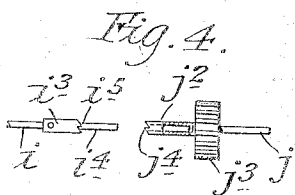
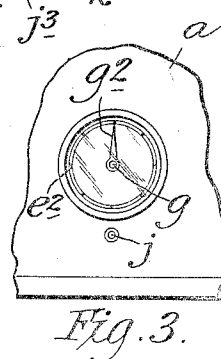
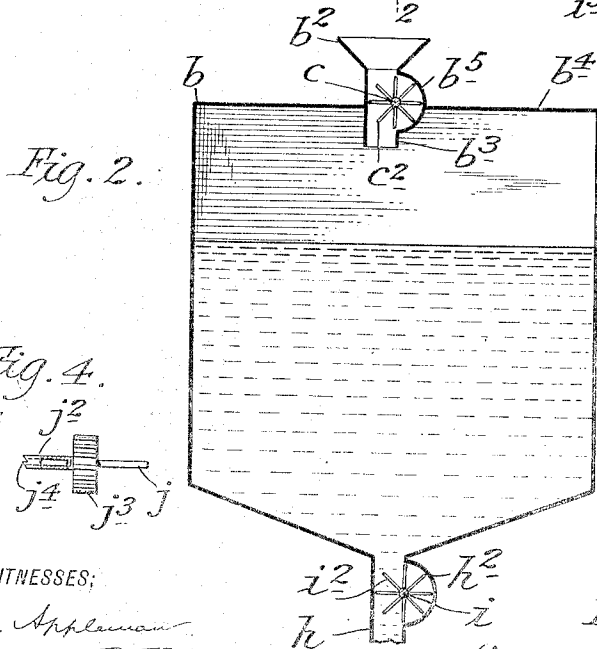
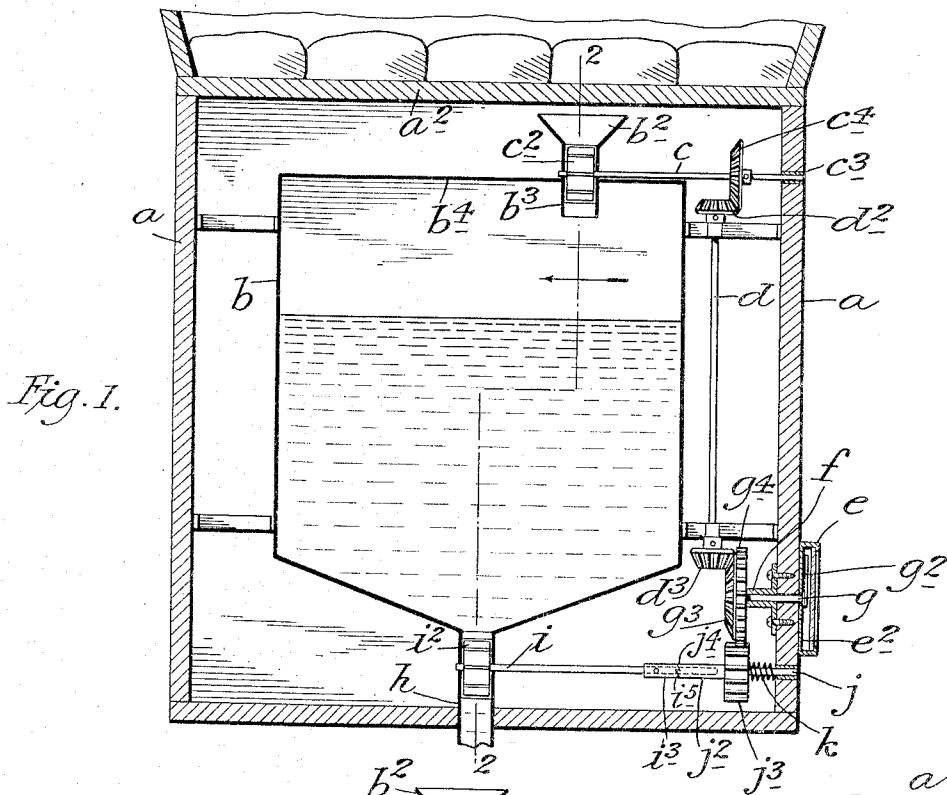


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GASOLENE TANK FOR AUTOMOBILES.
APPLICATION FILED DEC. 3, 1909.

