



US 20160010352A1

(19) **United States**
(12) **Patent Application Publication**
Lafontaine

(10) **Pub. No.: US 2016/0010352 A1**
(43) **Pub. Date: Jan. 14, 2016**

(54) **SALTWATER POOL SKIMMER**

(52) **U.S. Cl.**
CPC *E04H 4/1272* (2013.01)

(71) Applicant: **Champlain Plastics Inc.**, Rouses Point, NY (US)

(57) **ABSTRACT**

(72) Inventor: **Robert Lafontaine**, Boucherville (CA)

The present invention relates to a salt water swimming pool skimmer with a skimmer body mounted into a cavity formed in the swimming pool wall. The body is provided with a mouth with a flat face formed around the perimeter. The face portion is adapted to fit snugly around the outer wall that surrounds the swimming pool's cavity. The face portion has a front lip extending around the lower part of the face portion, a face plate with a flat configuration and a shape identical to the shape of the face portion, and a rear lip formed around the lower part of the face plate. The face plate is adapted to fit snugly around an inner wall of said swimming pool surrounding the cavity, and the front and rear lips securely mount or clamp the skimmer within the cavity without compromising integrity of the salt water swimming pool's wall.

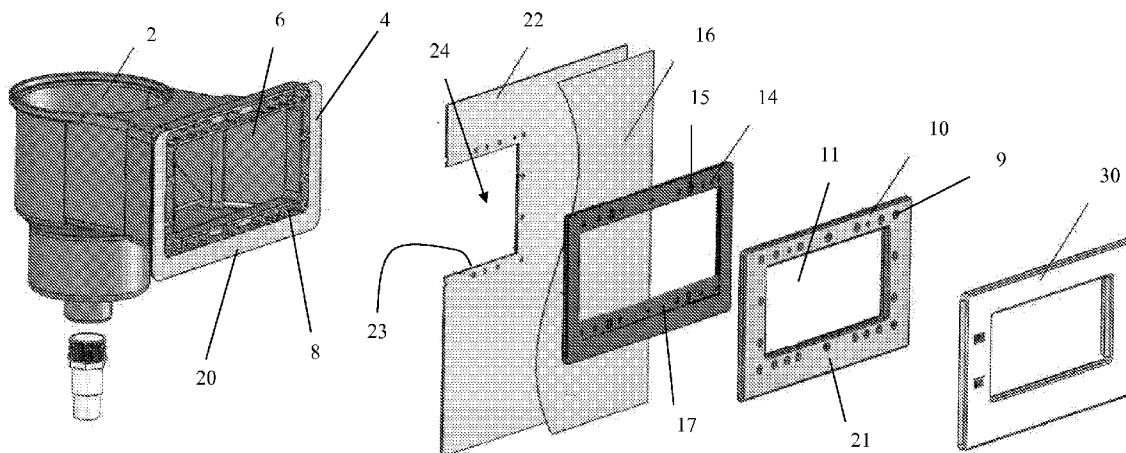
(73) Assignee: **Champlain Plastics Inc.**

(21) Appl. No.: **14/328,193**

(22) Filed: **Jul. 10, 2014**

Publication Classification

(51) **Int. Cl.**
E04H 4/12 (2006.01)



