May 8, 1928. 1,668,562

E. E. HICKEN

LOCOMOTIVE TENDER TANK

Filed April 14, 1927 3 Sheets-Sheet 1

Fig. 1.

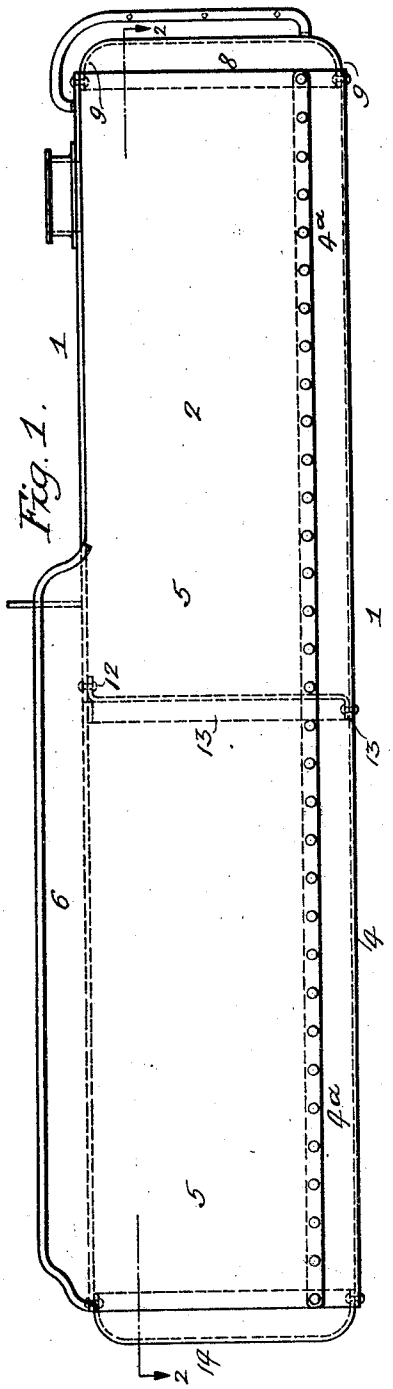
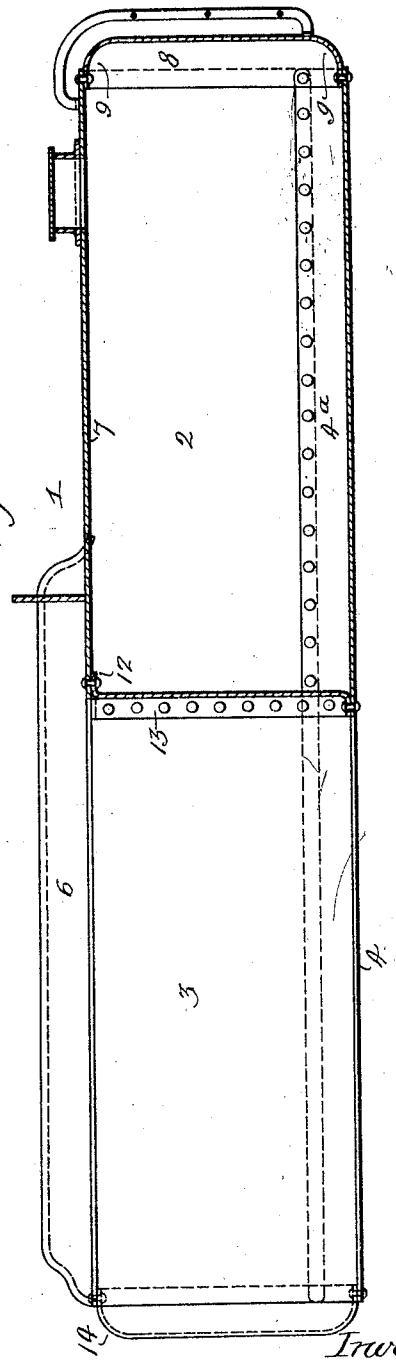


Fig. 3.



