

J. W. LIPPINCOTT.  
SWIMMING COURSE.  
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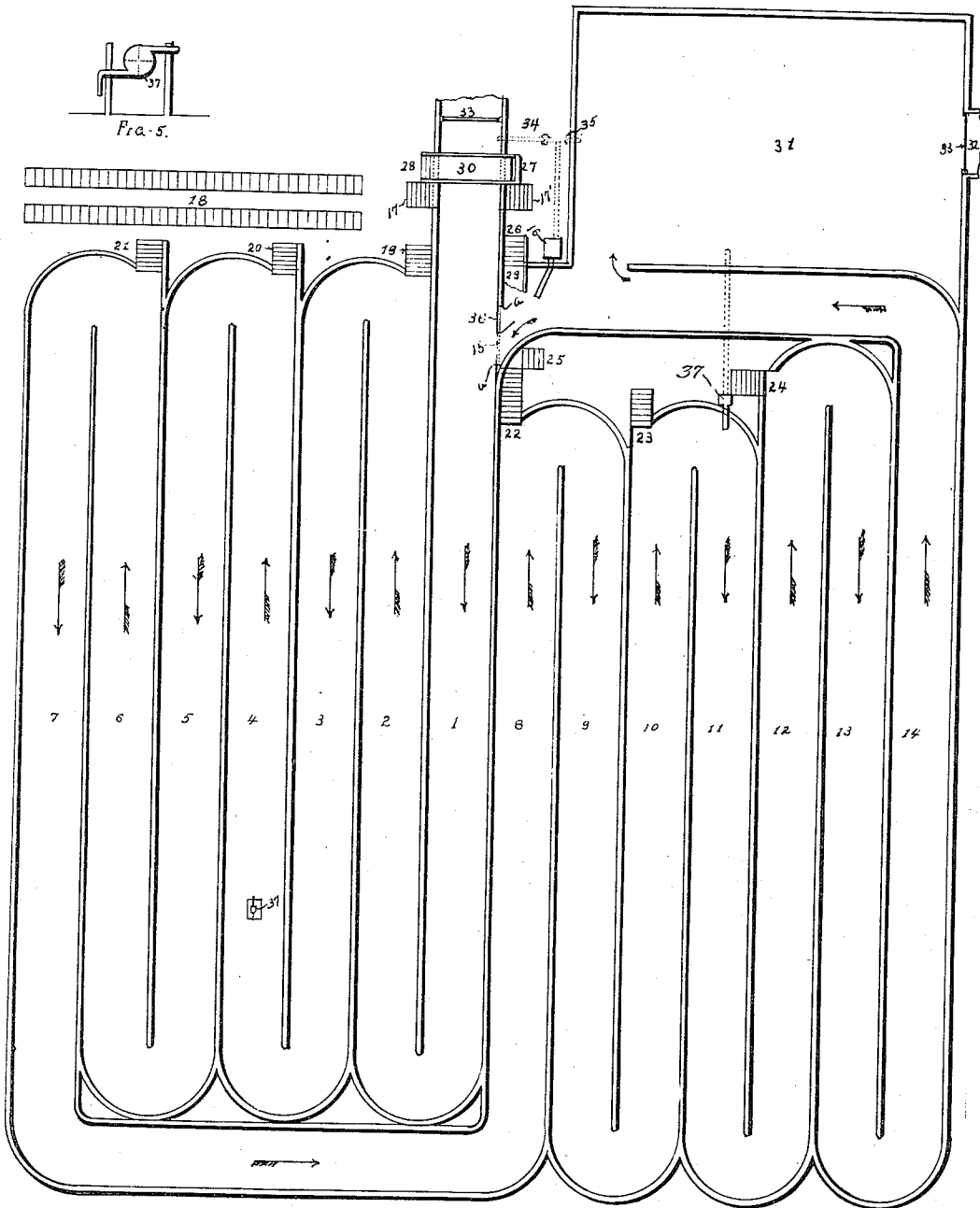
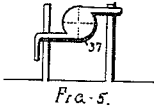
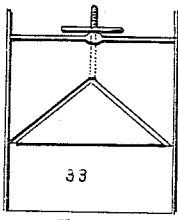
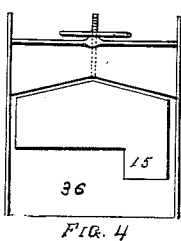


Fig. 1

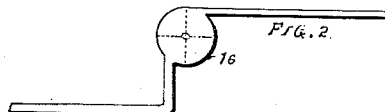


Fig. 2.

