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(54) **PORTABLE FLOOD-PROOF GARAGE**

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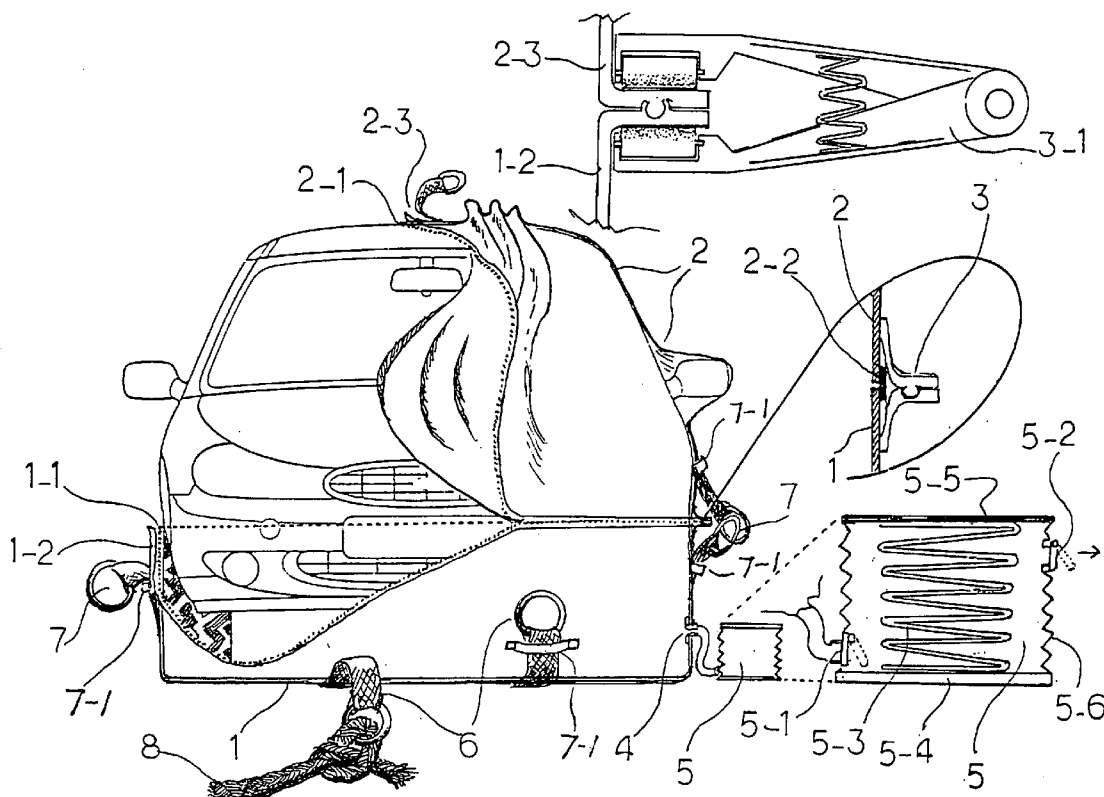
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(57) **ABSTRACT**

A portable flood-proof garage includes a plastic or rubber base trough, a plastic or rubber upper cover, an upper and lower zipper assembly, a waterproof seal zipper band, a suction tank, a longitudinal fastening belt and ring, a transverse fastening belt and ring as well as a stabilizing rope.

