

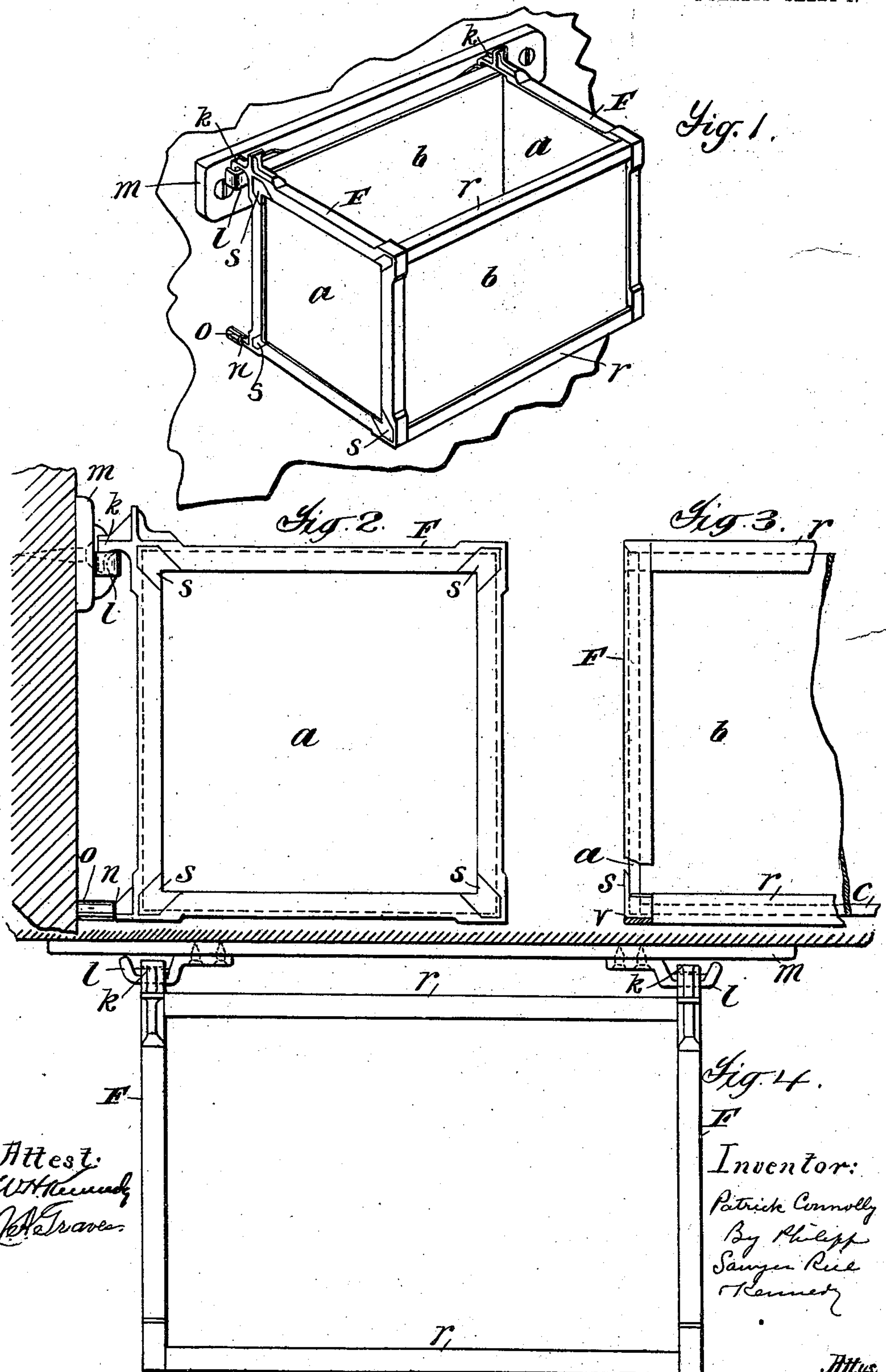
No. 896,276.

PATENTED AUG. 18, 1908.

P. CONNOLLY.
BOX OR TANK.

APPLICATION FILED DEC. 30, 1902. RENEWED JAN. 11, 1908.

