

Dec. 17, 1929.

J. P. HOOPER ET AL

1,740,305

KNOCKDOWN PORTABLE POOL

Filed Aug. 8, 1928

2 Sheets-Sheet 1

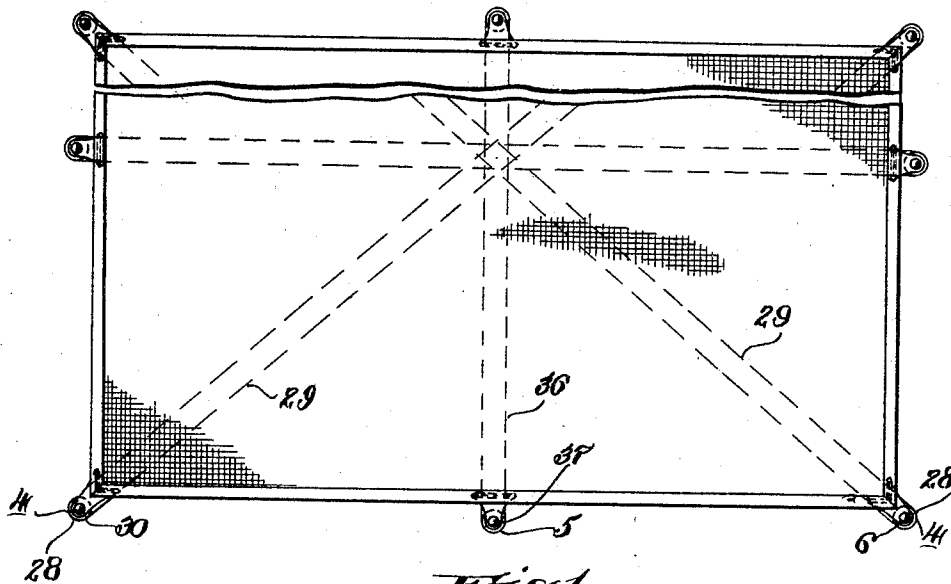


Fig. 1.

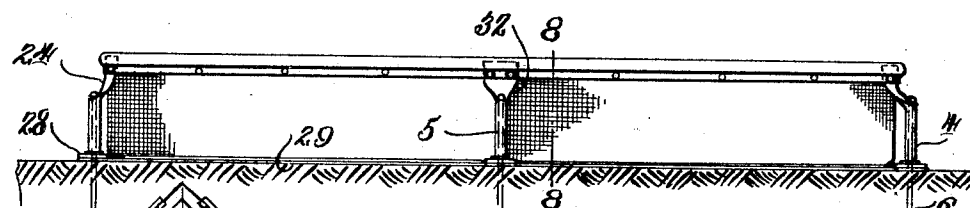


Fig. 2.

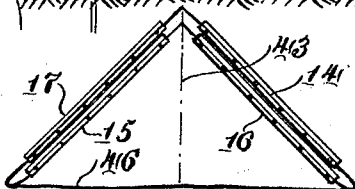


Fig. 4.

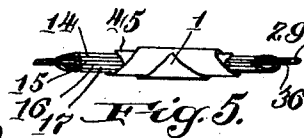


Fig. 5.

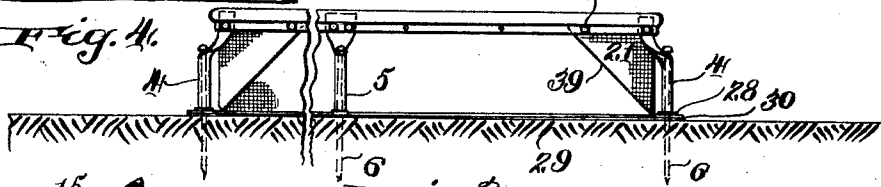


Fig. 3.

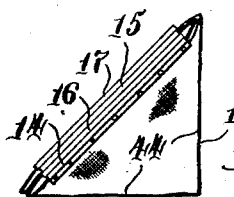


Fig. 10.

WITNESSES
T. H. St. Louis

James T. Hooper Inventor
and
Gavin C. Clayton
By Edwin Hamrick Attorney

Dec. 17, 1929.

