SURFBOARD HORIZONTAL FIN

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ABSTRACT

1. The Horizontal Fin is a marine vessel mechanism. It manufactures propulsion without the use of an engine, moving parts, or fuel. This assistance reduces human paddling labor.

2. The Horizontal Fin is also a marine vessel stabilizing mechanism. It accumulates equalizing water pressure to resist equal amounts of side to side wave pressures. Rough water and waves have mercilessly challenged the ability of the surfer to stand or fall. This will significantly "tip" the odds in favor of a successful ride.

Photo A-1 - 3 Pieces of the Horizontal Fin

A-7 Underneath

Scale: 1" = 1
Photo A-1 - 3 Pieces of the Horizontal Fin

A-7 Underneath
Photo A-2 - 3 Pieces of the Horizontal Fin (Separated)

Left Fin

Right Fin

A-4
A-5
A-6

A-1
A-2

A-4
A-5
A-6

A-3

Ride Plate

SCALE: 1" = 2"
Photo B-1 - "Ride Plate" Medium Adjustment (Left Side View)
Photo C-1 - "Ride Plate" Maximum Adjustment (Left Side View)
Photo C-2 - "Ride Plate" Maximum Adjustment (Top Side View)

C-1
2 Inches
Photo C-3 - "Ride Plate" Maximum Adjustment (Top Side View)
Photo D-1 - Surfboard Without A Horizontal Fin (Side View)

Not To Scale
Photo D-2 - Surfboard Without A Horizontal Fin (Rear View)

Not To Scale
Photo E-1 - Surfboard With A Horizontal Fin (Rear View)
Photo F - Surfboard With Horizontal Fin (Side View)

The 3 Flat Surfaces Of The Vortex Are:
F-1 The Hull Bottom
F-2 The Vertical Fin Side
F-3 The Horizontal Fin Top Side

Not To Scale
Photo G - "Orifice"

G-1
Upward Angle

G-2
Downward Angle

G-3
G-4
G-5 (Orifice)
Photo 1: “Ride Plate” Maximum Adjustment (Top Side View)
Photo 2: "Ride Plate" Maximum Adjustment (Top Side View)
Photo E. Q. "Ride Plate* Maximum Adjustment (Top Side View)
Photo M - Other Designs (Top View)

M-1

Not To Scale

M-2

Not To Scale
SURFBOARD HORIZONTAL FIN

FIELD OF INVENTION

[0001] This invention relates to “marine” vessels. It is a compact fuelless hybrid marine engine with no moving parts. It may be used exclusively, or with a vessel fuel engine, to assist it to save fuel costs. It’s field may be compared to a hybrid automobile engine, excepting that it requires water currents as it’s source of origin, to multiply power from. So it’s field is exclusively for marine aquatic vessels. It’s applications to marine vessels are more specifically related to marine engines, marine stealth, and marine safety equipment.

