An apparatus worn on the hands to prevent the formation of a conventional fist and instead promote the optimal posture/position for making a structurally superior fist—the A-Fist in the CoreFit Training Method. The apparatus and method aligns the fingers to create Correct Bone Alignment through the fingers, hands, wrists, arms & shoulders enabling the user to throw harder, more powerful punches with less chance of injury. The Method for using such apparatus helps align the bones of the fingers and hands to engage in more effective punching/striking and walking/running exercise as well as many traditional calisthenics.
APPARATUS AND METHOD FOR MORE EFFECTIVE EXERCISE

FIELD OF THE INVENTION

[0001] The present invention is an apparatus that aligns the human hand to form an optimal fist for punching/striking and a method for making such apparatus as well as a method for using such apparatus to specifically position the human hand into optimal alignment to engage in more effective exercise. The apparatus and method facilitate and teach the user to throw harder more powerful punches with reduced chance of injuries. Such optimally aligned fist that punches/strikes harder and safer also unifies the bones, muscles, tendons, ligaments and fascia of the hands, arms and shoulders to in turn make the entire body capable of moving with a stronger, more fully integrated stride for more efficient walking and running.

BACKGROUND OF THE INVENTION

[0002] There are myriad training aids for boxing, MMA, and striking exercises for fitness, sport and self-defense. The art and science of unarmed hand-to-hand combat for sport and competition dates back many hundreds and perhaps thousands of years. The human hand reflexively forms a fist—the conventional “balled up” position used by the overwhelming majority of people who practice punching. This widely practiced conventional fist is simply inferior to a new technique, facilitated with an apparatus and method taught in the present invention. The conventional fist often leads to fractures of the carpal bones and lasting injury and damage to the wrist bones and joints. Professional fighters usually tape or wrap their hands and wrists to prevent such damage and often suffer lasting arthritic pain and decreased function with their fingers, hands and wrists as a result of training and practicing their chosen fighting sport using a conventional fist. Punching is a wonderful form of exercise but is fraught with risk and is simply less effective than it can otherwise be as practiced by the majority of the participants currently. What is needed is an apparatus and method to help people form a better posture/position to throw more effective punches that can be the basis for better exercise and function.

[0003] Numerous innovations for the Apparatus and Method for more effective exercise have been provided in the prior art that are described as follows. Even though these innovations may be suitable for the specific individual purposes to which they address, they differ from the present design as hereinafter contrasted. The following is a summary of those prior art patents most relevant to this application at hand, as well as a description outlining the difference between the features of the Apparatus and Method for more effective exercise and the prior art.

[0004] U.S. Pat. No. 4,138,108 of Charles H. Robinson describes a hand/wrist positioner or brace adapted for use by persons participating in sports, particularly boxing. It is made of flexible material to wrap around the hand and wrist in the manner of a wristband or more specifically a fingerless glove with securing means to hold it in position. It has a thumb hole to receive the thumb and bull of the thumb, its forward end extending to cover the palm and back of the hand. Provided in the front of the article, that is, on the palm side, there is a stiffening member to bridge between the palm and inner side of the wrist contoured to conform and extending into the palm of the hand. This stiffening member prevents forward flexing of the wrist. A second rigid stiffening member is provided in the back of the article to bridge between the back of the hand and wrist, this member having an outwardly bowed contour at the back of the wrist to restrain backward flexing of the wrist beyond the contoured position.

[0005] This patent describes a hand/wrist positioner or brace adapted for use by persons participating in sports, particularly boxing but does not deal with the unique features of the Apparatus and Method for more effective exercise where the first two joints of the middle finger are supported rigidly and the ring finger and index finger overlap the middle finger with the support of the little finger and thumb to create the CoreFIST method of holding the hands.

[0006] U.S. Pat. No. 4,502,688 of Robert G. Papp describes a wrist and hand support device to be worn on a user’s hand in combination with a glove for supporting and strengthening the user’s arm and hand movements to thereby minimize hyper-flexion and hyper-extension and generally assist the user to increase proper control of a golf club during a golf swing, is disclosed. The device includes in combination a wristband that is disposed about a wrist joint over the glove about the area of the transverse carpal ligament, the radius and the ulna bone structure and the brachioradialis muscle at the muscle position over the radius bone at the wrist to provide support and thereby strengthen the ligamentous structure and musculature and provide support for bone structure; a releasable fastener for adjustably securing the wristband about the wrist joint whereby the wristband provides the support; a flexible support member projecting from the wristband and having sufficient stiffness for placement, specific positioning and providing support against a part of the back portion of the user’s hand during use of the device, the support member projecting in a position extending from over the area of the brachioradialis muscle at the muscles position over the radius bone at the wrist, over the transverse carpal ligament and along over the second metacarpal, terminating prior to the first knuckle of the index finger; and a releasable fastener for securing the flexible support member to the glove over the area of the second metacarpal.

[0007] This patent describes a similar wrist and hand support device to be worn on a user’s hand in combination with a glove for supporting and strengthening the user’s arm and hand movements but does not deal with the unique features of the Apparatus and Method for more effective exercise where the first two joints of the middle finger are supported rigidly and the ring finger and index finger overlap the middle finger with the support of the little finger and thumb to create the CoreFIST method of holding the hands.

[0008] U.S. Pat. No. 5,197,140 of V. Parker Overton describes an athletic glove that includes a back strap to compress and support the wrist and hand of the user. The glove comprises a central portion including a back side and a palm side which define a hand receiving pocket therebetween. A hand opening is formed in the central portion for inserting the user’s hand into the pocket. A wrist cuff area encircles the user’s wrist and borders the hand opening. A backhand support wraps around the user’s hand to provide support for the backhand muscles. The backhand support includes a backhand strap having an intermediate portion and a free end portion. The backhand strap is secured to the central portion of the glove adjacent the finger stall for the user’s index finger and extends diagonally backward across the back side of the glove towards the user’s wrist. The strap encircles the underside of the user’s wrist and then extends diagonally forward.
across the back side of the glove from the base of the finger stall for the user’s thumb towards the finger stall for the user’s little finger. The free end portion of the backhand strap intersects an intermediate portion of the backhand strap to which it is secured. A hold-down strap attached to the central portion of the glove adjacent the finger stall for the little finger secures the free end portion of the backhand strap. The glove may also include a wrist strap for encircling the user’s wrist to provide support therefor and to secure the glove on the user’s wrist.

