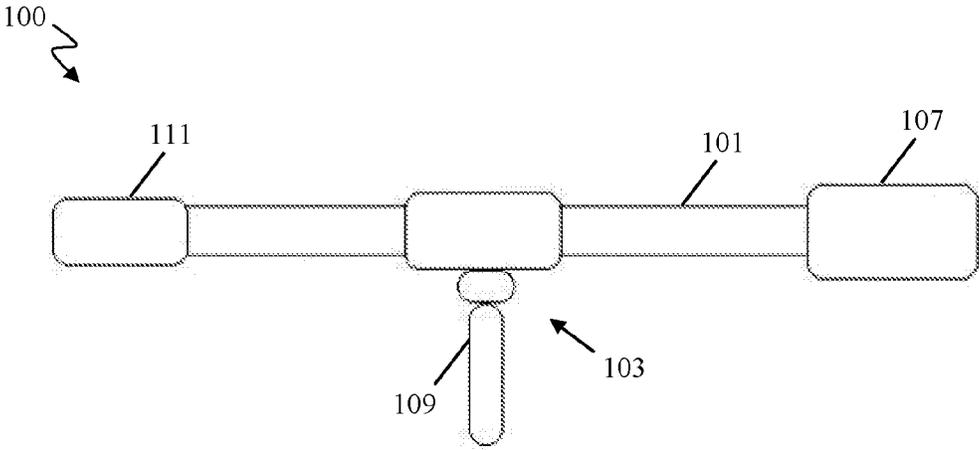


Figure 2

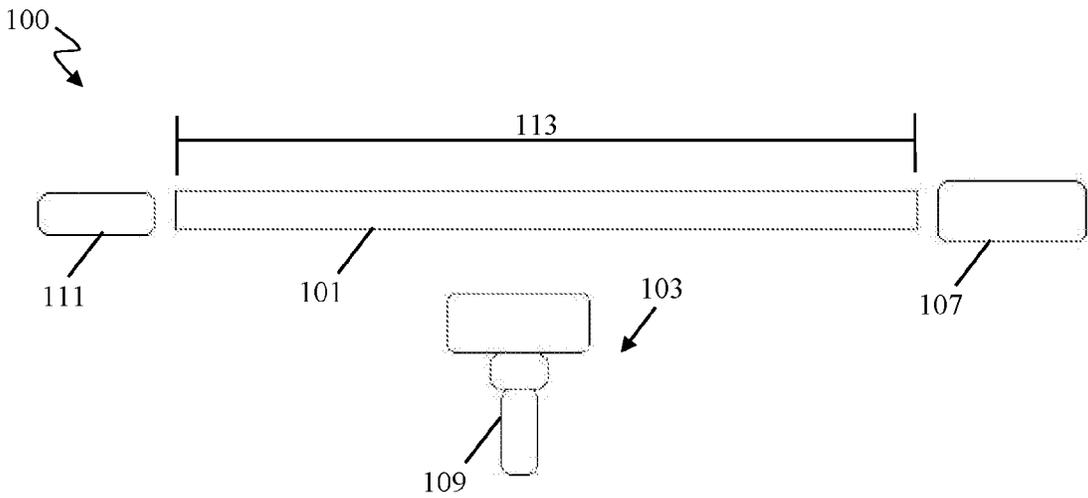


Figure 3

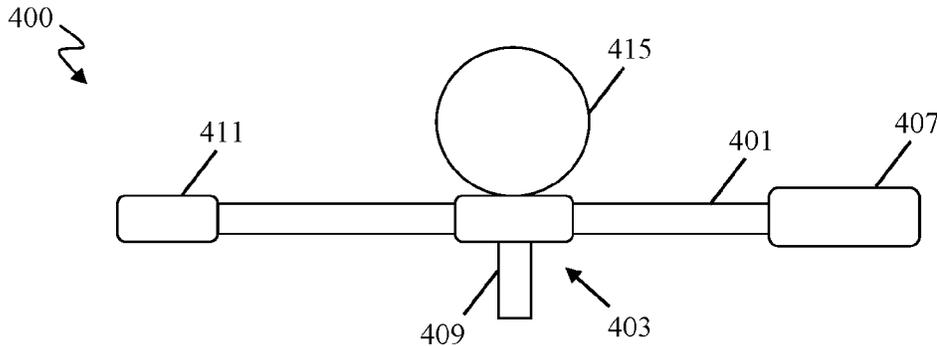


Figure 4

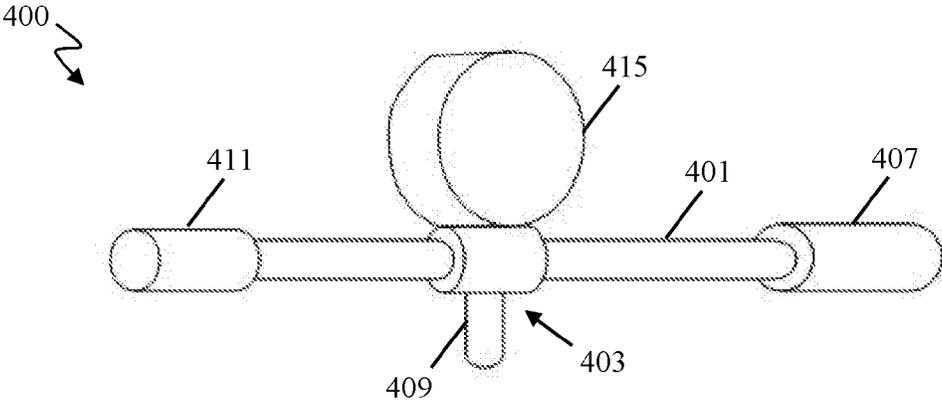


Figure 5

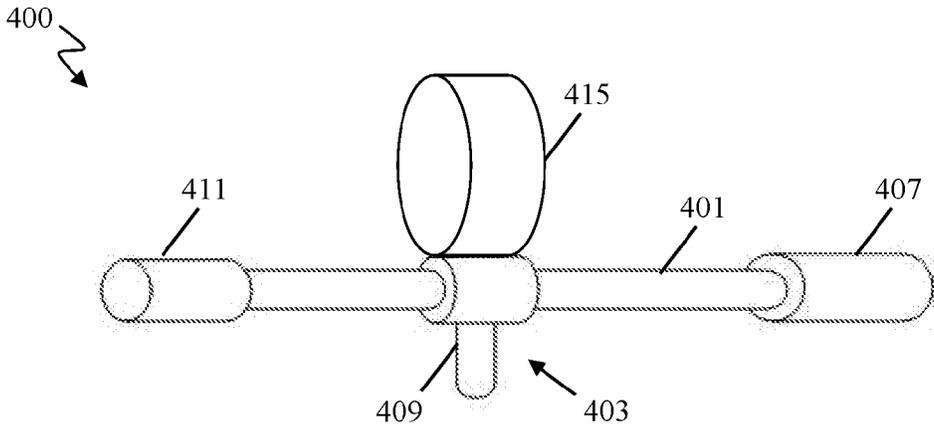


Figure 6

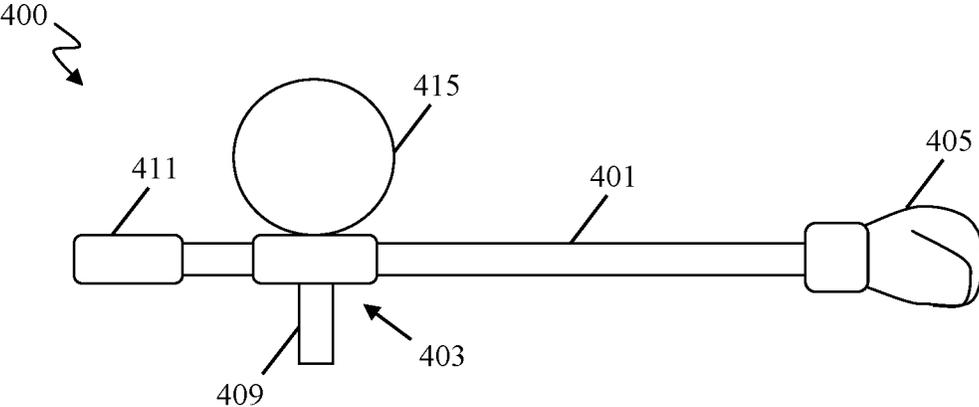


Figure 7