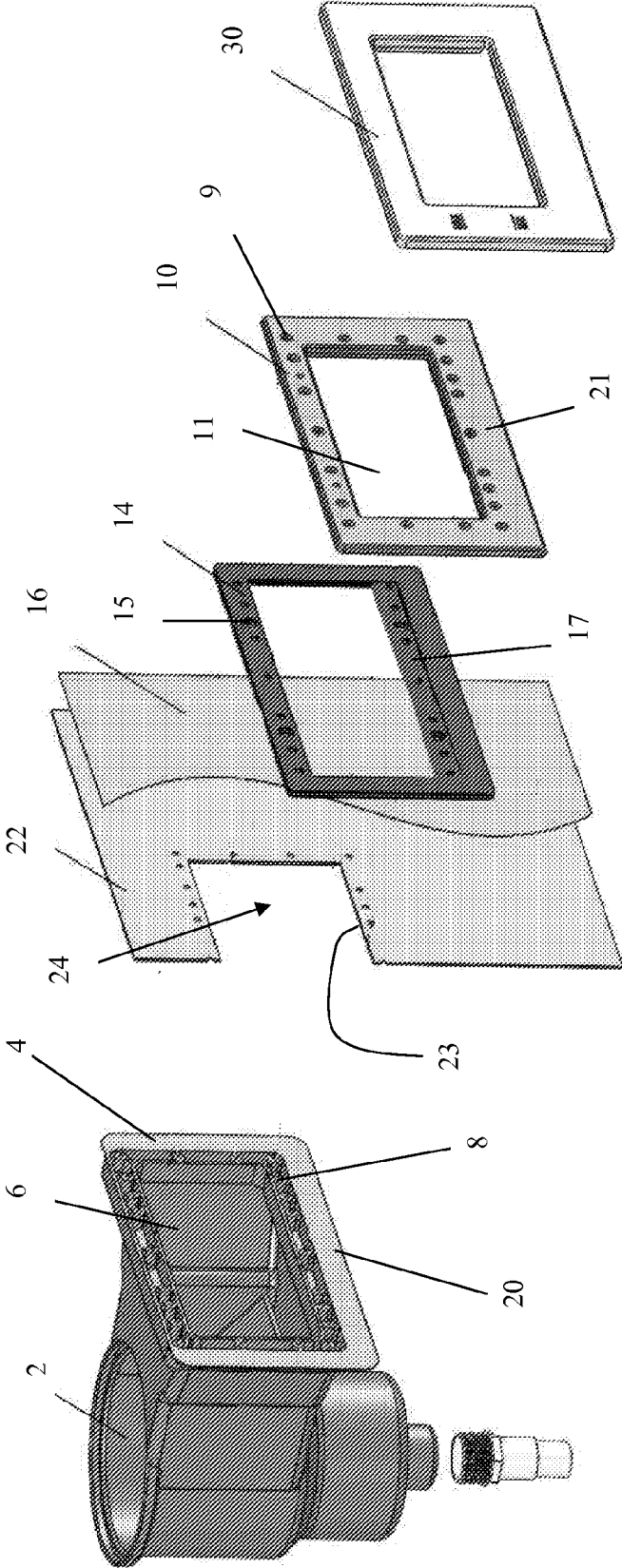


Figure 1

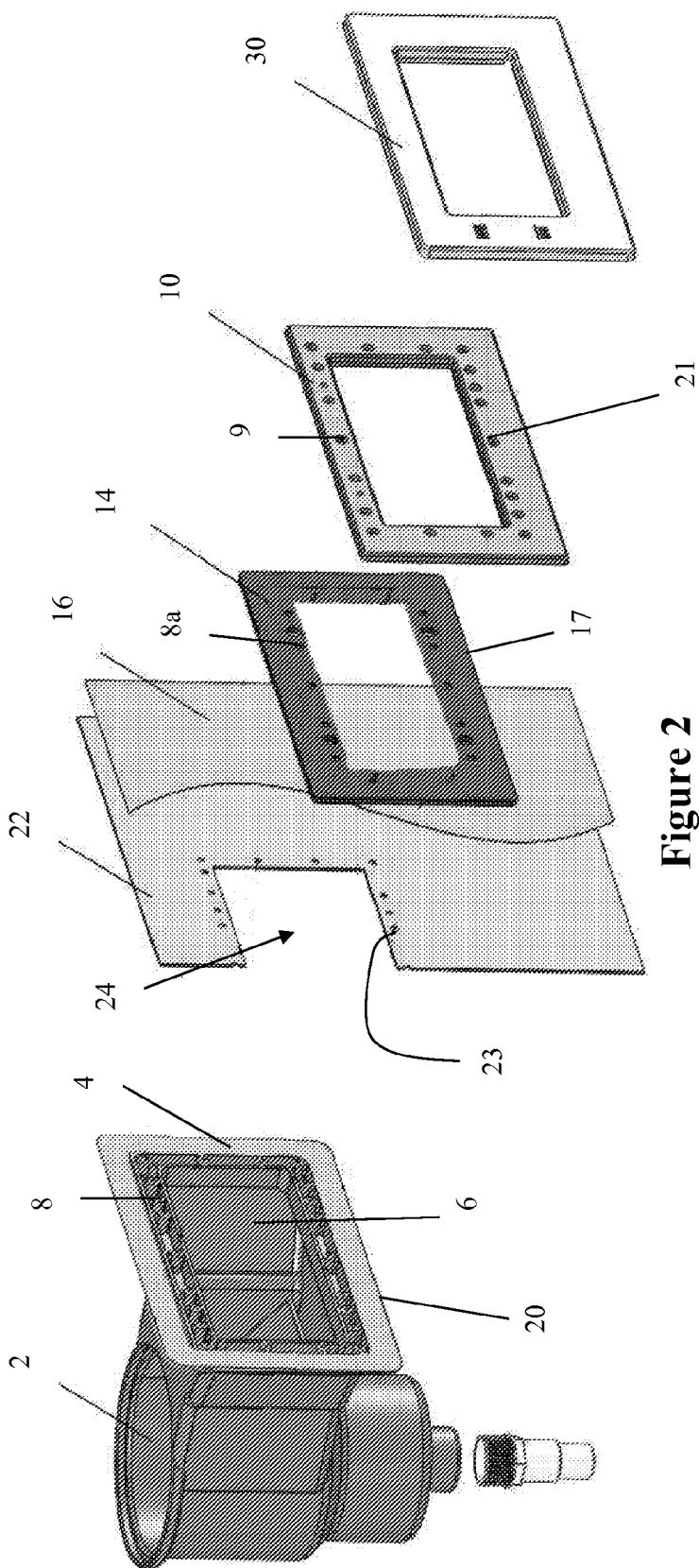


Figure 2

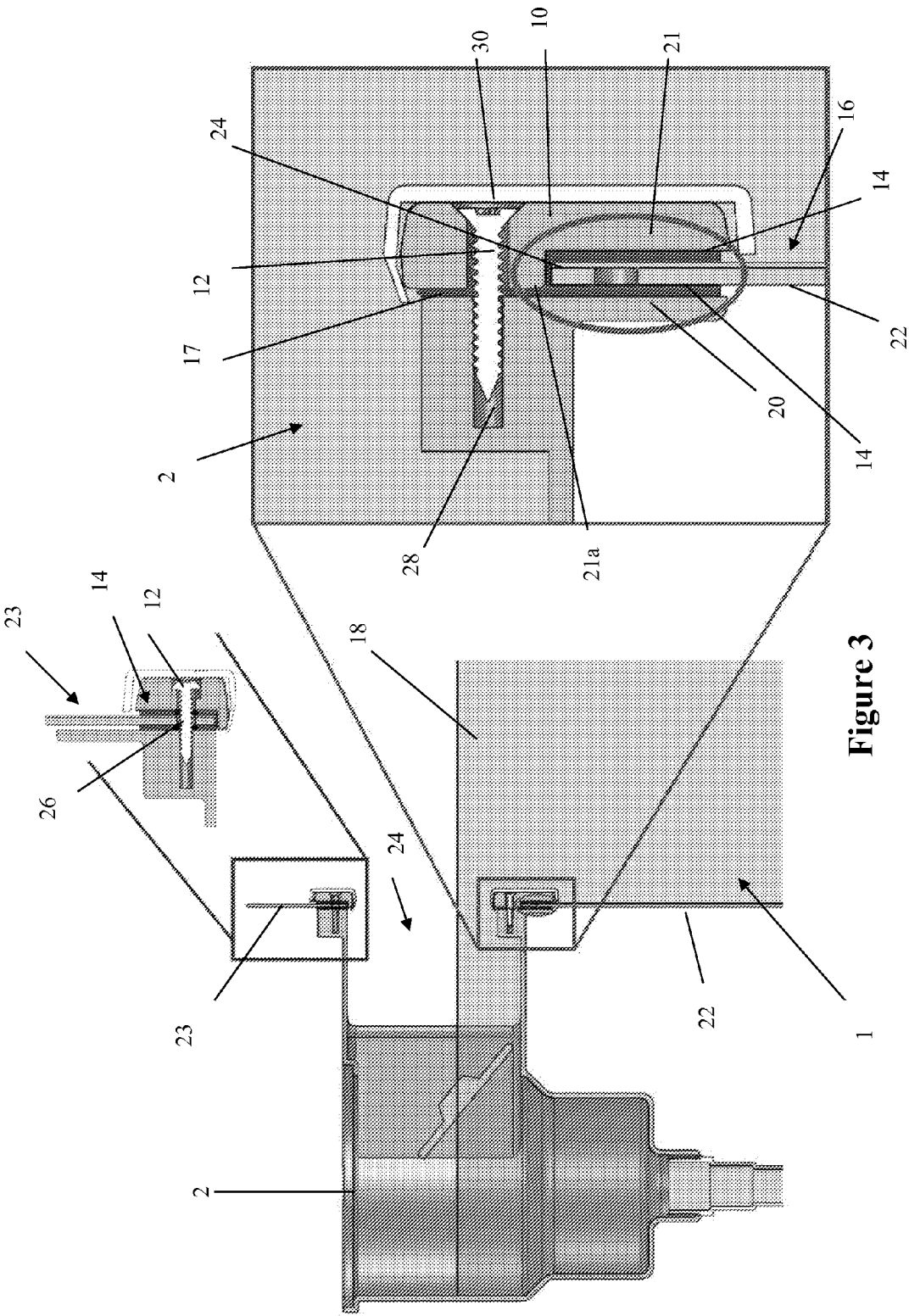


Figure 3

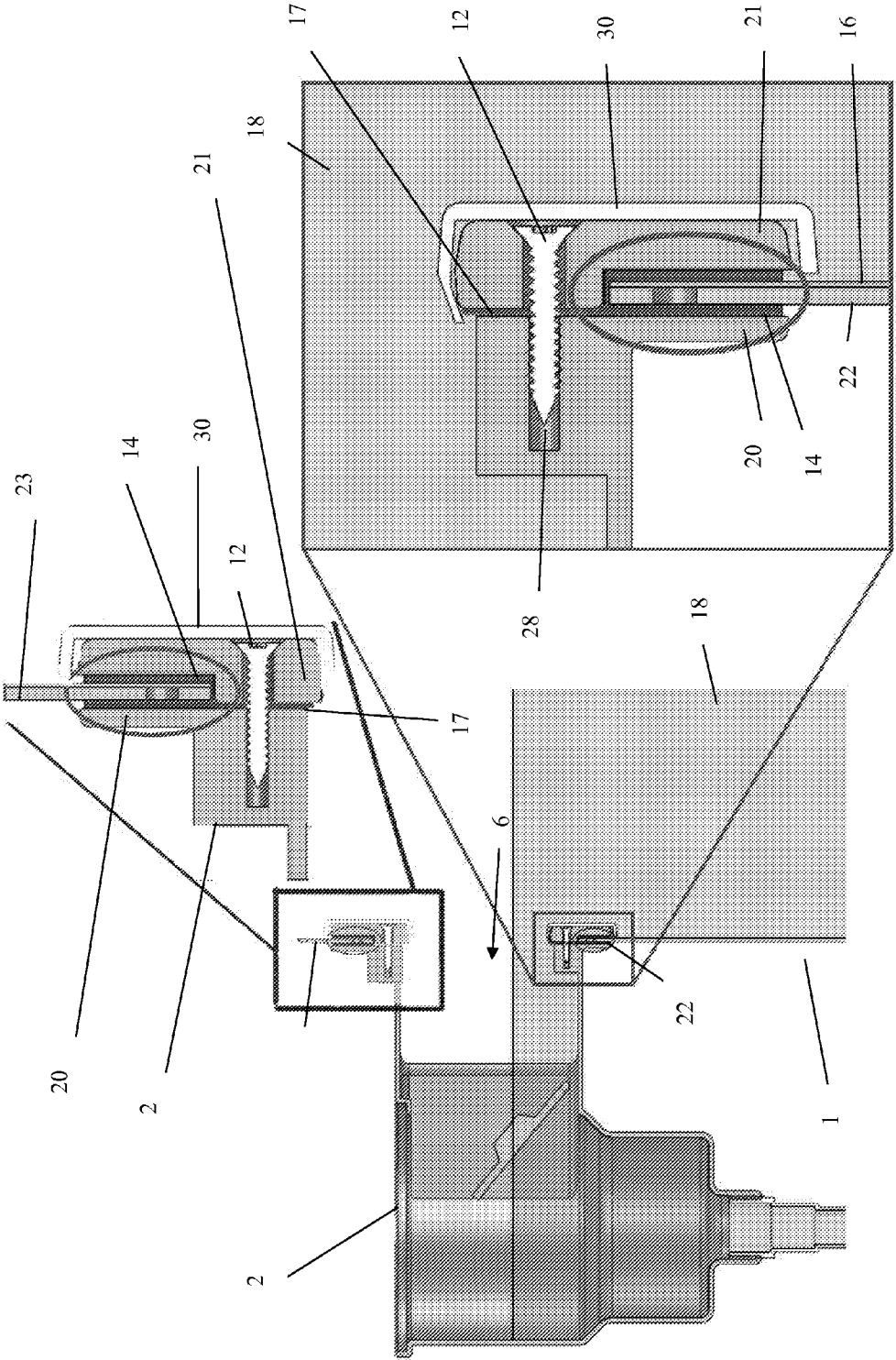


Figure 4

SALTWATER POOL SKIMMER

[0001] The present invention relates to a skimmer for swimming pools, namely for saltwater swimming pools made of metal. The skimmer of the present invention solves the problem of rust corrosion around the skimmer's mounting holes in the pool wall. This is accomplished by not mounting a skimmer using pre-drilled holes in the pool wall, and using clamping force of the skimmer assembly to the wall instead.

BACKGROUND