2 SHEETS—SHEET 1.



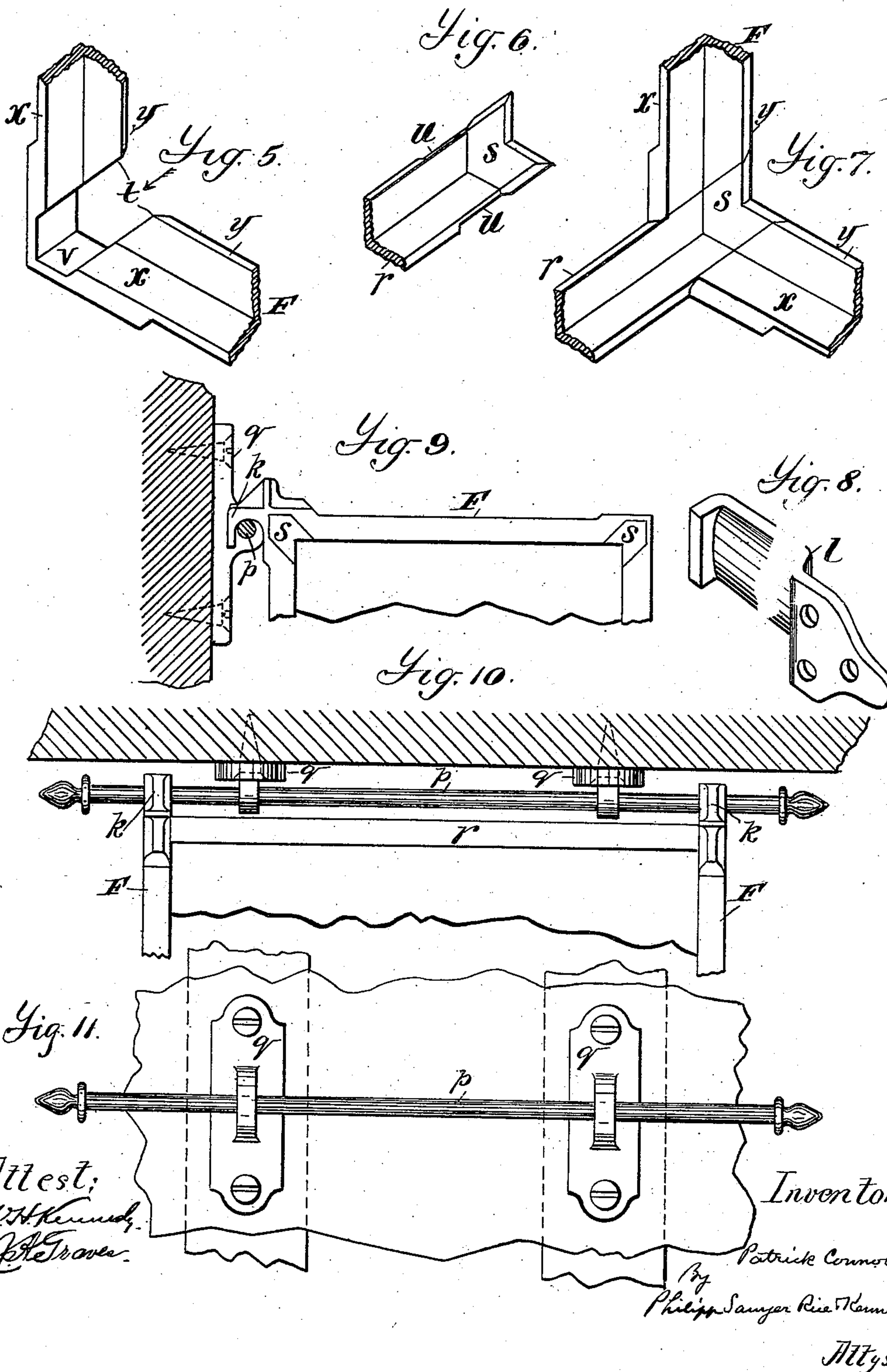
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

PATRICK CONNOLLY, OF NEW YORK, N. Y.

BOX OR TANK.

No. 896,276.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed December 30, 1902, Serial No. 137,107. Renewed January 11, 1908. Serial No. 410,443.

To all whom it may concern:

Be it known that I, PATRICK CONNOLLY, a citizen of the United States, residing at New York, county of Kings, and State of New York, have invented certain new and useful Improvements in Boxes or Tanks, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to improve the construction of boxes or tanks, and the invention especially aims to provide a self-locking frame for supporting the sides, ends and bottom of a box or tank, and to provide an improved means for supporting the tank or box.