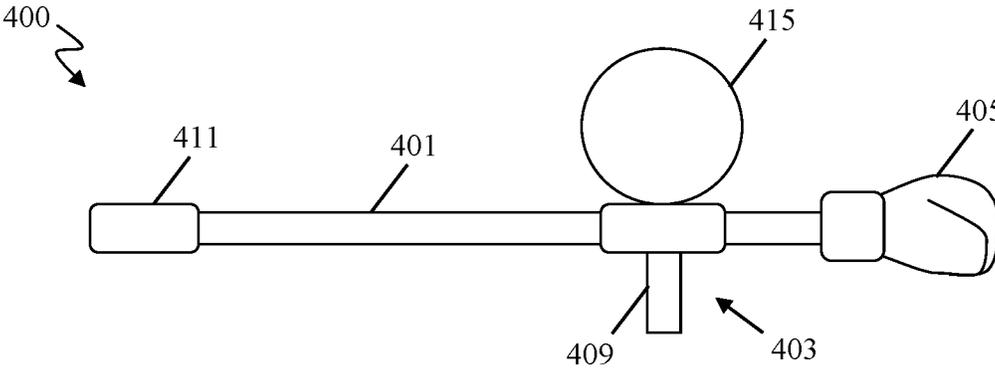


Figure 8

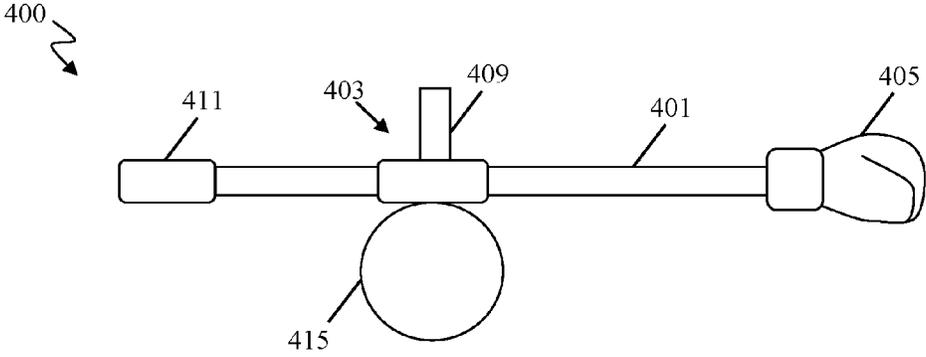


Figure 9

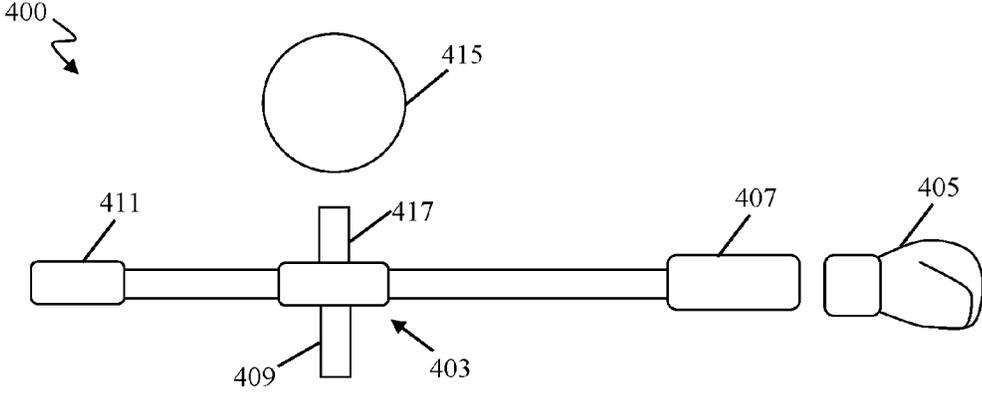


Figure 10

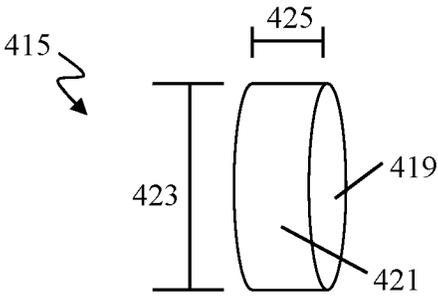


Figure 11

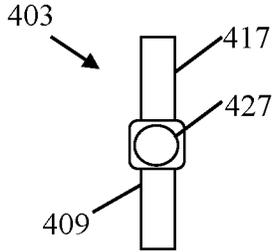


Figure 12

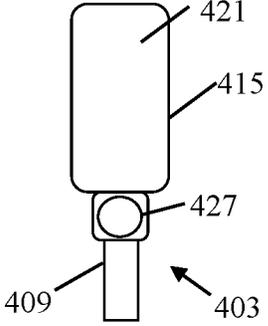


Figure 13

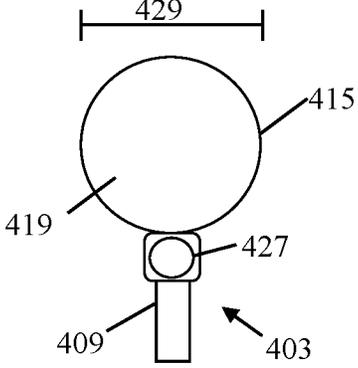


Figure 14

BOXING AND MARTIAL ARTS TRAINING APPARATUS

[0001] This application is a continuation-in-part of, and claims priority to, U.S. application Ser. No. 15/140,476, filed Apr. 28, 2016. All extrinsic materials identified herein are incorporated by reference in their entirety.