This patent describes an athletic glove that includes a back strap to compress and support the wrist and hand of the user but does not deal with the unique features of the Apparatus and Method for more effective exercise where the first two joints of the middle finger are supported rigidly and the ring finger and index finger overlap the middle finger with the support of the little finger and thumb to create the CoreFIST method of holding the hands.

U.S. Pat. No. 7,043,763 of Hipolito Carrillo describes a pneumatic device that is inserted in a boxing glove, which device is effective to reduce trauma to the body of a person receiving the blow, especially to the head. The device is attached inside the boxing glove adjacent the impact area and function to decrease the energy of impact from the boxer’s fist, thus reducing the occurrence of trauma, especially to the head and brain.

This patent describes a pneumatic device that is inserted in a boxing glove but does not provide an apparatus and method to arrange a person’s hands into the optimal position or posture for throwing a punch.

None of these previous efforts, however, provides the benefits attendant with the Apparatus and Method for more effective exercise. The present design achieves its intended purposes, objects and advantages over the prior art devices through a new, useful and non-obvious combination of method steps and component elements, with the use of a minimum number of functioning parts, at a reasonable cost to manufacture, and by employing readily available materials.

In this respect, before explaining at least one embodiment of the Apparatus and Method for more effective exercise in detail it is to be understood that the design is not limited in its application to the details of construction and to the arrangement, of the components set forth in the following description or illustrated in the drawings. The Apparatus and Method for more effective exercise is capable of other embodiments and of being practiced and carried out in various ways. In addition, it is to be understood that the phraseology and terminology employed herein are for the purpose of description and should not be regarded as limiting. As such, those skilled in the art will appreciate that the conception, upon which this disclosure is based, may readily be utilized as a basis for designing of other structures, methods and systems for carrying out the several purposes of the present design. It is important, therefore, that the claims be regarded as including such equivalent construction insofar as they do not depart from the spirit and scope of the present application.

SUMMARY OF THE INVENTION

The principal advantage of the Apparatus and Method for more effective exercise is to keep from damaging the hand when striking an object.

Another advantage of the Apparatus and Method for more effective exercise provides an apparatus and method to arrange a person’s hands into the optimal position or posture for throwing a punch.

Another advantage of the Apparatus and Method for more effective exercise is the thumb and index finger serve to “peg,” “trap” or “fix” the middle finger down into position through its optimal alignment in this position increasing the pressure through the bone structure fortifying the central triangle created by the middle finger.

Another advantage of the Apparatus and Method for more effective exercise is that the CoreFIST hand position is ideal for enhancing stride efficiency, to improve gait in both walking and running.

Another advantage of the Apparatus and Method for more effective exercise is that it facilitates the making and using of the optimized fist by preventing the last joint of the middle finger from flexing and can be specifically integrated with gloves designed to protect and pad the hands for punching.

The present Apparatus and Method for more effective exercise disclosed herein provides an apparatus and method to arrange a person’s hands into the optimal position or posture for throwing a punch. Correct postural alignment of the bones of the fingers and hands is the key to better punching and also helps balance and stabilize the shoulders to enhance running, walking and performance in many other exercises, sports and activities. The commonly practiced fist—taught by experts in the field of self-defense and martial arts—is not an optimized posture/position for the hand to punch or to move the entire body better. The conventional fist often requires tape or wraps to protect the wrist, the metacarpals are not integrated and often leads to fracture (called “boxer’s break”), the force of the punch is not concentrated but instead dispersed, it requires the puncher to hit with precise positioning or risk severe injury because the wrist is not stabilized and prolonged use over time can create arthritis in the last joints of the fingers. Indeed, for myriad reasons the conventional fist currently known and practiced is inferior. Arranging the fingers of the hands into a specific position/posture optimizes the structural integrity of the fist and stabilizes the wrists. This new position/posture concentrates punching power and creates better internal balance and suspension of the entire arm and shoulder. The internal balance and suspension of bones within soft tissue (myofascia) is called tensegrity (tensility describes structural arrangement of compressive elements—the bones—suspened within tension elements—the myofascia). Enhancing tensility of the arms and shoulders translates to better suspension though the spine and through the hips enhancing movement capabilities for the entire body. Currently most people do not know how to arrange their hands into an optimized and more effective fist position/posture and learning how to do so can be challenging. What is needed is a device and method for helping people more accurately and easily form a better fist, not just for punching, but also for walking and/or running more efficiently and exercising more effectively.

The Apparatus and Method for more effective exercise facilitates a better structural foundation for the hand to make a fist. The present invention also helps a person strengthen their hands in accord with the new fist posture and enables them to perform exercises against resistance targeting a specific end position/posture. Key in the process is forming the correct alignment and positioning of the middle finger. The conventional fist does not align the middle finger optimally as the last digit is flexed and rolled into the palm. This creates a structurally inferior position for the middle finger that cannot support high impact force without compromise.
structurally. The optimal position for the middle finger is to fold down without flexing the last joint toward the center of the palm. This can be achieved more easily by stretching the thumb away from the tip of the middle finger to help position the middle finger more centrally. The ring and index fingers also must be positioned correctly and triangulate centrally over the middle finger without flexing the last digits to form an optimized fist. The conventional fist does not triangulate the ring and index fingers centrally, but rather rolls them in both adjacent to the middle finger.

