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(54) **SKATE BOARD SPIKE**

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(52) **U.S. Cl.** ..... **280/819**

(57) **ABSTRACT**

The present invention involves a spikeboard spike, consisting of an ergonomic handle, a tapered shaft, and a carbide metal tip. This invention is designed for the sport of spikeboarding, a revolutionary new sport that requires a full-body, physical motion to propel the skateboarder forward. Where skateboarders typically propel themselves forward with one foot, spikeboarding enables the skateboarder to simultaneously push with one foot while thrusting a spikeboard spike into the ground with the opposite side's hand. This combination of skateboarding with the lower body and cross-country skiing with the upper body has never been done before. As a result, this motion permits the skateboarder to achieve speeds, on uphill and flat terrain, previously unknown to skateboarders. The object of the present invention is to provide skateboarders with a one- or two-handed propulsion device necessary for the sport of spikeboarding.

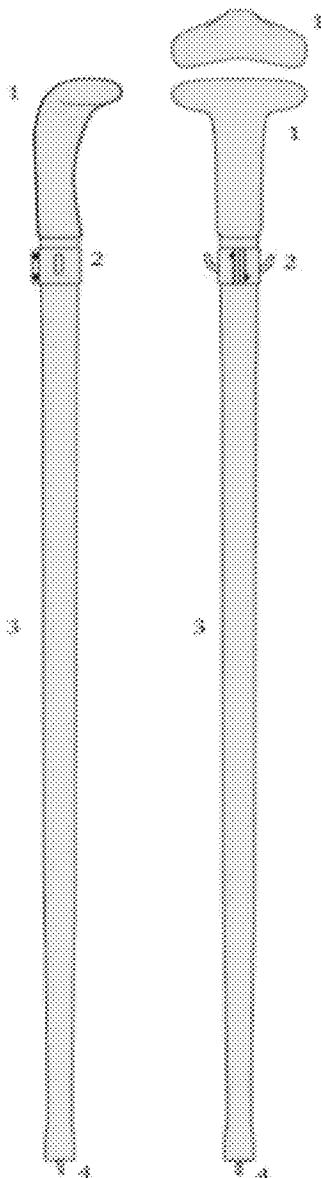


Fig. 1

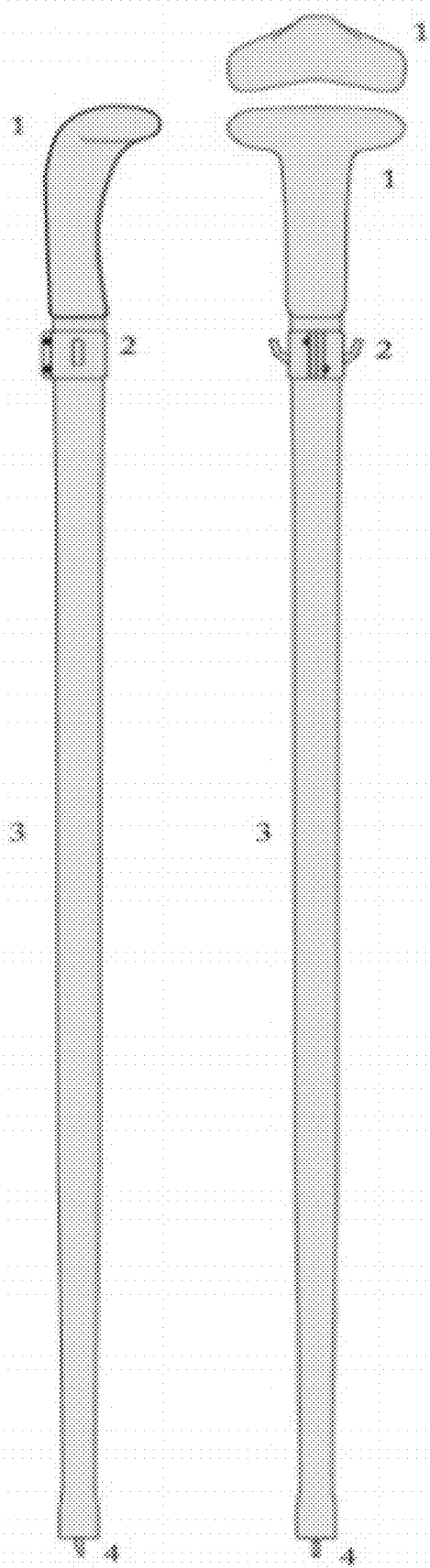


Fig. 2



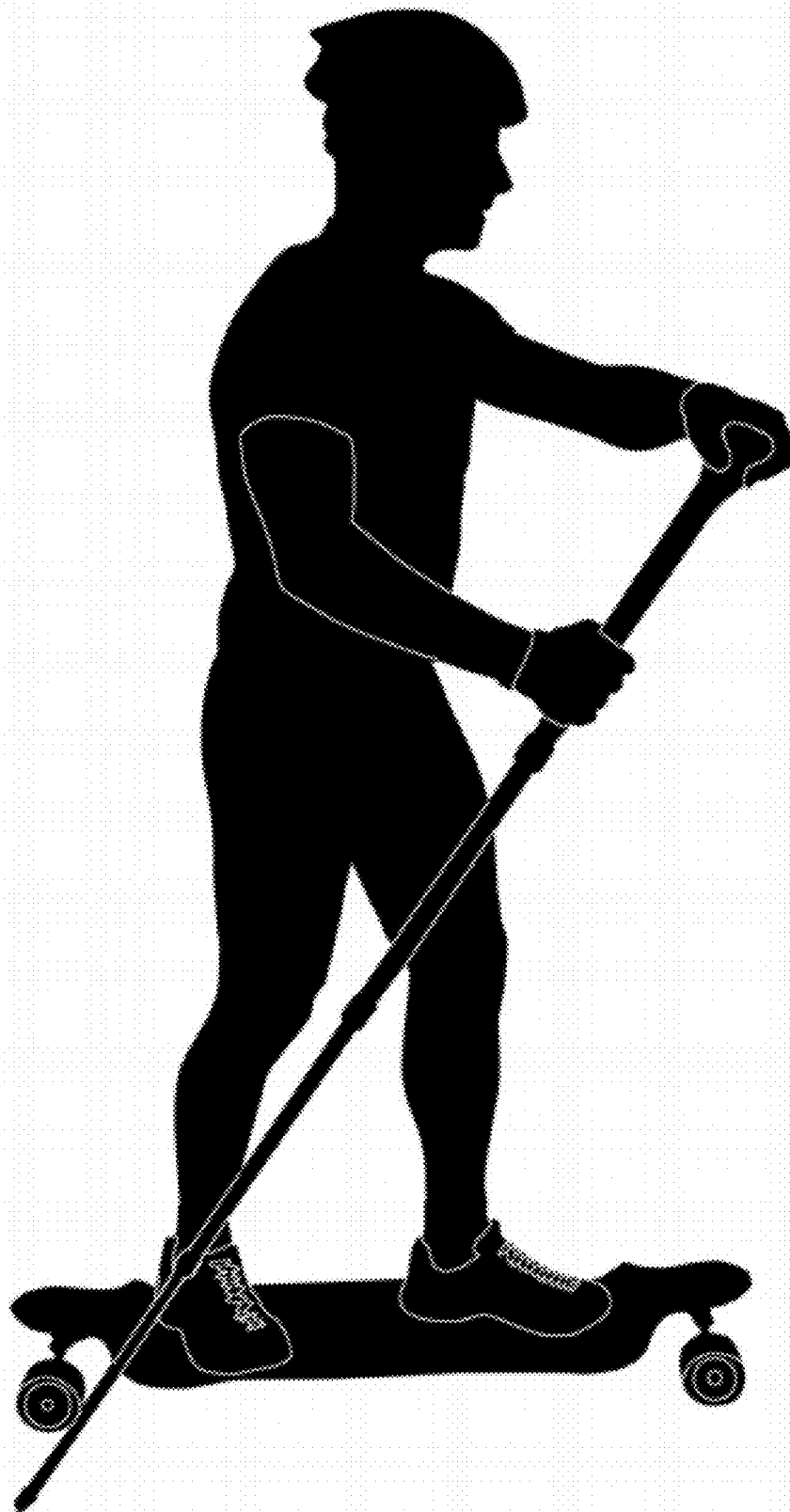
“Cubi X Cross”

Fig. 3



“Cubi X Cross”

