

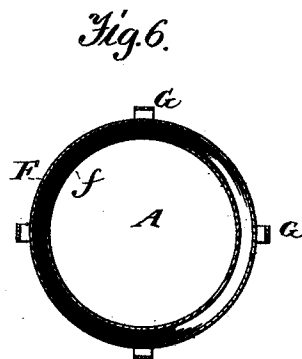
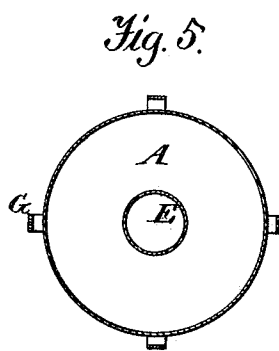
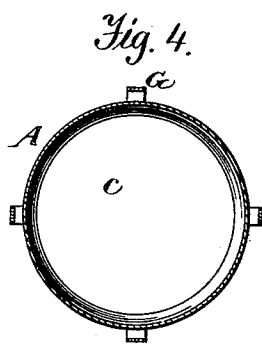
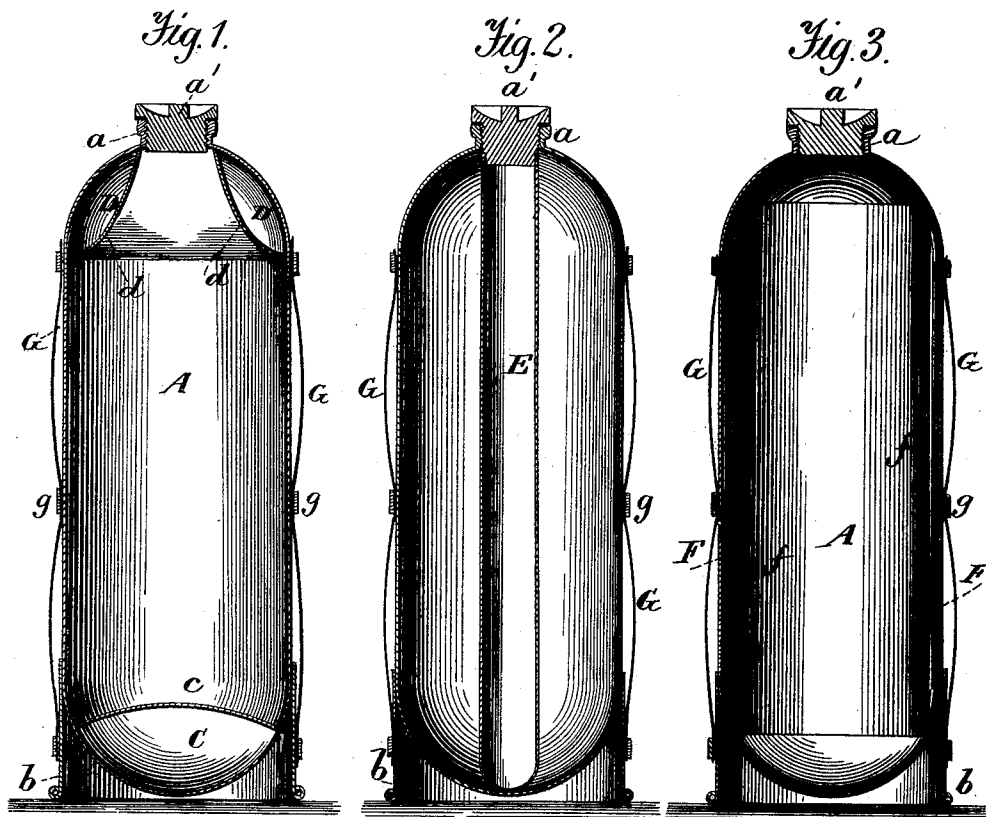
(No Model.)

J. E. ROBINSON.

CARRIER FOR HYDRAULIC TRANSIT.

No. 414,082.

Patented Oct. 29, 1889.



Witnesses:
A. Rupprecht.
E. Bruce.

Inventor:
John E. Robinson,
by *Wm. F. Howard*

UNITED STATES PATENT OFFICE.

JOHN E. ROBINSON, OF PHILADELPHIA, PENNSYLVANIA.

CARRIER FOR HYDRAULIC TRANSIT.

SPECIFICATION forming part of Letters Patent No. 414,082, dated October 29, 1889.

Application filed March 8, 1889. Serial No. 302,452. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. ROBINSON, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Cans, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of my invention is to provide a can specially adapted for use in my system of hydraulic transit, which system consists in transporting milk or other matters by floating it in buoyant carriers through pipes by an artificial current of water which flows throughout the entire length of pipe.

As milk and other substances to the moving of which my invention is applicable are of a greater specific gravity than water, it is necessary to provide a can which with its contents shall be of substantially the same specific gravity as the moving fluid. This I accomplish by providing the can with a dead-air chamber of sufficient capacity to give it the requisite buoyancy.

In the drawings, Figures 1, 2, and 3 are longitudinal sections, and Figs. 4, 5, and 6 are cross-sections, of cans in which dead-air chambers are formed in different ways.

In Fig. 1, A represents the body of a can rounded at each end. The top is provided with an opening, into which a collar *a* is fitted. The collar is screw-threaded interiorly for the reception of the screw-cap *a'*. A flange *b* is secured in any suitable manner to the bottom of the can exteriorly, whereby the can is made capable of standing in a vertical position. A false bottom *c* is soldered on the inside of the can at a suitable point above the bottom, thereby forming the dead-air chamber C. A metal plate *d* is also soldered to the inside of the can at its upper end, as shown, to form the dead-air chamber D. These chambers D and C should be of the same capacity in order to balance the can when floating, and they should also be of sufficient capacity jointly to make the can when filled with milk, &c., of substantially the same specific gravity as water.

Fig. 2 shows another form of dead-air chamber. Here the can presents the same exterior conformation as that shown in Fig. 1; but the cap *a'* has attached to it a tube E, closed at both ends, and of a sufficient length to just touch the bottom of the can when the cap *a'* is screwed into the collar *a*. The tube E therefore constitutes a dead-air chamber.

In Fig. 3 an inner wall *f* is soldered to the respective ends of the can to form the dead-air chamber F.

In order to prevent the cans from rubbing against the pipe in transit, I provide them with exterior springs G. These springs should be of thin steel plates and secured at one end to the flange *b* by riveting or otherwise, the other end being free to move longitudinally. The springs are kept in position on the can by means of the straps *g*, soldered to the can. In the drawings four of these springs are shown; but I do not limit myself to this number, as it may be increased at pleasure.

I am aware that it is not new to provide a can with an interior chamber or receptacle for ice; also, that it is not new to provide a can with air-chambers formed by soldering hollow jackets upon the outer surface of the body, the object being to protect the contents of the can from the effects of the rays of the sun, and such I hereby disclaim; but,

Having described my invention, I claim—

1. As a carrier for use in hydraulic transit, a can having a space for the reception of matter to be transported and a space forming a dead-air chamber, substantially as specified.

2. A can having curved springs on its exterior surface, said springs being secured at one end of the can and free to move longitudinally at the other end by compression, substantially as set forth.

In testimony whereof I have hereunto set my hand and seal.

JOHN E. ROBINSON. [L. S.]

Witnesses:

EDWIN CRUSE,
C. B. THOMPSON.