BACKGROUND OF THE INVENTION

[0002] The Horizontal Fin is a hybrid marine engine; [0003] Particularly, it is applicable to saving costs of fuel. It can attach to a vessel rudder or surfboard fin with as little as two screws, so that the costs of installation does not mitigate it’s fuel savings. Henry Ford would be astonished, and so will we, as the future of this generic design of the Horizontal Fin unfolds, just as the future of his gasoline engine unfolded. The invention of the gasoline engine was the beginning of a new generic design that put the background of horses for transportation into history. Likewise, the invention of the Horizontal Fin is the beginning a new generic design that inventors will improve upon like Henry Ford’s generic design of a gasoline engine. [0004] The Horizontal Fin’s background is related to fuel savings; [0005] Recent gasoline price hike sent shivers across the economy of the United States. Costs of vessel shipping fuel are passed on to consumers. The Horizontal Fin can move a huge cargo vessel from Japan to the United States, without fuel, if it can chart the currents to do so. This is profound. From shippers to just poor boys boating, the search for fuel savings establishes a background of need for the Horizontal Fin. There are no gas stations in the middle of the ocean. The impact of fuel saving cars from Japan on an American market is an example of a background to compare to. Based on the background of how our society has responded to hybrid car engines, it should equally respond to hybrid marine engines. Based on the background of our society’s acceptance of marine electric boats, the Horizontal Fin should be equally acceptable. [0006] The Horizontal Fin has no objections or contradictions against it; [0007] It is smog pollution free, fuel free, noise free, is service and maintenance free, cannot injure anyone, can’t catch fire, marine environmentally adaptable, and does not disturb or vibrate marine life like propellers do. It is the only engine that can be used in environmentally protected lake area’s that only row boats are allowed into. Marine electric and hybrid engines are still not service free. [0008] Insurance rates would be reduced; [0009] Vessels powered by or assisted by Horizontal Fins may be reduced. Marine insurance includes vessel rescue and tow service. The Horizontal Fin can rescue the vessel instead, reducing rates and deductibles for marine insurance. The Horizontal Fin needs no regular maintenance or service and has no moving parts, not even oil. It is light weight, compact, removable, extremely inexpensive compared to other engines, and is as reliable as the forces of water current that operate it. The source of origin of initial propulsion is a small force of water current. It is collected on a collector and routed into a pressure verses volume vortex, and then multiplied again in an orifice. The multiplied water pressure that exits the orifice is banked off the vessel rudder or surfboard fin. This pressure pushes the vessel forward by pushing the rudder or fin. Then the pressure bounces off into the hull, and pushes the vessel forward again. No moving parts. The aqua physics invented includes the water moving instead of engine parts moving. Our engines and parts break; but the ocean currents don’t. This generic design is new and more reliable. [0010] The Horizontal Fin generic design is used by fish. [0011] The background of a Horizontal Fin has been one of the fishes best kept secrets. Mankind has an economic and efficiency deficiency in vessel design, and doesn’t know it until this is proven by a better design. The background of better designs has existed in what the creator has created. It’s mankind’s task to realize this, discover it, and invent a way to do it. Many answer’s are here, but cannot realize or know them. Fish get lazy to, and they want a free ride. They want to glide and slide more per each fin flip, to economize their fin motion labors. They also use the flat rear part of their fins in the rear as current collectors, that’s why their created that way. No question about the creators design, it is better than ours have been. From about 50 years of the water, and a scuba diver, I realized what the fish cannot explain to us by experience, and have imitated it in this marine invention. The Horizontal Fin is an invention to help mankind catch up to a more advanced design, the one the creator used for fish. If fish do this, why wouldn’t we? Fish don’t tip over because they are stabilized by horizontal or vertical fins and bodies. Why don’t we do the same thing to our vessels to stabilize them? [0012] Stealth inventions for marine vessels have a variety of backgrounds; [0013] It is needed by the military, by fishing vessels, and vessel communities. The Horizontal Fin is a marine engine that powers a vessel forward without using a propeller or moving parts that cause noise, thermal indicators, vibrations, or detectable frictions. The water currents move instead of engine parts moving. Since the water currents naturally preexist, nothing can be detected otherwise. [0014] Vessel mooring communities need the Horizontal Fin for stealth; [0015] Vessels dock or moor in communities in rows of docks in harbors. People live onboard and sleep in them. They moor within a few feet of each other. If anyone drives in or goes, they would wake up the other, or not be able to hear the TV or music. These communities have a noise background problem Stealth is needed and an invention that could provide a quiet way for each other to drive vessels in and out of the harbor at night time without waking up others is needed. [0016] The military vessels need the Horizontal Fin for stealth; [0017] Navy seals need to sneak up on the enemy without the risk of noise from their diesel or gasoline engines. If any marine vessel engine could ever be invented to eliminate noise, the persons executing these missions lives would not have noise risks. Simply said, if life and mission is at risk eliminate the risk!! [0018] Fishing vessels need the Horizontal Fin for stealth; [0019] Fishermen need to sneak up on the fish without propeller vibration, propeller noise, or engine noise that scares away the fish. Man cannot make noise like “stupid people” (according to the fish’s opinion) and think they are sneaking up on a fish. The big challenge to the world is called
catching fish". The background of this problem is that the fish catch us instead... they get our bait, and we don't get them!! They know something is "fishy" about this dead anchovy because it came there making noise like human beings vessel engines do! The Horizontal Fin invents the stealth needed and wanted for a fishing vessel to approach a fish in a way the fish has "not heard of before!"

Vessel safety equipment has an important background;

Inventions are a way to stop more losses. The human race has to reduce risks of being in an environment of water that was created for fish, not people. We were not created to be in the ocean, fish were. Inventions are needed to reduce capsizing, freight damage, sea sickness, etc.

