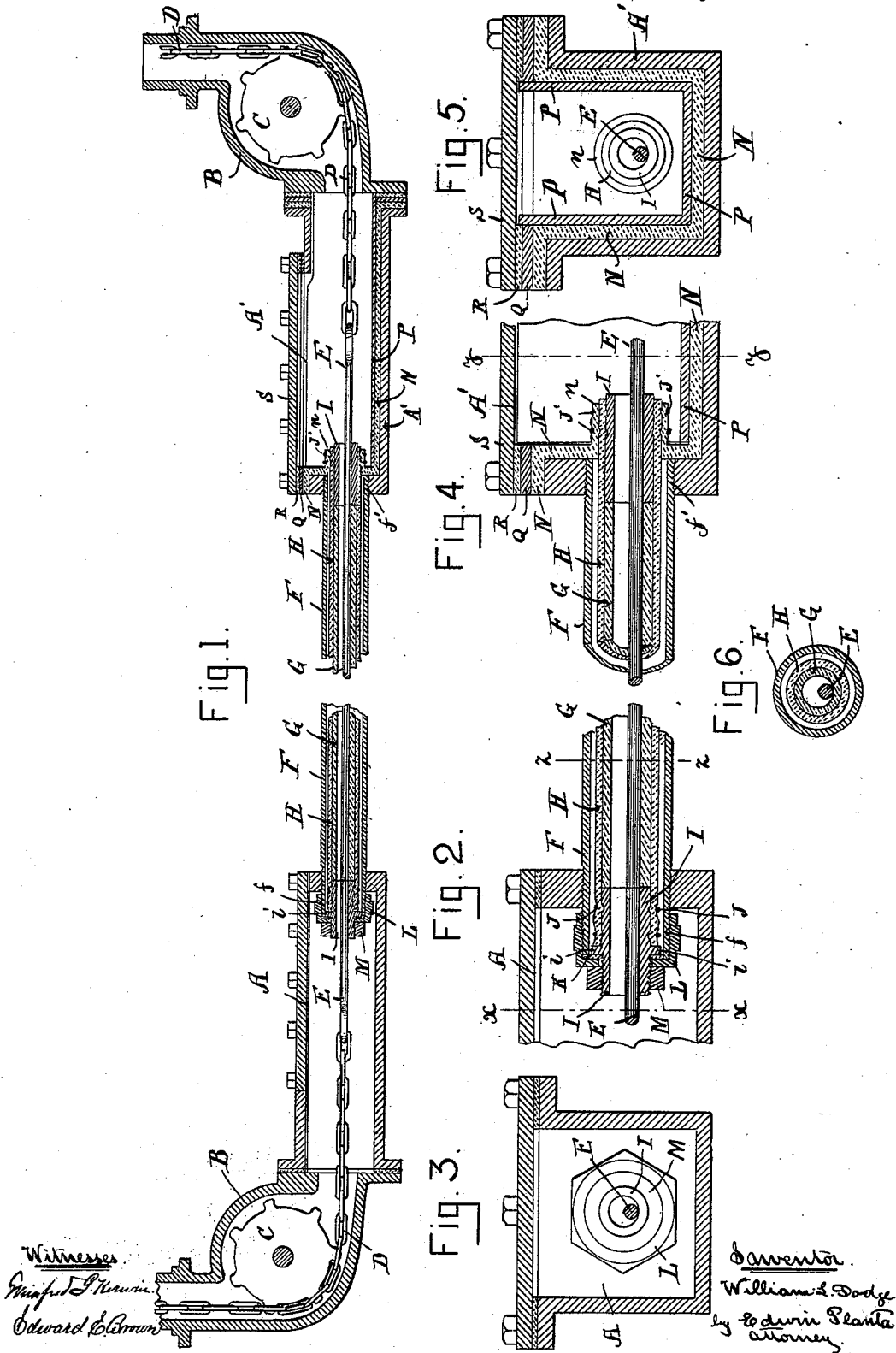


(No Model.)

W. L. DODGE.
RAILROAD CROSSING GATE TUBE.

No. 523,624.

Patented July 24, 1894.



UNITED STATES PATENT OFFICE.

WILLIAM L. DODGE, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO ISAAC W. HANSON, OF SAME PLACE.

RAILROAD-CROSSING-GATE TUBE.

SPECIFICATION forming part of Letters Patent No. 523,624, dated July 24, 1894.