FIELD OF THE INVENTION

[0002] The field of the invention is related to boxing, martial arts, and self-defense training as well any other combative sports training.

BACKGROUND

[0003] The background description includes information that may be useful in understanding the present invention. It is not an admission that any of the information provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[0004] Boxing, martial arts, and other combative sports have a unique set of challenges that require specialized training. For example, defensive head movement for boxers and martial artists is an essential skill to avoid and block damaging strikes and punches from an opponent. Without a set of fundamental skills, a boxer, martial artist, or a self-defense student may risk serious injury when facing with an opponent.

[0005] Various devices and methods have been used for training in boxing, martial arts, and self-defense. These devices include focus mitts/pads and floor-mounted or ceiling-mounted punching balls and bags. However, the use of focus mitts and pads by a trainer can lead to wear and tear on the trainer's body due to the repeated impact of punches and/or kicks. While the mounted punching balls and bags reduce the risk of harm to a trainer's body, the mounted punching balls and bags are fairly limited in that they sway back and forth at one speed when pushed. Consequently, the mounted punching balls and bags do not provide various speeds and direction that is needed for training drills.

[0006] Some have developed additional training equipment for boxing and martial arts. For example, Lezdey (U.S. Pat. No. 5,542,667) discloses a martial arts training device having a pole-like cylindrical member with a striking cushion member at one end, and a hand grip between the striking cushion and the other end of the cylindrical member. The hand grip can slide along the cylindrical member. A trainer can hold the hand grip with one hand and the end opposite of the striking cushion with the other hand to guide the cylindrical member forward so that a trainee avoids the striking cushion.

[0007] In another example, Kawada (Japanese Pat. Pub. No. 2007236906) discloses a punching apparatus having a rod with a ball on one end and a grip bar on the other end. Between the ball and the grip bar is a second grip bar that can slide along the rod. Similar to the device disclosed by Lezdey, a trainer can hold the grip bar with one hand and the second grip bar with the other hand to guide the ball forward.

[0008] While the devices disclosed by Lezdey and Kawada reduce the amount of impact and stress received by a trainer, it appears that these device are limited in their applicability to training offensive striking techniques. Thus, there is still a need in the art for improved training devices.

SUMMARY OF THE INVENTION

[0009] The inventive subject matter provides apparatus, systems, and methods in which a training device can effectively be used to train both offensive and defensive techniques while reducing the amount of impact and stress received by a trainer. Additionally, contemplated training devices simulate a real punch at different levels of speed and direction. Typically, a training device comprises a rod having a first end and a second end. A slider can be coupled to the rod and the slider can be configured to slide between the first end and the second end. The slider is preferably coupled to a pad. It should be appreciated that the pad can receive strikes to incorporate an offensive training component and thereby provide a training device for both defensive and offensive training.

[0010] The slider can comprise an aperture that is sized and dimensioned to receive the rod. In some embodiments, the slider can comprise a handle that a user can use to control the movement of the slider. It is contemplated that the handle is substantially perpendicular to the rod. For example, the handle and the rod can form an angle between 110 degrees and 70 degrees, and more typically between 100 degrees and 80 degrees.

[0011] The slider can comprise an attachment rod that is substantially coaxial with the handle. The attachment rod can be configured to couple to the pad. For example, the handle and the attachment rod can be coaxial or vary by less than 20 degrees, and more typically less than 10 degrees. The pad can be permanently affixed to the attachment rod or can be removably coupled to allow the pad to be changed to another pad.

[0012] In some embodiments, a hand grip can be coupled to the first end of the rod. The hand grip can be used by a user to control the movement of the rod. The hand grip can be permanently affixed or removably coupled to the rod to allow the hand grip to be replaced. In contemplated embodiments, a cushioned member can be coupled to the second end of the rod. As used herein, a cushioned member is defined as a padded material that is housed by a liner (e.g., leather, canvas, vinyl, etc.). For example, a cushioned member can be at least one of a boxing glove, a punch shield, a punch mitt, a thai pad, and an MMA glove.

[0013] The pad typically comprises an outer body and a padded material that is at least partially disposed within the outer body. The outer body can comprise at least one of leather, a canvas, and a vinyl and the padded material can comprise at least one of latex foam, polyvinyl chloride foam, cotton, shock-absorbing gel, and any other impact absorbing material. For example, the pad can comprise at least one of a punch shield and a punch mitt. It is contemplated that the pad is configured to receive a strike (e.g., punch, elbow, knee, kick, etc.).