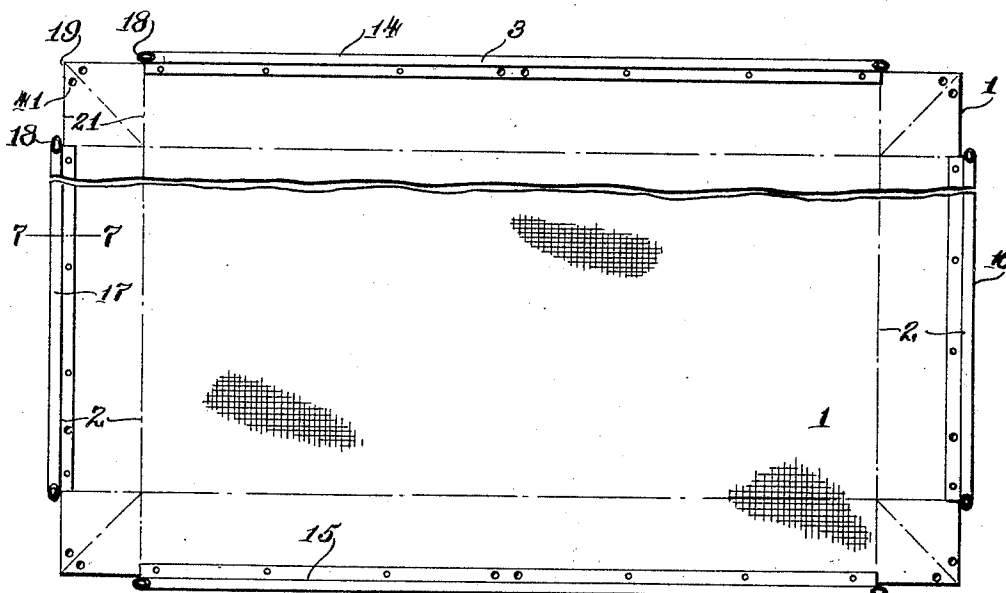
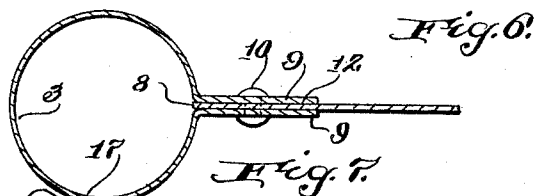
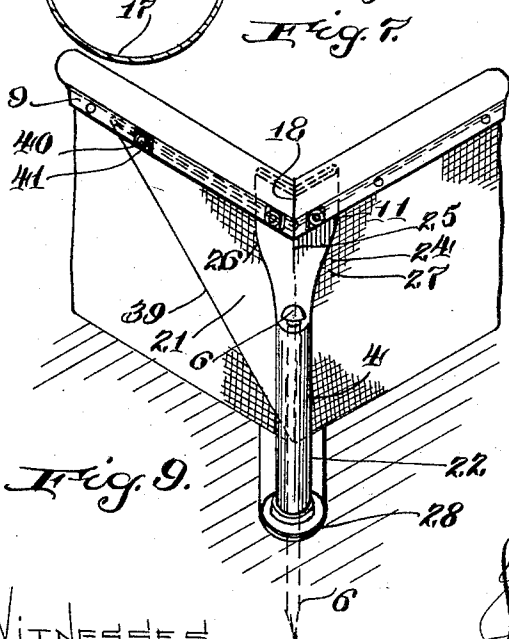
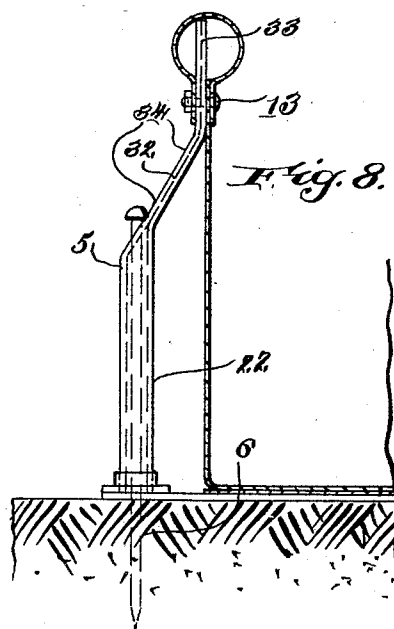
J. P. HOOPER ET AL