[0002] Salt water has gained popularity as a sanitary alternative to chlorinated water. However, most saltwater pools are made of metal, and when holes are drilled into the wall to mount accessories such as a skimmer, the bare metal exposed by these holes is susceptible to corrosion. Notwithstanding all waterproofing efforts, salt water makes its way along a mounting screw's threads and corrodes the metal wall in proximity of the screw's hole, significantly shortening the lifespan of the pool. Once corrosion sets in, it is not long before the entire pool has to be replaced.

[0003] The majority of pools are shipped with a standardized rectangular opening for a skimmer. This is done so that the installer can use any manufacturer's wall skimmer and be reasonably assured that it will fit. The installer does not have to act as a tin smith and cut the opening to the correct size of the skimmer. Holes are pre-drilled for standardized skimmers.

[0004] A typical freshwater pool skimmer, U.S. Pat. No. D671,192 is attached by screws to a pool's wall. The skimmer's face abuts the pool wall on the outside of the pool, and a faceplate is attached with screws from the inside the pool, through holes in the pool wall, to the skimmer.

[0005] However, more than half of the screws are underwater, and the cited patent is not practical for a saltwater pool with metal walls due to the fact that any exposed through-hole in the pool's metal wall will result in corrosion of the wall's proximate area near the hole. Once corrosion takes place, repair is difficult and expensive, and sometimes the only option is to throw out the old pool and install a new one.

[0006] The present invention resolves this problem by attaching the skimmer to the pool wall without the need for through-holes. If a skimmer is not mounted using through-holes in the wall, there is nothing to corrode. This is accomplished by mounting a skimmer assembly using clamping means.

