

SPECIFICATION OF THE INVENTION

SPA IN A SWIMMING POOL

Background of the invention

5 1. Field of the invention

The present invention relates to the field of indoor and outdoor, private and public swimming pools and various baths such as hot baths, whirlpool baths, spas, etc.

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2. Description of the prior art

On the one hand, while considering most non-sheltered swimming pools and especially private ones, one may make the statement that at least under common average
15 climates their extensive utilization is limited to a rather short period of the year, typically three or four months a year. For keeping the water at a comfortable level of temperature - which means as higher as the ambient temperature is lower - would generate an
20 important consumption of commonly non-renewable energy, which is definitely not appropriate in terms of energy conservation and which in any case most private people cannot afford. Besides that, one may also add regarding private swimming pools that the interest of users tends
25 commonly to decrease past the excitement of the first summers. Both reasons may explain a rather limited and commonly not totally satisfying use of this equipment versus its high cost of installation and maintenance.

On the other hand, one may notice the increasing
30 trend of consumers toward various warm and hot baths in small pools and especially toward whirlpool baths or

spas. But one may also assume that quick generalization of such equipments into family residences is far from sure, because indoor ones are commonly difficult to fit into existing houses, while outdoor ones may be more or less competing with traditional pools, both kinds of equipments generating also high and new expenses...

Therefore it is the object and the purpose of this invention to provide a quite new kind of equipment for swimming pools, able to meet the new trend of customers toward hot baths, whirlpool baths and spas, within the limits of average family budgets, while at the same time extending significantly the range of use of traditional swimming pools.

This new kind of equipment will be given subsequently the generic name a SPA IN A SWIMMING POOL, although it may have other utilizations as further explained.

Summary of the invention

In the prior art of water entertainment by means of swimming pools on the one hand, and various baths such as hot baths, whirlpool baths, spas etc. on the other hand, each kind of equipment is commonly designed, manufactured and installed separately - even if more or less integrated into the same location, especially in custom-designed creations-. Comparatively, the invention consists of a full integration of both kinds of equipments, while designing any specific bath as an additional internal equipment of the swimming pool, such equipment being consequently given the generic name of a "spa in a swimming-pool". For that purpose, the

additional equipment consists primarily of a specially designed suitable casing, to be easily fitted into a swimming pool in any proper location. After it has been properly installed, this additional equipment - to be
5 used for example as a spa - will occupy a typically small volume of the swimming pool and use more or less the same water. It will also provide specific additional features, according to its intended use, commonly : hot bath, whirlpool bath, spa etc., but also eventually safety pool
10 for children, or even fish tank etc.

This invention allows completion of specific baths for significantly reduced costs, as well as it also may regenerate general interest toward swimming pools.

Other and further objects and advantages of the
15 invention will be apparent from a reading of complete specification and claims.

Brief description of the drawings

For a more complete understanding of the invention
20 and its objects and advantages thereof reference may now be had to the following description taken in conjunction with the accompanying drawings, in which :

- Fig. 1 is a perspective view of a typical embodiment of the invention as it will appear after
25 installation into a pool.
- Fig. 2 is a perspective view of a typical embodiment of the invention, especially regarding the main casing, including main hidden lines.

Detailed description of typical embodiments of the invention

Referring to Fig. 1 which illustrates some apparent parts of a typical embodiment of the invention after installation into a pool, a casing 1 - made of any suitable material such as for example plastic material reinforced by means of convenient fibers - is fixed into place close to the wall 2 of the pool, notably by means of an attached superstructure 3 fastened to the superstructure of the pool 4 and/or to the surrounding ground 5.

After installation has been completed - typically without draining the pool -, the casing 1 separates the main remaining volume of water 6 of the pool from a new internal secondary volume of water 7. Volume 7 can now be used for any specific purpose such as hot bath, whirlpool bath, spa etc., while the rest of the pool remains utilized without any other change. It has to be clearly understood that the casing 1 illustrated through Fig. 1 as rectangular could as well be triangular, or circular, or elliptical, or semi-circular, or semi-elliptical, or of any convenient shape and depth and overall size, and could also occupy any convenient location in the swimming pool, without departing from the spirit of the invention. For example, among various embodiments of the invention, it is easy to design a "floating" casing 1, connected to the side of a large pool by means of a linking footbridge, etc.

We will not describe here nor illustrate on drawings which various structural and linking materials and features may be used so as to permit easy installation

into a pool without instant or delayed drawbacks, as these points are not relevant regarding the basic purpose of the invention, and will be easily figured as necessary by those skilled in the art. Nor will we further describe
5 various additional features such as removable or built-in ladders, stairs, seats handrails etc. intended to provide users extended safety and ease.