Application filed August 23, 1893. Serial No. 483,854. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. DODGE, a citizen of the United States, residing at Haverhill, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Railroad-Crossing-Gate Tubes, of which the following, taken in connection with the accompanying drawings, is a specification.

In gates for rail-road crossings as usually constructed the rod that connects the gates on either side of the road passes through an iron pipe in which water accumulates by condensation or the cracking of pipe, which water in very cold weather freezes, thus holding the rod so that the gates cannot be operated, and the rod working on the pipe is worn so that it often breaks.

The object of my invention is to overcome these defects and the invention consists in the peculiar construction of the tube and boxes as hereinafter fully described and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 represents a longitudinal vertical section through the tube boxes and goose necks of a rail-way gate connection embodying my invention. Fig. 2 is a longitudinal vertical section of a portion of the tube and box showing the end connections of the tube. Fig. 3 is a transverse section taken on line *x, x*, of Fig. 2. Fig. 4 is a longitudinal vertical section of a portion of a tube and box showing another method of connecting the end of the tube and lining for the box. Fig. 5 is a transverse section taken on line *y, y*, of Fig. 4. Fig. 6 is a section taken on line *z, z*, of Fig. 2.

A, represents a box, B, the goose neck, C, the sprocket wheel, D, the chain and E, the rod, all of which may be of ordinary construction.

F, is a metal tube that extends from one box to the other. This tube may extend into the box A, as shown at *f*, in Figs. 1 and 2, or only just through the wall of the box as shown at *f'*, in Figs. 1 and 4.

In the tube F, is inserted a noncorrosive tube G, preferably of wood incased in a waterproof tube H, preferably of india rubber, which tubes are supported centrally in the metal tube F, in the following manner: When used with the ordinary box A, the end of the

metal tube F, projects into the box for a short distance as shown at *f*. The waterproof or rubber tube H, is slightly larger than the non-corrosive or wooden tube G, and in its end is inserted a metal piece or nipple I, having a flange *i*, against which the end of the rubber tube H, fits and is secured by a wire fastening J. A rubber washer K, is then placed on the end of the nipple I, and bears against the flange *i*, and the end of the pipe F, (which are both on the same line.) A cap or union L, is then screwed onto the end of the tube F, and secured by a check nut M, screwed onto the nipple I. It will be seen that by this construction the non-corrosive or wooden tube incased in the waterproof or rubber tube will be suspended in the center of the metal tube and said wooden tube will keep the rubber tube expanded while the latter will be free to be compressed should any ice be formed in the metal tube. Thus the rod E, will be protected from the effects of frost and by its working in the wooden tube it will not be worn away so as to be liable to break.

A', Figs. 1 and 4 shows a modified form of box which I prefer to employ. In this case the box is provided with a waterproof lining N, preferably of rubber, and a former or holding piece P, is inserted therein to keep the rubber in place. This waterproof or rubber lining passes over the flanges of the box A', and upon it is placed a metal washer or plate Q, on the top of which is a rubber washer R, upon which the cap or cover S, fits. In this case the method of supporting the end of the rubber and wooden tube is somewhat different to that before described. The rubber lining N, is formed with a circular inwardly projecting nipple *n*, of a diameter to just fit over the rubber tube H, and the nipple I, is formed of a straight piece of metal pipe, and the flange *n*, and end of tube H is secured thereon by a wire fastening J'. By this arrangement all the advantages before described are obtained and the interior of the box A', is also protected from the admission of water either by condensation or leakage.

What I claim is—

1. A connection between the boxes of railway gates consisting of an outer tube of metal, an inner tube of wood surrounded by a rub-

ber tube substantially as and for the purposes set forth.

2. In combination with the boxes of railway gates an outer tube, an inner wooden tube, an operating rod working therein and a tube of indiarubber between the wooden and metal tube substantially as and for the purposes set forth.

3. In a connection between the boxes of railway gates, a wooden tube inside of a metal tube said wooden tube being protected by an outer covering of elastic material substantially as set forth.

4. In a connection between boxes of rail-

way gates an outer metal tube, an inner wooden tube and a rubber tube outside of same, in combination with a flanged nipple, a union adapted to be screwed onto the end of the outer metal tube and a check nut on the nipple as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 22d day of April, A. D. 1893.

WILLIAM L. DODGE.

Witnesses:

CHAS. STEERE,
EDWIN PLANTA.