OBJECT OF THE INVENTION

[0007] The present invention permits installation of a pool skimmer into a metal saltwater pool. No through-holes are required, thus substantially allaying inevitable corrosion of the wall and prolonging the pool's lifespan. This is the advantage of the present invention. The present invention also covers up pre-drilled through-holes to arrest their corrosion.

[0008] In one embodiment of the present invention, the skimmer attaches to the pool's through-holes only at the top of the skimmer where the wall is not constantly immersed in salt water. This embodiment of the present invention uses only clamping or pinching power to immobilize the underwater portion of the skimmer. In another embodiment, none of the through-holes are used to mount the skimmer, and only clamping or pinching power of the skimmer assembly immobilizes the skimmer inside the cavity of the pool wall.

[0009] Clamping or pinching power is accomplished through novel face and faceplate designs, wherein the skimmer's face has a smooth and continuous exterior and interior lip portions adapted to clamp onto the pool wall cavity that is cut in a pool wall for the skimmer.

[0010] In the second embodiment the grip onto the pool wall by the skimmer is accomplished with a faceplate tightly screwed to the skimmer through both lips from inside the pool. These screw-holes are just inside the pool wall cavity, not affecting the wall's integrity, yet holding the skimmer tightly on the pool wall by the clamping force exerted by the lips on the pool wall.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is disassembled view of the first embodiment of the present invention.

[0012] FIG. 2 is disassembled view of the second embodiment of the present invention.

[0013] FIG. 3 is a cross-section of FIG. 1.

[0014] FIG. 4 is a cross-section of FIG. 2.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0015] The present invention relates to the pool attachment portion of a pool skimmer for saltwater pools made of metal. This invention permits attachment of a skimmer inside a metal pool without compromising the integrity of the pool wall with through-holes, thus inhibiting corrosive decay of the pool. Secure attachment is accomplished by clamping force of the skimmer to the part of the pool most susceptible to corrosion.

[0016] The key to the present invention is a means that exerts consistent pressure to maintain a skimmer's grip on the pool wall. The present invention accomplishes this grip by configuring the elements that contact the pool wall to be as flat as possible to spread out the clamping pressure as evenly as possible.

[0017] FIG. 1 shows a disassembled perspective view of the first embodiment of the present invention, comprising skimmer 2 with a substantially rectangular face portion 4 comprising a flat surface with through-holes 8 at regularly-spaced intervals. Bottom portion of face portion 4 comprises a flat front lip 20. Mouth 6 comprises a rectangular opening into the skimmer 2, matching cavity 24 in pool wall 22.

[0018] Faceplate 10 is a flat, substantially rectangular frame with a rectangular opening 11 inside said faceplate 10. Faceplate 10 has an inner edge 21a extending around said opening 11 and adapted to abut edges of pool's cavity 24. Along said faceplate 10 are formed through-holes 9 that are at identical locations and at identical intervals as through-holes 8 in face portion 4. Bottom portion of faceplate 10 comprises a flat rear lip 21 formed around lower portion of faceplate 10. Double-gasket 14 has holes 15 only through the top for installation of screws through pool wall 22's through-holes 26, and bevel 30 is installed over faceplate 10 for aesthetic purposes. Gasket 14 is provided with a skirt 17 extending around the outer perimeter of said gasket 14.

[0019] FIG. 2 shows a disassembled perspective view of the second embodiment of the present invention, comprising the same elements as FIG. 1, with the exception of skimmer 2's lip 20 extending around the all periphery of skimmer 2's mouth 6, all of skimmer 2's through-holes 8 located inside cavity 24. Double gasket 14 comprises through-holes 8a

located around its inner periphery, said holes **8a** matching skimmer **2**'s through-holes **8**. Faceplate **10**'s through-holes also match holes **8a** of gasket **14** and skimmer **2**.

