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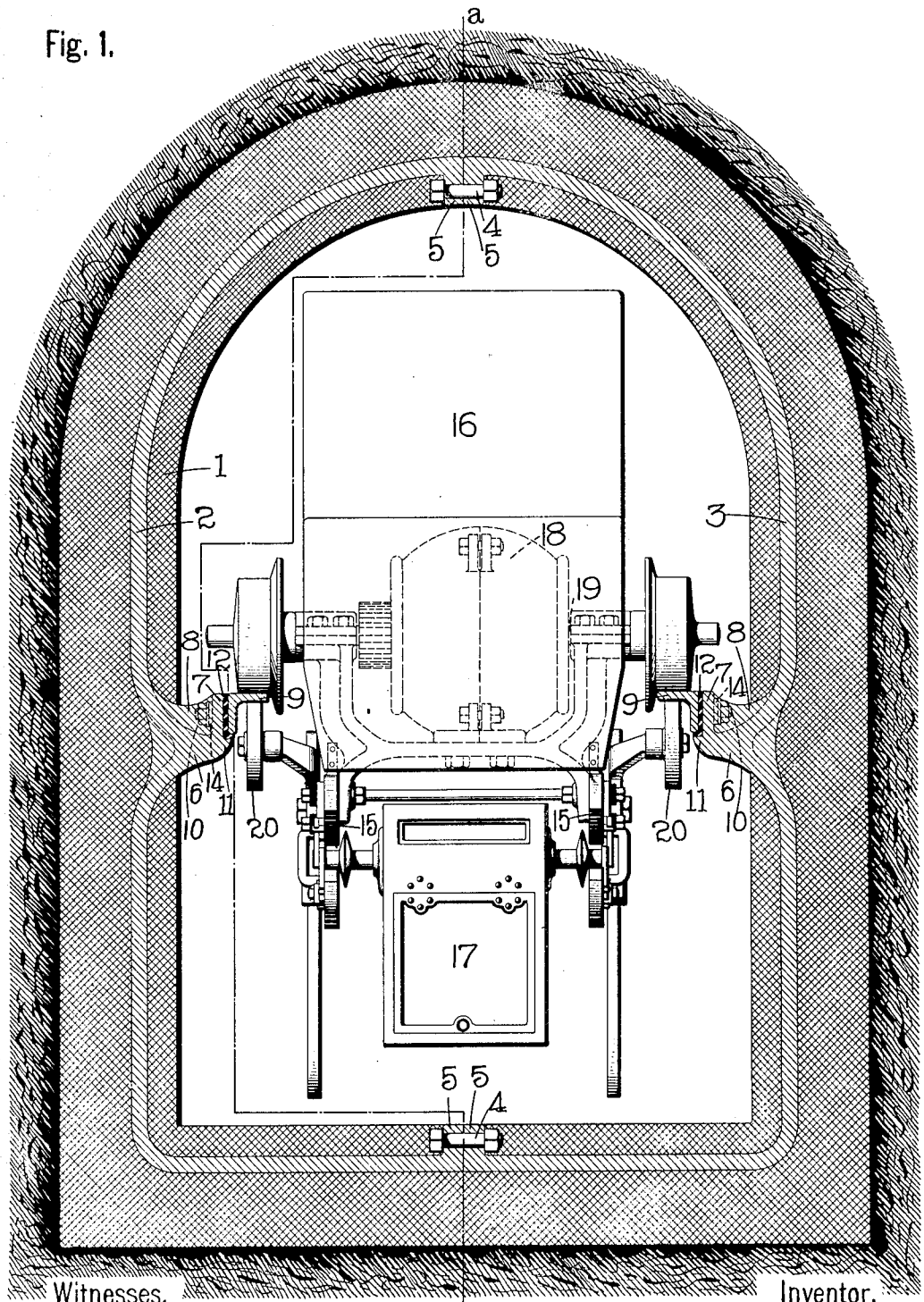
TRANSPORTATION SYSTEM.

APPLICATION FILED JUNE 12, 1908.

916,531. Patented Mar. 30, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses.

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2 SHEETS—SHEET 2.

Fig. 2.