Fig. 4



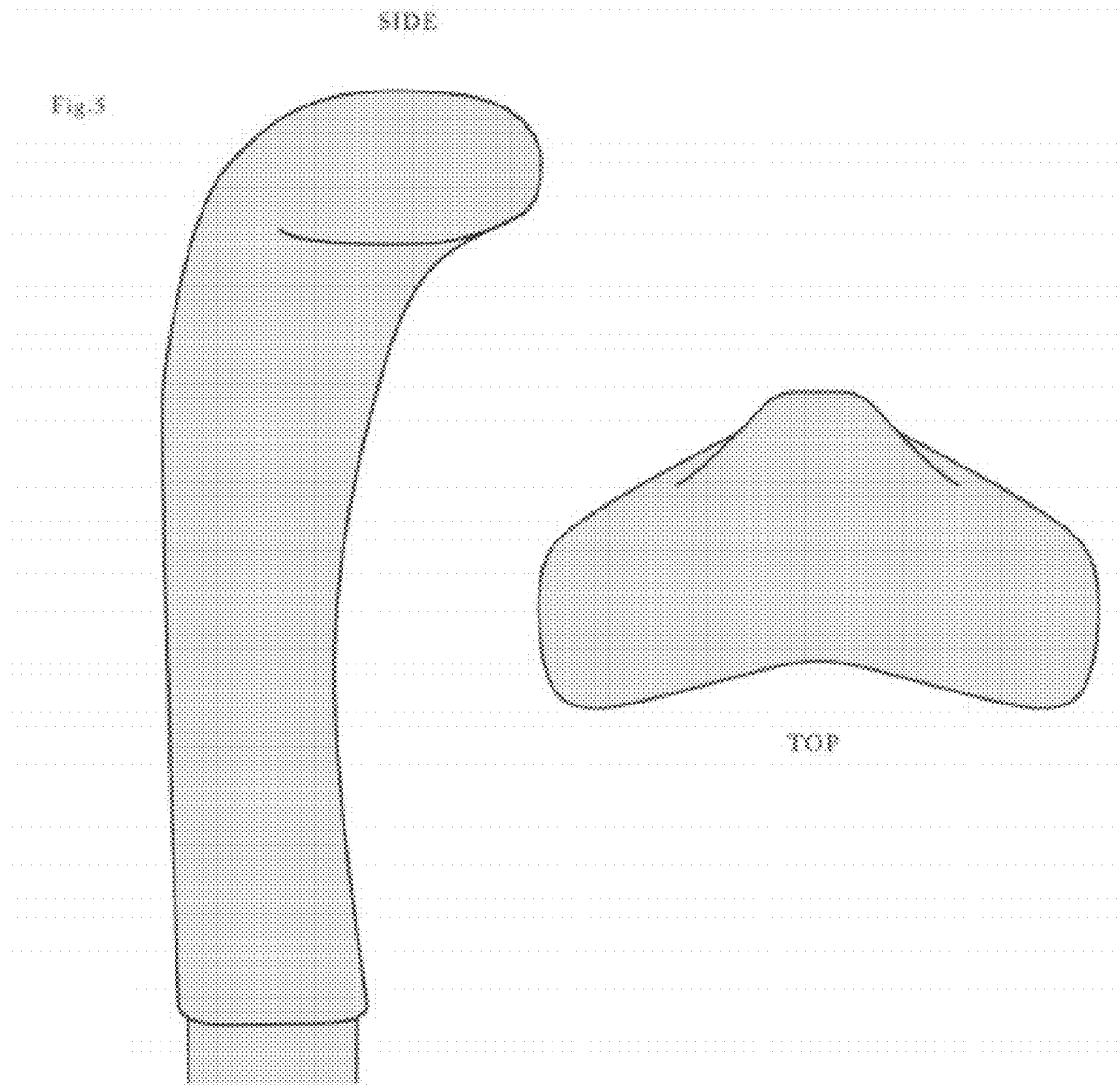


Fig. 6

