Oct. 22, 1929. E. E. HICKEN 1,733,015

LOCOMOTIVE TENDER

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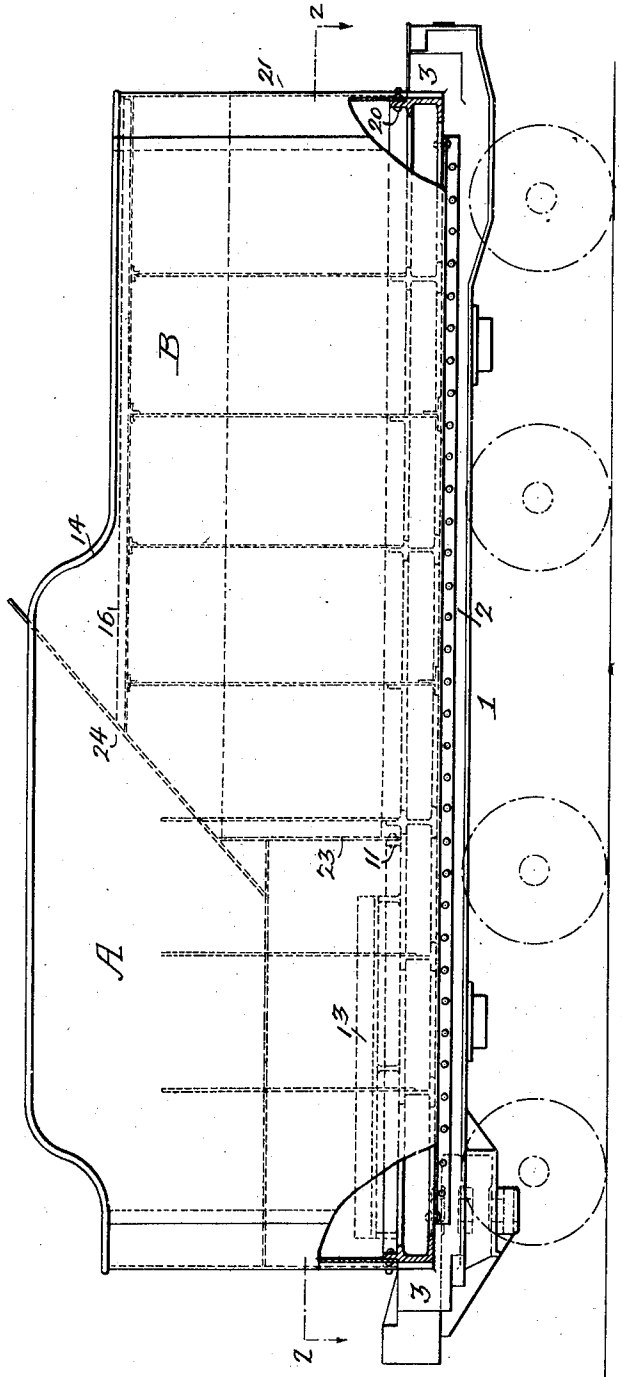


Fig. 1.

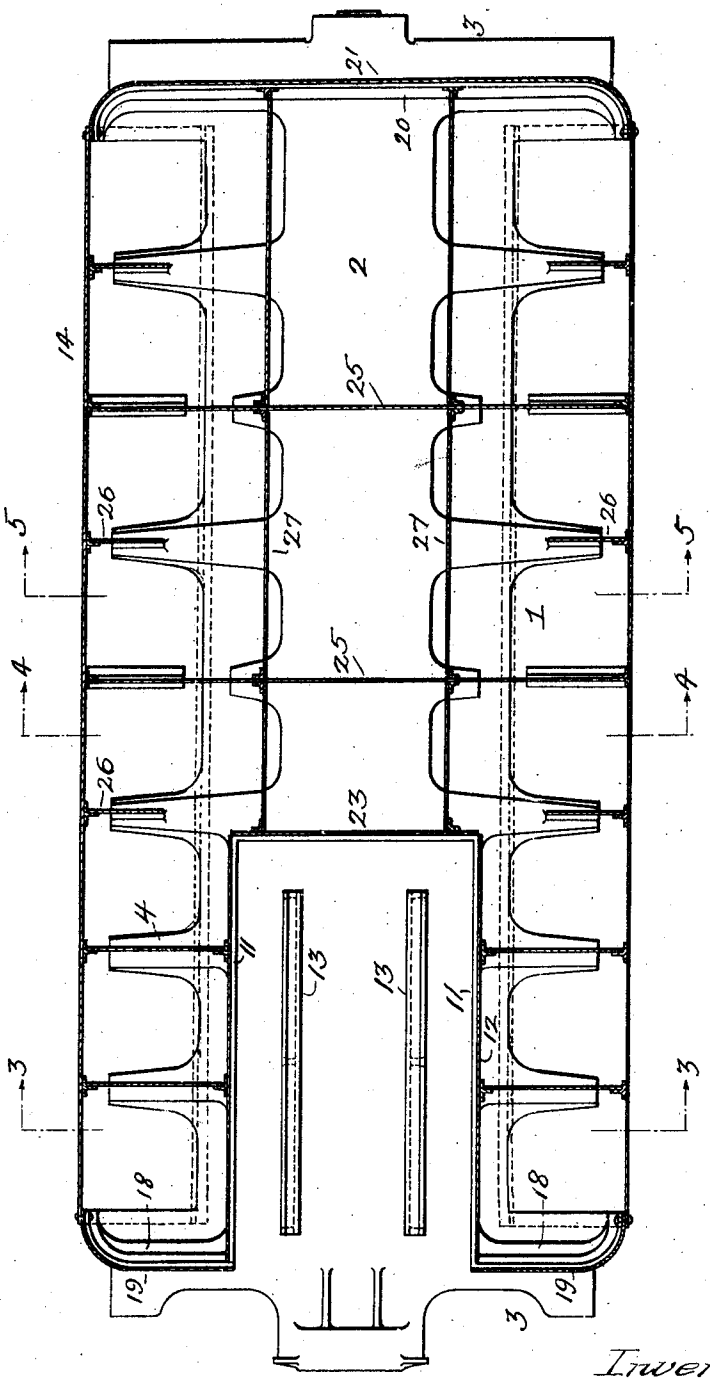
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Fig. 2.



