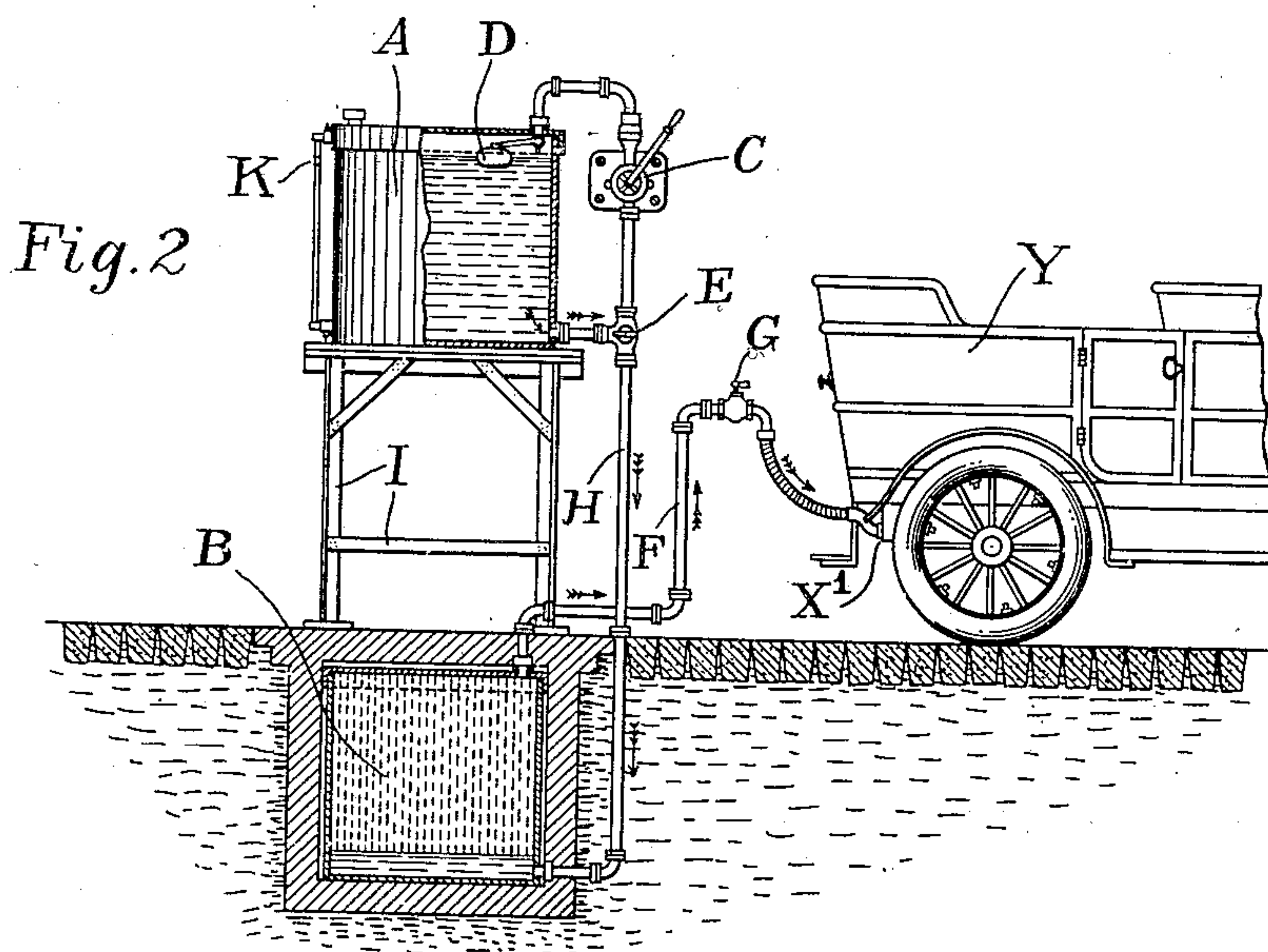