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KNOCKDOWN PORTABLE POOL

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2 Sheets-Sheet 2



WITNESSES
V. R. T. Lamb

Inventor
James I. Hooper
and
Edwin C. Clayton
By Edwin C. Clayton
Attorney

UNITED STATES PATENT OFFICE

JAMES P. HOOPER AND EDWIN C. CLAYTON, OF RUXTON, MARYLAND, ASSIGNORS TO
WM. E. HOOPER & SONS COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION OF
MARYLAND

KNOCKDOWN PORTABLE POOL

Application filed August 8, 1928. Serial No. 298,180.

The invention relates to a swimming or wading pool of the portable, knock-down type, composed of waterproof fabric and a metal frame. One of the principal obstacles encountered in the sale, distribution and use of such pools is the large bulk of the package which each pool structure forms when ready for shipping or storing, and the difficulty and loss of time incident to setting up and knocking down the pool.

The object of the invention is to produce such a pool which can be knocked down and set up with the minimum expenditure of time and labor and which, in packing, is reduced without trouble to the smallest bulk which can be occupied by the actual materials composing the pool structure.

The improved swimming pool structure also has the advantages of exceedingly simple construction and the absence of seams joining the fabric at the corners. Such seams, when made water-tight to meet the requirements, are expensive and their presence involves a greatly increased chance of leakage.

In the accompanying drawings we have illustrated a swimming pool embodying the features of our invention in the preferred form.

In the drawings:

Figure 1 is a top plan view of the pool assembled, the same being broken away immediately for convenience of illustration.

Figure 2 is a side elevation of the pool looking from the bottom in Figure 1.

Figure 3 is a view looking from the right in Figure 1.

Figure 4 is a plan view on a reduced scale showing the pool structure disassembled and folded flat on the diagonal.

Figure 5 is an external side view of the pool structure completely folded and rolled for packing and shipping, but not enclosed.

Figure 6 is a plan view of the pool fabric and top frame knocked down and flattened ready for folding, the same being broken away immediately for convenience of illustration.

Figure 7 is a section on the line 7—7 of Figure 6 showing the top frame and the manner of connecting the fabric thereto.

Figure 8 is a section on the line 8—8 of Figure 2 looking to the left, the pool being assembled and set up on the ground.

Figure 9 is a fragmentary perspective view of a corner of the pool assembled and set up on the ground.

Figure 10 shows the pool structure partly folded in a position which represents a stage in folding between those in which it is shown in Figures 4 and 5.

Referring to the drawings by numerals, each of which is used to indicate the same or similar parts in the different figures, the pool consists of a fabric covering indicated in a general way by reference character 1. The covering is preferably rectangular and of an area equal to and shaped in accordance with the horizontal plan or bottom area of the pool with an additional margin on all sides equal in width to the height or depth of the pool. This marginal portion, indicated by reference character 2 in Figure 6, extends all the way around the fabric cover, including the corners, so that the fabric covering, in the preferred form of the pool, is a complete rectangle or substantially so, the exact shape of the pool and the angle of the corners being more or less immaterial.

The frame, in accordance with the preferred form of the invention, comprises a top frame 3 and tubular corner uprights 4, one at each corner. It also preferably includes intermediate tubular uprights 5 and pins 6 adapted to be driven through the uprights into the ground.

In accordance with the preferred structure illustrated, the top frame 3 is preferably of split tubular or equivalent cross section, as indicated in Figures 7 and 8, being split longitudinally or at 8 along the bottom side and provided at each side of the split with two longitudinal cooperating flanges 9 on each side of the split. These flanges are, in accordance with the preferred construction, to be more fully hereinafter described, secured together by means of rivets 10 or bolts 11, 13, or in any suitable manner, the top edge portion 12 of the fabric 1 being inserted between the flanges and secured therein by

the pressure applied thereto due to the tension of the rivets 10 and bolts 11, 13.

