

S. W. MURRAY & B. P. LAMASON.
RAILWAY OIL CAR.

No. 100,058.

Patented Feb. 22, 1870.

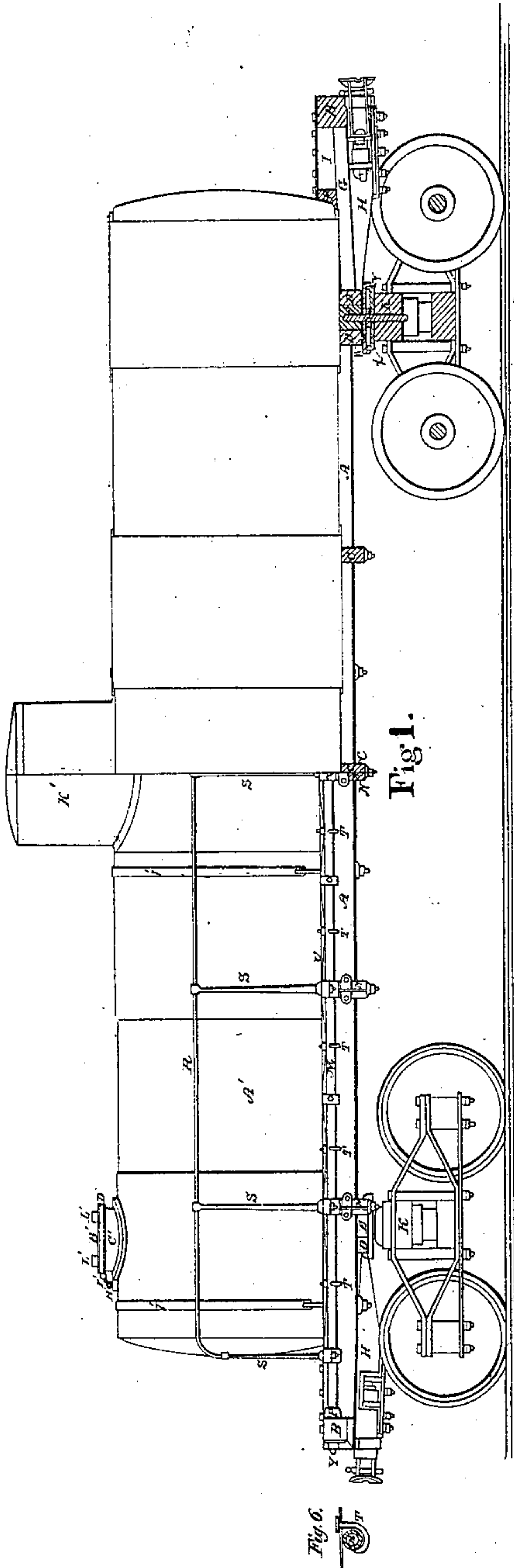


Fig. 1.