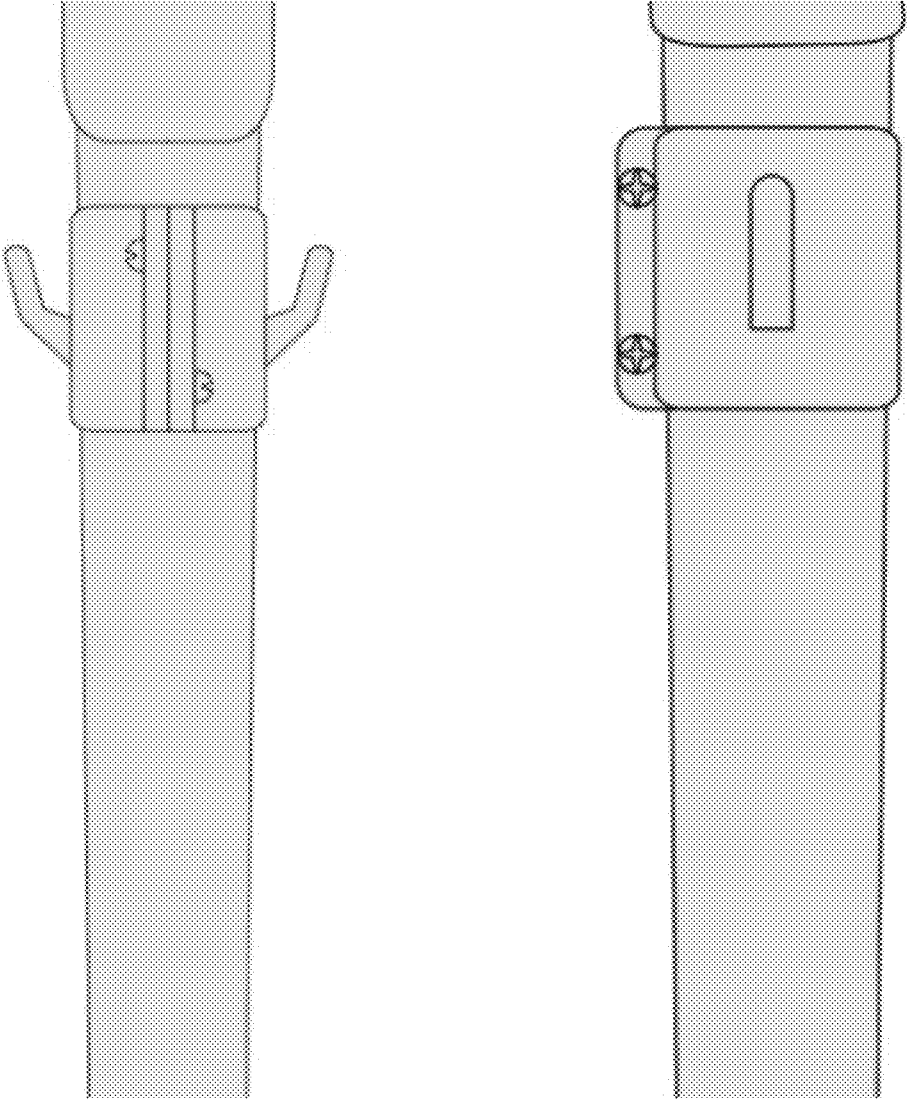
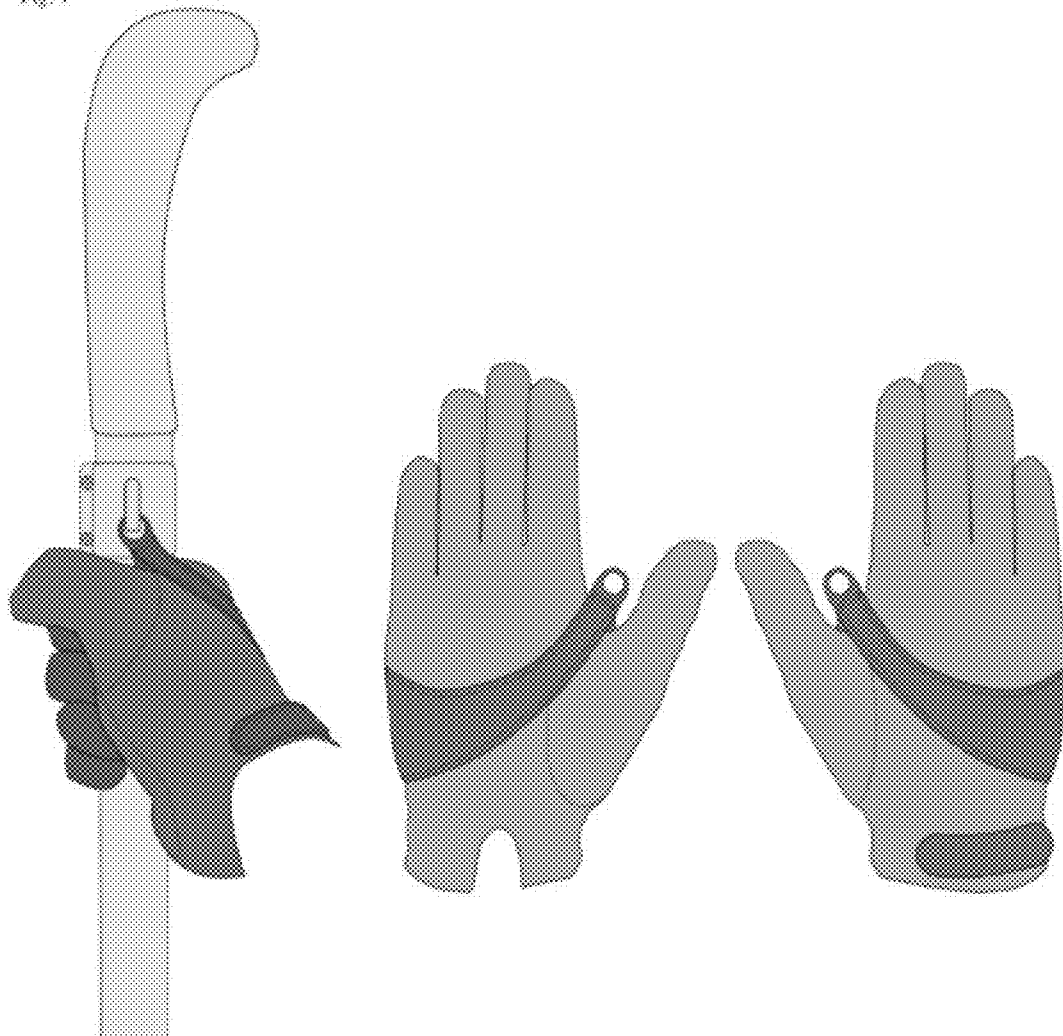


