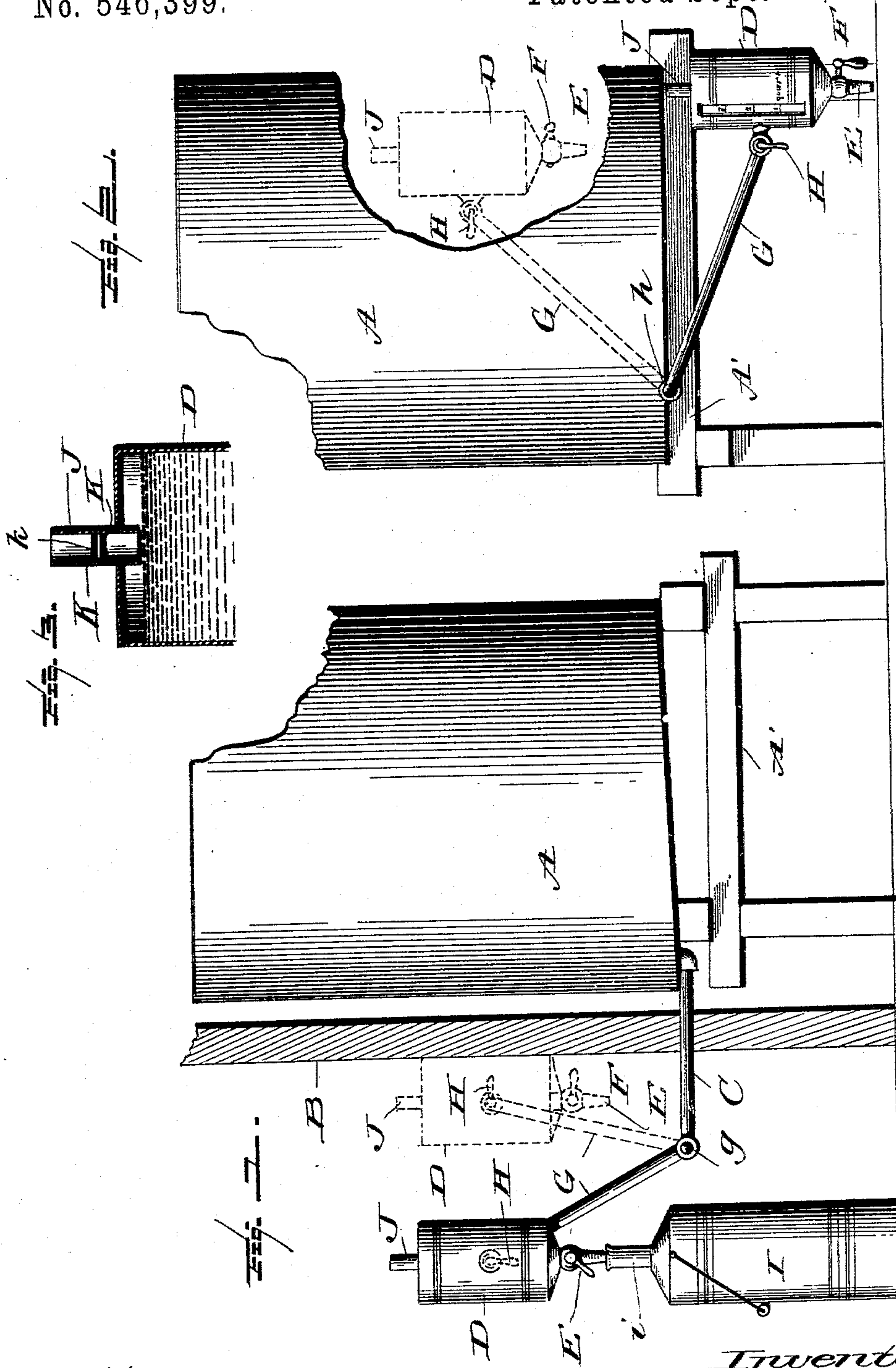


(No Model.)

J. HALL.  
GRAVITY MEASURING TANK.

No. 546,399.

Patented Sept. 17, 1895.



Witnesses:  
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E. H. Bond.

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# UNITED STATES PATENT OFFICE.

JAMES HALL, OF CHICAGO, ILLINOIS.

## GRAVITY MEASURING-TANK.

SPECIFICATION forming part of Letters Patent No. 546,399, dated September 17, 1895.