[0021] The optimal fist is performed with the thumb and pinky finger wrapping over top of the middle, ring, and index fingers to envelop the structure and secure the position. Because the index finger is not flexed at the last digit, the thumb is able “notch” into position and hold more securely. The thumb and pinky are also the only fingers with direct muscular attachments originating from the carpal bones of the wrists. Wrapping them around the central triangulation of the middle, ring, and index fingers further helps stabilize the wrists. Another point about the anatomical advantage of the new fist as compared to the conventional fist is the fact that the tendons on the palmer side of the hand that attach to the tips (last bone) of the fingers originate from muscular insertions on the bones of the forearm (ulna & radius). This means the tips of the fingers are not linked directly across the elbows by muscles and tendons. The second bones from the tips of the fingers have tendon attachments from muscles that originate from insertions on the upper arm (humerus). This gives the second bones in the fingers a direct muscle/tendon connection across the elbow joint. The conventional fist does not capitalize on this connection because the last digit(s) of the fingers are flexed/bent which disintegrates the tips of the fingers from crossing the elbows. The optimal fist, by maintaining alignment without flexion of the two end bones of the fingers, creates a structural link from the tips of the fingers across the elbows. The results can be felt immediately when the hands are aligned into the optimal fist position compared with the conventional fist.

[0022] The Apparatus and Method for more effective exercise provide a solution to the challenges of learning how to make an optimized fist. This increases capacity for better self-defense capability and is effective for enhancing many basic exercises. People who punch a bag for fitness and training with a conventional fist have to tape or wrap their hands. They often get injured and many of them develop chronic arthritic problems of their hands and wrists over time. But one need not be a fighter or engage in combat training to benefit from a better fist. Even those people averse to fighting or combat can benefit from understanding how to utilize better bone alignment and fascial integration—from fingers to feet—to walk and/or run more efficiently.

[0023] Developing better movement capacity and optimizing functional balance requires the unification of one’s entire body to move with greater economy. The present invention unifies both sides of the body from the most distal extremities—the tips of the middle fingers. Whereas the conventional “angry fist” balls the fingers up, the present invention prevents one from doing this by preventing flexion through the last digit of the middle finger when making a fist to create optimal bone alignment that is fundamentally stronger and more integrated with the rest of the body. It is not easy for many people to re-pattern the muscle memory and reflexive response for creating an optimized fist. Without training, one will resort to habituated habits or a sub-optimized reflexive response when creating a fist. The present invention acts as a teaching aid preventing the user from assuming the inferior conventional “angry fist” posture. Instead, the present invention guides the user’s fingers and hands into the optimal fist posture and hence helps to re-pattern one’s reflexive response with repetitive practice. Every person is different in terms of assimilation time and motor learning. Some will learn quickly and others will require extensive time and practice. The present invention and method may be used as a bridge to learning until the apparatus is no longer required to throw more effective punches or it can be used for the rest of one’s life if a user chooses. The present invention and method are also incorporated into training gloves a user can wear to exercise and more fully protect their hands when punching.

[0024] The Apparatus and Method for more effective exercise provide an apparatus and method for forming an optimally aligned fist. The apparatus ensures the middle finger does not flex at the first digit (most distal digit) of the last two bones of the middle finger—and/or ring and index fingers. The method involves providing the instructional steps for forming the optimized fist. Step one is aligning the middle finger correctly. Step two is aligning the ring finger correctly. Step three is aligning the index finger correctly. Step four is aligning the thumb correctly and step five is aligning the pinky finger correctly. The method can also be truncated into fewer steps by instructing correct alignment of multiple fingers simultaneously. Step one can be aligning the middle, ring and index fingers all at once and Step two can be aligning the thumb and pinky into correct position at the same time. The method can also provide instruction for aligning the middle and ring fingers correctly together. Then Step two can be aligning the index finger. Step three can instruct aligning the thumb and pinky correctly together. Regardless of number of specific steps, the method teaches a user to reach the optimized fist position. The invention—both apparatus and method—can also facilitate and teach interim fist positions so a user can assume progressive postures along the way to learning to make and use the optimized fist position.

[0025] The internal balance and suspension within the hand/arm/shoulder is improved due to the optimal bone alignment through the middle finger (and buttressed by ring and pinky fingers). This improves the Tensegrity within the shoulders to create a more integrated “horizontal polarity” of the shoulders and arms which in turn enhances the “vertical polarity” of the head, spine, and pelvis. (Tensegrity is basically the balance and suspension of the compressive elements—the bones—within the tension elements—the myofascia). Hence we have the capacity for a more efficient stride with this hand posture.

[0026] This hand posture is related to the enhanced striking capacity of the primary fist—and the connection is logical when you consider the close relationship of how it is possible to optimize the functional capacity for expressing the Fight & Flight survival reflexes most effectively. Fight & Flight are essentially two sides of the same coin.

[0027] The embodiments of the Apparatus and Method for more effective exercise will include a sleeve with or without an end cap for the tip of the finger to keep the last digit of the middle finger from flexing. Loops, possibly elastic bands that cuff the ring and/or index fingers such that a user’s ring and index fingers more easily align properly with the middle finger to form the central portion of the optimal fist. The sleeve will include a color coded design to indicate where the ring and index fingers should be placed. The design also helps
indicate where the thumb should be placed for an optimized fist. The design is "V" shaped such that a user can easily seek to cover one side of the "V" with the ring finger and the other side of the "V" with the index finger. The central color portion within the "V" is then covered with the Thumb to complete the fist position.

0028] Another embodiment has a sleeve and/or glove with hook and loop (Velcro) fastening strap that a user adjusts to prevent flexion of the distal most joint of the middle finger. Hook and loop fasteners are also positioned on the glove portion such that the fingers can be held or strapped into the correct position of the optimal fist.

0029] Another embodiment integrates with existing MMA gloves to position a user's fingers correctly while wearing a wide array of different gloves. This embodiment may or may not connect with the gloves but can be used with various existing gloves regardless.

