

(No Model.)

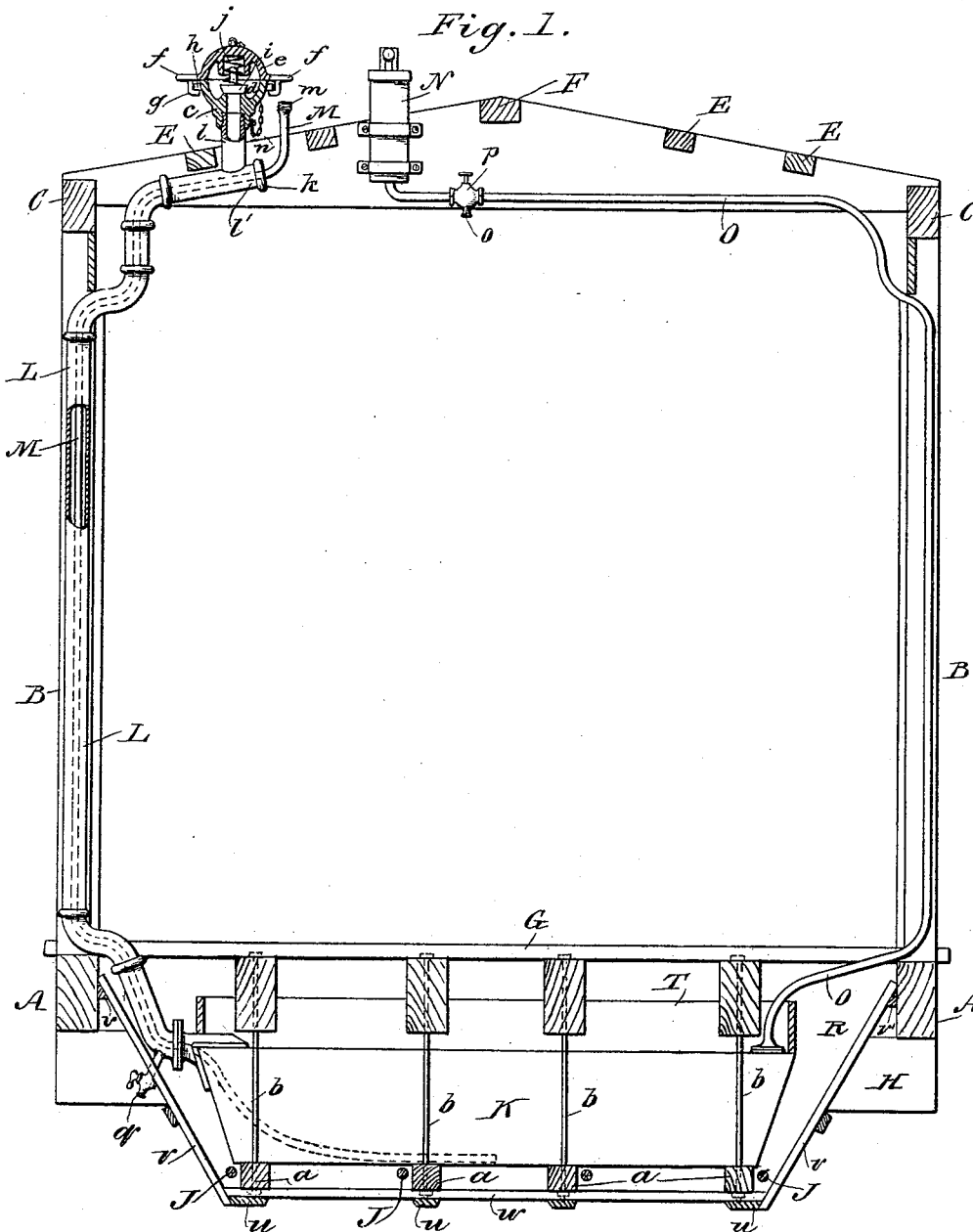
2 Sheets—Sheet 1.

F. E. CANDA.

WATER TANK FOR CATTLE CARS.

No. 344,162.

Patented June 22, 1886.



WITNESSES :

John H. Greener
C. Sedgwick

INVENTOR:

BY *Munn & Co*
ATTORNEYS.