[0014] In yet another aspect, a training device comprising a rod and a pad is contemplated. The rod comprises a first end and a second end. The pad can be coupled to the rod and configured to slide between the first end and the second end. Additionally, the pad can be configured to rotate about the rod. Thus, the pad can be disposed at a position above or below the rod to present a head target or a body target.

[0015] Various objects, features, aspects and advantages of the inventive subject matter will become more apparent from the following detailed description of preferred embodiments, along with the accompanying drawing figures in which like numerals represent like components.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] FIG. 1 is a side view of an embodiment of a training device and a cushioned member.

[0017] FIG. 2 is a side view of the training device of FIG. 1.

[0018] FIG. 3 is an exploded view of the training device of FIG. 1.

[0019] FIG. 4 is a side view of an embodiment of a training device.

[0020] FIG. 5 is a perspective view of the training device of FIG. 4.

[0021] FIG. 6 is another perspective view of the training device of claim 4.

[0022] FIG. 7 is a side view of the training device of FIG. 4 having slider in a first position.

[0023] FIG. 8 is a side view of the training device of FIG. 4 having slider in a second position.

[0024] FIG. 9 is a side view of the training device of FIG. 4 having slider in a third position.

[0025] FIG. 10 is a side view of the training device of FIG. 4 having the pad removed.

[0026] FIG. 11 is a perspective view of the pad of FIG. 4.

[0027] FIG. 12 is a front view of the slider of FIG. 4.

[0028] FIG. 13 is a front view of the slider and a pad of FIG. 4.

[0029] FIG. 14 is another front view of the slider and the pad of FIG. 4.

DETAILED DESCRIPTION

[0030] The following discussion provides example embodiments of the inventive subject matter. Although each embodiment represents a single combination of inventive elements, the inventive subject matter is considered to include all possible combinations of the disclosed elements. Thus if one embodiment comprises elements A, B, and C, and a second embodiment comprises elements B and D, then the inventive subject matter is also considered to include other remaining combinations of A, B, C, or D, even if not explicitly disclosed.

[0031] Also, as used herein, and unless the context dictates otherwise, the term “coupled to” is intended to include both direct coupling (in which two elements that are coupled to each other contact each other) and indirect coupling (in which at least one additional element is located between the two elements). Therefore, the terms “coupled to” and “coupled with” are used synonymously.

[0032] The inventor has discovered that a training device can be provided to address both offensive and defensive training techniques in at least one of boxing, martial arts, self-defense, and any other combative sport. The training device allows a trainer to effectively simulate a punch and/or kick by sliding a cushioned member toward or away from a trainee, which thereby develops defensive techniques (e.g., catching a punch, slipping a punch, etc.). Additionally, the training device comprises a pad that can be used to receive a strike (e.g., punch, kick, elbow, etc.) that allows the trainee to throw a strike to thereby develop offensive techniques. It should be appreciated that developing both offensive and defensive techniques at the same time effectively prepares a trainee for encounters with a real fighting scenario.

[0033] Viewed from another perspective, contemplated training devices generally comprise a boxing and martial arts defensive head movement training device which can be

used for head movement training. The hand-held device can be used in training drills to assist the boxer in outmaneuvering an opponent by slipping, bobbing, weaving, rolling and other defensive movements to avoid punishment and damage due to strikes and help counter an attack. Additionally, contemplated training devices generally comprise a boxing and martial arts offensive training device which can be used for practicing punches, elbows, knees, kicks, and other striking maneuvers.

[0034] It is contemplated that a training device can comprise a rod that is an elongated, pole-like cylindrical member at least two feet in length, made of any light weight material such as polyvinyl chloride, plastic, wood, or the like. The training device can further comprise a mount or a holder/space filler on one end, made from any shock absorbing material such as foam, rubber, or fabric, or the like to secure a detachable boxing or martial arts glove. Between the first end and second end of the rod can be a fixed mounted T-shaped hand-grip slider, made of polyvinyl chloride, plastic or the like. The T-shaped hand-grip slider member can be slid along the rod at various speeds to mimic a punch at different speeds. On another end of the rod can be a hand-grip, made of any shock absorbing material such as foam, rubber, fabric, or the like.