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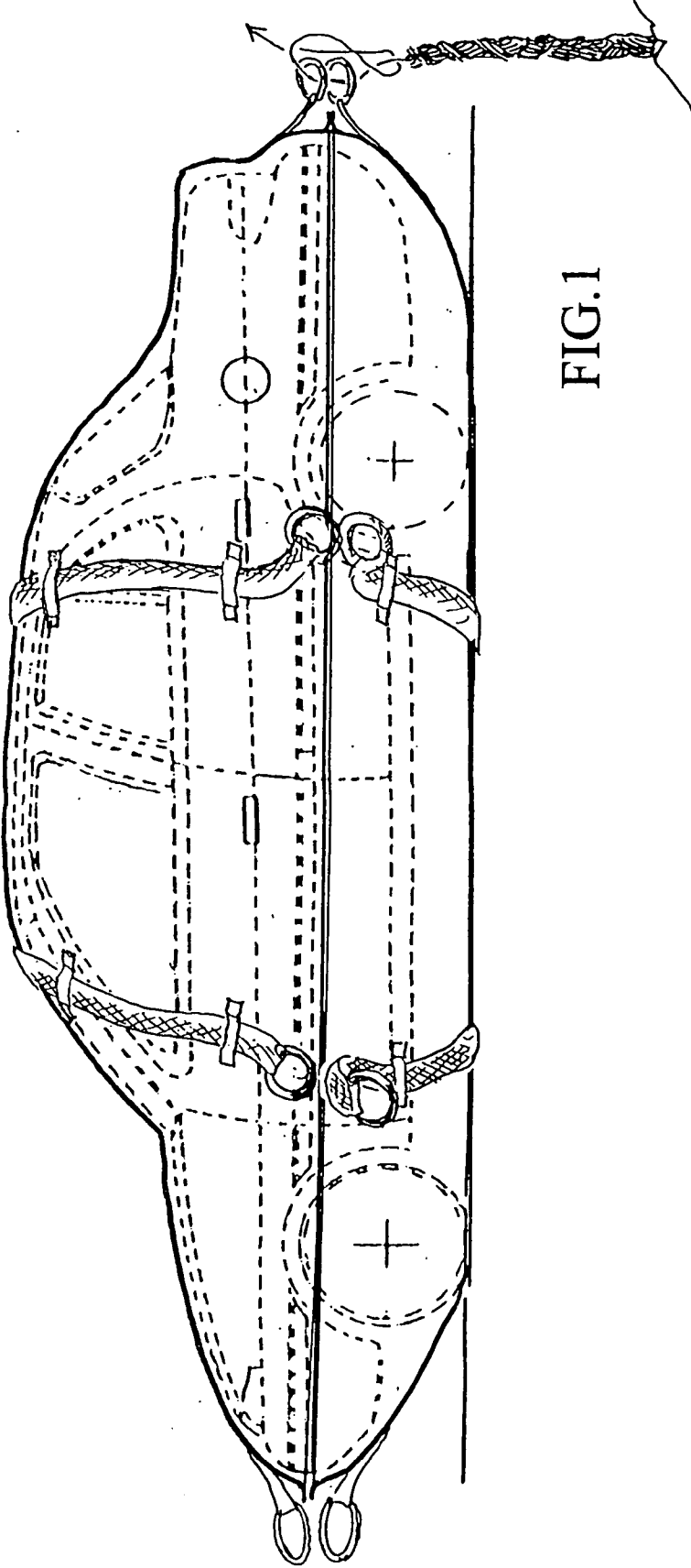


