W. T. HATMAKER.

GASOLENE DISPENSING PUMP.

APPLICATION FILED MAR. 16, 1918.

1,287,985.

Patented Dec. 17, 1918.

2 SHEETS—SHEET 1.

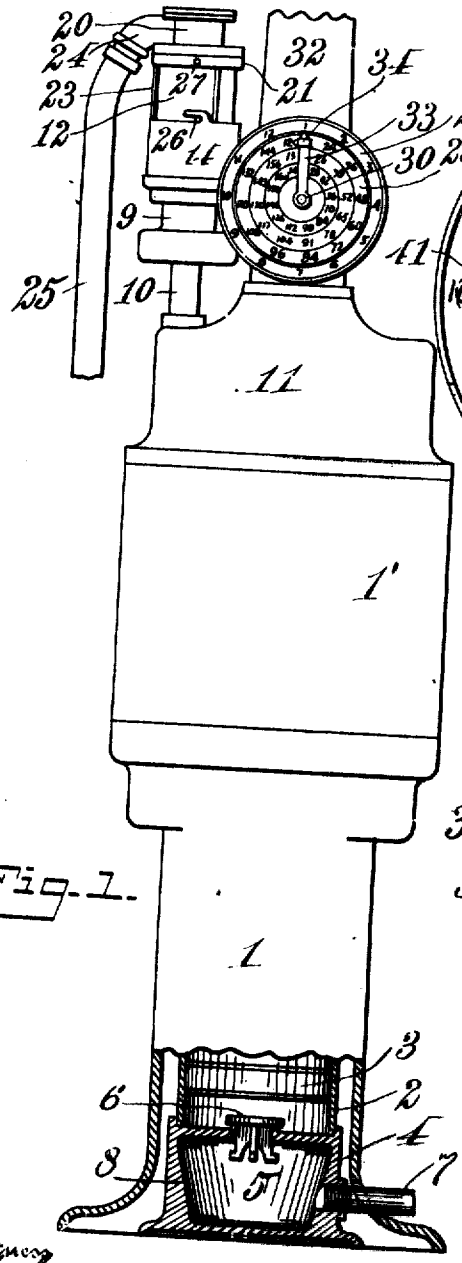


Fig. 1.

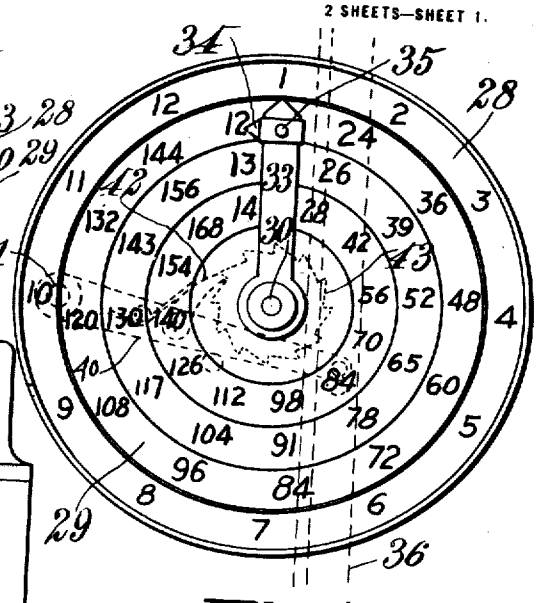


Fig. 6.

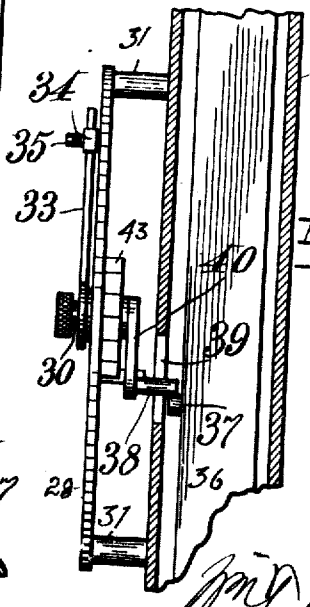


Fig. 7.

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2 SHEETS—SHEET 2.