[0035] FIG. 1 shows a training device 100 comprising a rod 101 and a slider 103. Rod 101 can comprise an elongated pole-like cylindrical member. However, it is contemplated that rod 101 can be any other suitable shape (e.g., having a rectangular, square, triangular cross-section). At one end of training device 100 can be a cushioned member 105. As shown in FIG. 1, cushioned member 105 can comprise a boxing glove. Cushioned member 105 can be directly coupled to rod 101 or indirectly coupled to rod 101. For example, a mount 107 or holder/space filler can be disposed on one end of rod 101 to secure and indirectly couple cushioned member 105 to rod 101. Between a first end and a second end of training device 100 is a slider 103 that is configured to slide along rod 101. It is contemplated that slider 103 can comprise a T-shape hand-grip slider having a handle 109 for a user to hold to control movement of slider 103. To control movement of rod 101, it is contemplated that one end of rod 101 comprises a hand grip 111. Thus, a user can control movement of cushioned member 105 toward or away from a trainee collectively with slider 103 and hand grip 111. However, it is contemplated that a user can control the movement of cushioned member 105 by directly holding rod 101 and handle 109 and moving rod 101 or handle 109 toward or away from another.

[0036] FIG. 2 shows another view of training device 100. Rod 101 can be an elongated pole-like cylindrical member having a first end and a second end. Near and/or at the first end can be a hand grip 111, and near and/or at the second end can be a mount 107 or a holder/space filler that can removably couple cushioned member 107. Between the first end and the second end is slider 103, which can be a T-shape hand-grip slider that slides along rod 101.

[0037] FIG. 3 shows an exploded view of training device 100. Mount 107 and hand grip 111 can be permanently affixed or removably coupled to rod 101. It is contemplated that at least one of mount 107 and hand grip 111 is removably coupled to allow slider 103 to be slid and removed from rod 101, such that slider 103 can be replaced. Rod can have a length 113 between 2 feet and 7 feet, or between 4 feet and 6 feet. However, it is contemplated that

length 113 can be adjusted to any length to mimic the reach of a typical opponent (e.g., boxer, mixed martial artist, etc.).

[0038] It is contemplated that to use training device 100, a trainee is confronted by the trainer who holds training device 100 by gripping slider 103 with his/her front hand and hand grip 111 on rod 101 with his/her back hand. The trainer then uses his/her back single hand to move rod 101 forward and backward so the trainee avoids cushioned member 105 and/or mount 107 utilizing the appropriate moves.

[0039] While it is beneficial to train defensively to avoid strikes from an opponent, it is critical to develop offensive techniques as well. FIG. 4 shows a training device 400 comprising a rod 401 and a slider 403 coupled to rod 401. Slider 403 has a handle 409 that is configured to slide between a first end and a second end of rod 401. Training device also comprises a hand grip 411 and a mount 407 disposed on opposite ends of rod 401. It is contemplated that at least one of handle 409 and hand grip can comprise at least one of a gripping material for enhancing a grip and a padding material for comfort. To develop offensive techniques, a pad 415 is coupled to slider 403. Thus, it is contemplated that a trainee can develop offensive techniques and defensive techniques via training device 400.

[0040] Rod 401 can be a cylindrical member as shown in FIG. 5. However, it is contemplated that rod 401 can have other cross-sectional shapes as discussed above. Rod 401 is typically a light weight material (e.g., polyvinyl chloride, plastic, wood, etc.) that can be easily maneuvered to mimic slow movements and fast movements. Rod 401 can comprise various lengths as discussed above. For example, rod 401 can have a length between 2 feet and 7 feet.

[0041] Slider 403 is disposed on rod 401 and can be slid along the length of rod 401 (e.g., between hand grip 411 and mount 407). It is also contemplated that slider 403 can be rotated about rod 401 so that pad 415 can be disposed above rod 401 or below rod 401. Slider 403 comprises a handle 409 that a user can use to control movement of slider 403. Handle 409 typically extends from the body of slider 403 and can be substantially perpendicular to rod 401. It is contemplated that handle 409 is perpendicular to rod 401, and in other embodiments, handle 409 and rod 401 can form other angles (e.g., between 110 degrees and 70 degrees, between 100 degrees and 80 degrees, etc.).

[0042] As shown in FIG. 5, pad 415 can be disposed on slider 403. It is contemplated that pad 415 can be permanently affixed to slider 403 or that pad 415 can be removably coupled to slider 403 to allow pad 415 to be replaced. Pad 415 typically comprises an outer body and a padded material at least partially disposed within the outer body. The outer body can comprise at least one of leather, a canvas, and a vinyl, and the padded material can comprise at least one of latex foam, polyvinyl chloride foam, cotton, shock-absorbing gel, and any other impact absorbing material. For example, pad 415 can comprise at least one of a punch mitt, a punch shield, a kick shield, a thai pad, and any other padded target that a user can strike. It is contemplated that the outer body and padded material of pad 415 reduce the risk of injury to a trainee by providing a shock absorbing material for the trainee to strike.