FIG.1

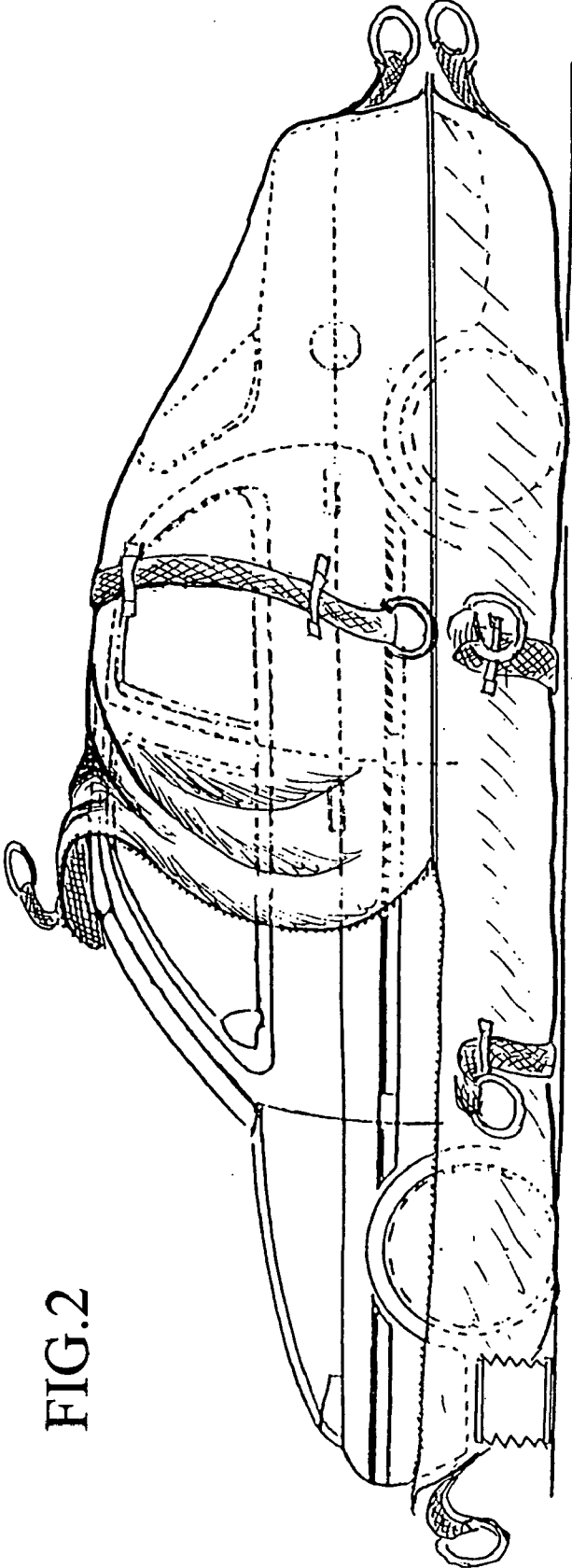


FIG.2