0030] Another embodiment not shown in the drawings has an elastomeric area that covers a user's wrist designed to facilitate through proprioception and mechanical cueing the optimal alignment of the wrist joint when forming the optimal fist. The neutral alignment of the optimized fist creates slight extension in the wrist and the special fabric zone covering the wrist area facilitates this neutral positioning.

0031] Another embodiment not shown in the drawings has elastic resistance to help strengthen a user's fingers while cueing them into the correct alignment and other training techniques—such as spreading the fingers wide—that coincide with training to make and use the optimal fist.

0032] Another embodiment not shown in the drawings has elastic resistance bands that integrate with other parts of the body for developing strength through the punching motions. These elastic resistance bands can attach the hands to the feet, waist, back and shoulders.

0033] Another embodiment not shown in the drawings facilitates the making and using of the optimized fist and has weight embedded into a glove to increase muscular demands for holding the hands up and moving them.

0034] Another embodiment not shown in the drawings facilitates the making and using of the optimized fist and has accelerometer and electronic instruments to track and record via wireless computer integration punching speed and positions to track and record workouts.

0035] Another embodiment facilitates the making and using of the optimized fist and has an adjustable finger sizing mechanism to enable users with different size fingers to adjust the device to their specific size.

0036] Another embodiment not shown in the drawings has a foam padding that encircles the last joint between the last two digits of the middle finger (and/or ring and index fingers) that user can squeeze in the correct alignment position to strengthen the fist. The user can pulse a squeeze with the fist against the foam resistance to strengthen the hands and fingers while exercising and punching, walking and/or running.

0037] Another embodiment not shown in the drawings has foam pads integrated within the finger areas of gloves to prevent the last digits of the middle (and/or ring and index fingers) from flexing into a suboptimal position. The user can more easily align the fingers correctly for a stronger fist with the aid of the glove which can have hook and loop fasteners or other fastening means attached to the various fingers and color coded regions to facilitate correct alignment.

0038] Another embodiment not shown in the drawings has inflatable members within the fingers and/or palm position that a user can adjust to fit and to regulate tension/resistance. Additionally, a non-adjustable pneumatically pressurized sleeve may also be used.

0039] Another embodiment not shown in the drawings has a fluid gel interior that creates a hydraulic pressure that provides resistance and forms uniquely with an individual's hands.

0040] Another embodiment not shown in the drawings has a "figure 8-shaped" loop attached to a lengthened thumb like finger cap preventing the last joint of the middle finger from flexing. The loop, which can also be singular instead of figure 8 shaped, encircles either the ring finger and/or index fingers. When figure 8 shaped the two loops encircle both ring and index fingers to position them in proximity to the middle finger.

0041] Another embodiment not shown in the drawings has resistance material that strengthens the hand, wrist and/or fingers when opening the fist to intermediary and/or alternative training positions. The resistance material can be elastomeric fabric or rubber or other semi-flexible material. The resistance material can also provide compressive resistance to strengthen the hand when closing it into the correct fist position.

0042] Another embodiment has a hook and loop fastener on both middle finger and palm surface to facilitate correct placement of the middle finger within the palm. The palm portion can have different placement zones, central and slightly toward the thumb for progressive placement locations as a person gains proficiency with attaining a centralized placement of the tip of the middle finger.

0043] Another embodiment not shown in the drawings has a sound generating device—either electronic or mechanical—that creates a sound indicating the user has squeezed an adequate level of tension in the correct fist position. This embodiment may also guide the user to the correct alignment and positioning of the fingers with moment audible indication signifying through different sounds both incorrect and correct positioning.

0044] Another embodiment not shown in the drawings integrates a glove like mechanism that facilitates correct alignment of the fingers with a sleeve that wraps the wrist and/or elbow to facilitate correct alignment of a larger portion of the arm. Special zones within the wrist and elbow regions are engineered to create proprioceptive feedback to optimize the joint angles.

0045] Another embodiment facilitates the making and using of the optimized fist and is vented to breathe and to reduce heat and perspiration.

0046] Another embodiment not shown in the drawings facilitates the making and using of the optimized fist and is vented to breathe and is specifically designed with a non-slip palmer surface to be used for yoga.

0047] Another embodiment not shown in the drawings facilitates the making and using of the optimized fist incorporating a pedometer and/or "punchometer" to count steps and/or punches.

0048] Another embodiment not shown in the drawings facilitates the making and using of the optimized fist has an electronic mechanism that can track the position and/or timing and/or force of the fist with a device worn by the user, or located elsewhere separate from the user, that tracks the data for a user to examine the values of their workout. This can be integrated with a pedometer device to measure and compare the actions of the hands with the feet.
Another embodiment is a glove that facilitates the making and using of the optimized fist with an integrated wrap strap with fastening means to secure the index finger and/or thumb and pinky into correct alignment. The wrap strap can be integrated with a wrist angle zone to cue the wrist into the correct angle. The wrap strap fasteners can be connected to the Palmer side of the fingertip aspect of the glove when not being used to wrap the fist closed. The wrap straps can also slide within a sheath or be of sufficient elasticity to be capable of adjusting tightness and fit. The end of the thumb portion can also integrate with the pinky portion or at some juncture on the wrap strap itself to tighten and secure fit.

Another embodiment not shown in the drawings facilitates the making and using of the optimized fist with the dorsal side of the ring and/or pinky fingers and surrounding area having a fastening means for the thumb to attach to. The base of the thumb and surrounding portion can also have a fastening means for the pinky to attach to. The wrap strap can also bifurcate from the wrist area to the thumb and pinky and then be secured or tightened subsequent to the bifurcated area. Snaps or other fastening means can be used as can hook and loop fasteners.

Another embodiment not shown in the drawings is a glove that facilitates the making and using of the optimized fist with the Palmer surface of the glove having an elastic strap and/or pocket to receive middle finger, and/or ring finger, and/or index finger. Another wrap strap can further secure the fingers and cover the thumb hook tab. A compressible material such as foam or other soft pliable yet resilient material can be cut to fit within the center portion of the glove—separate or integrated.