[0043] It is contemplated that pad 415 can be rotated on an axis that is coaxial with handle 409 from a first position (see FIG. 5) to a second position as shown in FIG. 6. The second position is perpendicular to the first position of pad 415.

However, it is contemplated that pad 415 can be rotated and fixed at any angle and/or rotated about a different axis to provide different angles to a trainee. Alternatively, pad 415 can be non-rotatable and fixed to one position. For example, it is contemplated that pad 415 can be non-rotatable and fixed to the position showed on FIG. 5. Slider 403 and hand grip 411 can be used to slide rod 401 and mount 407 toward or away from a trainee. It is contemplated that an actuator can be coupled to pad 415 to automatically rotate pad 415 from one position to another position.

[0044] FIG. 7 shows training device 400 comprising a cushioned member 405 is coupled to rod 401. Cushioned member 405 can comprise a padded material that is housed by a liner (e.g., leather, canvas, vinyl, etc.). For example, cushioned member 405 comprises at least one of a boxing glove, an MMA glove, a punch mitt, and a punch shield. It should be appreciated that cushioned member 405 can contact a trainee for defensive training without subjecting the trainee to injury.

[0045] FIG. 7 shows slider 403 in a first position that is proximal to hand grip 411 at a first end of rod 401 and distal to cushioned member 405 at a second end of rod 401 in FIG. 7. Typically, this configuration mimics a punch being delivered as the cushioned member 405 is at a position distal from slider 403 and away from a user/trainer. A user can modify the position of the slider by holding handle 409 and hand grip 411 and moving hand grip 411 forward or back. FIG. 8 shows slider 403 in a second position that is proximal to cushioned member 405 at a second end of rod 401 and distal to hand grip 411 at a first end of rod. In this configuration, cushioned member 405 at the second end of rod 401 is near the user/trainer.

[0046] Additionally, or alternatively, slider 403 can be rotated about rod 401 to a third position as shown in FIG. 9. Pad 415 can be disposed below rod 401 and handle 409 can be disposed above rod 401. It should be appreciated that slider 403 can be slid in this configuration along the length of rod 401 as shown in the first and second positions of slider 403 in FIGS. 7 and 9.

[0047] FIG. 10 shows training device 400 with pad 415 and cushioned member 405 removed. Slider can comprise an attachment rod 417 that is configured to couple pad 415. In some embodiments, attachment rod 417 can be substantially coaxial with handle 409. For example, handle 409 and attachment rod 417 can be coaxial or vary by less than 20 degrees, and more typically less than 10 degrees. It is contemplated that pad 415 can be replaced to allow a user/trainer to customize a training regimen to a specific trainee. However, it is also contemplated that pad 415 is permanently affixed to slider 403.

[0048] Cushioned member 405 can be indirectly coupled to rod 401 via a mount 407 as shown in FIG. 10. It is contemplated that mount 407 comprises a foam padding to further reduce the risk of injury to a trainee that is hit by cushioned member 405 and/or mount 407. Mount 407 is sized and dimensioned to receive cushioned member 405 to secure it onto rod 401 during a training exercise. Similar to pad 415, it is contemplated that cushioned member 405 can be changed with other types of cushioned members to customize a training regimen for a given trainee. Alternatively, it is contemplated that cushioned member 405 is directly coupled and/or permanently affixed to rod 401 without mount 407.

[0049] FIG. 11 is a perspective view of pad 415 having a first target area 419 and a second target area 421. First target area 419 can be configured to practice one set of strikes and second target area 421 can be configured to practice a second set of strikes. For example, first target area 419 can be configured to practice straight punches (e.g., jab, straight right/left hand, etc.) while second target area 421 can be configured to practice other punches (e.g., hooks, uppercuts, etc.). Typically, pad 415 has a height 423 of between 4 and 15 inches, and more typically between 6 and 10 inches, and a width 425 between 2 inches and 10 inches, and more typically between 3 inches and 5 inches. It should be appreciated that these dimensions can vary to be greater or smaller depending on the application of training device 100.

[0050] FIG. 12 is a front view of a slider 403 having an attachment rod 417 and a handle 409. Disposed between attachment rod 417 and handle 409 is an aperture 427. Aperture 427 is typically sized and dimensioned to receive rod 401. Thus, slider 403 can slide along the length of rod 401 and rotate about rod 401 freely. While aperture 427 is circular, it should be appreciated that aperture 427 can have another cross-sectional shape that is compatible with rod 401.