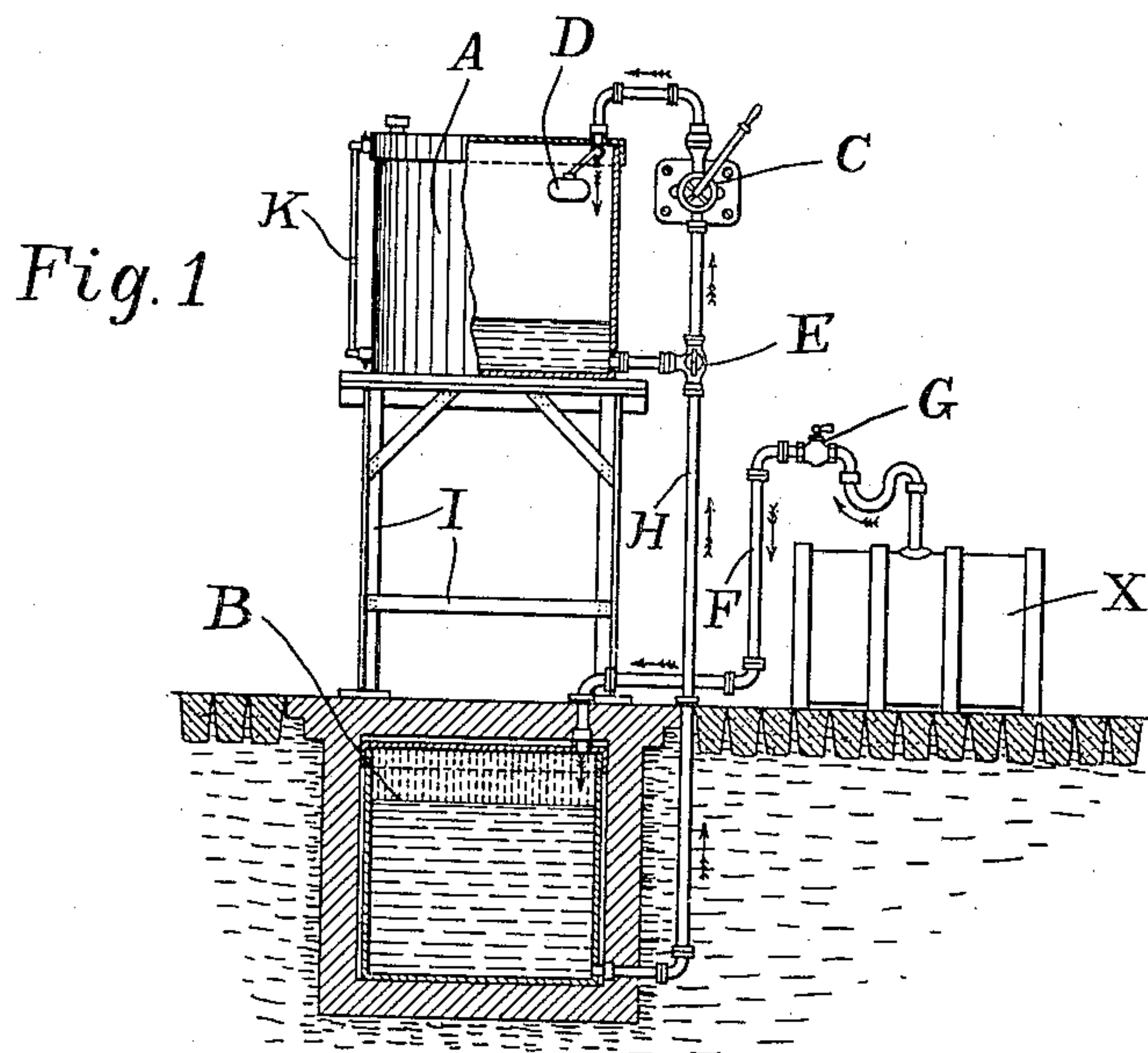