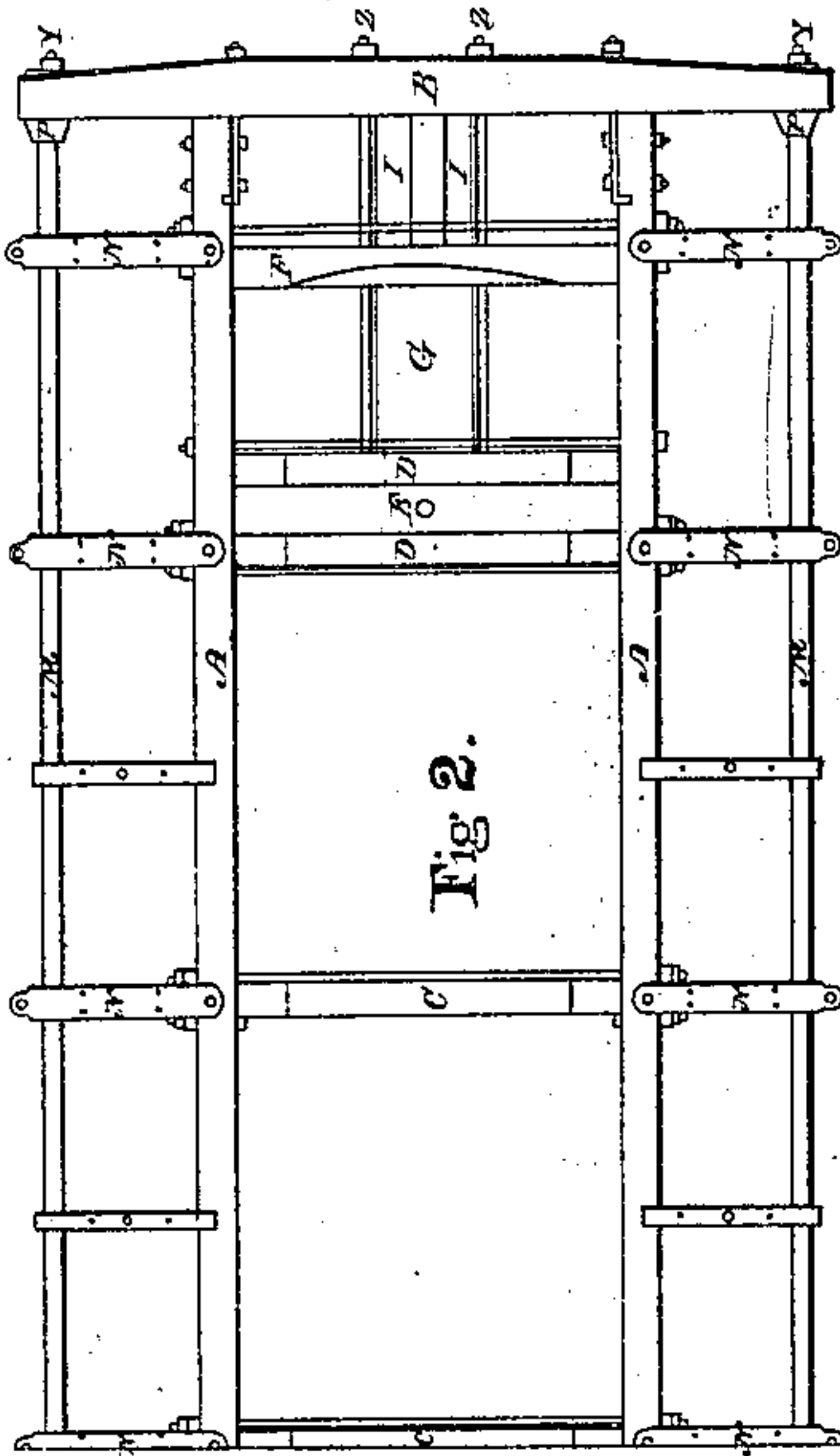


Fig. 2.

