Oct. 6, 1964 W. A. KREUTZER 3,152,076

SWIMMING POOL SURFACE CLEANING APPARATUS

Filed March 17, 1961

Fig. 1.

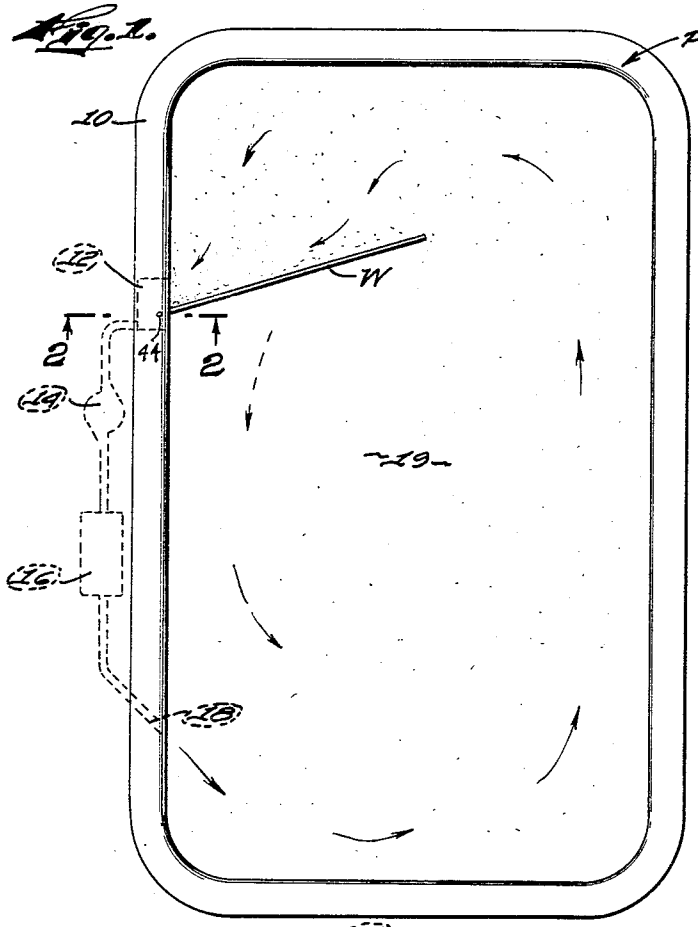


Fig. 2.

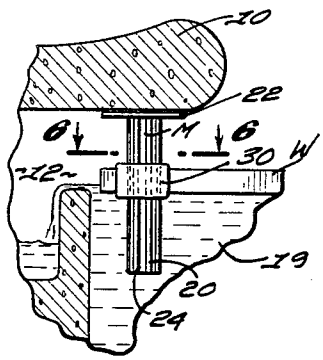


Fig. 3.

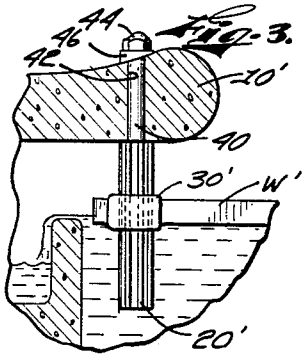


Fig. 4.

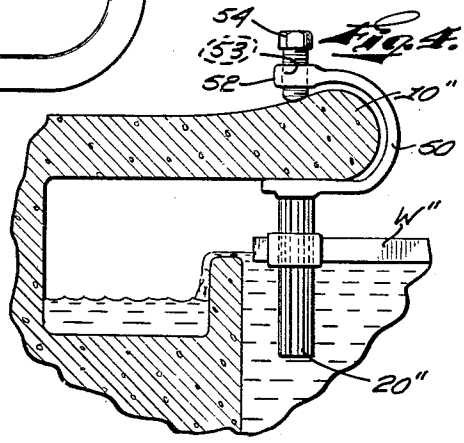


Fig. 6.

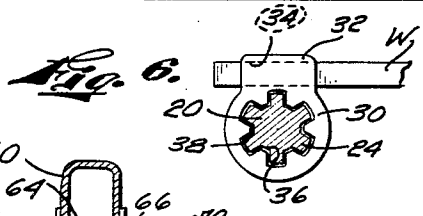
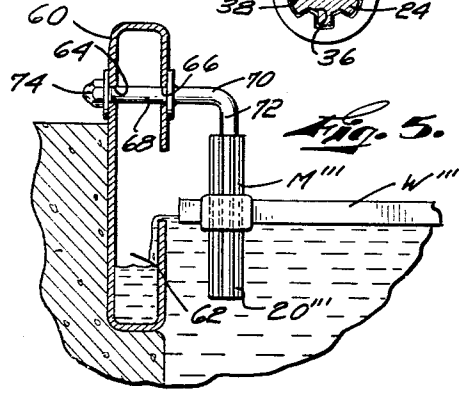


Fig. 5.