976,460.

Patented Nov. 22, 1910.



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GASOLENE-TANK FOR AUTOMOBILES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RICHARD HAYES, a citizen of the United States, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Gasolene-Tanks for Automobiles, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to gasolene tanks for automobiles and the object thereof is to provide a tank of this class with a registering apparatus which will measure the amount of gasolene placed in the tank and which will also measure the amount of gasolene fed from the tank during the operation of the carbureter of the engine or motor so that the operator may determine at any time just how much gasolene he has in the tank; and with these and other objects in view the invention consists in an apparatus of the class specified constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 is a transverse vertical section of the seat portion of an automobile or similar vehicle in which the gasolene tank is placed. Fig. 2 a section of the tank on the line 2—2 of Fig. 1. Fig. 3 a face view of the dial portion of my improved registering apparatus; and;—Fig. 4 a detail view showing detached portions of a clutch device forming part of the registering apparatus, part of the construction being in section.

In the drawing forming part of this specification I have shown at *a* a box or casing in which the gasolene tank *b* is placed and said box or casing may be placed under the seat *a*² or in any desired place in the body portion of the vehicle, and the seat *a*², in practice, is made movable and is preferably hinged at the back so that it can be turned backward to afford access to the tank *b*, but the box or casing *a* may be made in any desired manner and located in any preferred place. The tank *b* is provided in the top thereof with a filling hopper or similar device *b*² provided with a neck portion *b*³ which is rectangular in cross section and which passes through and is secured in the

top *b*⁴ of the tank, and one side of the neck *b*³ of the hopper *b*² is provided with a housing *b*⁵ and passed transversely through the neck *b*³ of the hopper *b*² and above the tank *b* is a shaft *c*, and mounted on said shaft within the neck *b*³ and housing *b*⁵ is a paddle wheel *c*². The shaft *c* is provided with a bearing *c*³ in one side of the box or casing *a*, and secured to said shaft is a beveled gear *c*⁴, and mounted vertically in the box or casing *a* at one side of the tank *b* is a shaft *d* provided at its upper end with a beveled gear *d*² which meshes with the gear *c*⁴ and at the lower end with a beveled gear *d*³.

Connected with the side of the box or casing *a*, in the same vertical plane as the shaft *c* and below said shaft, is a registering device *e* comprising a suitable casing, the back *e*² of which is provided with a registering dial as shown in Fig. 3, and within the box or casing is secured a bearing *f* through which is passed a shaft *g*, the outer end of which is provided with a pointer *g*², and the inner end of which is provided with a beveled gear *g*³ which meshes with the gear *d*³, and with a supplemental gear *g*⁴.

The bottom of the tank *b* is hopper-shaped in form and provided centrally with a tube *h* which is rectangular in cross section and which passes through the bottom of the box or casing *a*, and said tube is provided at one side thereof with a housing *h*², and passed centrally therethrough is a shaft *i* provided within the tube *h* and the housing *h*² with a paddle wheel *i*². The end of the shaft *i*, opposite the wheel *i*², is provided with a clutch sleeve *i*³.

Mounted below the gear *g*⁴ and in line with the shaft *g* is a shaft *j*, the inner end of which is provided with a clutch sleeve *j*² into which the end *i*⁴ of the shaft *i* passes and secured to the shaft *j* is an elongated gear *j*³ which meshes with the gear *g*⁴. The shaft *j* is provided with a bearing in the side of the box or casing *a* through which it is longitudinally movable, and placed between said side of the box or casing *a* and the gear *j*³ is a spiral spring *k* which normally holds said shaft *j* and the gear *j*³ in the position shown in Fig. 1 in which the clutch members or sleeves *j*² and *i*³ are in contact or connection. The clutch members or sleeve *i*³ and *j*² are provided respectively with teeth *i*⁵ and *j*⁴ which are so formed as to engage and turn the shaft *i* when the shaft *j* is turned in one direction but which slip over each other

when the shaft *j* is turned in the opposite direction, thus giving said shaft *j* a longitudinal reciprocating movement by reason of the operation of the spring *k*.