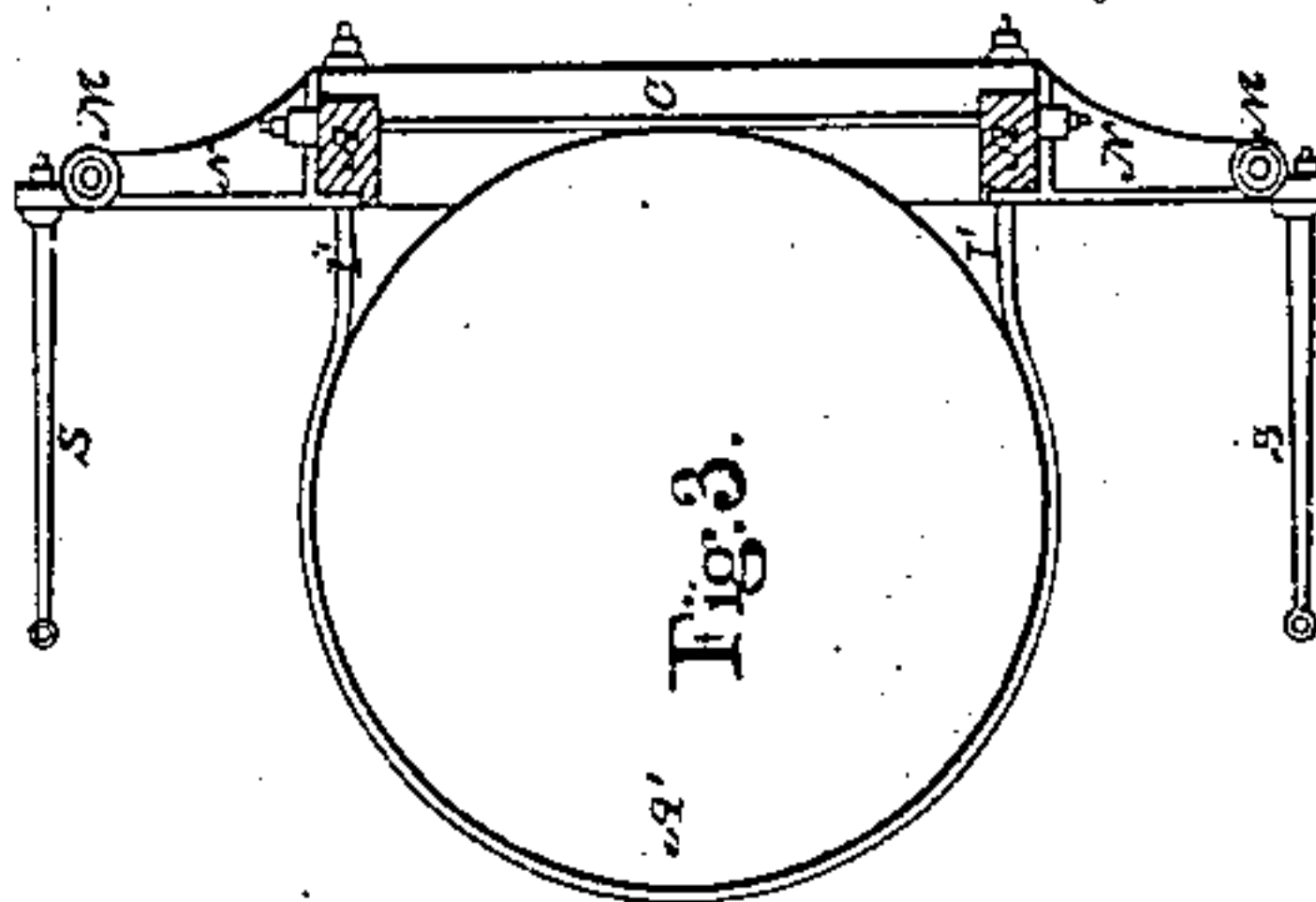


Fig. 3.