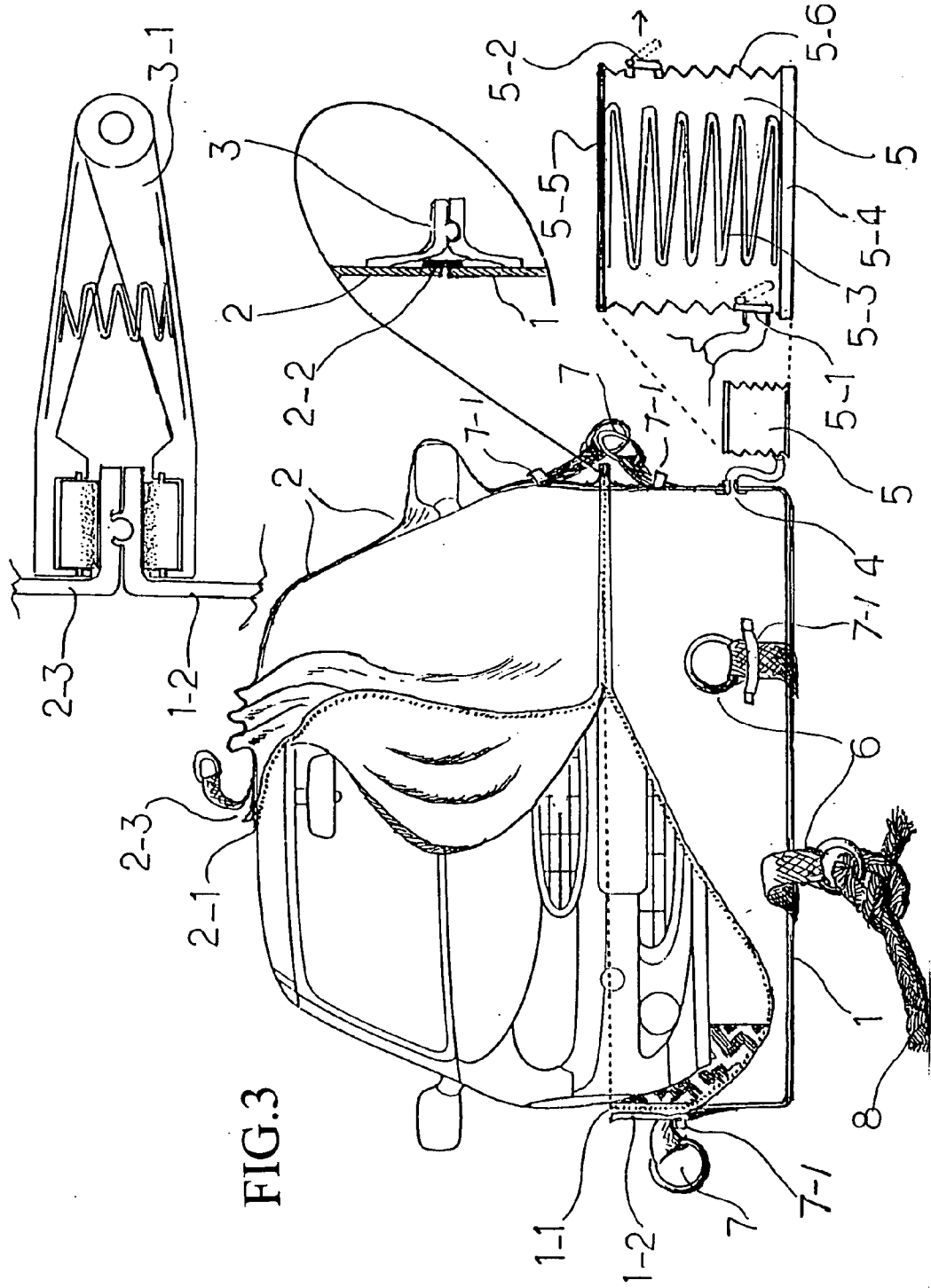
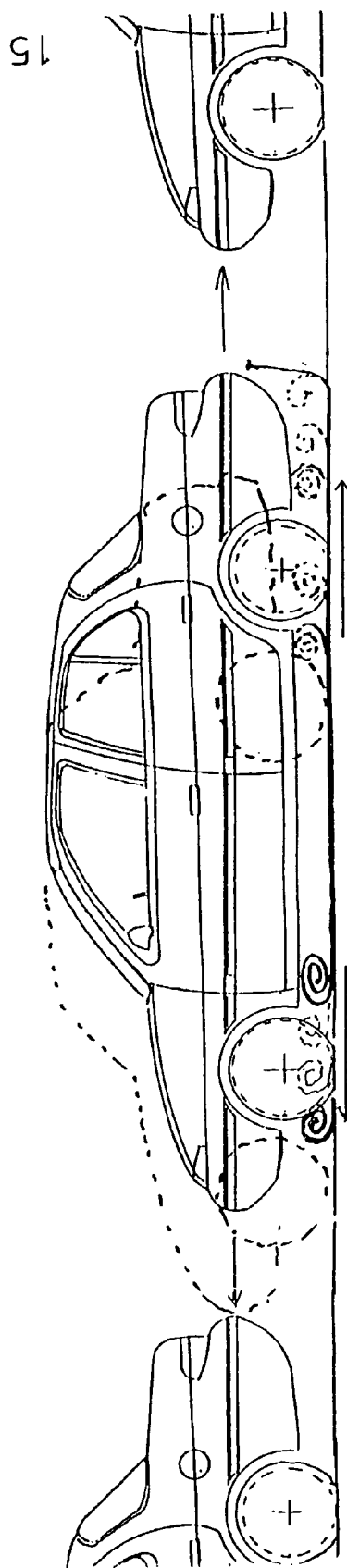