F. CLAUSS & L. LEWISSON.
 PROCESS FOR FILLING, STORING, AND DISCHARGING INFLAMMABLE LIQUIDS.
 APPLICATION FILED JAN. 18, 1907.

938,977.

Patented Nov. 2, 1909.



WITNESSES:

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FELIX CLAUSS AND LEOPOLD LEWISSON, OF BERLIN, GERMANY.

PROCESS FOR FILLING, STORING, AND DISCHARGING INFLAMMABLE LIQUIDS.

938,977.

Specification of Letters Patent.

Patented Nov. 2, 1909.

Application filed January 18, 1907. Serial No. 352,997.

To all whom it may concern:

Be it known that we, FELIX CLAUSS, a doctor of law, and LEOPOLD LEWISSON, both subjects of the German Emperor, and residents of Friedrichstrasse 131^a, in the city of Berlin, Kingdom of Prussia, and German Empire, have invented a certain new and useful Process for Filling, Storing, and Discharging Inflammable Liquids, of which the following is a specification.

This invention has reference to a process for the filling, storing and discharging of inflammable liquids by the aid of a heavier neutral (so-called) liquid.

The new process is particularly designed to employ the existing quantity of neutral liquid for the continuous operation of filling and discharging, which is accomplished, for the filling operation, by having the neutral liquid forced by pressure from a container, for the inflammable liquid, into another receptacle communicating with such container, the neutral liquid being then made to flow back from the said receptacle into the said container and replacing the inflammable liquid. By thus acting, it is possible to use each of two containers alternately as receptacle for the neutral liquid and as receptacle for the inflammable liquid, so that a container used for the shipment or transportation of the inflammable liquid itself may also be used temporarily as a container for the neutral liquid.

The accompanying drawings illustrate means availed of in carrying the process into effect.

Figure 1 is a section taken through a container and through a receptacle, above the container, for the neutral liquid, and shows also the means for supplying the inflammable material from a tank; Fig. 2 shows the connection of an automobile to a form of apparatus for carrying out our process.

Below a road-bed, a receptacle B (closed air-tight) is arranged in a ditch walled in all around. Two conduits lead off from said container, and one conduit, F, is carried to the outside from the cover of the said container, and is closed by a stop cock G, to which a pipe may be connected which may make connection with a benzin barrel or with the container of a horseless carriage. The other conduit, H, is carried upward from the bottom of the container B, and branches out in two parts at the point E, where a three-way cock is arranged. One

part of the conduit H, is connected to the bottom of a container A supported by a supporting frame I, while the other part of the conduit is connected by a pump C to the cover of the receptacle A. The capacity of this container A is exactly equal to that of the container B.

In the container A, which communicates continuously at its top with the outer atmosphere, a float D is arranged, which closes the pipe, which connects to the top of the receptacle A when the liquid in the receptacle has risen very near to the upper edge of the same. At the outside of the receptacle A an indicating device K is arranged, so as to allow of estimating the contents of the receptacle A from the outside.

The mode of operation of the device, shown in Figs. 1 and 2 is as follows:—The receptacle A which is supported by the frame I is filled completely with a closing or neutral liquid, such as glycerin a salt solution or the like. As soon as the three-way cock E is opened, the entire contents of the receptacle A flow into the reservoir B, arranged below the road-bed and fill this reservoir completely. Now the stop cock E is so adjusted, that the conduit H makes a connection with the pump C. After connecting a benzin barrel X with the stop cock G, the said cock is opened and the closing liquid is then pumped by means of the pump C from the receptacle B upward and into the receptacle A. By this means, however, the benzin will be sucked in the same proportion from the barrel into the receptacle B. From the gage indicator K it may be learned how far up the container B must have been filled with the inflammable liquid, inasmuch as both containers A and B have equal capacity. When the closing liquid rises in the receptacle A, to such a height that the float D is raised, the conduit H is closed thereby. It follows from this, that the receptacle B is filled completely with benzin. The cock G is closed and the benzin-barrel is removed. If it is desired to feed a horseless carriage Y from the storage receptacle B, the container X¹ of said carriage is connected to the stop cock G as shown, for instance, in Fig. 2 of the drawings. After the stop cock G has been opened, it is only necessary to turn the three-way cock, so as to connect the conduit H to the bottom of the receptacle A. The closing liquid will then flow downward and will force the benzin from the conduit F

and from the receptacle B into the container X¹ of the horseless carriage. After such container has been filled, the cock G is closed, while the three way cock E is retained in its position. Now as many automobiles may be fed by merely connecting them to the stop cock G, as benzin is contained in the storage receptacle B. From the gage K it may be seen, when the receptacle A and consequently also the container B are emptied, the latter being now filled with the closing liquid. The receptacle B should now be filled up again, the benzin being sucked out from the receptacle B by pumping the closing liquid into the receptacle A.

It may be mentioned in addition, that the pipe conduits and the pump may be arranged in such a manner, that the neutral liquid, contained in the upper receptacle, is prevented from acting by its gravity upon the inflammable liquid in the lower receptacle, provision being made, that the effect is

produced only, when the neutral liquid is pumped into the lower container by means of the pump. In this case another three-way cock is preferably provided in the conduit above the pump.

What we claim and desire to secure by Letters Patent of the United States, is:—

The process of filling, storing and discharging inflammable liquid consisting in drawing off a neutral liquid from a storage receptacle and thereby causing the inflammable liquid to be supplied to the storage receptacle, and in causing the neutral liquid to again return to the storage chamber and thus displace the inflammable liquid.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

FELIX CLAUSS.
LEOPOLD LEWISSON.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.