A full understanding of the invention can best be given by a detailed description of a construction embodying the various features thereof, and such a description will now be given in connection with the accompanying drawings, showing the invention as applied to a construction especially designed for use as a plumber's tank.

In said drawings: Figure 1 is a perspective view of a tank constructed in accordance with the invention; Fig. 2 is an end view on a larger scale; Fig. 3 is a partial front view partly broken away to show the formation of the parts; Fig. 4 is a plan view; Figs. 5, 6 and 7 are details showing the manner of connecting the end frames and connecting rods; Fig. 8 is a detail of one of the supporting brackets; Fig. 9 is a partial end view showing a modified supporting means. Fig. 10 is a partial plan view of the construction shown in Fig. 9; and Fig. 11 is a front view of the supporting rod shown in Figs. 9 and 10.

Referring to the drawings F, F are end frames, preferably of suitable metal, and having side, bottom and end flanges x and end flanges y . The two end frames are connected by angle connections or tie rods r , also preferably of metal, extending between the corresponding corners of the frames for forming a rectangular skeleton or frame for holding the ends a , a , the sides b , b and bottom c of the tank. The end frames and connecting rods are, as stated, preferably of metal, and may be formed in any suitable manner, as by casting.

The connecting or tie rods r may be secured to the end frames in any suitable manner, but preferably the end frames and the ends of the tie rods are formed so as to provide a self-locking frame as follows:—The tie

rods are formed at each end with a piece s extending at right angles to the rod and dove-tailed to fit dove-tailed slots t in the end flanges of the end frames, the dove-tails being cut so that when the tie rods are in position with the end pieces s in the slots t , the end frames will be prevented from being drawn apart. The tie rods are also preferably formed with recesses u at and near the ends so as to form shoulders to engage the inner edges of the flanges x of the end frame, thereby preventing relative movement of the end frame and the tie rods in the other direction, that is in the completed skeleton a movement of the end frames toward each other. The end frames are also preferably formed with corresponding recesses v , as shown best in Fig. 5, so that the inner surfaces of the angle tie rods will register with the inner surfaces of the flanges x of the end frames when they are placed together. The ends of the tie rods are readily placed in holding position in the end frames by moving their ends into position in the direction of the arrow in Fig. 5. When the end of the tie rod has been thus placed in position in the corner of one of the end frames, it is evident that it can be moved out of position in only one direction, that is in a direction the reverse of the direction in which it has been moved into position; and the ends of the tie rods will be prevented from thus moving out of position by the slabs or boards fitted within the skeleton formed by the two end frames and the four tie rods to form the tank.

For forming the tank, the ends, sides and bottom of the tank are preferably formed of slate or similar slabs fitted to form water tight joints when placed in position within the skeleton frame. It will be understood, however, that my improved connection may be employed where the ends, sides and bottom of the tank or other box are formed of other material, as desired; and it will be understood also that the box may be provided with a top or cover, if desired.

Although the end frames are preferably placed about the shorter of the vertical sides of the tank or other box, they might, however, be placed about other opposite sides, ends of a box meaning herein the sides of the box about which the end frames are placed, and the expression "end frame" not being intended to limit the frames to use on the shorter vertical sides of the box.

It will be seen that by the construction above described I provide an extremely strong box or tank which can be made very rapidly, as the labor of putting the parts of the box or tank together is greatly lessened, and as the frames can be manufactured very cheaply; that I provide a secure, convenient and neat connection between the end frames and the tie rods without the use of bolts or other additional devices, and that the corners of the end frames are of such a shape that they may be readily cast, so as to require little or no after fitting.

When the frames are intended for use in forming a tank intended to be supported against a wall, they are preferably provided with a hook extension *k* extending backward from the corner of the frame which would be at the upper corner of the back of the tank, this hook extension being adapted to engage suitable supports secured to the wall against which the tank is to be supported. Figs. 1 to 4 and Fig. 8 show these supports in the form of brackets *l* adapted to be secured as by screws to the wall or to a board *m* fastened to the wall. For holding the bottom of the tank away from the wall so as to properly position the tank with relation to the wall, the bottom rear corners of the end frames are preferably provided with lugs *n*. These lugs may be of a length sufficient to bear against the wall and thereby hold the tank in position, but preferably they serve to support short lengths of tubing *o* which bear against the wall and against the end frame. The lugs *n* may thus be of sufficient length to support the lengths of tubing, and the lengths of tubing may be made of any needed length to properly position the tank according to the manner in which the hooks *k* are supported.