FIG.4



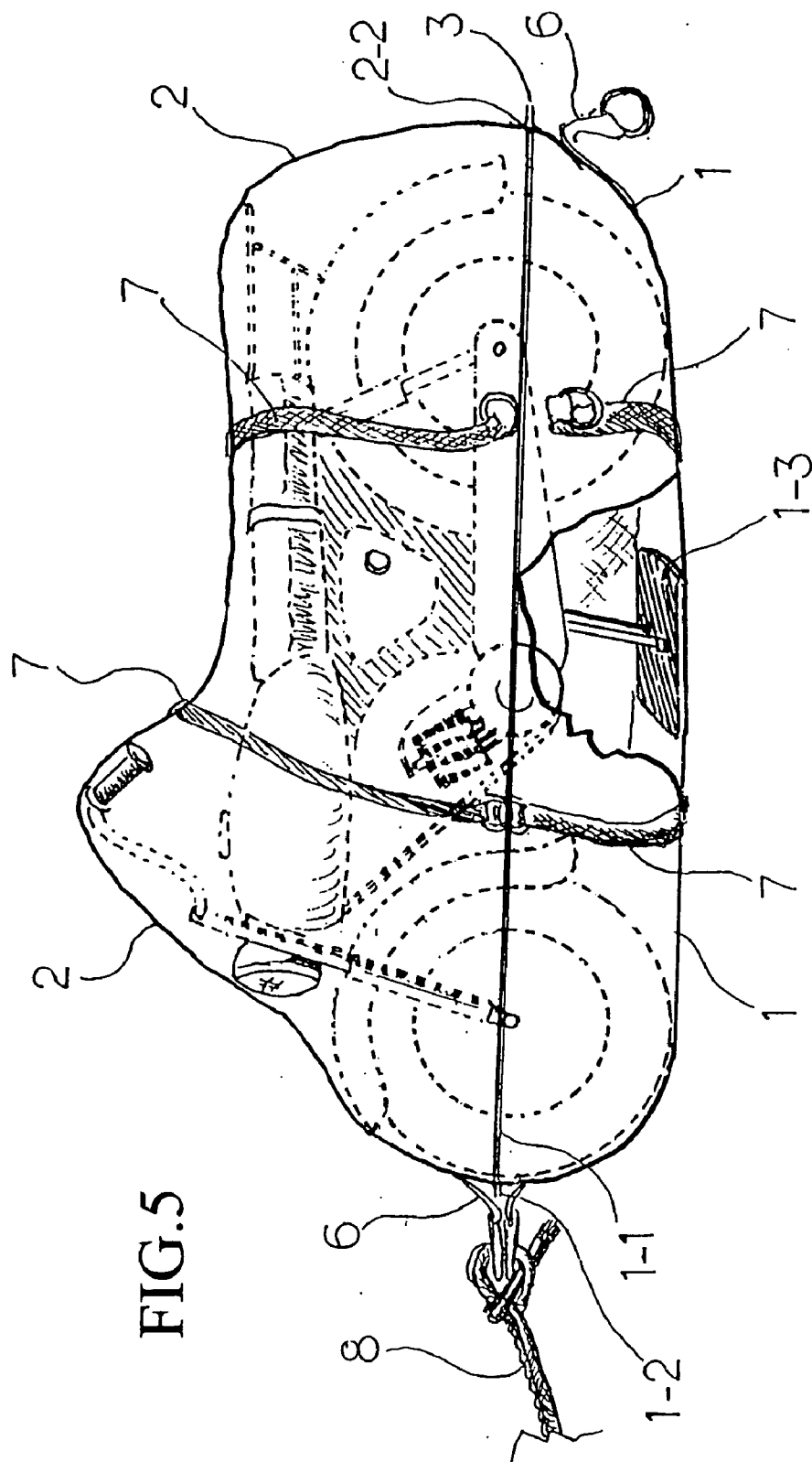


FIG. 5

PORTABLE FLOOD-PROOF GARAGE

BACKGROUND OF THE INVENTION

[0001] Automobiles have become indispensable transportations. In advanced countries with developed technology, industry and business, almost every family owns an automobile. The "economic miracle" in Taiwan has comprehensively modernized the civilian life and enhanced the popularity of owning a personal automobile as the transportation for work, outing or traveling. It is not a rare situation that some families own the second or even the third automobile. Actually, the street is crowded with cars and the parking lot is hard to find. To have a garage included in a house purchase package is a must. However and unfortunately, the routine checkup and maintenance for an automobile are the major problem for a car owner. More especially, natural calamities, such as flood, might cause severe damages to the automobile and trouble the owner a lot. As a matter of fact, unceasing floods and typhoons in the past years had already flooded more than ten thousands cars and even more motorcycles. Usually, it takes about several ten thousand New Taiwan Dollars to fix a car. However, its functionality and lifespan is thereby reduced. Therefore, to solve or prevent the flooding problem is a very urgent issue.

[0002] Three to four years ago, in viewing the flood and cars soaked in the flood caused by Typhoon Winnie in 1997, the inventor of the present invention started to research for a structure and method of preventing the cars from being soaked in the flood. Finally, the structural design of the present invention alternated the original car as an integrated sealing structure to completely pack the cars. Under the attack of Typhoon Nari during the full tide season, the water level in the northern cities of Taiwan raised up to the first floor. That flooded almost all the underground and the ground level parking lots. Therefore, the inventor has finished the development of the present invention of a portable flood-proof garage to solve the problems derived from the unavoidable disasters caused by typhoons on this island annually.

SUMMARY OF THE INVENTION

[0003] The present invention adapted structure similar to a conventional automobile cover. However, the canvas fabric of the prior art is substituted by a waterproof plastic or rubber material; furthermore, a base trough is added to form a bag shape unit with zippers; not too many additive objects are attached. Therefore, comparing with the conventional car cover, to carry the present invention causes no excessive burden or trouble. The present invention can be used as a regular cover for a car body to prevent the dust by only using the top part thereof while the lower part is rolled to pile up in the car. As a typhoon approaches, the upper and the lower halves are assembled to form a bag for preventing the car from the flood. The present invention is light and small, easy to operate and transportable by the car. It can be used at any place at any time. It is capable of not only tightly preventing the water from permeating into the car, but also anchoring the car to avoid any undesired movement cause by the water.