Temporary or steady exchange of water may be managed between volumes 6 and 7 through casing 1 for purpose of
10 installation and/or removal, structural safety, sanitary conditions etc. Water in volume 7 will be given specific conditioning according to its specific utilization, including heating, whirling motion, filtration etc., by means of valves, pipes, and other various devices -
15 pumps, filters, heaters... - fitted into casing 1 and attached superstructure 3 or other casings in any convenient and safe manner. It is not the purpose of the invention to fully describe these various features which will be completed in accordance with the common state of
20 the art.

Regarding use of volume 7, it has to be noticed that it can occur even during the "bad" season, since it requires a quite reasonable amount of energy for heating, notably during given temporary periods and eventually
25 thanks to appropriate thermal insulation and nightly covering - or even daily covering by kind of a canopy - of volume 7. It may be noticed also that while using some removable shallow easy-to-fit bottom, volume 7 may be utilized quite safely, particularly by young children.

30 Referring to Fig. 2 which illustrates the main casing of a typical embodiment of the invention, the

internal part 8 of casing 1 which delimits volume 7 is fitted with various openings as needed for completion of diverse functional processes, typically : several sets of openings 9 for heating, whirling motion, filtration etc., openings 10 for purpose of temporary or steady exchange between volumes 6 and 7, and more as necessary.

The external part 11 of casing 1 is mainly dedicated to structural strengthening and also aesthetic improvement of the whole thing. We will not describe here nor illustrate by means of drawings diverse structural features such as tighteners, frames etc. which are not relevant regarding the invention. We will not describe either various devices - typically valves, pipes, filters, pumps, heaters etc. - to be provided for purpose of water conditioning and to be fitted into various locations between internal part 8 and external part 11 of casing 1 as well as inside the attached superstructure 3 or other casings as needed.

It has to be noticed at last that the only additional supply commonly needed by a typical embodiment of the invention consists of a convenient electric wire, able to provide electricity to pumps and water heaters in accordance with the state of the art and particularly with safety regulations. In some cases a water main may also be needed. Besides that, the invention may also be eventually associated in some cases with various devices, such as solar collectors and/or solar cells for self-sufficient functioning, with instant gas water heaters etc.

While I have illustrated and described the invention in connection with certain specific embodiments thereof,

it has to be understood that further modifications may now suggest themselves to those skilled in the art, and it is intended to cover such modifications as fall within the scope of the appended claims.

Having described my invention, what I claim is :

1. In the field of water entertainment by means of swimming pools and various baths such as hot baths, whirlpool baths and spas, a suitable casing to be fitted
5 into a swimming pool, designed so as to provide at least one new internal secondary volume of water intended for specific utilization, while the rest of the pool remains without change.
2. The combination of claim 1 with various suitable
10 structural and linking means designed so as to fasten the main casing to the structure of the pool and/or its surroundings.
3. The combination of claim 1 with suitable
15 openings/taps/valves fitted into the main casing, so as to manage temporary or steady exchange of water between internal secondary volume and main external volume as delimited by the casing, for purpose of installation, removal, structural safety, sanitary conditions etc.
4. The combination of claim 1 with suitable openings
20 fitted into the internal part of the main casing, so as to be connected by means of suitable pipes to each other and/or to various devices such as pumps, filters, water heaters etc., for purpose of specific water conditioning.
5. The combination of claim 1 with separated internal
25 and external envelops composing the main casing, so as to provide an intermediate space intended to integrate various structural strengthening as well as various features related to water conditioning and managing, such as taps/valves/pipes etc.
- 30 6. The combination of claim 1 with a superstructure attached to the main casing, designed so as to provide

structural strengthening and fastened linkage to the structure of the pool and/or its surroundings, and also so as to shelter various devices needed notably for purpose of water conditioning.

5 7. The combination of claim 1 with built-in features such as ladders, stairs, handrails, seats, etc. intended for improving users ease and safety.

8. The combination of claim 1 with solar collectors connected to water conditioning systems so as to heat the
10 secondary specifically utilized volume of water.

9. The combination of claim 1 with a gas water heater connected to water conditioning systems so as to heat the secondary specifically utilized volume of water.

10. The combination of claim 1 with suitable thermal
15 insulation of the main casing.

11. The combination of claim 1 with a suitable cover limited to the secondary specific volume of water.

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