[0020] FIG. 3 shows the first embodiment of skimmer **2** in cross-section as installed inside a pool **1**. A cavity **24** is cut in pool wall **22** and **23** of a substantially rectangular configuration, with installation holes **26** pre-drilled through parts of wall **23** that are always above the salt water **18**. Pool wall **23** is always above the salt water **18**, and pool wall **22** is always immersed in salt water **18**. Upper portion of skimmer **2** is attached to wall **23**, being at the upper portion of cavity **24** of pool **1**, by means of screws **12** and holes **26**, which form an upper mounting means. As seen on FIG. 1, skimmer **2**'s face portion **4** comprises front lip **20** formed around the lower portion of the face portion **4**, and is adapted to be clamped to the outside wall **23** of pool **1**'s cavity **24**. A rear lip **21** of faceplate **10** extends from the lower part of faceplate **10**, and is adapted to abut inside wall **23** of pool cavity **24**. Both front lip **20** and rear lip **21** have flat surfaces and form the lower mounting means that are adapted to be securely sandwiched or clamped to wall **22** edge at the bottom edge of pool cavity **24**.

[0021] Skimmer **2** is positioned in such a way that front lip **20** is outside pool **1** and rear lip **21** is inside pool **1**, thus sandwiching wall edge **22** from pool **1**'s outside and inside respectively. Screw holes **8** of face **4** are aligned with installation holes **8** made in skimmer **2**. A flat resilient liner **16**, substantially identical in configuration to faceplate **10** is applied to the inner wall of pool around cavity **24**. A flat resilient two-layer gasket **14**, substantially identical in configuration to faceplate **10**, is installed so that it envelops a contact periphery of walls **22** and **23** inside and outside cavity **24**, thus abutting face portion **4** of skimmer **2** from pool **1**'s outside, and abutting face plate **10** from pool **1**'s inside. Gasket **14** has a water-arresting skirt **17** through which screw **12** is passing. All elements **16**, **10**, **14** and **10** should be aligned using assembly holes and screws. Finally, a bezel **30** snaps onto face plate **10** to cover up the screws. Bezel **30** is purely a cosmetic element and shows the user where the water level should be.

[0022] Faceplate **10** comprises a substantially flat surface on its outside surface. Upper portion of faceplate **10** is screwed with screws **12** through its holes **9**, through gasket **14**, liner **16**, through face **4**'s holes **8** and through pool wall installation holes **26** that form an upper mounting means.

[0023] The bottom of faceplate **10** is attached to skimmer **2** with screws **12** in such a manner that the tension exerted by the screws going through holes in faceplate **10**, gasket **14**, liner **16**, front lip **20** and rear lip **21** causes lips **20** and **21** to tighten and squeeze, clamp or pinch wall **22**, thereby immobilizing the skimmer inside the lower part of cavity **24** through clamping force. The front lip **20** and rear lip **21** form the lower mounting means.

[0024] FIG. 4 shows a second embodiment of the present invention, wherein skimmer **2** is held in place solely through pinching or clamping force. This is done by making perimeter of skimmer's mouth **6** smaller than perimeter of cavity **24**. As in FIG. 1, faceplate **10** clamps to skimmer **2** at the bottom of pool wall **22**. However, in the second embodiment, the identical clamping or pinching effect is exerted on the totality of skimmer **2**'s lip **20** and faceplate **10**. Gasket **14** has a water-arresting skirt **17** that extends between faceplate **10** and skimmer **2**'s contact surfaces on the periphery inside cavity **24** of pool wall **22**, through which screws **22** clamp faceplate **10** to

skimmer **2**. Gasket **14** also covers all pre-drilled holes in pool wall **22**, thus acting as corrosion-inhibiting means.

[0025] It must be emphasized that the mounting means are located just inside cavity **24** and by no means infringe the integrity of the walls of swimming pool. This is novel feature of the present invention.

