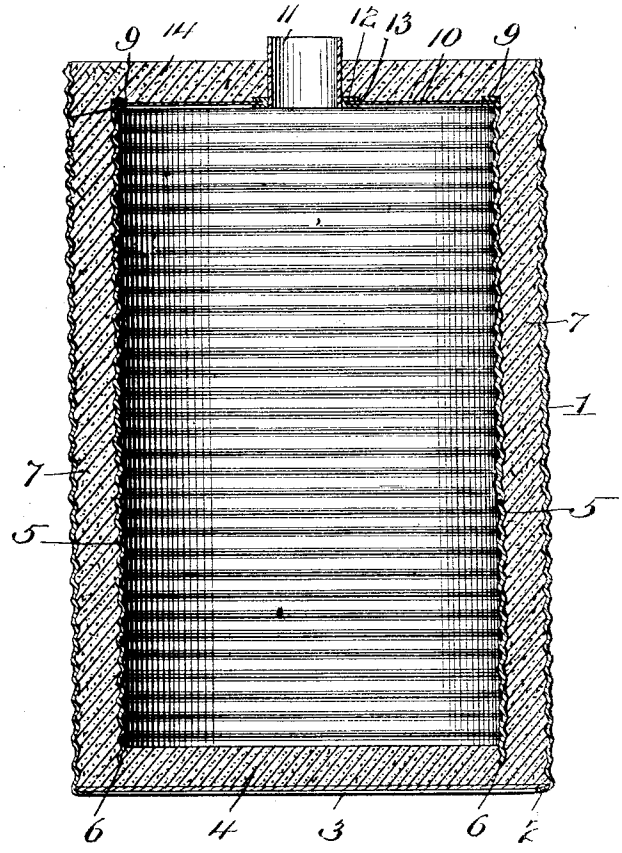
No. 882,678. PATENTED MAR. 24, 1908

O. K. HARRY.

STEEL TANK.

APPLICATION FILED MAR. 18, 1907.



Inventor,

Owen K. Harry.

By Mason Fenwick & Lawrence

Attorneys.

Witnesses

J. M. Fowler Jr.

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UNITED STATES PATENT OFFICE.

OWEN K. HARRY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO O. K. HARRY STEEL CO., A CORPORATION OF MISSOURI.

STEEL TANK.

No. 882,678. Specification of Letters Patent. Patented March 24, 1908.

Application filed March 18, 1907. Serial No. 363,021.

To all whom it may concern:

Be it known that I, OWEN K. HARRY, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Steel Tanks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to tanks and the like, and has for an object to provide a device of the class embodying a high degree of strength, coupled with a low degree of costs.

A further object of the invention is to provide a device of the class adapted for containing fluids of any class and more especially oils and the like, and to be disposed either above or below the surface of the earth.

A further object of the invention is to provide in a tank inner and outer spaced shells with a filling of cement or concrete between the shells and beneath the inner shell and preferably forming a bottom for the containing reservoir.

A further object of the invention is to provide a device of the class having a covering member covering the larger portion of the inner shell or containing reservoir and with a cement or concrete covering disposed above the containing reservoir.

With these and other objects in view, the invention comprises certain other novel constructions, combinations and arrangements of parts, as will be hereinafter fully described and claimed:—

The drawing forming a part of the present application shows the present invention in vertical diametrical section wherein a shell 1 of any approved size and shape is provided, preferably of corrugated sheet metal with the corrugations running circumferentially of the cylindrical shell. The shell 1 is preferably provided at the bottom with an inturned annular flange 2 upon which is disposed a circular bottom 3 of any approved material, preferably sheet metal.

Upon the bottom 3 and within the shell 1 is disposed a layer of cement or concrete of the desired thickness and the inner shell 5 disposed concentrically within the outer shell 1 and the lower edge is thus forced a distance into the bottom layer of cement 4. The inner shell 5 is smaller than and spaced from the shell 1 and the interval between the shells 1 and 5 is filled with cement, shown at 7 the said cement being tamped solidly between the shells. The inner shell 5 is provided at its upper edge with a channel comprising the sides 8 and 9 within which channel is disposed an annular sheet 10.

Within the central opening of the annular sheet 10 is secured a tubular man-hole structure 11 in any approved manner as by means of upper and lower flanges 12 and 13 engaging upon opposite sides of the annular sheet 10. The inner shell 5 does not extend to but stops short of the top of the shell 1 and upon the sheet 10 is placed a layer 14 of cement or concrete filling the shell 1 to the level of its upper edge and stopping short of the upper edge of the man-hole casing 11.

It will be seen that the inner shell 5 is completely surrounded by a wall of cement comprising the bottom 4, side walls 7 and top 14 and preferably with the bottom layer 4 forming and comprising the bottom of the receptacle defined by the inner shell 5. The construction above described is particularly desirable for larger reservoirs adapted to contain a very considerable quantity of oils and the like which, under ordinary conditions, by reason of their several weights starts the joints of the ordinary metal tanks resulting in waste and leakage. By the construction above described the cement walls strengthen and stiffen the shell 5 so that it cannot give at any point without rupturing the entire structure. It is well known that the cause of leakage and starting of joints in ordinary tanks is that weak points occur at the joints and that the contained pressure starts the joint at a small point and the rupture, perhaps, enlarging in time. With the construction shown no point can start as it is held rigidly in position by the containing cement wall. The outer shell 1 prevents chipping or cracking of the cement when the structure is used above ground, so that the two shells 1 and 5 may be of comparatively light sheet material while the cement structure may also be comparatively light as cracking and chipping is prevented by the outer shell.

What I claim is:—

A tank comprising an outer metallic shell having a closed bottom and open top, a layer of cement within and upon the bottom of said shell, an inner metallic shell of smaller diame-

ter and less height than the outer shell having a metal top and open bottom, placed in the inside of the outer shell with its wall spaced from that of the outer shell and projecting partially through the layer of cement and its top at a lower level than the top of the outer shell, a filling wall of cement between the two shells joining the bottom layer, and an upper layer of cement resting upon the top of the inner shell and joining the filling wall, a suitable opening being provided through the top of the inner shell and the top layer of cement.

In testimony whereof I affix my signature in presence of two witnesses.

OWEN K. HARRY.

Witnesses:
GEO. H. PLOWMAN,
MARCUS M. PLOWMAN.