Fig. 7





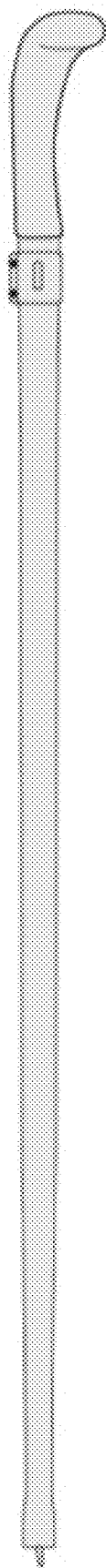


Fig. 8

Fig. 9

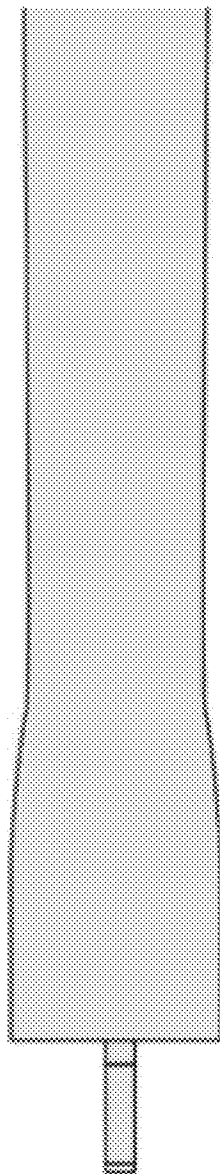
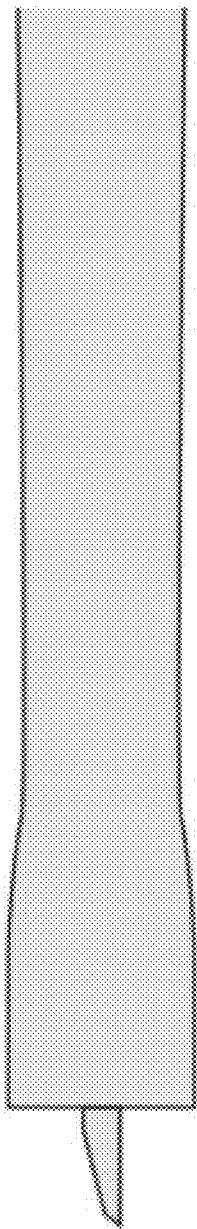