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SWIMMING POOL SURFACE CLEANING APPARATUS

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The present invention relates generally to swimming pools and more specifically to apparatus for cleaning same.

The conventional swimming pool utilizes a water inlet and a water outlet, with pump means being interposed therebetween so as to circulate the water in the pool about a generally circular path between the water inlet and outlet. A filter is positioned between the water inlet and water outlet to remove the debris such as dirt, leaves and the like which falls into the water. The water inlet and outlet are positioned near the water surface. It has been determined that the debris falling into the swimming pool floats on the surface thereof only a short period of time. Thereafter, it descends in the water towards the pool bottom. Thus, the larger percentage of such debris does not find its way into the water inlet so as to be removed from the water. Instead, it forms a scum on the bottom and sides of the pool. The removal of such scum is a tedious and time-consuming job.

It is a major object of the present invention to provide novel apparatus for use in removing the debris from the surface of a swimming pool before such debris can become submerged in the water of the pool.

Another object is to provide apparatus of the aforedescribed nature utilizing a wand which is supported on the surface of the swimming pool water so as to direct debris floating on such water into the water outlet before such debris can become submerged.

Yet a further object of the present invention is to provide apparatus of the aforedescribed nature utilizing a vertical shank that is affixed to the swimming pool coping and vertically slidably receives a floating wand.

An additional object of the present invention is to provide apparatus of the aforedescribed nature wherein the angular position of the wand may be adjusted so as to best conform to the circulatory flow of the swimming pool water.

These and other objects and advantages of the present invention will become apparent from the following detailed description, when taken in conjunction with the appended drawings wherein:

FIGURE 1 is a top plan view of a conventional swimming pool showing a preferred embodiment of the present invention;

FIGURE 2 is a fragmentary enlarged vertical sectional view taken on line 2—2 of FIGURE 1;

FIGURE 3 is a view similar to FIGURE 2 but showing a second form of apparatus embodying the present invention;

FIGURE 4 is a view similar to FIGURE 2 but showing a third form of apparatus embodying the present invention;

FIGURE 5 is a view similar to FIGURE 2 but showing a fourth form of apparatus embodying the present invention; and

FIGURE 6 is a horizontal sectional view taken on line 6—6 of FIGURE 2.

Referring to the drawings and particularly FIGURES 1, 2 and 6 thereof, there is shown a conventional swimming pool P whereon is mounted a preferred form of apparatus embodying the present invention. The swimming pool P includes a coping 10 surrounding the upper walls of the pool. The pool P also includes a water inlet 12 formed below the coping 10. The inlet 12 is in communication by means of suitable piping with a pump 14 of conventional construction. A conventional filter 16 is disposed downstream of the pump 14. Water after passing through the filter 16 is returned to the interior of the pool P through an outlet 18. In this manner, the water within the pool P is caused to recirculate in a generally circular path as indicated by the directional arrows in FIGURE 1.

The apparatus of the present invention includes an elongated wand W which floats upon the surface of the water 19 within the swimming pool P. The wand W is connected to the coping 10 by mounting means M. The wand W is preferably formed of a material which floats on water, as for example wood or a synthetic plastic. Alternatively, the wand W may be formed of a metallic tube. In any event, the material from which the wand is formed should be resistant to the chemicals found in a conventional swimming pool, as for example chlorine and muriatic acid. Although the wand W is shown as being of elongated, straight configuration, it may be desirable in some instances to provide the wand with a curved configuration.

The mounting means M includes a vertical shank 20 having its upper end rigidly affixed to and depending from the coping 10. In the embodiment shown in FIGURE 2 the upper end of the wand 20 is provided with a flat plate 22 that is affixed to the underside of the coping 10 by suitable means, as for example an epoxy cement. Other fastening means, however, may be provided. The shank 20 is formed with vertical splines 24, as indicated particularly in FIGURE 6. The end of the wand W proximate the coping 10 is provided with a bracket 30. The bracket 30 is suitably affixed to the wand. By way of example and with particular reference to FIGURE 6, the bracket 30 may include an ear 32 that is formed with a horizontal bore 34 that snugly receives the wand W. The bracket 30 is likewise formed with a vertically extending passage 36 that is complementary to the splined shank 20 whereby the shank vertically slidably supports the wand W. This passage 36 includes grooves 38 which receive the splines 24 of the shank 20.