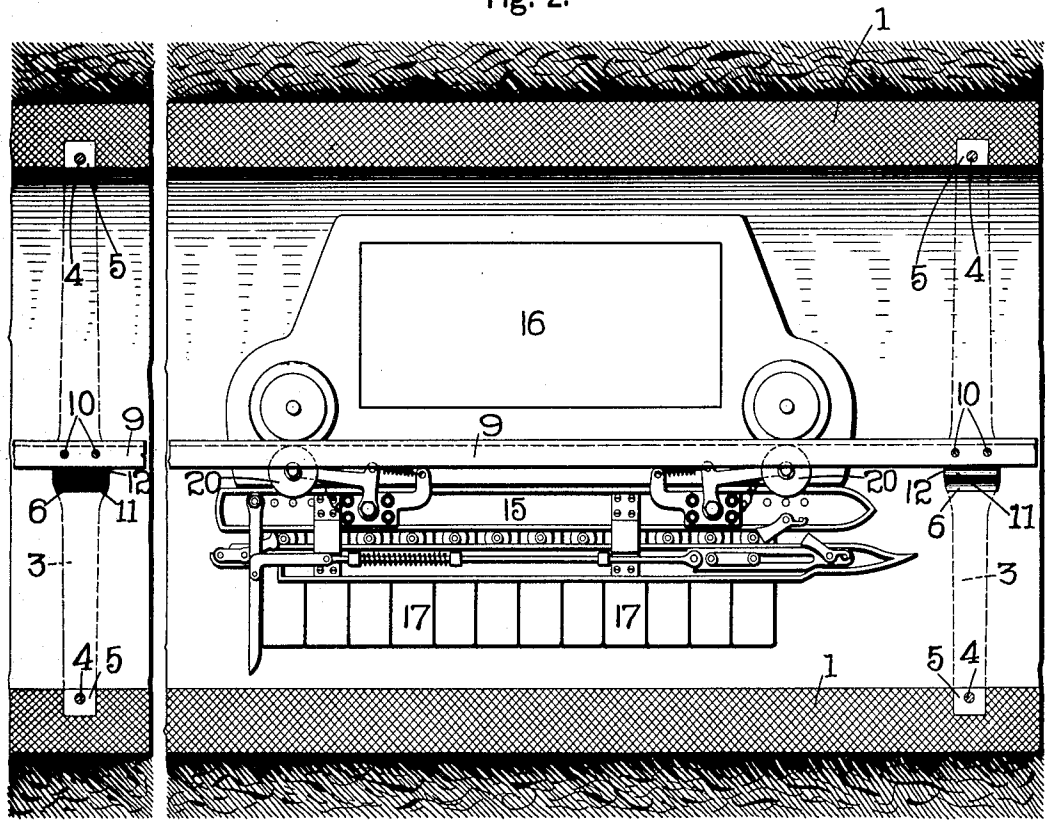


Fig. 3.

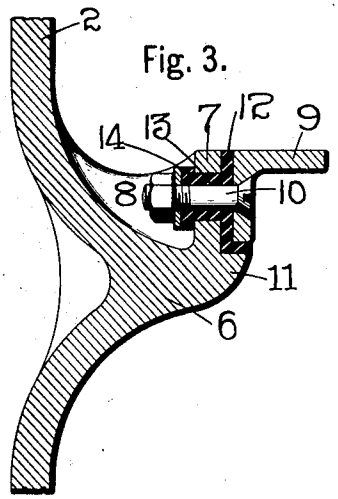


Fig. 4.

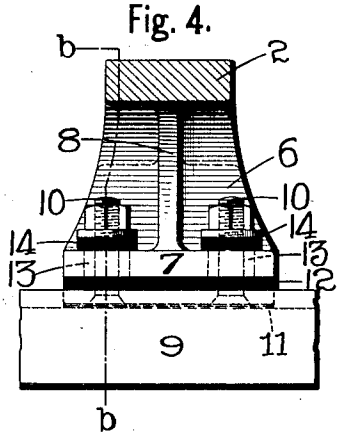
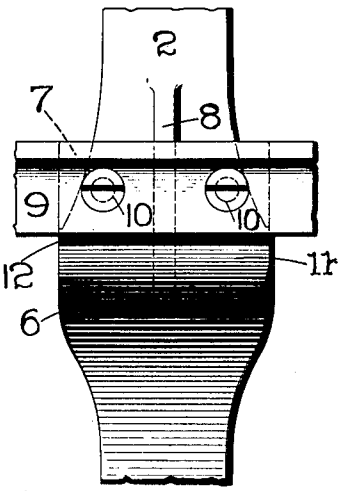


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

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TRANSPORTATION SYSTEM.

No. 916,531. Specification of Letters Patent. Patented March 30, 1909.

Application filed June 12, 1908. Serial No. 438,069.

To all whom it may concern:

Be it known that I, WILLIAM C. CARR, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a certain new and useful Improved Transportation System, of which the following is a specification.

This invention relates to an improved underground system of transportation, which is preferably designed for use in carrying mails, packages, etc.

The object of the invention is to provide a very strong and comparatively cheap conduit which is reinforced at intervals by metal reinforcements which are embedded in the body of the conduit and have projections extending into the interior of the conduit which serve as supports for the rails, constituting the track upon which the car travels.