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# UNITED STATES PATENT OFFICE.

JOHN W. LIPPINCOTT, OF LITTLE ROCK, ARKANSAS, ASSIGNOR OF ONE-HALF TO CARRIE A. LIPPINCOTT, OF LITTLE ROCK, ARKANSAS.

## SWIMMING-COURSE.

1,285,259.

Specification of Letters Patent. Patented Nov. 19, 1918.

Application filed March 6, 1918. Serial No. 220,884.

*To all whom it may concern:*

Be it known that I, JOHN W. LIPPINCOTT, a citizen of the United States, residing at Little Rock, in the county of Pulaski, State of Arkansas, have invented new and useful Improvements in Swimming-Courses, of which the following is a specification.

My invention relates to endless swimming courses, and the objects thereof are to make swimming resorts more attractive to swimmers, and to afford a safe and easy means for the masses to learn to swim, and thereby popularize this sport, and to encourage and develop the much neglected art of swimming, and I attain these objects by the means illustrated in the accompanying drawings in which—

Figure 1 illustrates a plan view of a swimming course.

Fig. 2 illustrates a side view of a pump to be used for producing a surface current, and showing that the water is to be drawn from below and discharged at or near the surface.

Fig. 3 illustrates a front view of a gate which may be used as a flood or controlling gate in the head flume, and as a retaining or conserving gate in a wasteway.

Fig. 4 illustrates a front view of a gate with a chute therethrough and a part thereof.

Fig. 5 illustrates a side view of a housing for a surface current producing pump if it was desired to place such a pump near or below water level.

Similar letters and numerals refer to similar parts throughout the several drawings.

Numerals 1 to 14 illustrate parallel flumes, each connected one to another in the order in which they are numbered by return and reverse bends, number 1 being considered the head, and number 14 the tail, and said flumes are constructed on a uniformly sloping grade from head to tail in order to induce a gravity flow of water in the direction indicated by the arrows, *i. e.* from head to tail when water is allowed to run into said head flume. A chute 15 is provided in a gate 36 which is situated in the partition wall separating the tail and head flumes between two points indicated by *a* and *a*, and

as the tail flume is on a lower level than the head flume a pump 16 is required to produce and enforce a surface current of water through said chute to afford swimmers a swimmable passageway from the tail flume into the head flume, and therefore an endless swimming course, or a number of various lengthed swimming courses, each terminable near starting point, which is considered to the steps 17 and 17' near the dressing rooms 18. Steps 19 to 24 are provided at each of the reverse bends which are near the starting point and dressing rooms, and steps 25 to 28 are approaches to raised bridges 29 and 30 which span the tail and head flumes respectively.

The pump 16 is so situated, piped, and valved that it may draw water from the bottom of either the head flume or the tank 31 and discharge said water at or near the surface of the water in the tail flume and in the direction of and of sufficient volume and force to produce a surface current into and through the chute 15 to overcome the natural gravitational tendency of the water to flow from the head through said chute into the tail flume on account of said tail flume being lower than said head flume, and thereby afford swimmers a swimmable passageway through said chute. This chute however should only be deep enough and wide enough to accommodate individuals so that the pump will only be required to handle a small quantity of water, as only a surface current is required to make this chute swimmable. If however the supply of water was entirely stopped it would only be necessary to close the gate 33 at the head and the gate 33 at the wasteway 32 to retain the swimming course full of standing water, then the gate 36 could be opened and a surface current of any desired velocity could be produced by the pump 16 and a multiplicity of other pumps 37 which are placed at suitable places, but preferably at the bends or housed as is illustrated in Fig. 5 in mid stream in the swimming course, and as it is not required to move and keep moving the whole volume of water in the swimming course at a uniform velocity from surface to bottom, but only necessary to produce a surface current of the desired

velocity said pumps would only be required to handle a relatively small proportion of the whole volume of water in said swimming course, and the greater the number of pumps the more uniform the current, and the easier to maintain a given current. The pump 16 is provided with valves 34 and 35 so that said pump may draw water from the head flume, but when all the pumps are working to produce mechanical circulation said pump 16 should be valved to draw water from the tank 31, and all of the pumps 37 may be piped to draw water from said tank 31. Paddle wheels could also be housed to let water in from below and out at the top and rotated to produce a surface current.