In the operation of the aforedescribed apparatus, the wand W will be disposed in its position of FIGURES 1 and 2. When the pump 14 is in operation, the wand W will serve to direct debris floating on the surface of the water 19 in the generally circular path indicated by the directional arrows in FIGURE 1 into the inlet 12. In this manner, such debris will be removed from the water 19 before it can become submerged. When the pool is to be used for swimming, the wand W may be urged vertically downwardly off the lower end of the shank 20. It should also be noted that the angular position of the wand W relative to the sides of the pool P may be adjusted by proper selection of the splines 24 of the shank 20 relative to the grooves 38 of the bracket 30 so as to best guide the debris into the inlet 12. This adjustment may be quickly effected and does not require the use of any tools.

Referring now to FIGURE 3 there is shown a second form of apparatus embodying the present invention, with like parts bearing primed reference numerals with regard to FIGURES 1, 2 and 6. In the apparatus shown in FIGURE 3 the upper end of the shank 20' is provided with an integral rod 40 of reduced diameter. This rod 40 extends through a complementary vertical bore 42 formed through the coping 10'. The upper end of the rod 40 is threaded to receive a nut 44. A boss 46 is interposed between the upper surface of the coping 10' and the underside of the nut 44.

Referring now to FIGURE 4 there is shown a third form of apparatus embodying the present invention. In this form of the invention the upper end of the shank 20'' is rigidly affixed to the lower portion of a generally C-

shaped clamp **50**. The upper portion of the clamp **50** is formed with a boss **52** having a vertical bore **53** that is threaded to receive a set screw **54**. The intermediate portion of the clamp **50** is curved to generally conform to the configuration of the coping **10''**. The set screw **54** is adapted to be tightened downwardly so as to secure the clamp **50** upon the coping **10''**.

Referring now to FIGURE 5 there is shown a fourth form of apparatus embodying the present invention. In this form of the invention the pool P is provided with a metal coping rail **60**. The rail **60** is of generally C-shaped vertical cross-section. The lower portion of the rail **60** serves as a gutter **62** which is connected to the swimming pool inlet **12**. The upper portion of the rail **60** is formed with a pair of horizontally aligned bores **64** and **66**. These bores **64** and **66** receive the horizontal leg **68** of a generally L-shaped support **70**. The vertical leg **72** of this support **70** is rigidly affixed to the upper end of the shank **20'''**. The end of the bracket **70** opposite the shank **20** is threaded to receive a nut **74**.

The operation of the apparatus forms of FIGURES 3, 4 and 5 will be the same as that of the forms of FIGURES 1, 2 and 6.

Various modifications and changes may be made with respect to the foregoing detailed description without departing from the spirit of the present invention or the scope of the following claims.

I claim:

1. Apparatus for use in removing debris from a swimming pool having a coping, a water inlet, a water outlet and means for circulating the water in said pool about a generally circular path between said water inlet and outlet, comprising: an elongated wand that floats on the water in said pool; and mounting means interposed between said coping and said wand normally supporting said wand in a position to direct said debris from said path into said inlet, said mounting means including a vertical shank that vertically slidably receives said wand, and means connecting said wand and said shank whereby said wand may be forced downwardly over the lower end of said shank.

2. Apparatus as set forth in claim 1 wherein said shank depends from a plate that is affixed to the underside of said coping.

3. Apparatus as set forth in claim 1 wherein said shank is provided with a vertical rod that extends upwardly through said coping.

4. Apparatus as set forth in claim 1 wherein said shank is affixed to a generally C-shaped clamp that extends upwardly around said coping.

5. Apparatus for use in removing debris from a swimming pool having a coping, a water inlet, a water outlet and means for circulating the water in said pool about a generally circular path between said water inlet and outlet, comprising: an elongated wand that floats on the water in said pool; and mounting means interposed between said coping and said wand removably supporting said wand in a position to direct said debris from said path into said inlet, said mounting means including a splined vertical shank that vertically slidably receives a complementarily grooved bracket affixed to said wand, with said wand being removable from said shank by forcing said bracket downwardly over the lower end of said shank, and the angular position of said wand relative to said pool being adjusted by proper selection of the splines of said shank relative to the grooves of said bracket.

6. Apparatus as set forth in claim 5 wherein said shank depends from a plate that is affixed to the underside of said coping.

7. Apparatus as set forth in claim 5 wherein said shank is provided with a vertical rod that extends upwardly through said coping.

8. Apparatus as set forth in claim 5 wherein said shank is affixed to a generally C-shaped clamp that extends upwardly around said coping.

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