Low cost vessel safety equipment is needed;

Cost is what makes what safety equipment practical. If it’s not required safety equipment, vessel owners may not make the safety improvement unless it really works that good "and" it doesn’t cost an arm and a leg, it saves them! Any real significant improvement invented in marine safety equipment for around fifty dollars will work. Price makes safety practical. The background of not having the safety equipment needed is usually it’s cost. The odds of someone needing marine safety equipment may be compared to the odds of having an auto accident today. People don’t want to waste a lot of money for safety equipment that they don’t anticipate they will need. The safety equipment that does or does not have a background was often decided by "how much" it costs.

No other invention stabilized a surfboard enough to headstand ride:

If any other invention could match the stabilizing ability of the Horizontal Fin, they would be surfing standing on their heads also. They can’t. I recommend that whoever reads this, look at the photo on the cover of this patent. I am surfing while standing on my head, upside down doing a headstand. I want you to see with your own eyes how much stability is added by the Horizontal Fin by seeing a picture of it in an action challenge. This is a stunt for professional acrobatic surfers. We can see that the Horizontal Fin has stabilized my surfboard in excess of any other safety equipment. I invite anyone from the patent office to personally ride my surfboard. Just call me at 626-2881541. I want share the proof that this invention does have a background, is real, and will perform the claims made in this patent.

The aqua physics design invented is “water volume counter balance”:

Horizontal Fin is a new generic design and invention. If wave current pushes against one side to rock the vessel or surfboard, the opposite side of the Horizontal Fin resists by requiring the equal water volume on the other side to resist. It equalizes water volume displacement on both sides. No other marine stability device can equal what is photographed. If their were not a Horizontal Fin to stabilize my surfboard. I could not ride doing a headstand. Beaches are filled with newcomers to the surfing sport, who are barely able to remain standing on their surfboards. In order to teach surfing I invented the Horizontal Fin. The fin sticking outward horizontally on each side acts like a training wheel on a bicycle.

Disabled persons, ‘had’ no background of surfing;

What you are about to read is a true example and testimony of the Horizontal Fin’s safety stability. A man in a wheelchair, about 40 to 50 years old, sat in his wheelchair with his family, watching me surfing standing on my head, and my surfboard moving without a wave or without paddling. When I came ashore, he asked me how I did it. I showed him the Horizontal Fin, and said “I’ll show you... not tell you”. His family saw my performance, and they could see right away by looking at the invention, that it will really work. It took two of us to carry him off his wheel chair and lay him down on my surfboard. The Horizontal Fin collected some current and gently drove away with him on it! Then one leg fell off the surfboard that he could not physically retract due to his disability, but the board would not tip so he kept on going. He did not get scarred because he didn’t feel any indicators that the surfboard was going to flip over. He didn’t think anything of being so off balance. He could did realize that a surfboard without a horizontal fin would of flipped over. He rode all the way to shore to his family with a smile. The Horizontal Fin was so stable that the family and onlookers didn’t even realize he should of capsized. Nobody who saw what was happening got scarred because the board wasn’t tipping. At the shore, the people cheered! We carried him to the sand where he kneeled in prayer praising God. He told everyone he never imagined he would ever ride on a surfboard. The background of disabled persons, who also would like to try this, under supervision, is real and true hope for achievement and happiness.

Senior citizens want to resume surfing;

There’s a big background of persons who want to continue but can’t. They are all washed up! When the day comes, that an old surfer takes his last ride, his tears feel bigger than the waves. If only someone would invent something to give seniors some assistance so they can resume surfing. They need a little “assistance” to help them balance better and to paddle easier. When they get to tired and another surfer has to pull them in, they know their ride is over, permanently. If I could do anything to add some more years of quality of life to a senior surfer, I am motivated to invent and patent the Horizontal Fin. This is a background and need that will never grow old, and never run out of persons who have never anticipated such an invention could or would be invented.

Seniors and disabled surfers won’t want confusion or errors;

Risks are to high. The Horizontal Fin is a fail safe reliable invention. No reading an operating manual. Any instruction required could be the one that would be the mistake. No mistakes allowed. The Horizontal Fin does not need any instruction, no manual, or any brains. Just put it in the water and go. A senior citizen will look at it, and if it makes common sense, he understands it and buys it. If they don’t believe it will do what the owners manual says, they won’t buy it. Seniors use experience and belief. If a person can evaluate a product, they can chose to buy it or not. The background of an invention is gained or lost if people can see the way it works and understand it. They don’t like paying for something if they can’t figure out if or how it works. The Horizontal Fin is so simple that one look at it explains it, and this simplicity should have been invented this no later than the 16th century. Some people laugh when they see it, and wonder what took mankind so long to invent it. Their comments evidence a background of hope and happiness ahead for the old water people. One of best selling surfing shirts says on it “old men rule”. Perhaps this best expresses a background that in fact exists in the human nature of old surfers versus the young bleach bloned haired society of young surfers.