The gate 36 acts only as a partition wall between the tail and head flumes when the swimming course is supplied with a gravity flow of water, and is installed in this particular place in order to obtain a larger opening in said wall than is afforded by the chute when it is desired to mechanically enforce a current throughout said swimming course.

The function of the controlling gate 33 in the head flume is to control the volume of water in case of an abnormal head, and inversely to retain water in said swimming course if the head or source should become temporarily low enough to permit water to recede from said head flume.

The function of the conserving gate in the wasteway 32 is to conserve the water in the swimming course in case of an inadequate supply, or to retain said swimming course full in case the supply was entirely stopped.

The tail flume 14 discharges into a tank 31 which may be utilized for various purposes, such as a children's department, a department for special parties, another for a diving hole, etc., and the water still further utilized through the wasteway 32 for irrigation.

The means herein illustrated and described will certainly fill a long felt want of swimmers and would-be swimmers, for it is easy and safe to swim or learn to swim down a moderate flowing and not too deep stream, as any one can remember who has experienced the pleasure and exhilaration of a swim down stream in a ditch, creek, or mill race, and this disclosure to such as can remember such a great joy will be a realization of an ideal condition when they fully understand that they can swim a few hundred feet, yards, or many miles at their option with ease and pleasure, and terminate their swim at any time within a few steps of where they left their clothes, and especially so when they also remember the discomfort experienced on the former occasion of having a long walk through stubbles, briars, or over rocks back to their clothes.

Having thus described my invention what I claim and desire protected by Letters Patent of the United States is—

1. The combination in a swimming course of a multiplicity of parallel flumes connected in series by return and reverse bends, affording swimmers their choice of various lengthed swimming courses, each course terminable near starting point, a chute connecting the tail with the head flume of said series, and a pump to enforce a current of water through said chute to afford swimmers a swimmable passageway through said chute, and therefore an endless swimming course.

2. The combination in a swimming course of a multiplicity of parallel flumes connected each to another and made continuous by return and reverse bends, and said continuous swimming course made endless by a passageway from the tail to the head thereof, and means for maintaining a continuous and endless surface current of water through said passageway and throughout said swimming course, of sufficient velocity to materially aid swimmers, and thereby affording swimmers an endless swimming course, of constant down stream swimming but optionally terminable at a multiplicity of near returns to a starting point.

3. The combination in a swimming course, of a multiplicity of parallel flumes connected and made continuous by return and reverse bends and graded to induce a gravity flow of water from the head to the tail, a chute connecting the tail with the head, and means to more than counteract the natural tendency of the water to flow from said head to said tail through said chute.

4. The combination in a swimming flume graded to induce a gravity flow of water from the head to the tail thereof, of a chute to connect the tail of said flume with the head thereof, and a pump to enforce a counter current through said chute to more than overcome the natural tendency of the water to flow from said head to said tail through said chute.

5. In a swimming course comprising a head and tail near each other and adapted to a gravity flow of water from head to tail, the combination of a chute to connect the tail and head, and a pump positioned and piped to draw water from the bottom of the course and discharge it horizontally at the surface to enforce a current in and through said chute to more than counteract the gravitational tendency of the water to flow there-through from said head.

6. The combination in a swimming course of a multiplicity of parallel flumes, each connected to another and made continuous by a return and reverse bend, the course thus formed made endless by a surface chute deep enough and wide enough to be swimmable

connecting the tail flume with the head flume, a pump to produce and maintain a surface current of sufficient velocity to materially aid swimmers through said chute, and a multiplicity of such pumps disposed  
5 at suitable points in said course to produce and maintain a surface current throughout

the course of sufficient velocity to materially aid swimmers and afford them an endless down stream swimming course but optionally terminable at many near returns to starting point.

JOHN W. LIPPINCOTT.