Fig. 10

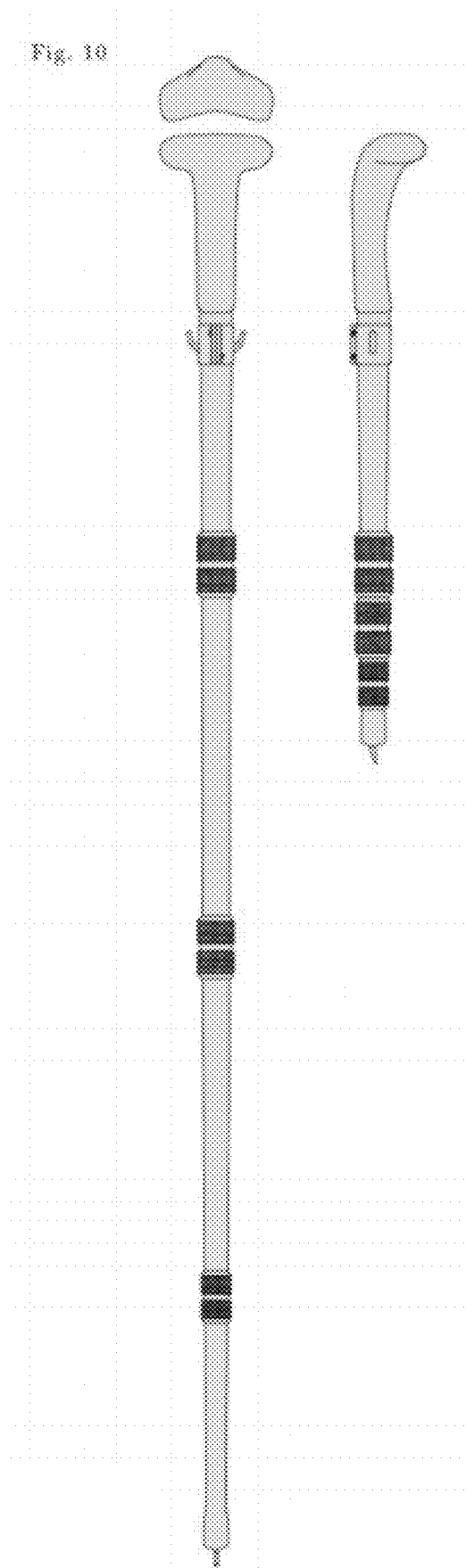


Fig. 11

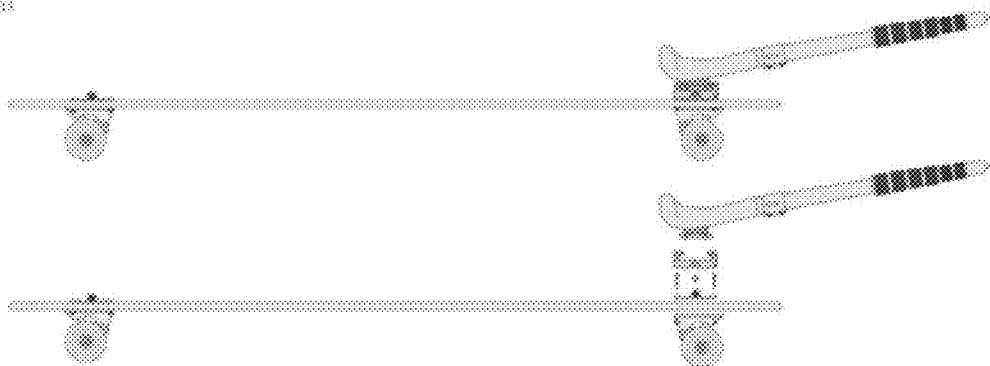
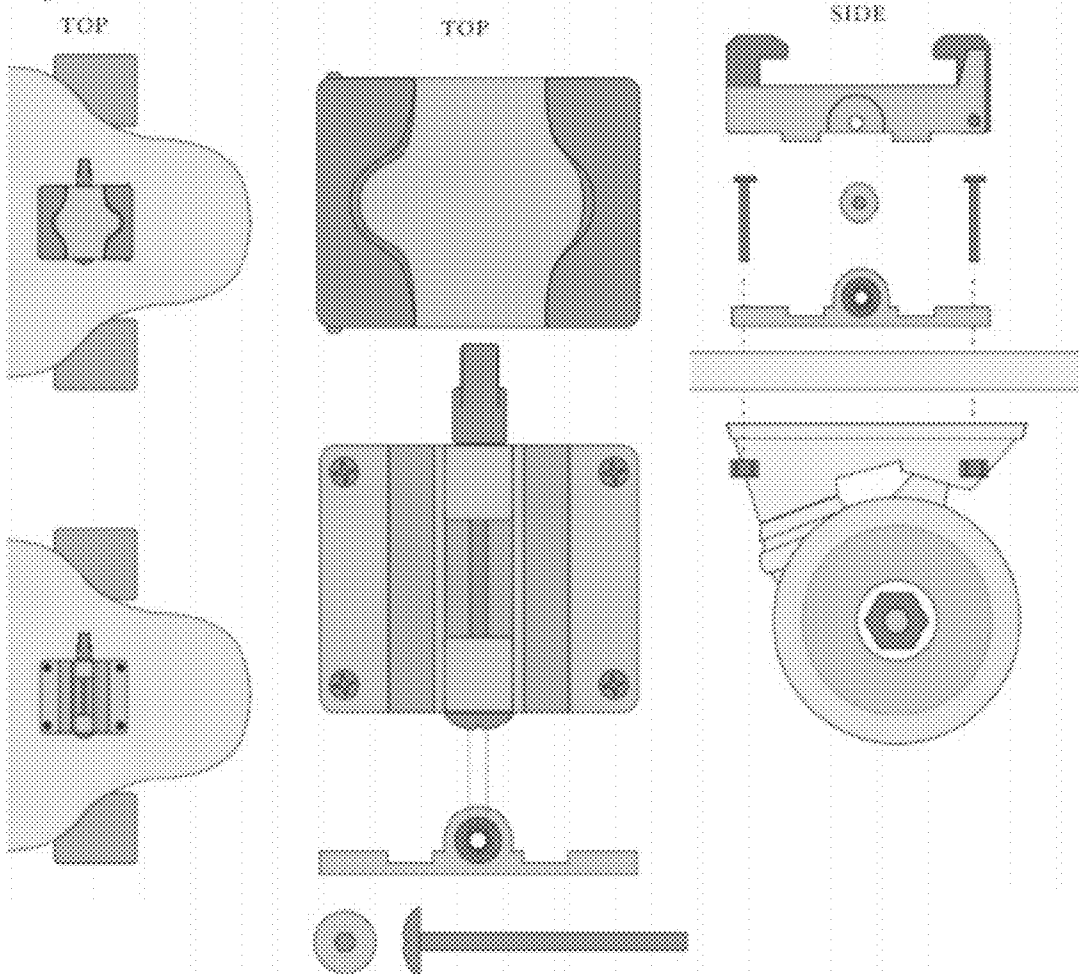