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Fig. 6.

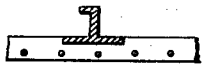


Fig. 3.

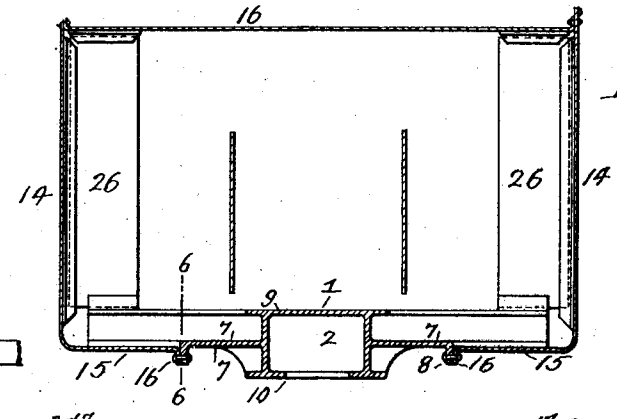


Fig. 4.

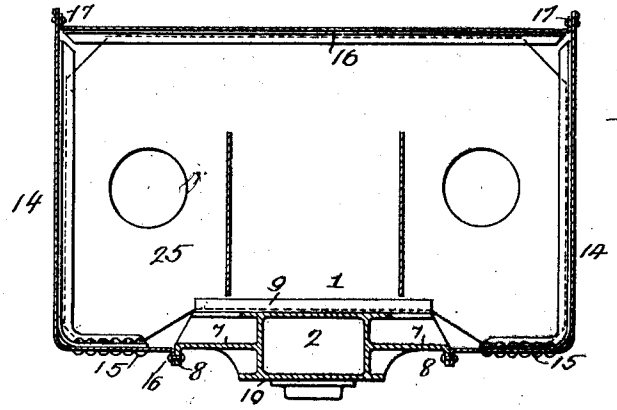
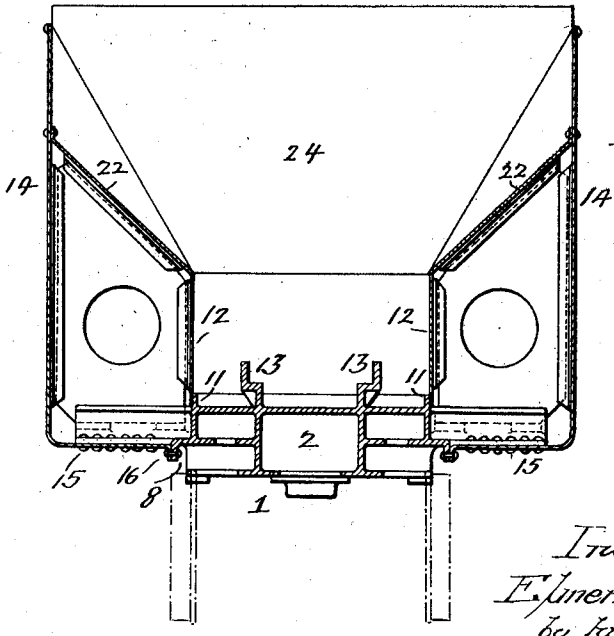


Fig. 5.



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UNITED STATES PATENT OFFICE

ELMER E. HICKEN, OF COLLINGSWOOD, NEW JERSEY

LOCOMOTIVE TENDER

Application filed January 12, 1929. Serial No. 332,211.

My invention relates to certain improvements in locomotive tenders, of the type having a cast metal base and side and end walls of sheet metal.