The background of surfing tricks is a popular challenge;
For example, “Hanging Ten” toes off the front of the surfboard is a challenge that millions of dollars all over the world is spent on. Shirts are worn that say hang ten, and it’s even a name brand of clothing. It’s a mania. Tricks I have learned are the headstand, a summersault, the “coffin ride”, “walk the plank”, do ‘360’s” (full twists), hula dancing, etc. Surfing is all about how you surf, what you do on the board, just like dancing. To aggravate the young bushy bushy blond haired surfers around me, my new trick is to eat a meal while resting on my “mattress” (surfboard). This is a trick itself. The Horizontal Fin has opened the door to a whole new imagination of surfing tricks. Surfers do their thing. What a senior citizen may want but could not before… what a high school kid wants now… is an achievement of being able to perform a surfing trick challenge. When a high school boy hangs ten, his prestige and place in his society has been established. Surfing clothing is a mania. What the word “background” of the invention, and the word “marketable” have in common, is that the amount of people captivated by this need to self express, to compete, establishes a background that wants to buy a horizontal fin. Their surfing clothes explain that they want to express themselves through surfing. The Horizontal Fin will be a way that enables them to do what they could not before. If his background ever see’s a surfer ride standing on his head, “especially a 59 year old bald man with some grey hair, then they think “then i can do it also”. I make it look easy. We are going to see people say “i want to try it”. The background of the Horizontal Fin is a history and present of water people who want an invention that can do something for them. They want performance. The background of automobile owners is that they buy what express themselves.

**BRIEF DESCRIPTION**

The Horizontal Fin vortex encloses current pressure to multiply it, to add propulsion to the surfboard. The surfer is able to control this by stepping to the rear of the surfboard. This applies weight to the rear so the rear of the surfboard is an angle downward, in the rear. Consequently, the angle of the fin is down in the rear. The Horizontal Fin is operated by the surfers movements. The surfer pushes its angle downward in the rear. Resultantly, the surfer takes off, catches the wave better, faster, and then steps to the nose to ride on.

When the flat “ride plate” angle is lowered current hits it’s angled surface. When there is no angle for currents to hit, there is no propulsion. The angle of the ride plate deflects the wave pressure into the “entry” area of the vortex. The force applied against the ride plate alone is the first of many impacts that the vortex uses to propel the surfboard. Even the discharged water after it leaves the vortex, is directed rearward to add more propulsion.

The ride plate deflects current volume into a smaller orifice to increase pressure. Then it bounces this high pressure back down to smash into the new current pressure being deflected upwards by the ride plate. The upward and downward pressures compress the water in between, building up the pressure inside the vortex. The vortex itself pushes against the vertical fin it is mounted to. The vertical fin pushes the surfboard forward, that it’s mounted to.

**SIMPLE GENERIC DESIGN**, one flat piece, because it also uses the flat sides of the pre-existing vertical fin surface. By attaching the flat piece, called the Horizontal Fin to the vertical fin of the surfboard, it encloses an area to compose a vortex by using the flat surface of the hull. A BRIEF DESCRIPTION is that the bottom of the surfboard is the top of the vortex, the vertical fin is used for the sides of the vortex, and the flat horizontal fin for the bottom of the vortex. Simply adding one more simple flat surface, the Horizontal Fin, at the exact angle, shape and location, creates the invention.

To stabilize the surfboard, the Horizontal Fin on one side has to lift the weight of water upwards toward the surface, and simultaneously the Horizontal Fin on the other side has to push water downward. Resistance to listing is from the upward and downward counter pressures of each horizontal fin on each side.

The weight of the wave crashing downward onto the ride plate, pushes the rear of the surfboard down with such tremendous force that the bow, or nose is powerfully lifted up to nose-ride, or “hang ten”.

**BRIEF DESCRIPTION OF DRAWINGS AND SPECIFICATIONS**

Fig. A-1 is a bottom view of the 3 pieces of the “horizontal fin” adjusted to the “minimum” position. The ride plate is not visible, not being used (extended) in the minimum position.

Fig. A-2 is a view of each of the 3 pieces of the “horizontal fin,” that assemble, then attach to any pre-existing surfboard fin or vessel rudder.

Fig. B-1 is a top left side view of all 3 pieces (showing A-3) assembled into one “horizontal fin”, attached to a surfboard fin. The ride plate is adjusted to the “minimum” position, sliding out 1 inch (now visible).