Instead of the brackets *l*, any other suitable form of support for the hooks *k* may be provided. A convenient arrangement is shown in Figs. 9 to 11, in which a rod *p* is held against the wall, as by means of brackets *q*, said rod serving as a support for the hooks *k*. This arrangement permits of a slight adjustment of the tank longitudinally without the necessity of changing the parts permanently attached to the wall.

A tank constructed in accordance with my invention may, of course, be supported in any other suitable manner, but the means shown provides a slightly and convenient way for supporting the tank, which permits the tank to be easily taken down and replaced in position.

It is to be understood that the invention is not to be limited to the exact construction shown, but includes changes and modifications thereof within the claims.

What I claim is:—

1. The combination of end frames having side, bottom and end flanges, and tie rods

extending between corresponding corners of the end frames, the corners of the end frames and the ends of the tie rods being shaped to form self-locking joints, substantially as described.

2. The combination with end frames having side, bottom and end flanges of tie rods extending between corresponding corners of the end frames, the corners of the end frames and the ends of the tie rods being shaped to form self-locking joints, and sides, ends and bottom of the box fitted within said frames and tie rods, substantially as described.

3. The combination with end frames having side, bottom and end flanges and having dovetailed slots *t* in the end flanges, of tie rods extending between corresponding corners of the end frames having dovetailed end pieces *s* fitting the dovetailed slots *t*, substantially as described.

4. The combination with end frames having side, bottom and end flanges and having dovetailed slots *t* in the end flanges, of tie rods extending between corresponding corners of the end frames having dovetailed end pieces *s* fitting the dovetailed slots *t*, and side, bottom and end slabs of slate or similar material fitted within said frames and tie rods, substantially as described.

5. The combination with end frames having side, bottom and end flanges and supporting extensions and having dovetailed slots *t* in the end flanges, of tie rods extending between corresponding corners of the end frames having dovetailed end pieces *s* fitting the dovetailed slots *t*, and sides, bottom and ends of the box fitted within said frames and tie rods, substantially as described.

6. The combination with end frames having side, bottom and end flanges and supporting hooks *k* and having dovetailed slots *t* in the end flanges, of tie rods extending between corresponding corners of the end frames having dovetailed end pieces *s* fitting the dovetailed slots *t*, substantially as described.

7. The combination with end frames having side, bottom and end flanges and having dovetailed slots *t* in the end flanges, of tie rods extending between corresponding corners of the end frames having dovetailed end pieces *s* fitting the dovetailed slots *t* and formed with recesses *u* to fit the side and bottom flanges of the end frames, substantially as described.

8. The combination with end frames having side, bottom and end flanges and having dovetailed slots *t* in the end flanges, of tie rods extending between corresponding corners of the end frames having dovetailed end pieces *s* fitting the dovetailed slots *t* and formed with recesses *u* to fit the side and bottom flanges of the end frames, the side and bottom flanges of the end frames being formed with corresponding recesses *v*, substantially as described.

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9. As a new article of manufacture, an end frame for boxes, tanks and the like having side and bottom flanges x and end flanges y and having dovetailed slots t in the end
5 flanges y for receiving correspondingly shaped ends of the rods, substantially as described.

10. As a new article of manufacture, an end frame for boxes, tanks and the like, having side and bottom flanges x and end flanges
10 y and having dovetailed slots t in the end flanges y for receiving correspondingly shaped ends of tie rods and recesses v in the side and bottom flanges, substantially as described.

11. As a new article of manufacture, a tie
15 rod r for connecting box and frames having

angle dove tailed end pieces for entering correspondingly shaped slots in the end frames, substantially as described.

12. As a new article of manufacture, a tie rod r for connecting box end frames having
20 dovetailed end pieces s for entering correspondingly shaped slots in the end frames and end recesses u , substantially as described.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing
25 witnesses.

PATRICK CONNOLLY.

Witnesses:

A. L. KENT,

W. H. KENNEDY.

It is hereby certified that in Letters Patent No. 896,276, granted August 18, 1908, upon the application of Patrick Connolly, of New York, N. Y., for an improvement in "Boxes or Tanks," errors appear in the printed specification requiring correction, as follows: In line 6, page 3, the word "the" should read *tie*, and in line 15, same page, the word "and" should read *end*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of September, A. D., 1908.

[SEAL.]

E. B. MOORE,
Commissioner of Patents.