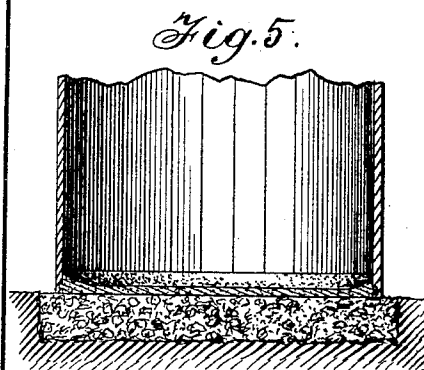
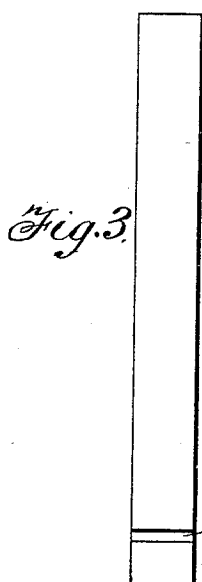
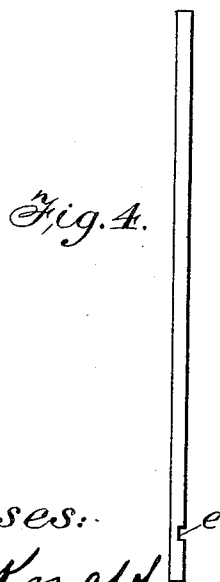
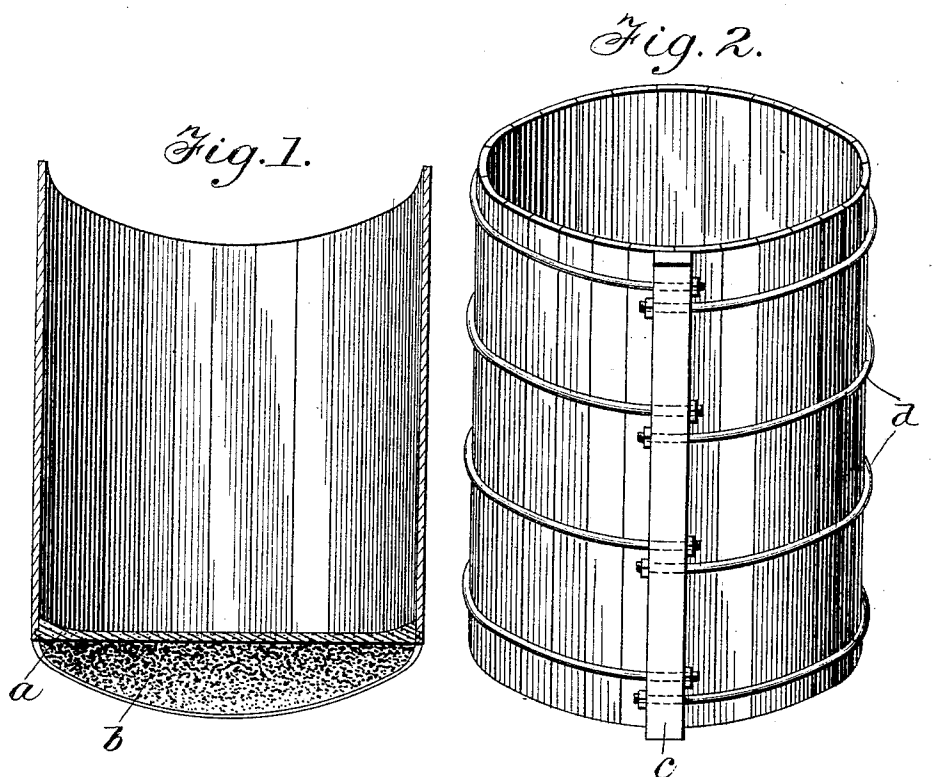


(No Model.)

J. A. SPEER.
WATER TANK.

No. 460,998.

Patented Oct. 13, 1891.



Witnesses:
Chas. E. Knapp
Wm. D. Ball

Inventor.
John A. Speer

UNITED STATES PATENT OFFICE.

JOHN A. SPEER, OF CEDAR FALLS, IOWA.

WATER-TANK.

SPECIFICATION forming part of Letters Patent No. 460,998, dated October 13, 1891.

Application filed March 7, 1891. Serial No. 384,164. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. SPEER, residing at Cedar Falls, in the county of Black Hawk and State of Iowa, have invented a new and useful Water-Tank, (which has not been patented in the United States nor in any foreign country,) of which the following is a specification.

My invention relates to improvements in water-tanks, in which vertical staves are bound together by metal bands, the ends of which pass through a vertical wooden lug extending to the vertical height of the tank, and in which the bottom of the tank is made of cement. The objects of my invention are, first, to provide a rigid, substantial lug, which is easily put in place and which prevents the hoops or bands from falling out of place if slackened by shrinkage of the tank; second, to provide a bottom for water-tanks which is at once rigid, non-shrinking, impervious to water, and not subject to decay. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a cross-section of the tank, tilted back so as to show the edge and under side of the cement bottom. Fig. 2 is a view of an entire tank, showing position of wooden lug and metal band. Fig. 3 is a view of inner side of tank stave, showing chamfer. Fig. 4 is a view of edge of stave. Fig. 5 is a view of base on which cement bottom is laid, showing a cross-section of same and of tank standing thereon.

Similar letters refer to similar parts throughout the several views.

The foundation for the tank shown in Fig. 5 is constructed by excavating to the depth of six to eight inches in the earth a space a few inches larger than the base of tank. The excavation may be filled with stone, brick, gravel, or other suitable material, or the foundation may be constructed of plank, on or above the surface of the earth.

The staves are made of any desirable material and length, beveled on the edges in form to make a tank of the size desired, and are chamfered out at two inches from the lower end on inside, so as to form a groove

one inch wide and one-fourth to one-half inch deep, as shown in Figs. 3 and 4 at *e*. They are set up on the foundation, and held in position by metal bands or hoops of any desirable form and width, the ends of the hoops being rounded for six to eight inches from the ends and threaded and fitted with nuts and washers.

The wooden lug *c*, Fig. 2, is a piece of hard wood of equal length with the staves and two by four inches in size, and fitted with holes bored through it in the direction of the ends of the hoops—two holes for each band—as shown in Fig. 2. The bands are passed through the lug and nuts screwed up till the staves are drawn tightly together.

The bottom *b* is constructed by laying two to four inches of cement, made by mixing two parts Louisville cement and two parts clean sand, or by mixing two parts Portland cement and three parts sand, on the foundation, as shown in Fig. 5, and inside of the tank, the parts nearest the staves being curved upward so as to meet the staves three to five inches from the bottom and worked into the chamfer, as shown in Fig. 1.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a water-tank, of wooden staves grooved out near the bottom on the inside and having a cement bottom extending above the groove, with a single lug *c* extending up the outside and the vertical height of the tank, fitted with holes through which the ends of metal bands *d* are fastened, all substantially as described.

2. The combination, in a water-tank, of staves, a lug *c*, arranged lengthwise of said staves and having a series of holes therein, and a series of hoops surrounding the tank and having their ends secured in the holes in said lug, substantially as and for the purpose set forth.

JOHN A. SPEER.

Witnesses:

ALFRED GRUNDY,
LANFEAR KNAPP.