Fig. B-1 is also a top left view of the 3 holes illustrated in Fig. A-1 used to adjust the ride plate to minimum, medium or maximum adjustment, illustrated as A-4, A-5, A-6.

Fig. B-2 is a top side view of the ride plate adjusted to the medium position.

Fig. C-1 is a left side view of the adjustable ride plate, that is adjusted to “maximum” (2 inches extended rearward).

Fig. C-2 is a top view of ride plate adjusted to the “maximum” position, which is extended outward 2 inches. Compare C-2 illustration to C-1.

Fig. D-1 is a left side view of a surfboard without a horizontal fin.

Fig. D-2 is a rear view of a surfboard without a horizontal fin.

Fig. E-1 is a rear view of a surfboard with a horizontal fin attached, in the minimum position (ride plate is not visible). Compare illustration E-1 to D-1

Fig. E-2 is a side left view of a surfboard with a horizontal fin attached, with the ride plate in the minimum adjustment position.

Fig. F is a view of the area between the bottom hull of the surfboard (F-1), and the top of the horizontal fin (F-3). Attaching the horizontal fin to the surfboard partially encloses this area, called the “vortex” area.

Fig. G is a rear view of the smaller end of the enclosed area of the vortex, named the “orifice”. The vortex orifice is adjusted smaller/larger by adjusting the ride plate.

Fig. H-1 is a left view of the “higher” or larger cubic inch area of the horizontal fin vortex, located in the rear.

Fig. H-2 is a left view of the “lower” or less cubic inch area of the horizontal fin, located in the front. The difference in cubic inch area’s is called the “orifice”.

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FIG. I AND J Illustrates the aqua physics invented. Current enters the large rear area of the vortex, is compressed and pressure multiplied in the smaller area of the orifice, then applied as a “force” to push the vessel.

FIG. K is a bottom view of the horizontal fin. Note the ride plate location is visible from this view.

FIG. L is a rear view of the horizontal fin. Note the angle of the orifice. L-1 is closer to the hull than L-2. It is attached to the surfboard at an upward angle to make the front, the orifice smaller.

FIG. M is a view of another design of horizontal fin. Each width and length of vessel requires a different size and design of horizontal fin, unlimited!!

BRIEF DESCRIPTION OF SPECIFICATION
DRAWINGS OF THE 3 PIECES OF THE HORIZONTAL FIN

FIG. ONE is a specification drawing of the bottom piece of the horizontal fin, called the “ride plate”. It has 3 holes on each side to adjust it’s position.

FIG. TWO is a specification drawing of the left fin of the horizontal fin. It has 3 holes that the “ride plate” attaches to, a choice of 3 size adjustments.

FIG. THREE is a specification drawing of the right piece of the horizontal fin. It has 3 holes that the “ride plate” attaches to, a choice of adjustments.

DETAILED DESCRIPTION

The design and physics of operation used to invent the horizontal fin, imitate those of a pair of aircraft wings, adapted for use in water, to achieve the similar results already proven in aircraft wing designs. The horizontal fin raises, lowers, and stabilizes the surfboard similar to the way wings would an airplane.

The three flat surfaces of the horizontal fin, are assembled together into one piece, as described in the following figures:

Photo “A”
Photo A-1 left fin
Photo A-2 right fin
Photo A-3 ride plate

The ride plate may have as many adjustments as desired, and for example, this ride plate has three. Photo A4, A-5, A-6 Each position may be changed within minutes by sliding the ride plate under the pair of horizontal fins, closer or farther away from the tail or rear of the surfboard, by aligning the adjustment holes up into the desired position, and inserting fasteners through the holes. Suggested types of fasteners are flat surfaced aluminum threaded rivets.

Adjustments are a critical advantage to patent, supreme to other fins invented, because one horizontal fin can adjust to the size of persons and waves, conveniently within a minute or two. No other fin can.

One surfboard that may be to narrow, or to short, etc, The horizontal fin benefits are compensation by adjustments to the horizontal fin ride plate. This may replace the need to buy and bring several types of surfboards. The detailed description of horizontal fin adjustable ride plate is explained by the problems it cures; brother is tall, sister is short, mommymy fat, and daddys wants to go as fast as he can, these are not the size or shape waves my surfboard is designed for, or that my skills permit, etc.