Another embodiment not shown in the drawings is a glove like device with finger sleeves fashioned for aligning the last two distal bones of the finger phalanges. The portions of the glove like device that go over the proximal phalange bones of the fingers are open on the palmar surface of the fingers. In the palm of the glove like device is a surface with positional indicators for the fingers specifically targeting ideal alignment of the middle finger. On the palmar side of the finger sleeves are fastening means that integrate with complementary fastening means on the dorsal side of the finger sleeves arranged to promote optimal alignment. Also on the dorsal side of the finger sleeves are position indicators to create optimal alignment of fingers both to a fully resolved fist in optimal alignment and interim positions for users who lack the finger dexterity to reach complete alignment. There is a thumb sleeve with fastening means on the palmar side that integrate with complementary fastening means on the dorsal side of the index, middle and ring fingers. The hand portion of the glove like device can be constructed of various materials and/or mesh fabric so as to be light and breathe, or thicker and warmer for cold weather situations.

Another embodiment not shown in the drawings is a glove like device with an adjustable wrist strap for aligning the wrist joint in its optimal position.

Another embodiment not shown in the drawings is a glove like device with an elastic strap positioned on the palmar surface that is positioned to receive and hold the dorsal side of the fingers against the palm to promote optimal alignment.

Another embodiment not shown in the drawings has an adjustable elastic strap on the palmar surface to receive and hold the fingers against the palm arranged in optimal alignment.

Another embodiment not shown in the drawings uses fastening means similar in nature to STRAP™ Power-All Power Grip fastening means as an alternative to hook and loop fabric.

Another embodiment has elastic finger loops to enable a user to more easily wrap the pinky and/or ring and/or index fingers into the correct alignment position versus conventional MMA gloves that do not incorporate this structure.

Another embodiment not shown in the drawings has removable hook and loop fastening strips that integrate with the fingers and portions of the gloves to strap the fingers down into correct alignment. The straps are removable so that after a user has learned to make the posture in correct alignment, the glove may be used without the straps.

The foregoing has outlined rather broadly the more pertinent and important features of the present Apparatus and Method for more effective exercise in order that the detailed description of the application that follows may be better understood so that the present contribution to the art may be more fully appreciated. Additional features of the design will be described hereinafter which form the subject of the claims of this disclosure. It should be appreciated by those skilled in the art that the conception and the disclosed specific embodiment may be readily utilized as a basis for modifying or designing other structures and methods for carrying out the same purposes of the present design. It should also be realized by those skilled in the art that such equivalent constructions and methods do not depart from the spirit and scope of this application as set forth in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and form a part of this specification, illustrate embodiments of the Apparatus and Method for more effective exercise and together with the detailed description, serve to explain the principles of this application.

FIG. 1 depicts the initial position for securing the hands in the CoreFIST of the Apparatus and Method for more effective exercise.

FIG. 2 depicts a side view of a hand in the clenched position of the CoreFIST of the Apparatus and Method for more effective exercise.

FIG. 3 depicts a palm view of a hand in the clenched position of the CoreFIST of the Apparatus and Method for more effective exercise.

FIG. 4 depicts a cross section of a skeletal hand through the middle finger with the hand in the correct clenched position of the CoreFIST method.

FIG. 5 depicts a cross section of a skeletal hand through the middle finger with the hand in the conventional clenched position with external force forward of the base knuckle.

FIG. 6 depicts a cross section of a skeletal hand through the middle finger with the hand in the conventional clenched position with external force to the rear of the base knuckle.
FIG. 7 depicts a cross section of a skeletal hand through the middle finger with the hand in the correct clenched position of the CoreFIST method with the preferred embodiment of the middle finger knuckle support member and external force on the base knuckle.

FIG. 8 depicts a cross section of a skeletal hand through the middle finger with the hand in the correct clenched position of the CoreFIST method with the preferred embodiment of the middle finger knuckle support member having external force on the base knuckle.

FIG. 9A depicts a perspective view of the preferred embodiment of the middle finger knuckle support member.

FIG. 9B depicts a cross section through the preferred embodiment of the middle finger knuckle support member.

FIG. 10 depicts a palm view of the initial position for securing the hands in the CoreFIST method using the preferred embodiment of the middle finger knuckle support member.

FIG. 11 depicts a view of an arm illustrating the bone and partial muscle structure.

FIG. 12 depicts a view of an arm illustrating the bone and partial muscle structure connection to the upper arm.

FIG. 13 depicts a perspective view of the second embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member being adjustable in size.

FIG. 14 depicts a perspective view of the third embodiment of the Apparatus and Method for more effective exercise having the middle finger knuckle support member with the end capped.

FIG. 15 depicts a perspective view of the fourth embodiment of the Apparatus and Method for more effective exercise having the middle finger knuckle support member with the end capped including elastic index and ring finger supports.

FIG. 16 depicts a palm view of the initial position for securing the hands in the CoreFIST method using the fourth embodiment of the middle finger knuckle support member.

FIG. 17 depicts a perspective view of the fifth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member and the end capped having a hook loop attachment means to a glove in the correct position.

FIG. 18 depicts a perspective view of the fifth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member having the end capped using a hook attachment means to a loop section attached to a glove.

FIG. 19 depicts a perspective view of the sixth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a tongue with hook loop attachment to both the sides.

FIG. 20 depicts a perspective view of the sixth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a tongue with hook loop attachment means to both the sides as a means of attachment to the a hook loop section on the underside and a loop section attached to a glove.

FIG. 21 depicts a perspective view of the seventh embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member having the end capped incorporating a wrist support and index finger and little finger locator straps.

FIG. 22 depicts a perspective palm view of the seventh embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member having the end capped incorporating a wrist support and index finger and little finger locator straps to cross and attached to the palm of the glove by the means of hook loop fastening.