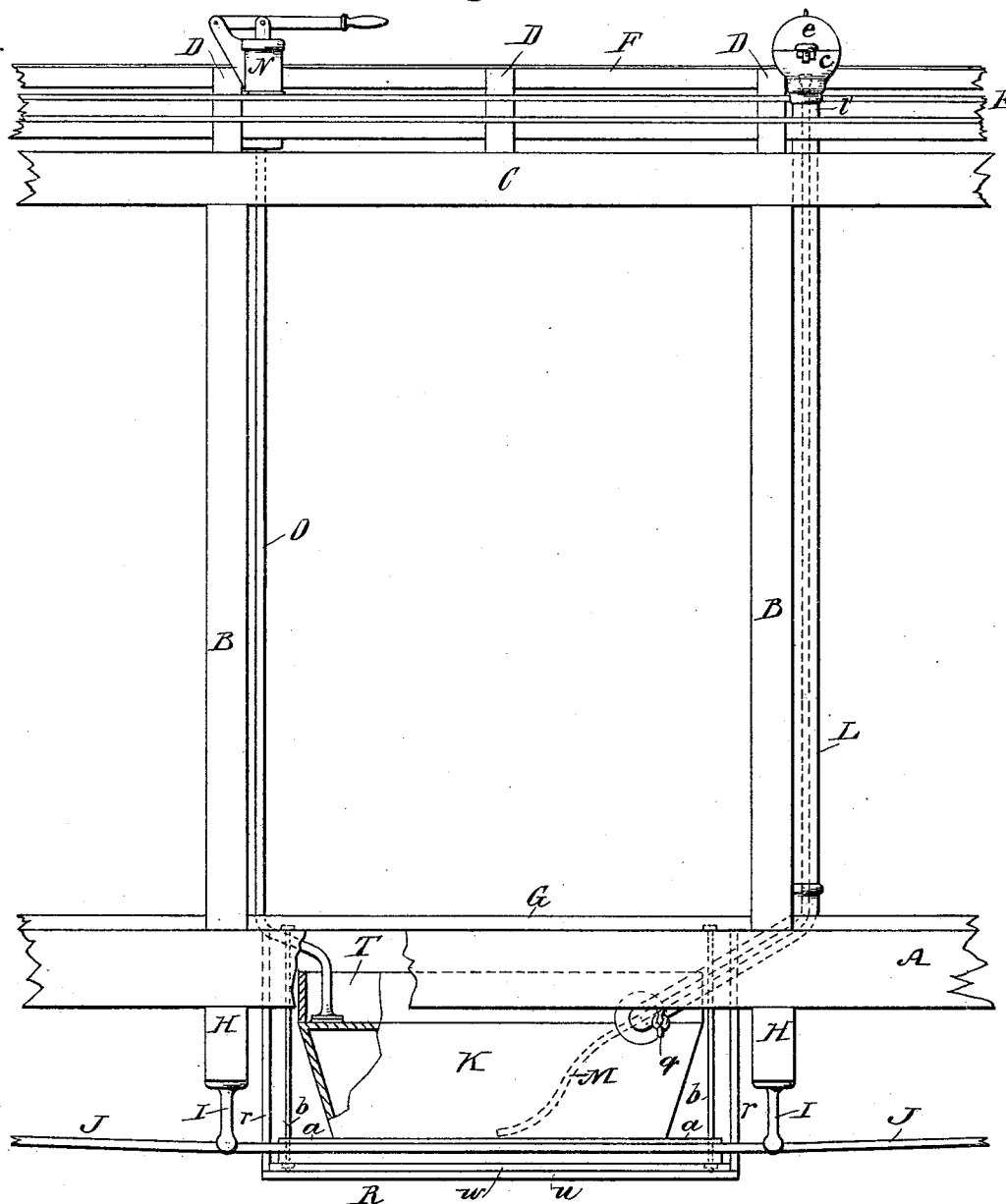
F. E. CANDA.

WATER TANK FOR CATTLE CARS.

No. 344,162.

Patented June 22, 1886.

Fig. 2.



WITNESSES:

John H. Reamer
C. Sedgwick

INVENTOR:

F. E. Canda
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

FERDINAND E. CANDA, OF NEW YORK, N. Y.

WATER-TANK FOR CATTLE-CARS.

SPECIFICATION forming part of Letters Patent No. 344,162, dated June 22, 1886.

Application filed September 24, 1885. Serial No. 178,004. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND E. CANDA, of the city, county, and State of New York, have invented a new and Improved Water-Tank and Connections for Cattle-Cars, of which the following is a full, clear, and exact description.

My invention relates to the construction of a water-tank to be carried by that class of cars which are employed to transport cattle in one direction and freight or merchandise in the other; and the invention consists of a tank arranged beneath the flooring of the car, said tank being provided with connections whereby it is filled and the water forced therefrom through a nozzle located above the roof of the car; and the invention further consists of such an arrangement of the tank and its connections as will prevent the parts from being injured during excessively cold weather.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a view of my improved tank and its connections, the car being shown in vertical cross-section, and a portion of the apparatus being shown in section to disclose the construction of the parts; and Fig. 2 is a side view of a portion of a car provided with my improved apparatus, a portion of the casing and tank being cut away in order to show the construction.