Fig. 12



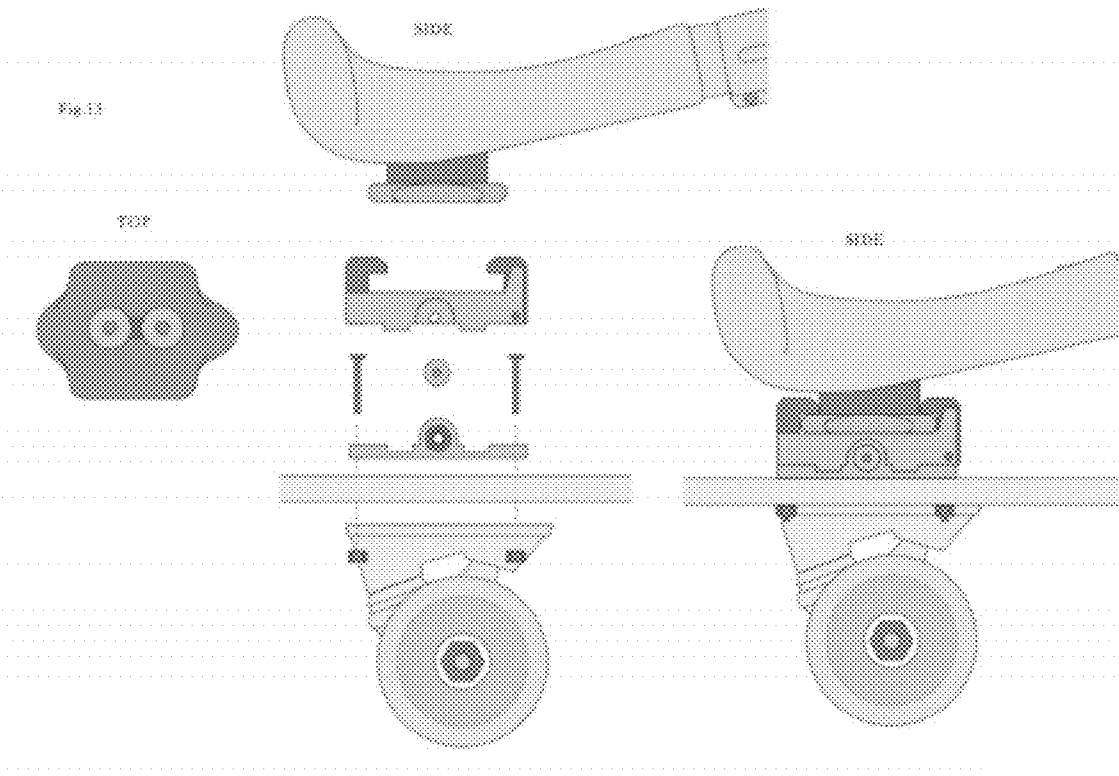


Fig. 14

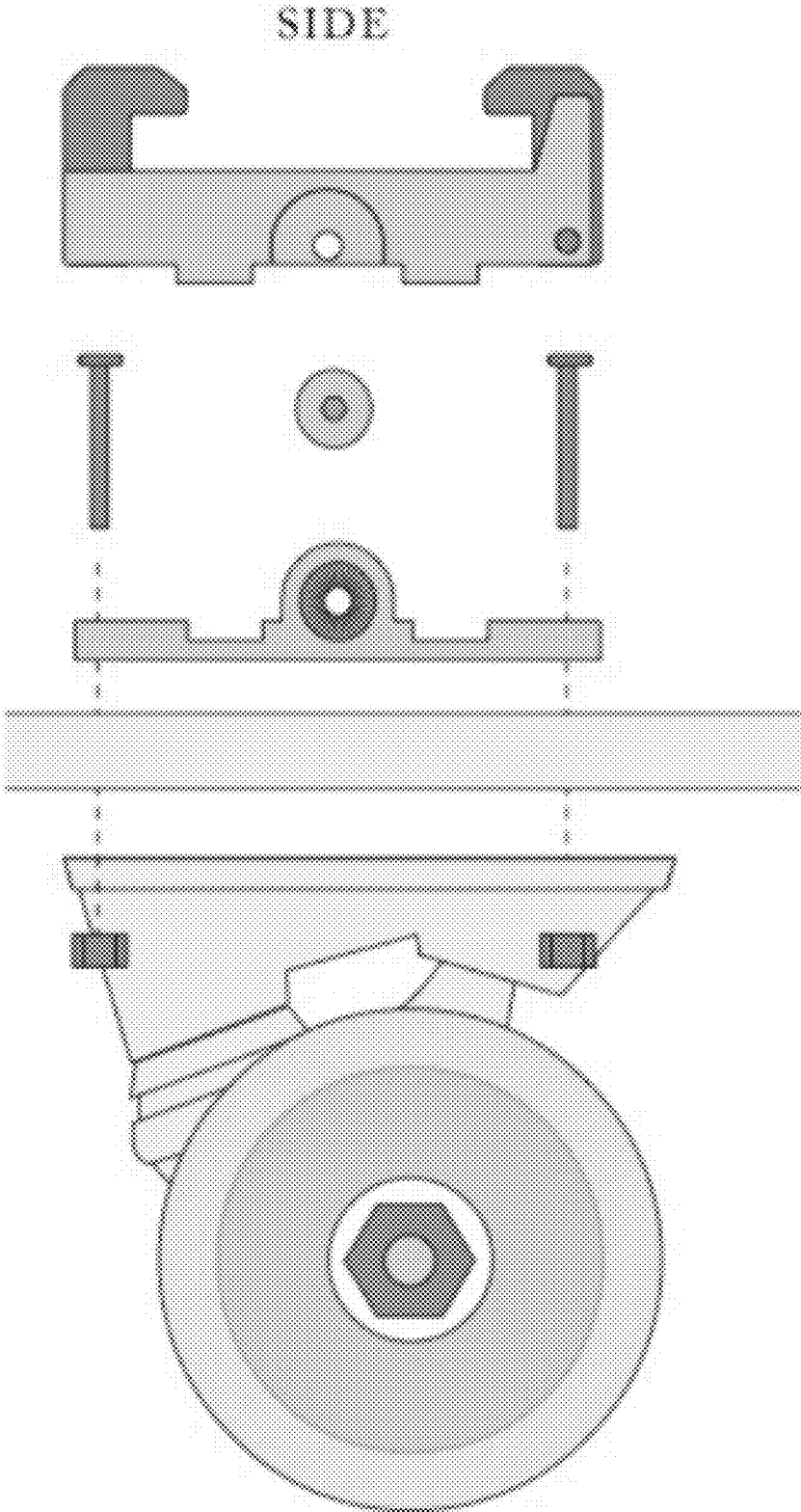
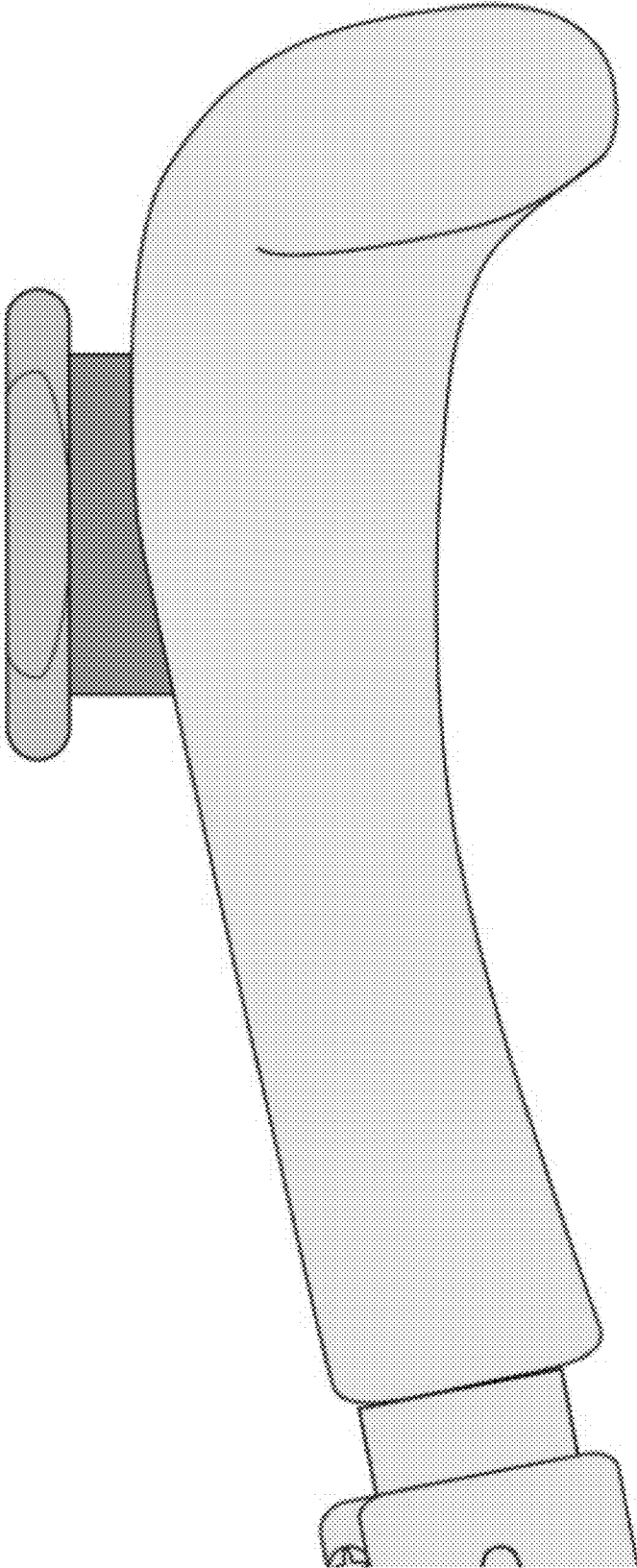


Fig 15



## SKATE BOARD SPIKE

### BACKGROUND OF THE INVENTION

[0001] The present invention relates to skateboards and skateboarding and, more particularly, is related to spikeboard spikes used to propel a skateboarder forward, either as a one-handed or two-handed device, in all weather conditions and on all terrains.