[0004] To enable a further understanding of the structural features and the technical contents of the present invention, the brief description of the drawings below is followed by the detailed description of the preferred embodiment.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIG. 1 is a drawing of applying the present invention to completely seal an automobile.

[0006] FIG. 2 is a lateral view drawing of conducting the sealing of the present invention.

[0007] FIG. 3 is an orthographic view drawing of sealing the present invention to the front of the automobile.

[0008] FIG. 4 is a drawing of the method of sealing the automobile parked between other automobiles.

[0009] FIG. 5 is a schematic drawing of applying the present invention onto a motorcycle.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0010] Referring to FIGS. 1 to 4, the present invention comprises a plastic or rubber base trough (1) molded unitarily or sewed to have a base plane with four sides folded upwardly. It is of a rectangular box shape with four sides folded upright as lower walls. The present invention is manufactured respectively to into different types for fitting the shape of various cars and meeting the market demands. It is preferred to manufacture the present invention unitarily for preventing water permeation. However, the manufacturing cost thereof is higher. If the present invention is assembled by sewing, it is very important to spread the glue onto the stitches for sealing the stitches and the gaps to prevent water leakage. The opposite upper halve called the plastic or rubber upper cover (2) is made by the same material, the same technique and is molded unitarily. If manufactured by sewing, it is necessary to spread the glue to all the stitches for preventing water permeation. The rims of two opposite openings of the base trough (1) and the upper cover (2) are respectively disposed with a half zipper as a base trough opening zipper (1-1) and an upper cover opening zipper (2-1). Two zippers (1-1, 2-1) are zipped to unite the base trough (1) and the upper cover (2) thereby completely sealing an automobile. It has been tested that the zipped zippers (1-1, 2-1) have enough force to combine the upper and the lower halves into one inseparable unit. However, the gaps in the zipped zippers (1-1, 2-1) fail to prevent water permeation. Therefore, a waterproof seal zipper band (3) is disposed around the outer rim of the zippers (1-1, 2-1) via adhesive technique. When in use, the zippers (1-1, 2-1) are tightly zipped and held by moving an operation clip (3-1) of the waterproof seal zipper band (3) according to the direction thereof to form a coupled female-male sealing status capable of preventing any water leakage. Accordingly, a regular zipper band used for sealing the plastic bag of medicine or food is capable of achieving the effect of airtight sealing. Therefore, using it for preventing water permeation in the present invention achieves the preferred effect.

[0011] After the automobile is sealed by the plastic or rubber upper cover (2) and the base trough (1), a certain amount of air exists therein. The water level beyond the height of the automobile definitely increases the buoyancy thereof. During the testing procedure, it is discovered that the air existing inside has to be sucked out to form an airtight status such that the automobile won't float in a regular water depth but maintains steadily at the original position. A suction outlet pipe (4) molded unitarily is disposed at the front left corner or any other area of the car for connecting

with an inlet port and connection pipe (5-1) of a suction tank (5) to suck the air inside the portable flood-proof garage. Merely pulling a pull button unzips the zippers (1-1, 2-1) and immediately resumes the air admission for storing the present invention.

[0012] The structure of the suction tank (5) is similar to that of a common wind box capable of sucking the air unidirectionally. The inlet port and connection pipe (5-1) and an outlet port (5-2) of the suction tank (5) are disposed therein. An upper cover/pedal board (5-5) of the suction tank (5) is disposed thereon and a base plate (5-4) of the suction tank (5) is disposed thereunder. The upper and lower plates (5-5, 5-4) tightly seal a wind box elastic sack (5-6) disposed with a counter force spring (5-3). When in operation, a user's foot steps the upper cover/pedal board (5-5) of the suction tank (5) all the way to the base plate (5-4) to depress outwardly the air therein; when releasing, the counter force spring (5-3) bounces back immediately and the inlet port (5-1) of the suction tank (5) opens up to suck the air in the garage. Stepping once again on the upper cover/pedal board (5-5) closes the inlet port (5-1) and opens the outlet port (5-2) to discharge the sucked air. The operation repeats till the air is sucked out completely to form an airtight status.