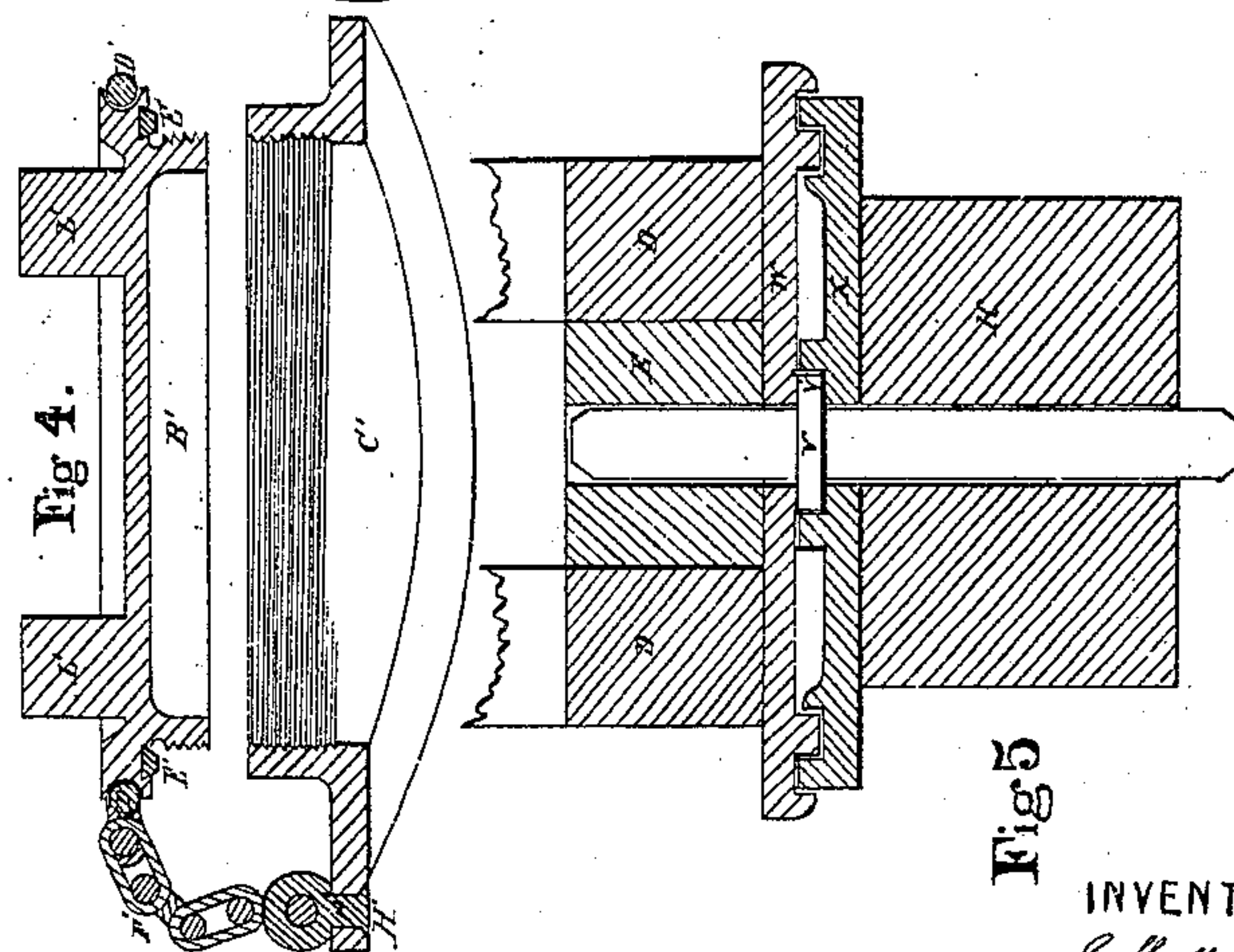


Fig. 4.