The top frame 3, in the form of the invention shown, consists of four integral frame members 14, 15, 16 and 17, one secured to each edge of the fabric and having the corresponding edge portion 12 of the fabric inserted therein and secured as described. The end 18 of each of said top frame members 14, etc., is, however, in the knocked down position shown in Figure 6, spaced away from the corresponding corner 19 of the fabric by an interval, Figure 6, equal to the height or depth of the pool, leaving a free area 21 of fabric at each corner. The ends 18 of the frame members are also preferably mitered, as indicated in Figures 6 and 7, forming a neat joint at the corners, as illustrated in Figure 9.

The corner uprights 4, to which reference has been made, consist in the preferred form each of a lower tubular portion 22 and a top plate 24 of elongated formation projecting upwardly from the upper end of the tube. This may be made by opening and flattening the material of which the tube is formed. As to the corner uprights 4, these plates 24 are preferably bent at ninety degrees, the vertex 25 of the ninety degree angle extending vertically, so that each top plate 24 of the corner uprights 4 forms two flanges 26 and 27 at right angles to each other. In setting up the pool these right angular flanges 26 and 27 are secured to the flanges, or otherwise secured at the corners to the adjacent ends of the pairs of top frame members 15, 16, 16, 14, 14, 17, etc., in any suitable manner, as by means of the said bolts 11.

Preferably the plates 24 comprising the flanges 26, 27, are inserted through the respective slots 8 between the flanges 9, the bolts 11 being passed through the respective adjacent flanges 9 at each corner and through the flanges 27 and 26 of the top plate or angle 24. Preferably the top plates 24 are passed up into the hollow frame 3 until they contact with the top side of the frame member, as illustrated in dotted lines in Figure 9 and also in the section Figure 8.

The tubular uprights 4 are then secured in upright position by passing the corresponding pins 6 downwardly therethrough and driving the pins into the ground. These uprights 4 and pins 6 are, of course, positioned so as to give the pool a predetermined outline, as indicated in Figure 1. To prevent the tubular members 4 from being driven into the ground and to assist in holding them in upright position, they may be supported at the bottom by ring plates or washers 28 and to provide for the convenient driving of the pins the top plates 24 are preferably offset, as most clearly indicated in Figures 2 and 3. The corner uprights 4, or more accurately the pins 6 therein may to advantage be con-

nected by diagonal tie plates 29, see particularly Figure 1, through which the pins 6 in the corner uprights are passed, the tie plates resting on the ground or other suitable support and being apertured at their ends at 30 to receive the pins.

The top frame 3 is also supported intermediate of the sides by intermediate uprights 5. These uprights closely resemble uprights 4 and are provided with tubular portions 22 and top plates 32 similar to the top plates 24, except that they are flat at the top instead of being bent at an angle of ninety degrees, as are the top plates 24 of the corner uprights.

These plates 32 are also offset at 34, as are the corner plates to provide for the convenient driving of the pins 6, which are driven through the tubular portions 22 of the intermediate uprights in the same manner as described in connection with the corner uprights and these intermediate uprights are connected as to their top plates 32 to the top members 14, 15, etc., in a manner substantially similar to that in which the corner uprights are connected, i. e., their top vertical flat portions 33 beyond the offset 34 are inserted intermediately of the length of the corresponding member 14, etc., in the slot 8 between the flanges 9 and secured by bolts 13 passed through suitable holes in the flanges and in the top plates. The intermediate uprights 5 may also be connected by tie plates 36 which rest on the ground and are apertured at their ends at 37 to receive the pins 5. The tie plates are not, however, regarded as essential to the successful use and operation of the structure.

When the pool frame with the cover has been thus set up, the corner portions 21, Figure 9, are folded flat on the diagonal line 39 and secured at the corner remote from the upright 4 in any suitable manner, as by means of a bolt 40 extending through suitable openings or eyelets 41 in the corner flap, which are brought into registration in this position and through the flanges 9 of the top frame.