Inventor:
Elmer E. Hicken
by his Attorneys
Howson & Howson

May 8, 1928. 1,668,562

E. E. HICKEN

LOCOMOTIVE TENDER TANK

Filed April 14, 1927 3 Sheets-Sheet 2

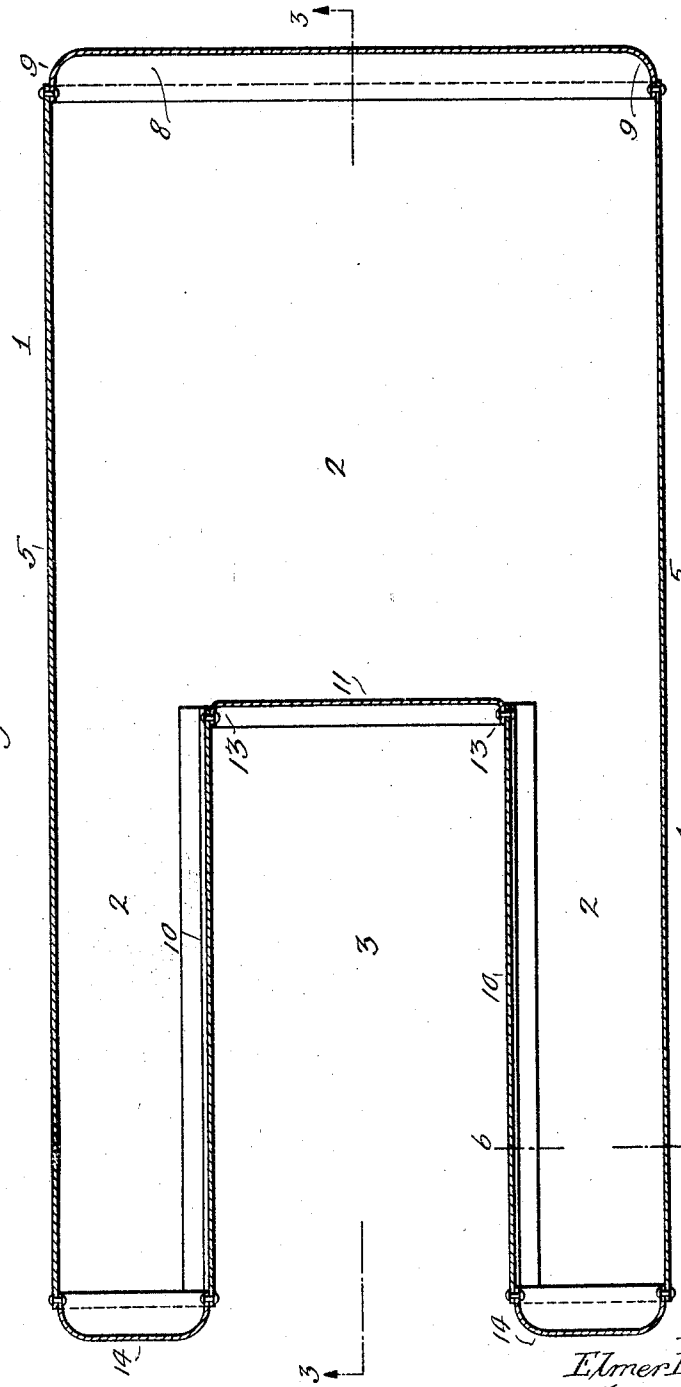


Fig. 2.

Inventor
Elmer E. Hicken
by his Attorneys
Howson & Howson

May 8, 1928. 1,668,562

E. E. HICKEN

LOCOMOTIVE TENDER TANK

Filed April 14, 1927 3 Sheets-Sheet 3

Fig. 4.