One object of my invention is to so construct the tender that the joints between the body of the tender and the base will be outside joints, so that access can be had to the joints without entering the tank or disturbing the contents of the tender.

A further object of the invention is to provide flanges at the end of the base to which the end plates are fitted and secured.

A still further object is to form the stoker conveyor supports integral with the base.

In the accompanying drawings:

Fig. 1 is a side view of a tender illustrating my invention;

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

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

Fig. 4 is a transverse sectional view on the line 4—4, Fig. 2; and

Fig. 5 is a transverse sectional view on the line 5—5, Fig. 2; and

Fig. 6 is a sectional view on the line 6—6, Fig. 3.

The base frame 1 is made in a single casting in the present instance, having a longitudinal box-like beam 2 at the centre, bumpers 3—3, and arms 4 which project laterally from the beam 2 between the bumpers. The arms 4 are made in the form of T-beams as shown in the sectional view Fig. 6. Webs 7 connect the arms on each side of the beam 2, and at the outer edges of these webs are downturned flanges 8 to which the side plates of the tender are secured.

The upper and lower plates 9 and 10 of the beam are extended on each side thereof as shown in Fig. 4 and form parts of the laterally extending arms.

The tender has the usual fuel section A and water section B.

The base 1 at the fuel end of the tender forms the bottom of said section as shown in Fig. 5 and is flanged at each edge 11—11. The vertical partition plates 12 are secured to these flanges. Between the flanges are stoker conveyor supports 13 which project from the base and are shaped at their upper ends to form guides for the stoker.

The side plates 14 of the tender body are of sheet metal and are turned in at their lower ends as at 15 to form part of the bottom of the water section B of the tender. The inner edges of the turned-in portions of the plates have downwardly projecting flanges 16 which are secured to the flanges 8 of the base, as shown in Figs. 4, 5 and 6. By this means the joint between the side and the base can be repaired if necessary from the outside, as the rivets are on the outside. The inturned portions 15 of the side plates are secured to the arms 4 by rivets or other fastenings.

The roof plate 16 of the water section has upwardly turned flanges 17 which are secured to the upper edges of the side and end plates, by outside rivets, so that repairs can be made if necessary from the outside of the tender.

At the front end of the base are vertical flanges 18 which are curved at their outer ends. The end plates 19 of the tender body are fitted to these flanges and are secured thereto by rivets or other fastening means.

At the rear end of the base is a long transverse flange 20 curved at each end. An end plate 21 is fitted to this flange and secured thereto by rivets or other fastening means.

The side inclined partition plates 22 form continuations of the vertical partition plates 12, and are flanged at their outer edges and secured to the side plates 14 as shown in Fig. 5.

The end partition plate 23 of the fuel chamber is secured to a continuation of the flanges 11, and the end inclined partition plate 24 is secured in place in the ordinary manner.

Transverse brace and dash plates 25 extend

from one side plate to the other in the water section B and are secured to the side plate by T shapes which also reinforce the structure. These T shapes are turned in at their lower ends and riveted to the inturned portions of the side plate, and are also secured to the lower edges of the transverse plates 25.

Alternating with the plates 25 are vertical dash plates 26, Fig. 3, secured to the side plates and roof plates, as well as to the arms 4.

Longitudinal plates 27 extend from the end plate 23 to the rear plate 21 of the tender body and are attached to the transverse plates 25, as shown in Fig. 2.

While I have shown each side plate and its inturned portion made in a single piece, it will be understood that the side plate may be made in two or more pieces without departing from the scope of my invention.

I claim:—

1. The combination in a locomotive tender, of a base frame extending the full length of the tender and having longitudinal webs with downwardly turned flanges; side plates having inturned portions forming part of the bottom of the tender body, said inturned portions having downwardly turned flanges; and means for securing the downwardly turned flanges of the base to those of the inturned portions of the side plates.

2. The combination in a locomotive tender, of a cast metal frame extending from end to end of the tender; a hollow longitudinal beam having bumpers at each end and lateral arms projecting from the beam between the bumpers; webs between the arms, the webs having downwardly turned flanges extending the full length of the frame between the bumpers; and side plates having downwardly turned portions abutting the longitudinal flanges of the beam and secured thereto, the securing means being on the outside of the tender.

3. A locomotive tender base structure; a cast metal base frame having a portion forming the bottom of the fuel section of the tender, said section having two longitudinal supports projecting from said base upon which a stoker can be mounted.

4. The combination in a locomotive tender, of a base structure consisting of a longitudinal box-like grider extending from end to end of the tender and an integral bumper at each end; lateral arms projecting from the box-like girder between the bumpers, the ends of the base structure having vertical flanges at each end; side plates having inturned portions attached to the base structure and forming part of the bottom of the water section of the tender; and end plates forming the ends of the water section, said end plates fitting against the vertical flanges of the base and secured thereto.

ELMER E. HICKEN