An important advantage of the structure is found in the ease with which it may be knocked down and set up and packed for shipment and the small dimensions to which it is reduced when packed.

To knock down the pool, the pins 6 are removed. The bolts 11 and 13 holding the corner uprights 4 and the intermediate uprights 5, and bolts 40 having been removed, the top frame 3 is released from the uprights which are withdrawn and the fabric covering 1 and the top frame 3, consisting of the frame members 14, 15, 16 and 17, still connected to the edges of the fabric is laid flat on the ground, as shown in Figure 6. This fabric covering and the pool structure itself may be square, or substantially square, to provide for convenient folding, though the propor-

tions of the horizontal dimensions may be considerably varied without interference with the folding operation.

Figures 4 and 10 show the cover as substantially square. To pack the pool cover and frame the cover is first folded on one of its long diagonals, the top frame members 15 and 16 being laid on, or parallel to the top frame members 17 and 14, and one triangular half of the cover being laid on the other triangular half, the same being folded on line 46. The two top frame members 14 and 16 are then laid on top of the frame members 15 and 17, again folding the already doubled fabric on the line 43, Figure 4, so that it takes the form illustrated in Figure 10, the four thicknesses of the cover being in the form of a triangular fold, as illustrated by the right triangle 44, Figure 10. The fabric cover 1 is then wrapped about the frame members 14, 15, 16, 17, which may also include the tie plates 29 and 36 and any other frame members which it is desired to enclose, forming a package 45, as illustrated in Figure 5.

We have thus described specifically and in detail a swimming or wading pool embodying the features of our invention in the preferred form in order that the nature and manner of operating and using the same may be clearly understood. However, the specific terms herein are used descriptively rather than in a limiting sense, the scope of the invention being defined in the claims.

What we claim as new and desire to secure by Letters Patent is:

1. A swimming pool having a cover in the form of a flat sheet of fabric having edges corresponding to the sides of the pool, said edges approaching and forming corner portions, and a top frame therefor comprising separate rigid top rail members, one said member being secured throughout substantially its entire length to each of said edges, the end of each said member being spaced away from the corners in the knocked down spread condition of the cover by a distance substantially equal to the depth of the pool when set up leaving a free corner flap at each corner of the cover, means for securing the top frame members together at the corners and means for supporting the top frame members at a height corresponding to the depth of the pool, the corner flaps being folded to close the corners of the pool.

2. A swimming pool cover in the form of a flat sheet of fabric having edges corresponding to the sides of the pool, said edges forming corner portions, and a top frame therefor comprising separate rigid top rail members, one said member being secured throughout substantially its entire length to each of said edges, the ends of said members being spaced apart in the knocked down spread condition of the cover and frame by a distance corresponding to the depth of the pool when set up

leaving a free flap at each corner of the cover, means for securing the top frame members together at the corners and means for supporting the top frame members at a height corresponding to the depth of the pool.

3. A swimming pool cover in the form of a flat sheet of fabric having edges corresponding to the sides of the pool, said edges forming corner portions, and a top frame therefor comprising separate rigid top rail members, one said member being secured throughout substantially its entire length to each of said edges, the ends of said member being spaced apart in the knocked down spread condition of the cover and frame by a distance corresponding to the depth of the pool when set up leaving a free flap at each corner of the cover, means for securing the top frame members together at the corners and means for supporting the top frame members at a height corresponding to the depth of the pool, said supports comprising tubular corner uprights and pins adapted to be driven therethrough into the ground.

4. A swimming pool having a cover in the form of a flat sheet of fabric having edges corresponding to the sides of the pool and a top frame therefor comprising separate rigid top rail members, one said member being secured to each of said edges, means for supporting the top frame members at a height corresponding to the depth of the pool, said supports comprising corner uprights having plates at an angle corresponding to the angle of the top frame members with means securing said plates to the top frame members.