5 It will be understood that the tube *h* is connected with the carbureter of the engine or motor of the machine in the usual manner, but as said engine or motor and the connection of the tube *h* therewith form no
10 part of my improvement they are not shown and described.

The operation will be readily understood from the foregoing description when taken in connection with the accompanying drawing and the following statement thereof. In
15 practice the tank *b* is first filled, or partially filled, as may be desired, by pouring the gasoline into the hopper *b*². In this operation the gasoline passes through the neck *b*³
20 of the hopper *b*² into the tank and this operation rotates the shaft *c*, which in turn rotates the shaft *d*, which in turn rotates the shaft *g*, and the pointer *g*² connected therewith, and the amount of gasoline poured
25 into the tank is registered on the dial plate *e*². In this operation the gear *j*³ and shaft *j* are turned to the left and the teeth *i*⁵ and *j*⁴ on the clutch members *i*³ and *j*² slip over each other and the shaft *i* remains stationary.
30 When the desired amount of gasoline has been placed in the tank *b* the communication between the pipe *h* and the carbureter of the engine or motor is opened and the gasoline flows through said pipe into said
35 motor or engine in the usual manner. In this operation the shaft *i* is turned to the left and the clutch members *i*³ and *j*² being engaged by the operation of the spring *k*, the shaft *j* and gear *j*³ will also be turned
40 to the left and the gear *g*⁴ with its shaft *g* and pointer *g*² will be turned to the right as in the operation of filling the tank *b* with gasoline. Suppose that eight gallons of
45 gasoline are placed in the tank *b* and the pointer *g*² at the end of this operation is in the position shown in Fig. 3; as the gasoline passes through the pipe *h* the pointer *g*² turns to the right and by deducting the
50 amount indicated by the pointer *g*² at any time from the total amount placed in the tank, the amount still remaining in the tank may be determined as will be readily understood.

My invention is not limited to the exact
55 form of register device herein shown and described nor to the exact means for operating the same, and other form of registering device and other means of operating it may be provided within the scope of the
60 appended claims, without departing from the spirit of my invention or sacrificing its advantages, the main object of the inven-

tion being to provide a gasoline tank of the class specified with a register device which will register the amount of gasoline placed
61 in the tank and also register the amount remaining in the tank at any time during the operation of the engine or motor to which gasoline is supplied from said tank.

Having fully described my invention, 70 what I claim as new, and desire to secure by Letters Patent is;—

1. In an apparatus of the class described, a tank the top of which is provided with a filling device through which is passed a shaft
71 provided with a wheel adapted to turn said shaft when liquid is poured into said tank, the bottom of said tank being also provided with a discharge tube through which passes
72 a shaft provided with a wheel whereby said shaft is turned when the liquid passes out
73 of said tank through said tube, and a registering device in operative connection with
74 said shafts and adapted to register the amount of liquid placed in said tank through
75 said filling device and the amount of liquid left in said tank at any time.

2. In an apparatus of the class described, a tank, a shaft which is rotated when said
90 tank is filled with liquid and another shaft which is rotated by liquid passing from said tank, and a registering device in operative connection with said shafts and adapted to register the amount of liquid placed in said
91 tank and the amount of liquid left in said tank at any time.

3. In an apparatus of the class described, a tank, means for filling said tank with liquids and means for discharging the contents
100 of said tank, a shaft which is rotated when the tank is filled and a shaft which is rotated when the liquid is discharged from the tank and a registering device connected with
101 said shafts and adapted to register the amount of liquid placed in said tank and the amount left therein.

4. In an apparatus of the class described, a tank provided with separate inlet and outlet devices, a registering device connect-
110 ed with said tank, means whereby said registering device will be operated by liquids poured into the tank to register the amount of said liquids and means whereby said registering device will be operated by liquids
111 leaving the tank to register the amount left therein.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this
20th day of November 1909.

RICHARD HAYES.

Witnesses:

JOHN WILLIAM McKEON,
JAMES P. O'MARA.