Photo A-7 ride plate adjustment is not extended, so it is not visual. The ride plate is the same size and shape as the horizontal fin, located exactly underneath it. No ride plate extension may be visual or needed for shorter surfers or for bodies under 130 lbs. A-3 fits below A-1 and A-2. Compare this to the visual ride plate photos in photo B and photo C.

Photo B-1 The ride plate adjustment is medium for 130 lbs to 175 lbs. Rear and left side views illustrate a visual extension of the ride plate, extended behind the horizontal fin. The ruler reads about 1 inch of extension.

Compare this photo of a 1 inch extension to photo C of an approximate 2 inch extension.

Photo C-1 The ride plate adjustment is extended about 2 inches for 175 lbs to 215 lbs. (top and left side views).

In respect to the different perimeter sizes of Horizontal Fins, each surfer needs to buy a different perimeter size, which is different for a short board with tall surfers, than a long board etc., and then adjust the ride plate of that perimeter horizontal fin. So, the generic design is the patent, and any or all size differences of this same generic design are inclusively requested to be the rights and privileges of a utility patent design.

Photo D-1 Illustrates a surfboard without a horizontal fin (left side view).

Photo D-2 Illustrates a surfboard without a horizontal fin (rear view).

Photo E-1 Illustrates a surfboard with a horizontal fin (left side view).

Photo E-2 Illustrates a surfboard with a horizontal fin (rear view).

Photo E-3 Illustrates all 3 pieces of a horizontal fin assembled and attached to a surfboard (left side view).

Photo E-4 Illustrates all three pieces of a horizontal fin assembled and attached to a surfboard (rear view).

Photo E-5 Illustrates each side of the Horizontal Fin equally extending from the center of the surfboards vertical fin, outward to each side (rear view).

All surfaces are smoothed with rounded corners, streamlined like ship fins. It may be composed of various materials, such as carbon fiber, poly carbonate, plastics, or metals, but must be able to flex instead of break or injure.

THE VORTEX is composed of three flat surfaces plus three sides that are open. These are named and positioned together as illustrated 1”, so as to define and explain their operation afterwards.

Photo F-1 The pre-existing flat surface bottom of the surfboard itself, which is the top of the vortex, which is used as one of the flat surfaces of the vortex, called in the hull (right side view).

Photo F-2 The pre-existing flat side of the vertical fin that was already attached to the surfboard, which is used as another side of the vortex, called the vertical fin (right side view).

Photo F-3 The attachment of the flat horizontal fin itself, to the vertical fin that is attached to the surfboard, creates a “vortex.” This horizontal fin is the bottom of the vortex, and is called the horizontal fin (right side view).

Photo F-4 The water current entry area—which is the rear of the vortex, is an open end of the 3 flat surfaces, called the entry (right side view).
Photo F-5 The water exit area—which is on the side of the vortex, is an open end of the 3 flat surfaces, called the discharge exit (right side view). Illustrations of the Orifice in the Vortex, of the Horizontal Fin.

Photo G-1 Illustrates the upward angle at the front of the ride plate.
Photo G-2 Illustrates the downward angle at the rear of the ride plate.
Photo G-3 Illustrates the greater measurement from the rear of the ride plate to the hull.
Photo G-4 Illustrates the lesser measurement from the front of the ride plate to the hull.
Photo G-5 Illustrates where the difference is between the greater and lesser measurements, that creates the orifice.

An “orifice” is the area of the mechanism to compress the same volume of water from a larger area to a smaller one, to raise the pressure in the smaller area. If understanding is additionally needed, additional detailed descriptions of the physics and science of volumes vs pressures may be studied.

This Describes how the Surfer Operates the Horizontal Fin,

Photo H-1 Because the surfer is standing at the center of the surfboard, the horizontal fin is exactly horizontal to sea level, (left side view). This is the ride “drive position”.
Photo H-2 Because the surfer is standing at the rear of the surfboard, the horizontal fin is angled (left side view). This is the ride “acceleration position”.

Descriptions of the Names, Locations, and Functions Have been Collectively Presented in Order. I can Now Proceed to Describe their Operation Together.

Photo I-1 Because the surfer “angles the ride plate” the wave current pressure, referred to as the pressure,” enters the “entry” area to the vortex.