1. A salt water swimming pool skimmer comprising:
 - a skimmer body provided to be mounted into a cavity formed in said pool,
 - said skimmer body is provided with a mouth, said mouth is provided with
 - a face portion, said face portion having a substantially flat configuration and is formed around a perimeter of said mouth, wherein said face portion is adapted to fit snugly around an outer wall of said swimming pool surrounding said cavity, said face portion is provided with
 - a front lip extending around a lower part of said face portion,
 - a face plate, said face plate having a substantially flat configuration and a shape substantially identical to the shape of said face portion,
 - a rear lip formed around a lower part of said face plate, said face plate is adapted to fit snugly around an inner wall of said swimming pool surrounding said cavity, wherein said front lip and said rear lip are adapted to form a lower mounting means provided to securely mount or clamp said skimmer within said cavity without compromising integrity of said salt water swimming pool.
2. A salt water swimming pool skimmer according to claim 1, wherein said mouth portion is of substantially rectangular configuration.
3. A salt water swimming pool skimmer according to claim 1, wherein said skimmer is provided with an upper mounting means adapted to clamp said skimmer body within said cavity by means of through-holes drilled in an upper part of said cavity and located above a water level of said swimming pool.
4. A salt water swimming pool skimmer according to claim 3, wherein said skimmer is provided with a gasket adapted to fit between said outer wall and said inner wall around said cavity, said gasket having a configuration identical to the configuration of said face plate and wherein said gasket is provided with a skirt extending around outer perimeter of said gasket, said skirt is acting as a corrosion inhibiting means to cover all pre-drilled holes in walls of said swimming pool.
5. A salt water swimming pool skimmer according to claim 4, wherein said skimmer is provided with a liner adapted to fit between said gasket and said inner wall, said liner has a configuration identical to the configuration of said face plate.
6. A salt water swimming pool skimmer comprising:
 - a skimmer body provided to be mounted into a cavity formed in said pool,
 - said skimmer body is provided with a mouth, said mouth is substantially of rectangular configuration and is provided with
 - a face portion, said face portion having a substantially flat configuration and is formed around a perimeter of said mouth, wherein said face portion is adapted to fit snugly around an outer wall of said swimming pool surrounding said cavity, said face portion is provided with
 - a front lip extending around a lower part of said face portion,

a face plate, said face plate having a substantially flat configuration and has a shape substantially identical to the shape of said face portion,

a rear lip formed around a lower part of said face plate, said face plate is adapted to fit snugly around an inner wall of said swimming pool surrounding said cavity, wherein said front lip and said rear lip are adapted to form a lower mounting means provided to securely mount or clamp said skimmer within said cavity without compromising integrity of said salt water swimming pool.

7. A salt water swimming pool skimmer according to claim 6, wherein said skimmer is provided with an upper mounting means adapted to clamp said skimmer body within said cavity by means of through-holes drilled in an upper part of said cavity and located above a water level of said swimming pool.

8. A salt water swimming pool skimmer according to claim 7, wherein said skimmer is provided with a gasket adapted to fit between said outer wall and said inner wall around said cavity, said gasket having a configuration identical to the configuration of said face plate and wherein said gasket is provided with a skirt extending around outer perimeter of said

gasket, said skirt is acting as a corrosion inhibiting means to cover all pre-drilled holes in walls of said swimming pool.

9. A salt water swimming pool skimmer according to claim 8, wherein said skimmer is provided with a liner adapted to fit between said gasket and said inner wall, said liner having a configuration identical to the configuration of said face plate.

10. A salt water swimming pool skimmer according to claim 6, wherein perimeter of the mouth of said skimmer is smaller than perimeter of said pool's cavity.

11. A salt water swimming pool skimmer according to claim 10, wherein said skimmer is provided with an upper mounting means, said upper mounting means are adapted to clamp said skimmer within said cavity without compromising integrity of said salt water swimming pool.

12. A salt water swimming pool skimmer according to claim 10, wherein said front lip extends around upper part of said face portion and said rear lip extends around upper part of said face plate, wherein said clamping is provided by means of through-holes drilled in said front lip and said rear lip only without compromising integrity of said salt water swimming pool.

* * * * *