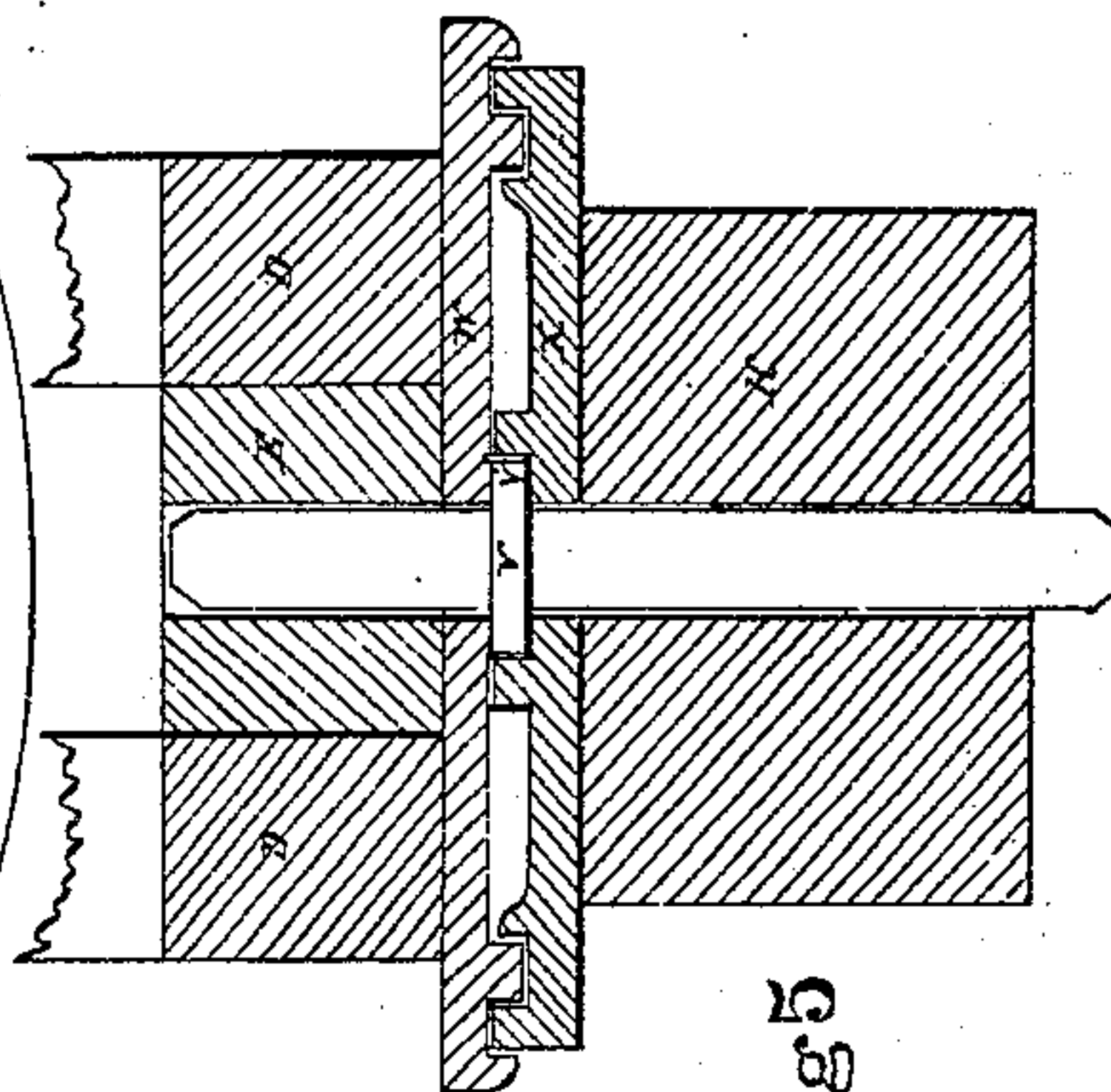


Fig. 5.

WITNESSES.

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Letters Patent No. 100,058, dated February 22, 1870.

IMPROVED RAILWAY OIL-CAR.

The Schedule referred to in these Letters Patent and making part of the same.

To whom it may concern:

Be it known that we, S. W. MURRAY and B. P. LAMASON, of the borough of Milton, in the county of Northumberland, in the State of Pennsylvania, have invented a new and useful Improvement in Railroad Cars for Transporting Petroleum and Other Oils; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, in which—

Figure 1 is a side elevation, showing a longitudinal section of one half of the car.

Figure 2, a plan, showing one half of car frame and mode of constructing the same.

Figure 3, a transverse section.

Figure 4, a section of man-hole and cover.

Figure 5, a section of body-bolster, showing improved king-bolt and mode of constructing bolster.

Figure 6 is a detached view of the tube M, in cross-section, and the bent hooks T.

We use in the construction of our car frame a combination of wood and iron, as shown in fig. 2, in which—

A A are wooden stringers, extending full length of car-body and framed into end sills B B.

Instead of the wooden side sills ordinarily used in the construction of car bodies, we use iron tubes, seen at M M. These tubes are of the same length as the stringers A A, and are provided with cast washers on their ends. These washers have a bearing against the wooden end sills B B.

An iron rod, Y Y, passes through the tubes M M, which rods also extend through the end sills B B, and have on their ends screws and nuts, and these nuts being tightened, the car frame is compactly drawn together.

N N, &c., are cast-iron brackets, which are firmly secured to stringers A A by means of rods and bolts.

The tubes M M pass through these brackets and are supported by them.

The brackets also support the iron floor U, seen in fig. 1; and also the hand-railing posts S S, &c.

O O are light iron brackets, designed as additional supports to the iron floor.

C C are wooden cross-beams, framed into stringers A A.

The top edge of these beams are concave, so as to conform in shape, &c., to tank A', as seen in fig. 3.

D E D are timbers which form the body-bolster. The timbers D D are also concave, like cross-beams C C. These all being uniform in shape and arrangement, they form a rack or cradle, in which the tank

A' rests, and is secured in place by means of the iron straps I' I', seen in figs. 1 and 3.

F is a substantial end cross-beam, framed into stringers A A. The inside of this beam is carved out so as to conform to shape of tank-head. When the tank A' is in position on car frame it fits in between the two end beams F. The interstices between tank-heads and cross-beams F are firmly packed with oakum or some other suitable material. This packing is to prevent the tank from moving longitudinally, and thereby preserve it from injury when in actual service.

G is a longitudinal brace extending from end sill B back to bolster, having its ends framed into end sills and bolsters.

I I are struts fitted in between cross-beam F and end sill B.

Z Z are strong rods extending back through body-bolster. These rods having on their outer ends screws and nuts, and there being tightened, the frame at this point is compactly drawn together.

Fig. 3 shows a transverse section of car frame and tank.