In order that the relative positions of the tank and its connections may be readily understood, I will refer to the general construction of the car by reference-letters, of which—

A A represent the sills; B B, the posts; C C, the plates; D D, the carlins; E E, the pulins; F, the ridge-pole; G, the floor; and H H the cross-sills which carry the saddles I I, beneath which the longitudinal truss-rods J J are passed.

Beneath the center of the car there is a hanger-frame, which consists of longitudinal strips *a a*, which are suspended from the sills by means of bolt-rods *b b*, as is clearly shown in Fig. 1. Upon this hanger-frame I place a tank, K, which is a closed air and water tight box, preferably made of galvanized sheet-iron.

The tank is filled by means of a stand-pipe,

L, which is connected to the pipe by an air-tight joint, and leads therefrom up through the body of the car close to the side of one of the posts, where it is out of the way. As the pipe L approaches the roof of the car, it branches inward and is divided into two arms or branches, *l l'*, the first of which passes up through the car-roof just beyond the lower purlin, while the second arm or branch, *l'*, is carried on a little farther and closed by a cap, *k*, through which there is passed a smaller pipe, M, which leads down through the pipe L and terminates within the tank K, the lower end of the pipe resting upon the bottom of the tank.

In order that water may be readily poured into the branch *l*, I provide said branch with a funnel-shaped mouth-piece, *c*, in which there is a valve-seat, *d*. The cover *e* of the mouth-piece *c* is preferably dome-shaped, and is formed with two handles, *f f*, and two or more depending lugs, *g g*, which engage with beveled-faced lugs *h h*, formed on the mouth-piece *c*, the construction being such that when the lugs *g* and *h* are in engagement the cover will be firmly locked in place. When the parts are in the position indicated, the valve *i*, which is carried by the cover *e*, will be forced down on the valve-seat *d* by the spring *j*, thus forming an air-tight joint and closing the branch *l*. The pipe M is the eduction or delivery pipe, the water contained in the tank K being forced upward through the pipe M by means of an air-pump, N, which is connected to the tank K by means of a pipe, O, the water being taken from the pipe M by a hose which is attached to the nozzle *m*. After the desired amount of water has been forced from the tank, the valve *p* may be opened to admit air through the nozzle *o*, and thus relieve the tank from pressure, so that all water will now drain out of the pipe M. When the tank is to be filled, the cover *e* is loosened and lifted off, but cannot fall to the ground or be misplaced because of a chain, *n*, by which it is connected to the mouth-piece *c*. The water is then poured into the mouth-piece, during which operation the air in the tank will escape through the nozzle *o*, controlled by the valve *p*, said valve being located in the pipe M, close to the air-pump N. In case the tank should be entirely filled and the water should rise

within the pipe L, I provide a stop-cock or faucet, *g*, which branches from the pipe L just below the level of the top of the tank, so that all water may be drawn from the pipe L and a small amount from the tank, the idea being to prevent the tank from being injured by cold, it being well known that just before water reaches the freezing-point it slightly expands, so that if there were not room for the expansion the tank might be injured. However, there is really not much danger of the water falling below the freezing-point, as the tank is thoroughly protected by an inclosing box or casing, R, and by a covering of sawdust, mineral wool, or other light fibrous material, which is held on the top of the tank by a rectangular frame, T, which rests upon the upper edges of the tank, the cross-strips of this frame being cut out to fit about the sills, as shown best in Fig. 1.

The box or casing R consists of a close bottom, *w*, secured to the under side of the strips *a a*, and supported by longitudinal cleats *u*, side boards, *v v*, which extend from the bottom *w* to the sills A A, where they rest against and are supported by cleats *v v'*, and of end boards, *r r*, which extend from the bottom *w* to the flooring of the car, being cut out to fit around the sills. In this way a perfectly-tight box is formed about the tank which will be entirely surrounded by an air-space, and

consequently protected from the injurious action of very cold weather, it being well understood that a confined air-space is an excellent non-conductor of cold.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a car, of a tank provided with an induction and an eduction pipe, the eduction-pipe being arranged within the induction-pipe, substantially as described.

2. A tank arranged beneath the car-floor, and provided with a frame, T, which is filled with sawdust or other light fibrous material, substantially as described.

3. A tank arranged beneath the car-floor, and surrounded by a casing removed from the tank, thereby leaving an air-space about the tank, substantially as described.

4. A tank supported beneath the car-floor by a hanger-frame, and provided with a frame, T, which is filled with sawdust or other light fibrous non-conducting material, said tank being surrounded by a casing removed from the tank, thereby leaving an air-space about the tank, substantially as described.

FERDINAND E. CANDA.

Witnesses:

EDWARD KENT, Jr.,
C. SEDGWICK.