[0002] The sport of skateboarding has been evolving at a rapid pace. Traditionally, skateboarders were limited to direct propulsion with one foot. This motion was problematic because fatigue quickly set in, thereby making it difficult for skateboarders—even the fittest—to skate extended distances or on uphill terrain. Recently, however, skateboarders have started using their upper body and hands to propel themselves forward with a land paddle-type device. This two-handed paddling motion, known as stand up land paddling, requires the skateboarder to place both feet on the board and paddle in a manner identical to a stand up paddle surfer. The problem though is that this two-handed paddling motion prevents the skateboarder from simultaneously using his feet as a propulsion device.

[0003] Spikeboarding is a revolutionary new sport that combines skateboarding and cross-country skiing into one fluid motion as depicted in FIGS. 2 and 3. While the skateboarder propels himself forward with one foot 2, he simultaneously thrusts a spikeboard spike into the ground on the opposite side of the skateboard 3 (see FIGS. 2 & 3). This fluid, full-body motion can be performed on either side of the skateboard (i.e., the skateboarder can switch sides). This one-hand one-leg motion is known as “cubi×cross.” It, along with the two-handed stand up spiking (“SUS”) motion depicted in FIG. 4, serve as the foundation for the sport of spikeboarding. The present invention is uniquely suited to SUS and the cubi×cross maneuver.

### DESCRIPTION OF PRIOR ART

[0004] Document U.S. Patent Application No. 2009/0236816 discloses a skateboard street paddle designed for two-handed stand up land paddling. This land paddle comprises a shaft made of a sturdy, elongated material, a cylindrical handle disposed perpendicular to the shaft, and a foot shaped as a wheel affixed to a hub. The preferred material for the foot is an impact resistant material, such as high-density rubber. The foot’s material and design provide the skateboarder with a contact point for both propelling himself forward and applying force against the ground to slow down (i.e. create drag). The foot can also be planted in a stationary spot and used as a pivot point for tricks.

[0005] The primary problem with current skateboard paddles is the shape and material used for the foot. As noted, the foot is designed to provide the skateboarder with a braking device by creating friction when dragged across the road surface. Because the foot is designed to slide, however, it fails to provide the skateboarder with a solid contact point with the road surface. As a result, the rubber foot often slips and becomes ineffective during high intensity land paddling on flat and uphill surfaces. This slippage makes it futile to attempt to use the skateboard paddle as a one-handed propulsion device. The rubber material also fails to provide a solid contact point in inclement weather when the road surface is wet or covered in snow or ice. Finally, the rubber foot, upon use, quickly wears down, resulting in an uneven shape and

even more slippage. For these reasons, the rubber foot is unsuitable for the sport of spikeboarding.

[0006] Another problem with current skateboard paddles can be traced to the flawed design of the handle. For example, the skateboard street paddle disclosed in US Patent Application No. 2009/0236816 relies upon a rudimentary cylindrical handle oriented perpendicular to the shaft. This handle is not ergonomically designed to fit into the skateboarder’s palm. As a result, it fails to maximize the vertical transfer of power from the skateboarder’s hands, down the shaft, and into the road surface. Skateboarders must therefore use both hands when stand up land paddling with the skateboard street paddle.

[0007] Finally, the heavy weight of current skateboard paddles effectively mandates a two-handed paddling motion.

[0008] Other poles exhibit similar flaws to the skateboard street paddle, thereby making them unsuited to the sport of spikeboarding. For example, U.S. Pat. No. 5,163,710 discloses a Roller Skating Pole designed to assist in-line roller skaters control their forward speed. To provide a breaking surface, the tip of the pole is made from synthetic or natural rubber. As a result of these materials though, the Roller Skating Pole will slip and wear down much like the rubber foot disclosed in US Patent Application No. 2009/0236816. Similarly, the Roller Skating Pole is designed with a rudimentary grip, namely the upper-end of the pole itself. Again, the problem with this grip is that it fails to maximize the transfer of power down the shaft and into the road surface.

[0009] Thus, the principal object of the present invention is to provide the skateboarder with a one- or two-handed propulsion device uniquely designed for the one-handed cubi x cross maneuver and two-handed SUS. This is achieved with the spikeboard spike as claimed in the present application.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. 1 illustrates one embodiment of a spikeboard spike according to the invention, wherein the spikeboard spike consists of 1 an asymmetrical ergonomic handle, 2 a tapered lightweight shaft, and 3 a carbide-metal tip.

[0011] FIG. 2 illustrates a front view of the cubi×cross maneuver, the foundation of spikeboarding. The skateboarder holds the spike just below the handle as depicted at 1. While the skateboarder pushes with one foot as depicted at 2, he simultaneously thrusts the spikeboard spike into the ground on the other side of the deck as depicted at 3. FIG. 3 illustrates a side-view of the cubi×cross maneuver.

[0012] FIG. 4 illustrates the two-handed motion of stand up spiking (“SUS”).

[0013] FIG. 5 illustrates a side and top view of the asymmetric, ergonomically shaped handle.

[0014] FIG. 6 illustrates a further embodiment of the spike with a power transmission hook while FIG. 7 illustrates the interface between the power transmission hook and a spikeboard glove.

[0015] FIG. 8 illustrates the tapered shaft.

[0016] FIG. 9 illustrates the carbide-metal tip.

[0017] FIG. 10 illustrates a telescoping spike, another embodiment of the invention disclosed herein.

[0018] FIG. 11 illustrates how the telescoping spike attaches to the skateboard deck.

[0019] FIG. 12 provides a side and top view of the base-plate. It also illustrates the location of the base-plate on a skateboard deck.

[0020] FIG. 13 illustrates the attachment cleat.



[0021] FIG. 14 illustrates how the base-plate attaches directly to the truck bolts on a skateboard deck.