A', tank, as in place, resting in cradle formed by concave cross-beams C C and bolster-timbers D D. The tank is secured in place by the iron straps I'.

A A are wooden stringers.

M M, iron tubes.

N N, cast-iron brackets secured to stringers A A. These brackets support the iron floor and also the hand-railing post S S.

Fig. 4 shows man-hole and cover. B', cover, C', base. This device is designed to admit person in and out of oil-tank, and it is also used for the purpose of filling the tank. It is composed of cast-iron or any other suitable metal, and a thread is turned on the inside of base C', the top edge of which is smoothly faced off. It is then secured to tank by means of rivets, a hole of the proper shape and size having been previously cut in shell of tank A. The man-hole cover B' has an outside diameter corresponding with inside diameter of base C', and a thread is turned on outside circumference of cover. A flange of proper width extends beyond the screw on cover, which is faced off, and a dovetail-shaped groove is turned into it. Into this groove we insert lead or any other suitable material, and this lead, being held in place by the peculiar form of the groove, when properly faced off, forms the packing E'. This packing projects a little below the face of the flange. When the cover B' is screwed down in place in base C' by means of a lever placed between the lugs L L', the projecting edge of packing coming in contact with the faced edge of base C', forms a perfectly oil-tight joint. The man-hole cover

B' is attached to base C' by means of the iron ring D' passing around and in the grooved periphery of the cover-flange. The ends of ring D' are secured by a bolt to the chain F', and the wheel firmly secured to base C' by means of the eye H'.

A section of body-bolster is shown in fig. 5. It is constructed of three pieces of timber, D E D, securely bolted together and framed into the stringers A A.

V represents our improved king-bolt as applied to oil and other cars. King-bolts are ordinarily constructed with the head at the top end, and the bolt is passed down through body and truck-bolsters, the head resting on the upper side of car floor. We construct our improved king-bolt by forming a collar near the middle of bolt, seen at V'. This collar rests between the center plates W and X, and hence, a portion of both passes up into the body-bolster and a portion down into the truck-bolster. We claim this to be a decided improvement over the usual mode of constructing and applying king-bolts in railroad cars. The advantage claimed is that the king-bolt can be removed when desired without disturbing the tank. It also has the advantage, when applied to box and other cars, of doing away with the necessity of perforating the car floor, thereby avoiding the losing of grains when transported in bulk.

Fig. 1 represents the car complete ready for use.

A A are wooden stringers.

A', iron oil-tank constructed of boiler-iron, securely riveted together and provided with an expansion-dome, K'.

B B, end sills.

B', man-hole cover screwed down in place.

O O, cross-beams.

C', man-hole base.

D E D, body-bolsters.

F, end cross-beam.

G, longitudinal brace.

H H, draft-timbers.

I I, struts fitted in between cross-beam F and end sill B.

K K, truck-bolster.

I' I', iron bands or straps passing around over top of tank A' and down through stringers A A, being provided at either end with screw and nut, and there

being tightened, the tank is firmly secured to car frame.

M M are iron tubes used instead of wooden sills.

N N, &c., cast-iron brackets.

O O, &c., light iron brackets.

P P, cast washers on ends of tubes M M.

R, hand-railing formed of light iron tubing. This railing is designed as a protection to persons passing from car to car while in motion.

S S are iron posts supporting hand-railing. These posts are provided with an eye at top end through which railing R passes. The bases of posts are provided with screws and nuts, and being made of a suitable form they pass through the ends of brackets N. The nut coming on the under side, it is tightened and the posts S are thus held firmly in position.

T T, &c., are hooked bolts which pass around the tubes M m and up through the iron floor U. By this device the floor is firmly secured to tubes. The floor U is also secured to iron brackets, N and O, by means of rivets, and to the timbers composing the car frame by screws and bolts.

V shows the improved king-bolt in position.

W and X are top and bottom center-plates.

Having thus described our improvement, its construction and operation,

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In combination with the wooden center-frame, of the car body, the brackets N, and side tubes M, constructed and arranged substantially as and for the purpose herein set forth.

2. The dovetail packing E', substantially as described.

3. In combination with the brackets N, the iron posts S, and hand-railing R, constructed substantially as and for the purpose herein described.

4. The ring D', in combination with the cover B' provided with a grooved periphery and attached to the tank by any suitable means, substantially as herein described.

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Witnesses:

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