FIG. 23 depicts a perspective view of the eighth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a cast semi ridged structure.

FIG. 24 depicts a perspective palm view of a hand with the eighth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a cast semi ridged structure.

FIG. 25 depicts a perspective view of the ninth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a cast semi ridged structure.

FIG. 26 depicts a perspective palm view of the ninth embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a cast semi ridged structure altered for the purpose of other exercises such as running.

FIG. 27 depicts a perspective palm view of the tenth embodiment of the Apparatus and Method for more effective control of a leash.

FIG. 28 depicts a perspective view the back of the hand of the tenth embodiment of the Apparatus and Method for more effective exercise where the hand is in the CoreFIST position with a leash extending across the back of the hand.

FIG. 29 depicts a perspective view of the leash used in the tenth embodiment of the Apparatus and Method for more effective exercise.

FIG. 30 depicts a perspective view of the eleventh embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a cast semi ridged structure.

FIG. 31 depicts a perspective palm view of the eleventh embodiment of the Apparatus and Method for more effective exercise with the middle finger knuckle support member incorporating a cast semi ridged structure.

FIG. 32 depicts a perspective view of the eleventh embodiment of the Apparatus and Method for more effective exercise as a glove with the hand in the CoreFIST method with an elastic support allowing the little finger to cross over the ring finger.

For a fuller understanding of the nature and advantages of the Apparatus and Method for more effective exercise, reference should be had to the following detailed description taken in conjunction with the accompanying drawings which are incorporated in and form a part of this specification, illustrate embodiments of the design and together with the description, serve to explain the principles of this application.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, wherein similar parts of the Apparatus and Method for more effective exercise are identified by like reference numerals, there is seen in FIG. 1 the initial position for securing the hands in the Core-
FIST 12 position of the Apparatus and Method for more effective exercise. Middle finger 14 forms central element of the CoreFIST 12 to give it structural integrity with optimal bone alignment being supported by the means of the overlapping of the index finger 16 and the ring finger 18. In the initial position the thumb 20 and the little finger 22 are extended.

FIG. 2 depicts the side view of a hand 10 in the clenched position of the CoreFIST 12 of the Apparatus and Method for more effective exercise with the thumb 20 and the little finger 22 in the completed position.

FIG. 3 depicts the palm view of a hand 10 in the clenched position of the CoreFIST 12 of the Apparatus and Method for more effective exercise.

FIG. 4 depicts a cross section of a skeletal hand 10 through the middle finger 14 with the hand 10 in the correct clenched position of the CoreFIST 12 method, where the first bone 24 and second bone 26 of the middle finger 14 are in direct alignment with the bones of the wrist 28 and bones of the lower arm 30. When an external force 32 is exerted forward of the base knuckle 34 in the third bone 36 it is translated in a straight line of force 38 through the bones of the wrist 28 and bones of the lower arm 30 with additional support by the means of the triangular line of support 40 of the third bone 36 and the fourth bone 42 of the middle finger 14. The middle finger 14 is the only finger in the hand 10 that can produce the straight line of force 38 indicated.

FIG. 5 depicts the cross section of a skeletal hand 10 through the middle finger 14 with the hand in the conventional clenched hand position 44 with external force 32 forward of the base knuckle 34. In this position the cartilage 46 between the first bone 24 and the second bone 26 along with the cartilage 48 between the second bone 26 and the third bone 36 are put in a great deal of stress, with an indirect line of support 50 when external force 32 is exerted.

FIG. 6 depicts the cross section of a skeletal hand 10 through the middle finger 14 with the hand in the conventional clenched position 44 with external force 32 to the rear of the base knuckle 34. In this position the cartilage 46 between the first bone 24 and the second bone 26 along with the cartilage 48 between the second bone 26 and the third bone 36 additionally are put in a great deal of stress, with an indirect line of support 50. With any bend in the straight line of force 38 it puts a great deal of undesirable forces on all the joints clear up to the elbow.

FIG. 7 depicts the cross section of a skeletal hand 10 through the middle finger 14 with the hand in the correct clenched position of the CoreFIST 12 method with the preferred embodiment of the middle finger knuckle support member 56. The external force 32 is forward of the base knuckle 34. The preferred embodiment of the middle finger knuckle support member 56 adds a rigid support between the first bone 24 and second bone 26 to maintain the straight line of force 38 through the bones of the wrist 28 and bones of the lower arm 30 with additional support by the means of the triangular line of support 40 of the third bone 36 and the fourth bone 42 of the middle finger 14.

FIG. 8 depicts the cross section of a skeletal hand 10 through the middle finger 14 with the hand 10 tilted forward in the correct clenched position of the CoreFIST 12 method with the external force 32 more toward the base knuckle 34. In this position the straight line of force 38 is supported by the means of the triangular line of support 40 with the alignment of the middle fingers 14 first bone 24 and second bone 26 being stabilized by the preferred embodiment of the middle finger knuckle support member 56. The third bone 36 and the fourth bone 42 forms the stabilizing member of the triangular line of support 40.

FIG. 9A depicts the perspective view of the preferred embodiment of the middle finger knuckle support member 56 with the imprinted finger alignment indicator 58 and a portion of the side cutaway indicating the position of one or more optional supporting ribs 60 along with one or more optional vent holes 62. A wide range of polymers or elastomers may be used in the manufacturing of the product giving it the capability to stretch as required and will remain within the scope of this application.

FIG. 9B depicts the cross section through the preferred embodiment of the Apparatus and Method for more effective exercise middle finger knuckle support member 56 illustrating the location of the one or more optional supporting ribs 60 along with one or more optional vent holes 62.

FIG. 10 depicts a palm view of the initial position for securing the hand 10 in the CoreFIST 12 method using the preferred embodiment of the middle finger knuckle support member 56 with the middle finger 14 inserted and held down by the means of the ring finger 18 in alignment with the finger alignment indicator 58.

