(No Model.)

W. E. CALDWELL.

TOWER.

No. 487,902. Patented Dec. 13, 1892.

Fig. 1.

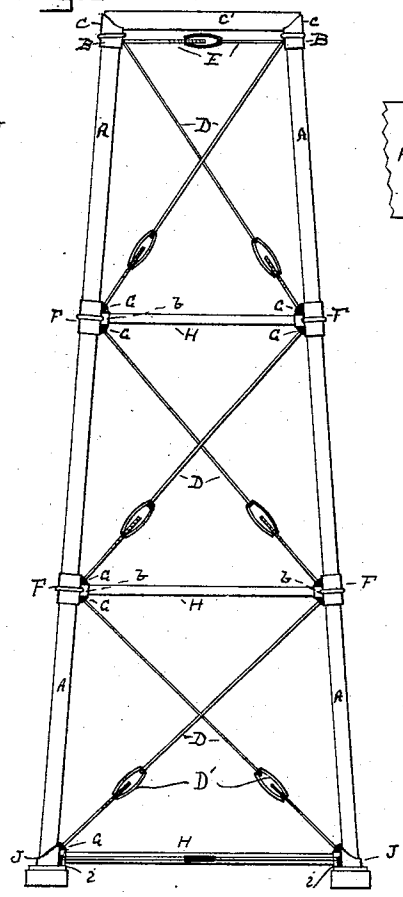


Fig. 2.

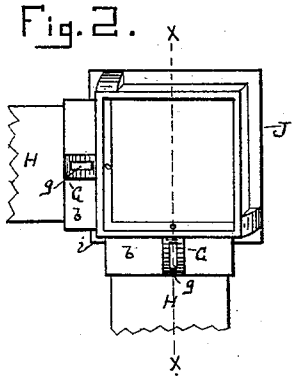


Fig. 4

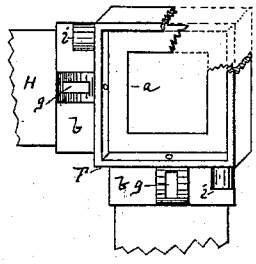


Fig. 3.

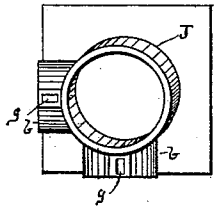


Fig. 5.

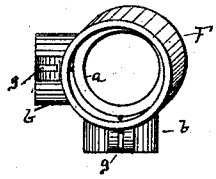


Fig. 6.

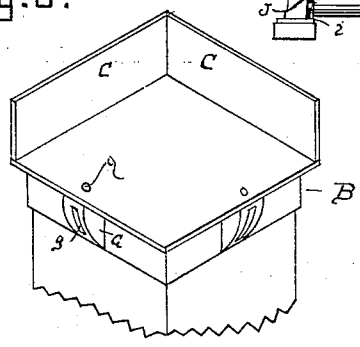


Fig. 8.

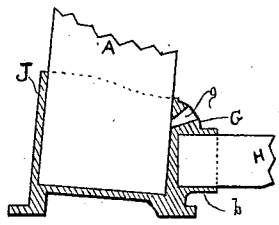
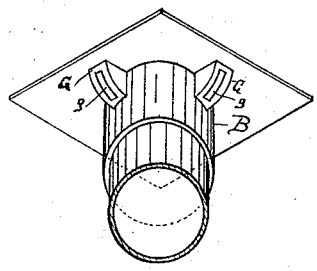


Fig. 7.



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UNITED STATES PATENT OFFICE.

WILLIAM E. CALDWELL, OF LOUISVILLE, KENTUCKY.

TOWER.

SPECIFICATION forming part of Letters Patent No. 487,902, dated December 13, 1892.

Application filed May 26, 1892. Serial No. 434,462. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. CALDWELL, of Louisville, in the county of Jefferson, in the State of Kentucky, have invented new and useful Improvements in Supporting-Towers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in that class of towers or trestles used to support tanks or other liquid-holding receptacles; and it consists in certain details of construction and arrangement of parts, all as hereinafter more fully set forth, and specifically pointed out in the claims.

In the annexed drawings similar letters of reference denote corresponding parts in all the views, in which—

Figure 1 is an elevation of the whole tower set up ready to receive its tank. Figs. 2 and 3 are views, respectively, of two modifications of the bottom castings into which the lower ends of the uprights A are inserted in assembling the parts, the view of Fig. 2 being for a square-sided timber and the view in Fig. 3 being for a round pipe substituted for the timber. Figs. 4 and 5 are top plan views of the intermediate castings placed between the two ends and are respectively for square and round uprights, and Figs. 6 and 7 are details of the two top castings—square and round—which hold the top ends of the uprights A. Fig. 8 is a vertical section through one of the bottom castings.