[0022] FIG. 15 illustrates how the attachment cleat fastens to the spikeboard spike just below the ergonomic handle.

#### DETAILED DISCLOSURE OF THE INVENTION

[0023] Each element of the spikeboard spike is designed to produce a one- or two-handed propulsion device essential for the sport of spikeboarding. FIG. 1 discloses the three key elements of a spikeboard spike: **1** an ergonomic handle, **2** a tapered shaft, and **3** a carbide metal tip. The ergonomically shaped handle provides a secure grip, which maximizes the longitudinal transfer of energy into the spikeboard spike and permits the skateboarder to use the spikeboard spike as a two-handed propulsion device over long distances (see FIG. 4). The shaft is tapered to provide the optimal flex and designed from lightweight materials. Finally, the contact point—a carbide metal tip as opposed to a rubber foot—literally digs into the road surface, providing maximum purchase for the transfer of power and forward propulsion. These elements form the core of the present invention and thus warrant a more detailed description.

[0024] The ergonomic handle is designed to maximize the transfer of energy into the spikeboard spike. As shown in FIG. 5, the base of the handle is ergonomically designed to fit and support the palm of the skateboarder's hand. At the same time, the phlanges of the skateboarder's hand can curl over the top of the handle. Due to this asymmetric design, the skateboarder's hand can securely grip the spikeboard spike while remaining in an open and relaxed position. This hand position is ideal for thrusting the spikeboard spike downward into the road surface with minimal fatigue. That is, the skateboarder can easily transfer force through the palm of the hand, into the handle, and down the longitudinal length of the spikeboard spike. Moreover, because the design of the handle allows the skateboarder's hand to remain in a relaxed position, the skateboarder's hand can absorb vibrations created by the impact of the spike on the road surface. In this way, the handle reduces the fatigue created by thrusting the spike into a hard road surface, thereby permitting the skateboarder to use the spikeboard spike over long distances and on steep terrain. Finally, it should be noted that the handle fits either the skateboarder's right or left hand. Accordingly, the skateboarder can pass the spikeboard spike from one-side to the other-side, a movement essential to the one-handed cubix cross maneuver and two-handed SUS.

[0025] FIG. 8 illustrates the shaft of the spikeboard spike, which can be designed from a variety of light-weight materials, including carbon fiber. The shaft is tapered from the handle down to the spike, thereby ensuring the optimal strength-to-weight ratio and eliminating any unwanted flex. Because the shaft is so light, it can be readily used with just one hand. At the same time, it is stiff enough to withstand the force of two-handed SUS.

[0026] FIG. 9 illustrates the design of the metal carbide tip, which fits securely into the shaft of the spikeboard spike. The tip is asymmetrically shaped with a sharp edge. This design ensures that the spike literally digs into the road surface thereby reducing, if not completely eliminating, any slippage. As such, the skateboarder can use the spikeboard spike as a one-handed device without the fear that it will slip and potentially cause him to lose balance. Indeed, the tip is so effective that it provides traction in adverse road conditions, including

rain, snow, and thin ice. Moreover, due to the angle created by the spike's edge, the spike provides purchase on uphill terrain and under intense force.

[0027] In a further embodiment, the spike contains a power transmission hook as illustrated in FIG. 6. This hook provides the skateboarder with a means of securely connecting one glove to the shaft of the spike. This connection point is essential for the one-handed cubix cross maneuver (see FIGS. 2 and 3). In order to cubix cross, the skateboarder must shorten the effective length of the spikeboard spike by holding it in one hand just below the ergonomic handle as depicted at **1** in FIG. 2. This is where the power transmission hook is located as depicted in FIG. 6. The hook permits the skateboarder to attach a glove directly to the spikeboard spike as depicted in FIG. 7. Thus attached, the skateboarder can effectively transfer power down the shaft with one hand. The skateboarder can also easily release the hook from the spikeboard spike with an up-and-back motion and quickly transfer the spikeboard spike to the other hand—a feature necessary for effectively switching. Without this spike-glove attachment hook, the skateboarder would have to hold onto the shaft of the spikeboard spike—a tenuous gripping position that could result in the spikeboard spike slipping out of the skateboarder's hand.

[0028] As noted previously, the spikeboard spike allows skateboarders to propel themselves uphill and gain elevation. Inevitably then, skateboarders will have to descend back downhill. In the downhill discipline of spikeboarding, the skateboarder must be free to put on a pair of slide gloves and use both hands to pivot and slide. This two-handed sliding motion permits the skateboarder to check his speed. In order to perform this check-sliding motion, the skateboarder must be able to temporarily store the spikeboard spike. Thus, another embodiment of the spikeboard spike includes a telescoping spike as depicted at FIG. 10, which can then, in another embodiment of the spike, be attached to the front or rear of the skateboard with a quick attachment mechanism as depicted at FIG. 11.

[0029] The quick attachment device contains two components: a base plate depicted at FIG. 12 and an attachment cleat depicted at FIG. 13. The base plate attaches directly to the truck bolts on a skateboard deck as depicted at FIG. 14. The attachment cleat, in turn, attaches to the spikeboard spike just below the ergonomic handle as depicted at FIG. 15. The cleat can be engaged with the base plate by pushing the spikeboard spike forward and down into the base plate. Thus secured to the front or back of the deck, the telescoping spike does not interfere with check sliding. The spikeboard spike can then be quickly removed from the base plate with a simple twisting action. This quick release mechanism allows the skateboarder to securely store the spikeboard spike on the deck during a descent and then quickly remove it when the hands are no longer needed for sliding.

[0030] The drawings and the related description are only intended to illustrate the idea of the invention. In its details, the invention may vary within the scope of the claims.

What is claimed is:

1. A spikeboard spike, comprising
  - an ergonomic handle that fits and supports the palm of the skateboarder's hand,
  - a tapered shaft made from lightweight materials, and
  - a carbide metal tip that is asymmetrically shaped to create a sharp edge.

- 2. A spikeboard spike as claimed in claim 1, wherein:  
the shaft can be telescoped down to an ideal length for  
temporary storage on the deck of the skateboard.
- 3. A spikeboard spike as claimed in claim 1, including an  
attachment cleat located just below the ergonomic handle

which can then be quickly engaged with a base-plate attached  
to either the front or rear truck bolts on a skateboard deck.

- 4. A spikeboard spike as claimed in claim 1 which includes  
a power-transmission hook.

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