[0051] FIGS. 13 and 14 shows slider 403 and pad 415 from a front view. As shown, a trainee can be shown various targets to develop offensive skills. In FIG. 13 first target area 419 is facing a trainee and in FIG. 14 second target area 421 is facing a trainee. Pad 415 can have a length 429 between 3 inches and 15 inches, and more typically between 5 inches and 10 inches. As discussed above, it is contemplated that pad 415 is non-rotatable and fixed to a specific angle.

[0052] In other contemplated embodiments, it should be appreciated that a mold of a human head target can be disposed on a slider. This can be beneficial for self-defense purposes to show target regions of a human head to strike. Additionally, or alternatively, a slider can be fixed to a position on rod 401 (i.e., non-slideable) or rod can have fixed notches whereby slider can lock into a fixed notch to retain slider in a certain position.

[0053] As used in the description herein and throughout the claims that follow, the meaning of “a,” “an,” and “the” includes plural reference unless the context clearly dictates otherwise. Also, as used in the description herein, the meaning of “in” includes “in” and “on” unless the context clearly dictates otherwise.

[0054] Accordingly, in some embodiments, the numerical parameters set forth in the written description and attached claims are approximations that can vary depending upon the desired properties sought to be obtained by a particular embodiment. Moreover, and unless the context dictates the contrary, all ranges set forth herein should be interpreted as being inclusive of their endpoints and open-ended ranges should be interpreted to include only commercially practical values. Similarly, all lists of values should be considered as inclusive of intermediate values unless the context indicates the contrary.

[0055] It should be apparent, however, to those skilled in the art that many more modifications besides those already described are possible without departing from the inventive concepts herein. The inventive subject matter, therefore, is not to be restricted except in the spirit of the disclosure. Moreover, in interpreting the disclosure all terms should be interpreted in the broadest possible manner consistent with the context. In particular the terms “comprises” and “com-

prising” should be interpreted as referring to the elements, components, or steps in a non-exclusive manner, indicating that the referenced elements, components, or steps can be present, or utilized, or combined with other elements, components, or steps that are not expressly referenced.

What is claimed is:

1. A training device, comprising:
 - a rod having a first end and a second end;
 - a slider coupled to the rod, wherein the slider is configured to slide between the first end and the second end; and
 - a pad coupled to the slider.
2. The training device of claim 1, wherein the rod has a length between 2 feet and 7 feet.
3. The training device of claim 1, wherein the slider comprises an aperture that is sized and dimensioned to receive the rod.
4. The training device of claim 3, wherein the slider comprises a handle, and wherein the aperture is disposed between the handle and the pad.
5. The training device of claim 1, wherein the slider comprises a handle that is substantially perpendicular to the rod.
6. The training device of claim 4, wherein the slider comprises an attachment rod that is substantially coaxial with the handle, wherein the attachment rod is configured to couple to the pad.
7. The training device of claim 1, further comprising a hand grip coupled to the first end of the rod.
8. The training device of claim 7, further comprising a cushioned member coupled to the second end of the rod.
9. The training device of claim 8, further comprising a mount coupled to the second end, wherein the mount is sized and dimensioned to receive the cushioned member.
10. The training device of claim 7, wherein the cushioned member comprises at least one of a boxing glove and an MMA glove.
11. The training device of claim 1, wherein the pad comprises (i) an outer body and (ii) a padded material at least partially disposed within the outer body.
12. The training device of claim 11, wherein the pad comprises at least one of a punch shield and a punch mitt.
13. A training device, comprising:
 - a rod having a first end and a second end;
 - a slider coupled to the rod, wherein the slider comprises an aperture sized and dimensioned to receive the rod; and
 - a pad coupled to the slider.
14. The training device of claim 13, wherein the slider comprises a handle that is substantially perpendicular to the rod.
15. The training device of claim 14, wherein the aperture is disposed between the handle and the pad.
16. The training device of claim 13, wherein the pad comprises (i) an outer body and (ii) a padded material at least partially disposed within the outer body.
17. The training device of claim 13, further comprising a hand grip coupled to the first end of the rod, and a cushioned member coupled to the second end of the rod.
18. A training device, comprising:
 - a rod having a first end and a second end;
 - a pad coupled to the rod, wherein the pad is configured to slide between the first end and the second end; and
 - wherein the pad is configured to rotate about the rod.

19. The training device of claim **18**, further comprising a slider slidably and rotatably coupled to the rod, wherein the slider comprises an aperture sized and dimensioned to receive the rod, and wherein the slider is coupled to the pad.

20. The training device of claim **19**, wherein the pad comprises (i) an outer body and (ii) padding at least partially disposed within the outer body.

* * * * *