It will be observed that the two styles of bottom castings J are each provided with open top ends, into which the uprights A may be inserted, and that said openings are made in such proportion to the whole that the timbers or pipes used as uprights may be inserted therein without any reduction in size at the entering ends, while there are lugs G provided on said castings, top, bottom, and intermediate, with eyes *g* therein, into which are inserted the tie-rods D, which run diagonally across the structure and are united at their meeting ends by means of the turnbuckles D′. The uprights A extend upwardly to the intermediate castings F, which are shown in Figs. 4 and 5, which castings are provided on their inner sides with the flange *a*, which rests upon the lower upright and which in turn acts as a support for the next succeeding upright in the series, which is fitted into the upper end thereof and extends upwardly therefrom. There being one bottom piece at each corner of the structure and four intermediate castings F at each elevation, it will be apparent that there should be eight tie-rods to each section of the tower, which arrangement may be continued to the desired elevation, at which there are provided top pieces or castings B, which fit on the top ends of the uprights and form caps therefor, from which caps, in the case of the square timbers, I provide the vertically-rising flanges C on the outer sides of the top pieces B, so as to hold securely the cross-timbers C′, used to support the tank or other receptacle supported by the tower, though such vertical flanges are not absolutely essential to the success of the structure, as it will be apparent that such cross-timbers may be secured in any suitable and well-known manner to hold them in position as a support for such tank.

In the case of the round-pipe uprights used with the castings shown in Figs. 3, 5, and 7 I have shown the top piece B as without such retaining-flange and with only a flat plate as the terminus of such piece B, which is a style which I have used with success, though in such cases some means of bolting or otherwise securing the cross-timbers must be provided in erecting the tower.

It will be observed that the studs G are provided with eyes *g*, which are somewhat oblong, and this is so that the castings may be used with varying lengths of uprights A, the oblong eye giving an opportunity to use the tie-rods, though the length of the uprights may be variable without the necessity of drilling or otherwise cutting such eyes to each angle of inclination of such rods D, and said eyes *g* extend entirely through the outer shell of the castings to the interior openings for the timbers or pipe, so as to permit of readily inserting therein a tie-rod which is provided with an upset inner end, which upset portion abuts against the shell of the said castings, while the rods are tightened by the turnbuckles D′ aforesaid to securely draw the parts together.

The bottom castings J may be provided with small outlet-openings, from which will flow

any water which may possibly enter the sockets formed for the uprights, and in the case of square timbers being used such openings are quite essential to protect the wood against rotting.

From the foregoing it will be readily apparent that the several parts of the structure may be assembled without special skill on the part of the workman and that it may be easily taken apart for transportation or storage and as readily reassembled when required.

By providing the castings with the several peculiarities herein pointed out I am enabled to make the castings at a convenient point of shipment and send them to the place where the tower is to be put up and there procure such timbers as are required, taking such timbers as they come from the sawyer and without tenoning the ends thereof and insert them into the several castings, connecting the whole by means of the tie-rods, and a very strong and durable structure is quickly completed without skilled labor at the place of erection.

Having described my invention, what I claim is—

1. A supporting-tower composed of timbers or uprights of uniform size from end to end, top and bottom sockets therefor, intermediate sockets provided with internal supporting-flanges, and open-faced studs provided with eyes *g*, extending entirely through them and through one wall of said sockets into the interior thereof, said studs being formed integral with said top, bottom, and intermediate sockets, adapted to receive and hold oblique tie-rods connecting said sockets, all combined substantially as specified.

2. A supporting-tower composed of uprights of uniform diameter from end to end, top, bottom, and intermediate receiving-sockets therefor, and open-faced studs on all of said sockets adapted to receive and hold connecting tie-rods loosely therein, the intermediate sockets having internal supporting-flanges for said uprights and the top sockets having vertical retaining-flanges rising therefrom, adapted to hold the tank-supporting timbers in fixed position above said tower, all combined substantially as specified.

In testimony whereof I have hereunto set my hand this 20th day of May, 1892.

WILLIAM E. CALDWELL.

Witnesses:
FREDERICK H. GIBBS,
R. E. MILLER.