Application filed January 24, 1895. Serial No. 536,102. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES HALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gravity Measuring-Tanks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in measuring-tanks designed for measuring liquids as they are drawn from the tank; and it has for its object, among others, to provide a simple cheap tank having provision for use in connection with a can or receptacle of any height and preferably arranged so that the tank proper shall be concealed from view—say in the next or another room. The connection between the tank proper and the measuring-vessel is provided with one or more flexible or universal joints, so that the measuring-vessel may be raised or lowered to adapt it for use in connection with a taller or shorter can or receptacle. The measuring-vessel may be provided with an index to indicate the amount drawn therefrom and further provided with an audible alarm to indicate when the said receptacle is filled.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of my improvement with a portion of the tank broken away and the partition-wall shown in section. Fig. 2 is an elevation of the device with portions of the tank broken away and the measuring-vessel shown in two different positions, one by full and the other by dotted lines. Fig. 3 is an enlarged sectional detail of the upper portion of the measuring-vessel, showing the audible alarm.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates a tank of any de-

sired capacity mounted upon a suitable support A', and, as seen in Fig. 1, having its bottom slightly inclined toward the point of connection of the discharge-pipe therewith. In Fig. 1 this tank is shown as upon one side of a vertical partition B, through a hole in which passes the pipe C, which is connected with the lowermost point of the tank A in any suitable manner so as to provide a liquid-tight joint.

D is a measuring-vessel of any suitable construction, provided with a tapered outlet-tube E, designed to be placed over or to extend into the neck or opening in the oil-can or other receptacle. It is provided with a cock F, by which the discharge therefrom may be regulated or entirely shut off. This measuring-vessel is carried by the pipe G, which is connected therewith at a point near the center thereof by any suitable form of knuckle-joint, the other end of the said pipe being connected with the outer end of the pipe C by a suitable movable joint, as shown at g. A cock H is provided in the pipe G, preferably at its junction with the measuring-vessel, as shown, so as to control the flow of liquid from the tank into the said vessel. When the tank and measuring-vessel are located in the same room, of course the pipe C is not necessary, and in this case the pipe G is connected at one end to the measuring-vessel, as before, and its other end is connected by a swivel or union joint, as shown at h in Fig. 2, to the tank or the outlet therefrom. The cock H is present in this form and serves the same purpose as in the form illustrated in Fig. 1. The measuring-vessel may be provided with an index-glass, as indicated in Fig. 2, so as to mark off the quarts, half-gallons, &c., in a manner well known in this class of devices.

With the parts constructed and arranged substantially as hereinbefore set forth the operation will be readily understood, and, briefly stated, is as follows: The cock F is closed and the cock H opened, when the oil or other liquid will flow from the tank A through the pipe G or through the pipes C and G into the measuring-vessel D. When the proper amount has been withdrawn into the measuring-vessel, the cock H is closed and the nipple E placed in the neck of the can I, as indicated in Fig. 1, and then the cock F is opened



until the desired amount has been withdrawn from the measuring-vessel into the can, the amount being indicated either by the capacity of the vessel D or through the medium of the glass index in the side thereof. The flexible connection of the pipe G permits of the raising or lowering of the measuring-vessel to adapt it for use in connection with a can or receptacle I of any height, as will be readily understood from the drawings. The measuring-vessel D is provided at its upper end with a tube J, which extends down within the same for a short distance and also above the top thereof. Within this tube are placed a short distance apart two diaphragms or disks K, each having a hole  $\frac{1}{8}$  therein. This serves a double purpose: first, as a vent to permit of the escape of the air as the vessel is being filled, and, second, as a warning that the measure is full, for while the vessel is being filled the escaping air, passing through the openings in the disks, will produce a whistling noise, which, as the measure becomes full, will cease, the tube projecting sufficiently within the vessel to warn the operator or attendant of the near approach of the liquid to the top of the vessel to permit him to shut off the supply before the vessel is full, and thus prevent running over.

30 Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. The combination of a tank, a pipe con-

35 nected therewith and having a movable or knuckle joint and a measuring vessel carried by said pipe and having a pivotal connection therewith, substantially as described.

2. The combination of a tank, a pipe connected therewith and extended through an opening in the wall, a pipe connected with the said pipe upon the side of the wall opposite the tank by a knuckle or movable joint, and the measuring vessel pivotally mounted on said pipe, substantially as described. 45

3. A measuring vessel provided at its top with a tube extended within said vessel and also extended above its top and a plurality of diaphragms within said tube above the top of the vessel and having openings where- 50 by said tube and diaphragms serve the double function of a vent and an audible alarm, substantially as described.

4. The combination of a tank, a pipe connected therewith, a pivoted measuring vessel 55 carried by said pipe with a movable or knuckle joint between the tank and vessel, a cock controlling the supply to said vessel, a discharge nozzle for said vessel, and a cock controlling the discharge therefrom, substan- 60 tially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES HALL.

Witnesses:

EDWARD DICKINSON,

GEO. R. STANNARD.