5. A swimming pool having a cover in the form of a flat sheet of fabric having edges corresponding to the sides of the pool, said edges meeting and forming corners, and a top frame therefor comprising separate members, one said member being secured to each of said edges, means for securing the top frame members together at the corners and means for supporting the top frame members at a height corresponding to the depth of the pool, said supports comprising tubular corner uprights and pins adapted to be driven therethrough into the ground, the tubular uprights having plates, the plates of the corner uprights forming angularly disposed flanges corresponding to the angle at which the top frame members meet, and means for securing the flanges of the upright to the end portion of the top frame members.

6. A swimming pool cover in the form of a flat sheet of fabric having edges corresponding to the sides of the pool, said edges meeting and forming corners, and a top frame therefor comprising separate members, one said member being secured to each of said edges, the end of each said member being spaced away from the corners by a distance substantially equal to the depth of the pool when set up leaving a free corner flap at each corner

of the cover, removable means for securing the top frame members together at the corners and means for supporting the top frame members at a height corresponding to the depth of the pool, the corner flaps being folded to close the corners of the pool, said supports comprising tubular corner uprights and pins adapted to be driven therethrough into the ground, the top frame members being slotted and the tubular uprights having top plates adapted to enter said slots, the top plates of the corner uprights having portions disposed at an angle to each other to correspond to the angle at which the top frame members meet, and additional means securing the top frame members.

7. A swimming pool having a cover in the form of a flat sheet of fabric having a separate rigid top frame member, one secured throughout substantially its entire length to each edge of the sheet and spaced apart at the ends when the pool structure is knocked down and the fabric flattened, means for securing the top frame members together at their ends to form an assembled top frame, the portions of the fabric between the ends being doubled when said ends are thus connected and serving to close the corners of the pool, and means for supporting the top frame.

8. A swimming pool cover in the form of a flat sheet of fabric having top frame members secured to the edges of the sheet and spaced apart at the ends when the pool structure is knocked down and the fabric flattened, means for securing the top frame members together at their ends to form an assembled top frame, the portions of the fabric between the ends of the top frame at each corner being doubled when the top frame members are connected, serving to close the corners of the pool, and means for supporting the top frame, said supports being tubular uprights having top plates offset to admit ground pins and providing for driving same, and said ground pins and means securing the top plates to the top frame members.

9. A swimming pool cover in the form of a flat sheet of fabric having top frame members secured to the edges of the sheet and spaced apart at the ends when the pool structure is knocked down and the fabric spread flat, means for securing the top frame members together at their ends to form an assembled top frame, the portions of the fabric between the ends being doubled when said ends are thus connected and serving to close the corners of the pool, and means for supporting the top frame, said top frame members each having a longitudinal slot with a flange at each side of the slot, means for securing said flanges together to hold the edges of the fabric in the slot, the supporting means comprising uprights having top plates to enter said slots.

10. A swimming pool cover in the form of

a flat sheet of fabric having top frame members secured to the edges of the sheet and spaced apart at the ends when the pool structure is knocked down, means for securing the top frame members together at their ends to form an assembled top frame, the portions of the fabric between the ends being thus folded flat when said ends are thus connected and serving to close the corners of the pool, and means for supporting the top frame, said top frame members each having a flange, means for securing the fabric to the top frame members, the supporting means comprising uprights having top plates, said uprights being located near the corners, and means securing the top plates to the flanges.

11. A swimming pool cover in the form of a flat sheet of fabric having top frame members secured to the edges of the sheet and spaced apart at the ends when the pool structure is knocked down, means for securing the top frame members together at their ends to form an assembled top frame, the portions of the fabric between the ends being thus folded flat when said ends are thus connected and serving to close the corners of the pool, and means for supporting the top frame, the fabric cover and the top frame being foldable on the diagonals so that all the top frame members can be laid together in substantially parallel relation to pack the pool.

12. A knock-down swimming pool having a cover, a frame therefor consisting of separable top frame members secured to the edges of the cover, uprights, the uprights having top plates, the remainder of the upright below the plate being tubular and the plate being offset from the tubular portion to provide for driving a pin through the tubular portion into the ground, and said pin.

Signed by us at Baltimore, Maryland, this 6th day of August, 1928.

JAMES P. HOOPER.
EDWIN C. CLAYTON.