The invention also relates to certain details of construction which will be hereinafter described and claimed, reference being had to the accompanying drawings in which a preferred structure of the invention is shown.

Figure 1 is a transverse section through the underground tube of the improved system, the section being taken through the concrete wall, the support for the rails and the rails also showing a front elevation of the car. Fig. 2 is a longitudinal section on a reduced scale through a portion of the underground tube of the improved system on line *a a*, Fig. 1, showing a side elevation of the car in place upon the rails. Fig. 3 is an enlarged fragmentary vertical section on line *b b*, Fig. 4 through one of the rail supports and a rail, showing the method of securing the rail thereto and supporting it therefrom. Fig. 4 is a transverse section through the rail support showing a plan view of the rail fastening. Fig. 5 is a fragmentary inside view of one of the rail supports and a rail secured thereto.

In referring to the drawings in detail, like numerals designate like parts.

This improved system which is to be installed at a suitable distance beneath the surface of the ground consists of a tube of circular, oblong or other desirable form in cross section, metal reinforcements for the said tube which are embedded at intervals in the tube body and rails which are supported from the metal reinforcements.

The body 1, of the tube is of concrete or other suitable material and has a series of metal reinforcements embedded therein and extending completely around the same in a transverse direction and forming encircling loop reinforcements. These reinforcements are each preferably constructed in two sections 2 and 3 which are joined at the top and bottom respectively by bolts 4 or other fasteners which extend through abutting lateral end flanges 5 of the sections.

The sections about midway of their length are enlarged to form lateral inwardly extending members which project through the inner wall of the concrete body into the interior of the tube and constitute supports to which the rails are fastened. These supports are preferably of the form shown in Figs. 3, 4 and 5 consisting of an inwardly extending portion 6, a vertical flange 7 extending upward from its inner end and a transversely extending strengthening web, 8, which extends between about the middle of the flange and the inner surface of the reinforcement connecting at its bottom edge to the portion 6, and serving as a stiffening and strengthening bridge.

The rails 9 are preferably of angle form in cross section and are fastened to the supports by bolts 10 which pass through the vertical flanges 7 of the supports and the vertical portion of the rails.

A horizontal ledge 11 is formed on each support which extends inwardly from about the lower end of the flange 7 and extends beneath the vertical portion of the rail serving to support the same, see Fig. 3.

Insulating fiber or similar non-conducting material is fitted between the vertical portion of the rail and the flange 7 and ledge 11 of the support as shown at 12 in Fig. 3 and each bolt 10 is also surrounded by a sleeve 13 of insulating material which enlarges at one end to form a washer 14 between the nut of the bolt and the outer surface of the flange 7, see Fig. 3.

The car adapted to travel on the rails is preferably of the conventional form described in my Patents Numbers 831,263 and 851,649 granted September 18th 1906 and April 30th 1907, respectively to which reference it to be had for a more extended description. This car is of skeleton form having a frame 15 upon which a package carrier

16 is mounted and from which a series of individual mail boxes 17 are detachably supported.

An electric motor 18 is mounted directly upon one or both axles 19 of the car and is driven by electric power taken from the under surface of the horizontal portion of the angle rail by a suitable trolley wheel 20.

The rails are electrically energized from any suitable source of electric power.

The chief advantages of this improved system reside in the great strength of structure obtained, coupled with moderate cost of construction and the utilization of the loop reinforcements to support the rails.

I claim—

1. In an underground transportation system, a conduit, loop reinforcements embedded in said conduit and rails supported from the loop reinforcements.

2. In an underground transportation system, a conduit, loop reinforcements embedded in said conduit and constructed in two sections, bolts for fastening said sections together, a support extending inwardly from about midway of each section and rails attached to said support.

3. In an underground transportation system, a conduit, loop reinforcements embedded in said conduit and extending completely around the same, a rail support extending inwardly from each side of each reinforcement through the inner wall of the conduit and rails attached to said supports.

4. In an underground transportation system, a conduit, loop reinforcements embedded in said conduit and extending completely around the same, a rail support extending inwardly from each side of each reinforcement through the inner wall of the conduit and consisting of an inwardly extending portion and a vertical flange at the end of the inwardly extending portion and rails attached to the vertical flanges of the rail supports.

5. In an underground transportation system, a conduit, loop reinforcements embedded in said conduit and extending completely around the same, a rail support extending inwardly from each side of each reinforcement through the inner wall of the conduit and consisting of an inwardly extending portion, a vertical flange at the end of the inwardly extending portion and a transverse strengthening web between the flange and reinforcement and rails attached to the vertical flanges of the rail supports.

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Witnesses:
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