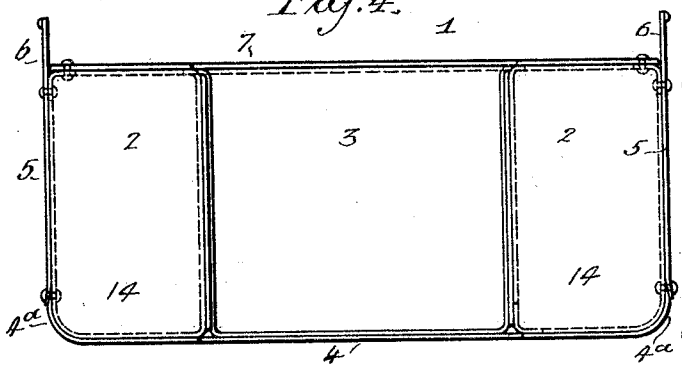


Fig. 6.

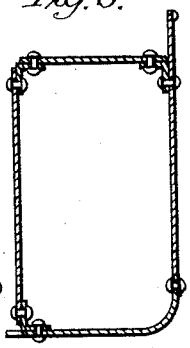


Fig. 5.

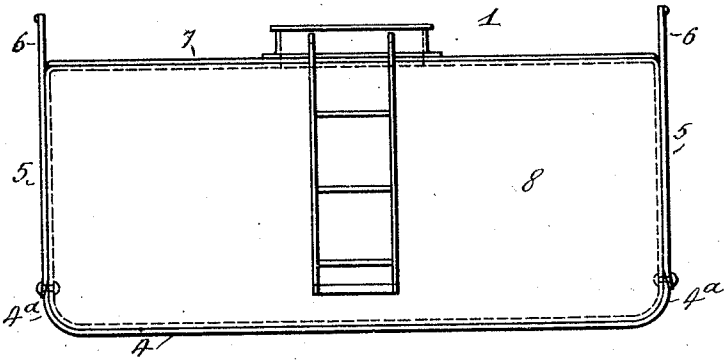
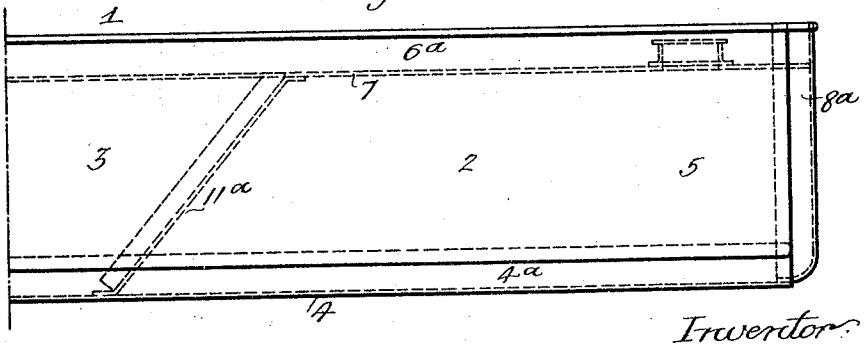


Fig. 7.



Inventor:
Elmer E. Hicken
by his Attorneys
Brown & Hobson

Patented May 8, 1928. 1,668,562

UNITED STATES PATENT OFFICE.

ELMER E. HICKEN, OF COLLINGSWOOD, NEW JERSEY.

LOCOMOTIVE-TENDER TANK.

Application filed April 14, 1927. Serial No. 183,785.

One object of my invention is to simplify the construction of locomotive tender tanks.

A further object of the invention is to reduce the number of rivets required.

And a still further object is to make the bottom plate of the tender tank in a single piece flanged at each side.

In the accompanying drawing:

Fig. 1 is a side view of my improved tender tank;

Fig. 2 is a sectional plan view on the line 2—2, Fig. 1;

Fig. 3 is a longitudinal sectional view on the line 3—3, Fig. 2;

Fig. 4 is a view of the forward end of the tank;

Fig. 5 is a view of the rear end of the tank;

Fig. 6 is a sectional view on the line 6—6, Fig. 2; and

Fig. 7 is a side view of the tank showing the collar extending to the forward end of the tank.