[0013] The present invention is divided into the upper cover (2) and the lower base trough (1). One or more than one nylon flat band is longitudinally sewed on the surfaces thereof; the front and rear ends thereof are respectively fixed with a sturdy metal or plastic steel ring. The transverse side of the garage is also sewed with more than two flat nylon bands with a metal or a plastic steel ring fixedly and respectively fastened at two ends thereof. When the base trough (1) and the upper cover (2) connect and seal into an entirety, the upper and lower rings located at the front and rear ends of the longitudinal flat nylon band are firmly fastened by a nylon or hemp stabilizing rope (8). The outer distal end of the rope (8) is tied to a light post, a ground stake or a more sturdy area of a building. The transverse band is tied in the same way. Basically, a car with the air therein sucked out is not subjected to float. Without enough buoyancy, a car dashed into a river or a pond usually sinks to the water floor. Therefore, it is necessary to use the rope (8) to fix the garage for preventing any undesired movement of a floating automobile.

[0014] When applying the present invention to the automobile parked on the roadside, as indicated in FIG. 4, the plastic or rubber base trough (1) is rolled up to place between two wheels under the car. Then the car is moved forwards at an interval about 60 cm over the rolled base trough (1) to spread the base trough (1). After that, the car is moved rearwards at another distance to extend the front part of the rolled base trough (1); therefore, the whole plastic and rubber base trough (1) is spread under the car; then the sealing movement is conducted. If the car is not parked beforehand, the base trough (1) is laid on the ground surface and the car is driven onto it precisely for parking and for further operations.

[0015] The present invention is also suitable for preventing a motorcycle from the flood. The present invention is manufactured into a smaller size to fit the length of the motorcycle for emergency application. For example, many

motorcycles were unable to start due to the high water level in the streets during the flood caused by Typhoon Nari. They are discarded on the roadsides and then flooded completely. For suiting the length and height of a motorcycle, the present invention is manufactured through the same technique. However, the middle segment of the bottom plane of the plastic and rubber base trough (1) is additionally disposed with a more flexible stamp-preventing rubber pad (1-3) for eliminating the possible damage caused by a forceful poke from the food stand of the motorcycle. This application is an extended function and effect of the present invention and it proves the excellence thereof.

[0016] The present invention was not previously disclosed and is the pioneer invention for preventing the vehicle from the flood. It is used as a regular vehicle cover and also a protective gear for preventing the vehicle from the flood thereby tremendously reducing the flood damage, assuring the perfect function and efficiency of the vehicle.

[0017] It is of course to be understood that the embodiment described herein is merely illustrative of the principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.

1. A portable flood-proof garage comprises a plastic or rubber base trough, a plastic or rubber upper cover, a suction tank, a longitudinal fastening belt and ring, a transverse fastening belt and ring and a stabilizing rope.

2. The portable flood-proof garage according to claim 1, wherein the plastic or rubber base trough uses a rectangular piece to fit the length of any type of vehicle or motorcycle; the center of the bottom piece is added with a more flexible pad with four sides thereof molded unitarily or sewed to fold evenly as side walls; the four side rims are sewed with zippers and zipper bands to form a shallow trough.

3. The portable flood-proof garage according to claim 1, wherein the plastic or rubber upper cover is manufactured according to the upper body shape and the size of the vehicle; the dimension of the downward connecting side rim at the opening thereof is the same as that of the side rim at the opening of the lower base trough; the lower side rim opening is also sewed with zippers and zipper bands to form an upper cover; zipping the zippers-and sealing the zipper band forms a tightly sealed entirety.

4. The portable flood-proof garage according to claim 1, wherein the longitudinal fastening belt and ring as well as the transverse fastening belt and ring are flat nylon belts (at least two belts) sewed onto the surfaces of the base trough and the upper cover longitudinally and transversely; two ends thereof are respectively fixed with a rustproof metal or plastic steel ring; a nylon or hemp stabilizing rope ties the upper and the lower rings for fastening the present invention onto a firmly positioned building for anchoring the vehicle to avoid any undesired movement.

5. The portable flood-proof garage according to claim 1, wherein the suction tank comprises an upper cover pedal board, a lower base plate, a sack on the periphery of a wind box, an inlet port and connection pipe as well as an outlet port for composing a unidirectional suction structure.

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