Photo I-2 This pressure hit’s the angle of the ride plate, powerfully applying its push-power against it, commencing acceleration. As the pressure flows through the angle, it’s volume is being compressed in the gradually reducing size between the rear lower back of the ride plate, and the higher front angle of the ride plate, multiplying the pressure by about 25 percent, as determined by a 25 degree ride plate angle, accordingly. The volume of pressure increases, yet it is being forced into a smaller area of the vortex, by the angle of the ride plate. So the pressure per square inch inside the vortex is multiplies when the same amount of water volume is forced into its smaller area. The forces of pushing the same volume into a smaller area raises the pressure, like a garden hose nozzle raises the water pressure. The top of the vortex is the hull, the bottom is the ride plate. The space between these two flat surfaces narrows like a hose nozzle. The hull angle does not change, but the ride plate angle changes to narrow the passage. This is the vortex area of the horizontal fin.

Photo I-3 This pressure that has been deflected upwards by the upwards angle of the ride plate, hits the hull, and pushes the surfboard forward a second time. This is multiplying the use of the same pressure again, but not multiplying the amount of pressure again. This is greater efficiency of the same pressure, to use it twice, to outperform other surfboards that simply don’t.

Photo I-4 The upward pressure flow that bounces off the hull, bounces downward.

Photo I-5 At this same time the ride plate has not stopped deflecting it’s multiplied pressure upward . . . this results in a head-on collision. The water volume in between is being compressed inside the vortex. THIS IS THE HORIZONTAL FIN VORTEX’S GREAT PRESSURE MULTIPLICATION METHOD.

Photo I-6 This great pressure is being squeezed against the vertical fin which is the flat surface next to it that is keeping it in the vortex. This pressure against the vertical fin flat surface pushes the surfboard forward again . . .

Photo I-7 As this mega-pressure bounces of the flat surface of the vertical fin, it elbows backward shooting water out the back with incredible pressure rearward, propelling the surfboard forward again . . . yes . . . again! This is an efficient generic design of which nothing I am aware of can compare or replicate, to patent.

Photo K (bottom view) This illustrates how the Horizontal Fin nose rides better. The Horizontal fin “ride plate” is located behind the Horizontal Fin, sticking out behind the surfboard. The wave curls up and then falls downward directly onto the flat surface of the ride plate. Generously, a 100 pounds or more of water weight for a dispersement over several seconds is pushing down on the rear of the surfboard. So the front of the surfboard is airborn upward, easily hoisting the dreams of the surfer to noseride or hang ten, upwards towards the heavens!!

Photo L-1 (rear view) Observe how narrow a surfboard is compared to other vessels. The problem is that surfboards are so narrow that they wobble side to side so severe that falling off is common. This describes how the 2 horizontal fins counterbalance a surfboard from portside to starboard listing or wobble. The Horizontal Fin on one side has to lift the weight of water upwards toward the surface.

Photo L-2 (rear view) Simultaneously the Horizontal Fin on the other side has to push water downward. Resistance to listing is from the upward lift counter pressure and downward push counter pressure combined resistance.

Photo M-1 (top view) This is an example of another size and shape Horizontal Fin, but it is the same generic design, that functions operates identical. The generic design is requested for patent, as of necessity the sizes and shapes of Horizontal Fins will differ according to its application, a submarine, a surfboard, etc. M-1 is shorter but wider, to stabilize better.

Photo M-2 (top view) This is another example of another size and shape Horizontal Fin, but it is the same generic design, that functions operates identically. The generic design is requested for patent, as of necessity the sizes and shapes of Horizontal Fins will differ according to its application. M-2 is longer and more narrow, to increase speed, but it has less stability to reduce wobble/listing than M-1.

Generic Design Patent Descriptions Requested

Patent right protection is requested to specifically stop others from using the horizontal fin’s generic design, by changing it’s appearance by 1 irrelevant degree, shape or size variations.

Reycling the same flow of water pressure to repeat propulsion from the same flow of water is inclusive to the generic design invented and presented as the Horizontal Fin.

Use of an orifice, valve, or any mechanical device to transport water volume through a change in area, to obtain
a higher pressure, is inherent to the generic design of the horizontal fin, and the property of it.

[0114] 3. It extends from the horizontal position outward, not vertically angled. The Horizontal Fin claim is from 90 degrees of a compass directly level across the compass circle, in a straight line across or can differ 1 degree or more on any one side and equally 269 degrees on the other side. Framing in words the generic claim or design of the patent is that the degrees of angles of the Horizontal Fin will vary vessel to vessel, from exactly horizontal to any other angle except exactly vertical.

[0115] Vertical fins extend from the top downward from 1 to 359 degrees, like a piano pendulum arms extend from the top downward. The pendulum arm can swing up to 359 degrees upward on one side and all the way back to 1 degree downward on the other side.