FIG. 11 depicts a view of an arm 66 up to the elbow joint 68 illustrating the bone and partial muscle structure where the first bone 122 and second bone 124 of the middle finger 14 are in direct alignment with the bones of the wrist 28 and bones of the lower arm 30 along with the elbow joint 68 when external force 32 is exerted. FIG. 11 also depicts a view of an arm 66 illustrating the bone and partial muscle structure connection to the lower arm. The lower arm muscles 31 and their attachments between the four tendons, as illustrated by ring finger tendon 25, which are attached to the four fingers, especially the central portion of the first bone 22 of the middle finger 14, and the muscle 31 attached to the lower arm bones 30.

FIG. 12 depicts a view of an arm 66 illustrating the bone and partial muscle structure connection to the upper arm. The lower arm muscles 70 and their attachments between the tendons 72 that are attached to the fingers, especially the sides of the second bone 26 of the middle finger 14, and the tendon 74 attached to the upper arm bone 76 at the elbow joint 68.

FIG. 13 depicts a perspective view of the second embodiment 80 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 82 with the finger alignment indicator 58 being adjustable in size where it connects by the means of hook loop attachment 84 or equivalent. A portion of the side cutaway indicating the position of one or more optional supporting ribs 60.

FIG. 14 depicts a perspective view of the third embodiment 90 of the Apparatus and Method for more effective exercise having the middle finger knuckle support member 92 with the finger alignment indicator 58 having the end capped 94 creating an enclosed central cavity 96.

FIG. 15 depicts a perspective view of the underside of the fourth embodiment 100 of the Apparatus and Method for more effective exercise having the middle finger knuckle support member 102 with the end capped 94 including elastic index finger support 104 and ring finger support 106 with an enclosed middle finger central cavity 96.

FIG. 16 depicts a palm view of the initial position for securing the hand 10 in the CoreFIST 12 method using the fourth embodiment 100 of the middle finger knuckle support...
member 102 with the end capped 94 including an elastic index finger support 104 and ring finger support 106. [0113] FIG. 17 depicts a perspective view of the fifth embodiment 110 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 112 with the end capped 94 and having a hook loop attachment 84 or equivalent means to a glove 114 in the correct CoreFIST 12 position. [0114] FIG. 18 depicts a perspective view of the fifth embodiment 110 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 112 having the end capped 94 using a hook loop attachment 84 or equivalent means to a mating hook loop attachment 116 section attached to a glove 114. [0115] FIG. 19 depicts a perspective view of the sixth embodiment 120 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 122 with the finger alignment indicator 58, incorporating a tongue 124 extending from the middle finger central cavity 96 with hook loop attachment 84 or equivalent to both sides. The underside of the support member additionally has a mating section of hook loop attachment 84 or equivalent. [0116] FIG. 20 depicts a perspective view of the sixth embodiment 120 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 122 incorporating a tongue 124 with hook loop attachment 84 or equivalent means to both sides as a means of attachment to the a hook loop attachment 84 or equivalent section attached to a glove 126. [0117] FIG. 21 depicts a perspective view of the seventh embodiment 134 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 136 having the end capped 94 incorporating wrist support member 138 with index finger and little finger locator straps 140 and 142 attached to a glove 144. The index finger and little finger locator straps 140 and 142 have hook loop attachment 84 or equivalent on the underside of the distal ends. [0118] FIG. 22 depicts a perspective palm view of the seventh embodiment 134 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 136 having the end capped 94 incorporating wrist support member 138 with index finger and little finger locator straps 140 and 142 to and across to the palm of the glove 144 to secure the fingers in their proper positions by the means of hook loop attachments 84 or equivalent. [0119] FIG. 23 depicts a perspective view of the eighth embodiment 150 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 152 incorporating a cast semi ridged structure 154 formed in a polymer or elastomeric material. It will have the central middle finger cavity 96 with the raised finger alignment indicator 58. An index finger groove 156 will be on one side of the raised finger alignment indicator 58 and a ring finger groove 158 will be on the other side. The middle finger knuckle support member 152 will be right/left specific. [0120] FIG. 24 depicts a perspective palm view of a hand 10 with the eighth embodiment 150 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 152 incorporating a cast semi ridged structure 154 exposing the index finger groove 156. [0121] FIG. 25 depicts a perspective view of the ninth embodiment 164 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 166 incorporating a cast semi ridged structure 168 formed in a polymer or elastomeric material. It will have the central middle finger cavity 96 with the finger alignment indicator 58 raised higher to accommodate the placement of the groove for the base of the thumb 170 on one side with the ring finger groove 172 on the other side. The middle finger knuckle support member 166 will be right/left specific. [0122] FIG. 26 depicts a perspective palm view of the ninth embodiment 164 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 166 incorporating a cast semi ridged structure 168 with the CoreFIST 12 thumb 20 placement altered in this embodiment for the purpose other exercises such as running. [0123] FIG. 27 depicts a perspective palm view of the tenth embodiment 178 of the Apparatus and Method for more effective control of a leash 180 where the hand is in the CoreFIST 12 position with the leash 180 extending across the back of the hand 10 by the means of the wrist support member 182 with the middle finger 14 being supported by the means of the ring finger 18 and the index finger 16. [0124] FIG. 28 depicts a perspective back view of the tenth embodiment 178 of the Apparatus and Method for more effective control of a leash 180 where the hand is in the CoreFIST 12 position with the leash 180 extending across the back of the hand 10 with the middle finger 14 through the middle finger loop 184 which can be removable or not. [0125] FIG. 29 depicts a perspective view of the tenth embodiment 178 of the leash 180 used in the tenth embodiment of the Apparatus and Method for more effective exercise. [0126] FIG. 30 depicts a perspective view of the eleventh embodiment 190 of the Apparatus and Method for more effective exercise with the middle finger knuckle support member 192 incorporating a cast semi ridged structure 194 formed in a polymer or elastomeric material. It will have the open central middle finger cavity 196 with an index finger groove 198 on one side and a ring finger groove 200 on the other along with a groove 202 for the little finger. The middle finger knuckle support member 192 will be right/left specific. [0127] FIG. 31 depicts a perspective palm view of the eleventh embodiment 190 of the Apparatus and Method for more effective exercise in the initial position of the CoreFIST 12 with the middle finger knuckle support member 192 incorporating a cast semi ridged structure 194. [0128] FIG. 32 depicts a perspective view of twelfth embodiment 208 of the Apparatus and Method for more effective exercise as a glove 210 with the hand 10 in the in the CoreFIST 12 method with an elastic support 212 allowing the little finger 22 to cross over the ring finger 18. [0129] The apparatuses and method for more effective exercise shown in the drawings and described in detail herein disclose arrangements of elements of particular construction and configuration for illustrating preferred embodiments of structure and methods of operation of the present application. It is to be understood, however, that elements of different construction and configuration and other arrangements thereof, other than those illustrated and described may be employed for providing apparatuses and methods for more effective exercise in accordance with the spirit of this disclosure, and such changes, alternations and modifications as would occur to those skilled in the art are considered to be within the scope of this design as broadly defined in the appended claims.
Further, the purpose of the foregoing abstract is to enable the U.S. Patent and Trademark Office and the public generally, and especially the scientists, engineers and practitioners in the art who are not familiar with patent or legal terms or phraseology, to determine quickly from a cursory inspection the nature and essence of the technical disclosure of the application. The abstract is neither intended to define the invention of the application, which is measured by the claims, nor is it intended to be limiting as to the scope of the invention in any way.