The tender tank 1 is made of sheet metal, and has the usual water compartment 2 and the fuel compartment 3.

The bottom 4 of the tank in the present instance is made in a single piece. The sides of the bottom plate are bent upwards to form flanges 4^a, and the plate is preferably cut out under the fuel space, but in some instances the plate may form the bottom of the fuel space as well as the bottom of the water space.

The flanges 4^a of the bottom plate are scarfed in the present instance and fit under the lower edges of the side plates 5, which are bent outwards to fit the scarfed edge of the bottom plate.

The side plates extend to the top of the tank, and as shown in Fig. 1 extend above the top to form a collar 6 at the coal section, but the collar may be extended to the back of the tank as shown at 6^a in Fig. 7 if desired.

The top plate 7 is preferably made from a single sheet of metal cut out for the fuel compartment of the tank. The top plate is secured to the side plates by angle strips as shown in Fig. 6 which are riveted to both plates.

The rear end 8 of the tank is made in a single piece flanged on all four edges 9. The flanges fit within the space formed by the bottom plate and its flanges, the side plates, and the top plate as shown in Fig. 5.

The fuel compartment 3 is separated from the water compartment 2 by vertical side plates 10 and an end transverse plate 11. The vertical side plates are secured to the top and bottom plates in the present instance by angle strips as shown in Fig. 6, but other means of securing the plates together may be used if desired.

The plate 11 is flanged as at 12 and 13, and the flanges are riveted to the main plates of the tank. The transverse plate 11 may be vertical as shown in Fig. 3 or inclined as at 11^a, Fig. 7.

The two forward ends of the tank are formed of oblong die-formed sheets 14 flanged on all four sides, the flanges fitting within the space between the bottom and top plates and the two vertical plates 5 and 10 and are riveted to said plates.

When the collar extends to the rear end of the tank, as shown in Fig. 7, the rear end plate 8^a is not flanged at the upper edge but extends upwardly to form the rear portion of the collar.

This construction enables the manufacturer to rivet or weld the several plates of the tank together, dispensing with the large number of rivets usually employed in the manufacture of tender tanks. By making the bottom plate in a single piece and turning up the edges thereof, a very substantial structure is produced and leakage at the bottom of the tank is avoided.

Suitable stays and braces of the usual type may be employed to reinforce the tank if necessary, and swash plates may be provided. These elements have been omitted from the drawings as they form no part of the present invention.

While the invention is especially designed as a tender tank, it will be understood that it may be employed in other types of tanks without departing from the invention.

I claim:

1. The combination in a tank, of a bottom plate flanged at the sides; side plates secured thereto; a top plate secured to the side plates; and end sections flanged and fitting within the space between the bottom and the top plate.

2. The combination in a tender tank, of a bottom plate made in a single piece and flanged at each side; a top plate recessed to form the fuel compartment; side and end plates enclosing said fuel compartment, the side plates overlapping the flanges of the

bottom plate and secured thereto and to the top plate; and flanged pressed sheet metal end sections secured to the sides, bottom and top plates.

3. The combination in a tender tank, of a bottom plate flanged at each side, the side edges being scarfed; side plates extending over the upturned scarfed edges of the bottom plate and bent at the lower edge to conform to the scarf; a top plate; and flanged end plates.

4. The combination in a tender tank, of a bottom plate turned up at each side and made in a single piece cut out at the fuel space; side plates secured to the turned up sides of the bottom plate and to the top plate, the side plates and a transverse plate being secured to the top and bottom plate; and a die-formed rear sheet and two die-formed front sheets.

5. The combination in a tender tank, of a bottom, top and side plates and end plates separating the water space of the tank from the fuel space; a die-formed rear sheet flanged to fit the rear end of the tender tank; two die-formed front sheets; and means for securing the several sheets and plates together.

ELMER E. HICKEN.