[0116] The horizontal fin extends from the side, not the top, from 1 to 359 degrees, like a clock’s arms extend from the center and may have upward or downward angles from 1 to 359 degrees.

[0117] The Horizontal Fin patents the variations in degrees that initiate from the horizontal center position outward at variations of angles from flat to upwards, or flat to downwards, initiating from the center of the vertical fin and are outward. In like manner aircraft wings are the same, some are level, some go upwards, some downwards, each as applicable to the craft. Imagine putting aircraft wings on the fin of a vessel to imagine the horizontal fin design.

SUMMARY OF THE HORIZONTAL FIN PATENT

[0118] 1. No replication to any other inventors patent because others described vertical fins, and this patent is a horizontal fin.

[0119] 2. No replication because no other inventors patent about fins claimed or described water current multiplication propulsion abilities. No other fin may help save a surfer’s life by assisting propulsion a surfer washed out to sea by rip tides.

[0120] 3. No other replication to any other inventors patent because no other fin adds to itself, or incorporates the use of the hull and vertical fin flat surfaces, to form a vortex enclosure.

[0121] 4. No other replication to any other inventors patent because no other fin patent claims or is designed to stabilize water bounce and listing by counter balancing, using a horizontal fin on each side of the surfboard. Only the Horizontal Fin claims to use one side to lift water upwards and the other side to push water downward as a reaction to side to side motion. The combined two counter pressures delay, absorb and resist listing and rocking, and wobbling to smooth out a rough ride. If used on a freighter, the amount of cargo damage that insurance companies pay for, will be significantly reduced. It has merit to become a standard safety equipment requirement for vessels.

[0122] 5. No replication to any other inventors fin patent because; No other fin has the “overall performance supremacy” to re-perpetuate it’s own speed, re-perpetuate the length of the same ride, and correct stability so the surfer doesn’t fall of as much, all together. A surfboard equipped with a propelling mechanism, the horizontal fin, has advantages over a surfboard without one.

[0123] 6. No replication to any other inventors fin patent because; No other fin can hybrid assist a fuel engine to save fuel without any ecological emission damage. The approximate cost to build a horizontal fin for an average 18 foot motorboat, is at this time, about $20 dollars. At three dollars per gallon, it presents a refund the first day of boating.

[0124] 7. No replication to any of the fin patent examples below

EXAMPLES OF NON REPLICATING FIN PATENTS RESEARCHED

[0125] 6896.570 Fin for a water sport board . . . not applicable

[0126] 6746.292 Bottom fin for a water sports board . . . not applicable

[0127] 4940.438 Surfboard with angularly related fins . . . not applicable

[0128] U.S. Pat. No. 4,325,154 Surfboard Fin . . . not applicable

[0129] “MAN HAS HARNESS THE WIND FOR PROPULSION, MAN WILL HARNESS CURRENT FOR PROPULSION, USING THE HORIZONTAL FIN DESIGN.

[0130] In fact, the world of vessels and surfboards can benefit from the Horizontal Fin, one for fuel savings, another for safety, another to prevent cargo damage, etc. A surfboard with a horizontal fin is capable of various performances that a surfboard without one can’t do. A surfers ride can literally stand or fall upon the invention of the Horizontal Fin.

[0131] Note; Photo G-6 “DISCHARGER”; I have removed for safety and secrecy. By not enclosing this area of the vortex, a lot of pressure escapes because so much area surface of the vortex is not enclosed, but wide open. The discharger would be the 4th flat surface to enclose the vortex, to increase its efficiency significantly. I am fully aware of this major contribution to this patent. The “discharger” generic design should not be patented, or made available for propulsion because it’s primary use would be to cause harm to persons or property; On Oct. 7, 2004, at 10:36 pm, an object instantly “discharged” from its flat rear surface, 2 light beams to commence a tremendous acceleration. That generic design is unknown, but led me to design the horizontal fin and a “discharger.” It is unsafe, morally, I have chosen to exclude this from the patent. The horizontal fin generic design and the discharger is obviously one of an intelligent society ahead of us that I an incapable of replicating, but it starts here.

1. The first claim is: the horizontal fin is a generic design of a fin, that is a flat “vortex”, which multiplies water current pressures to assist vessel propulsion.

2. The second claim of claim one is; the horizontal fin significantly stabilizes the vessel so the surfer doesn’t fall off as much.

3. The third claim of fin one and two is; the horizontal fin has several positional adjustments that also lift the bow of the surfboard up in the front to increase it’s speed and “noseride.”

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