1. An apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, wherein said apparatus is structured and arranged to prevent flexion and facilitate extension of the most distal digit of the last two bones of each of the middle finger, ring finger and index finger.

2. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 1, wherein said apparatus further comprises one or more indicators to guide and instruct a user to arrange the ring finger adjacent to and overlapping with a portion of the middle finger.

3. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 1, wherein said apparatus further comprises one or more indicators to guide and instruct a user to arrange the index finger and ring finger adjacent to and overlapping with a portion of the middle finger.

4. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 1, having an interior portion and an exterior portion wherein said apparatus is worn on the middle finger.

5. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 4, wherein said apparatus is configured into a cylinder having a proximal and distal end wherein said proximal and distal ends are open allowing the apparatus to be worn on the middle finger by slipping the middle finger into the proximal end and extending a portion of the middle finger out the distal end.

6. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 4, wherein said apparatus is configured into a cylinder having a proximal and distal end wherein said proximal end is open and said distal end is closed allowing the apparatus to be worn on the middle finger by slipping the middle finger into the proximal end.

7. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 5, wherein said open ended cylinder further includes fastening members to allow a user to adjust the diameter of the open ended cylinder thereby adjusting the size and fit of the apparatus on the middle finger.

8. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 6, wherein said closed distal ended cylinder further includes flexible support members which encircle the ring and index finger to guide, support and secure the encircled fingers into a location adjacent to and overlapping with a portion of the middle finger on which the apparatus is worn.

9. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 4, wherein said apparatus further includes rigid support elements within said interior portion.

10. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 4, wherein said apparatus further includes vent openings extending from said interior portion to said exterior portion for ventilating the middle finger when worn by a user.

11. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 1, wherein said apparatus is incorporated into a glove.

12. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 4, wherein said apparatus is removably attachable to a glove.

13. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 12, wherein said apparatus further includes fastening elements for removably attaching said apparatus to a glove.

14. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 12, wherein said fastening elements for removably attaching said apparatus to a glove includes hook and loop material.

15. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 14, wherein said apparatus further includes additional support structure in the form of straps having fastening elements for securing the index finger and ring finger in a position adjacent to and overlapping with the middle finger of the user.

16. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 15, wherein said apparatus further includes additional support structure in the form of straps having fastening elements for securing the index finger and ring finger in a position adjacent to and overlapping with the middle finger of the user.

17. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 3, wherein said apparatus further includes fastening elements to guide and instruct a user to arrange the index finger and ring finger adjacent to and overlapping with a portion of the middle finger to be held in the hand, whereby when held and clenched the user’s fingers are supported by said three-dimensionally shaped support to be held in the hand further includes a middle finger knuckle support member incorporating a cast semi ridged structure material.

18. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 17, wherein said apparatus further includes a middle finger knuckle support member incorporating a cast semi ridged structure material.

19. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 18, wherein said apparatus further includes a
middle finger knuckle support member incorporating a cast semi ridged structure formed in a polymer or elastomeric material.

20. The apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, according to claim 5, wherein said open ended cylinder is incorporated into a strap extending from said apparatus.

21. A method for more effective exercise comprising the steps of:

- providing an apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist, wherein said apparatus is structured and arranged to prevent flexion and facilitate extension of the most distal digit between the last two bones of each of the middle finger, ring finger and index finger; and
- using said apparatus to instruct oneself or others in the formation of a fist wherein the middle finger is folded down into the center region of the palm; the ring finger is folded down adjacent to and overlapping with a portion of the middle finger; the index finger is folded down adjacent to and overlapping with a portion of the middle finger; wherein the most distal joint of each the middle, ring and index fingers remains straight and not flexed.

22. The method for more effective exercise according to claim 21, further comprising the step of using the apparatus to secure the index finger, middle finger and ring finger by wrapping the thumb around the index finger and wrapping the pinky around the ring finger.

23. A method for using an apparatus for more effective exercise worn on one or more hands to prevent the formation of a conventional fist wherein said apparatus is structured and arranged to prevent flexion and facilitate extension of the most distal digit between the last two bones of each of the middle finger, ring finger and index finger, comprising, the steps of:

- placing an apparatus on one or more hands which prevents the formation of a conventional fist, wherein said apparatus prevents flexion and facilitates extension of the most distal digit between the last two bones of the middle finger, ring finger and index finger; and
- exercising and training with said apparatus worn on the hand.