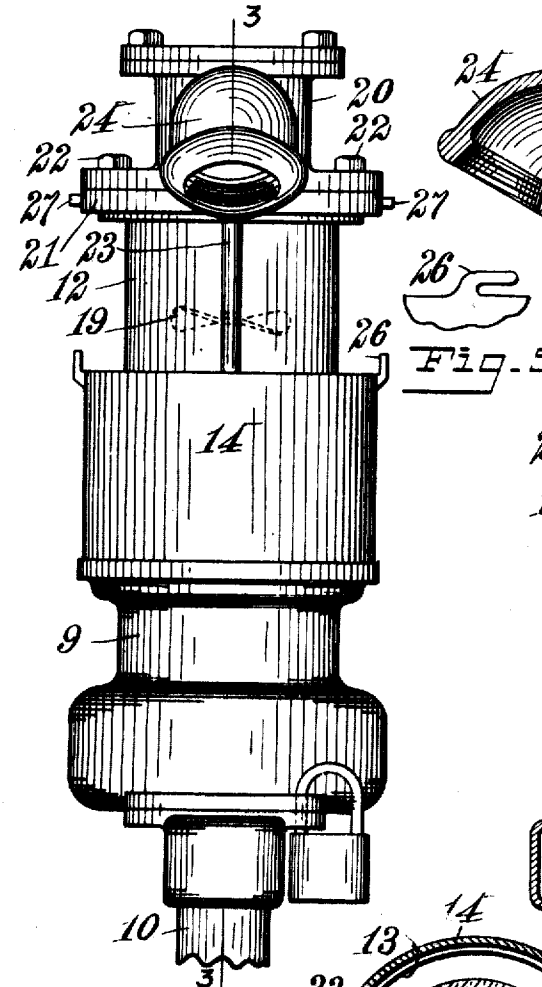


Fig. 2.

Fig. 5.

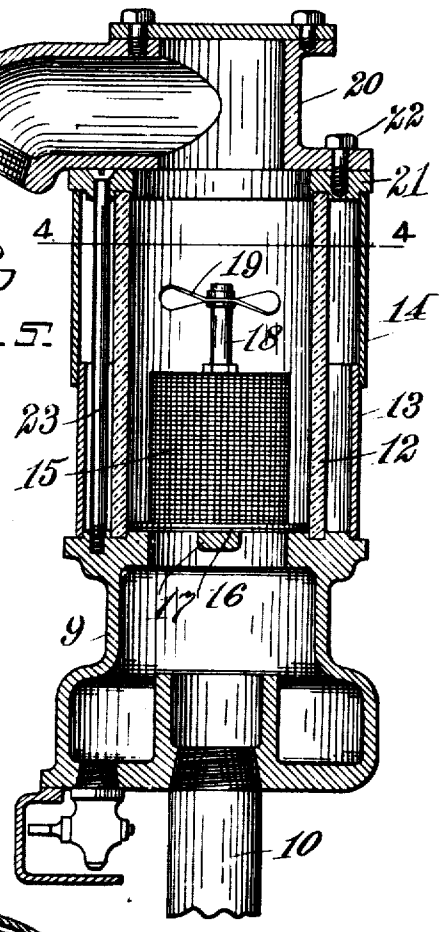


Fig. 3.

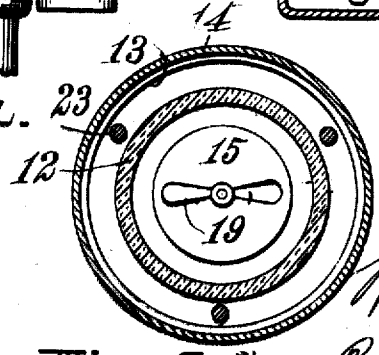


Fig. 4.

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UNITED STATES PATENT OFFICE.

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GASOLENE-DISPENSING PUMP.

1,287,985. Specification of Letters Patent. Patented Dec. 17, 1918.

Application filed March 16, 1918. Serial No. 222,867.

To all whom it may concern:

Be it known that I, WILLIAM T. HATMAKER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Gasolene-Dispensing Pumps, of which the following is a specification.

This invention relates to improvements in gasolene dispensing pumps. Much annoyance has heretofore been experienced by the purchasers of gasolene at filling stations and elsewhere due to the uncertainty of measurement or discharge into the outlet hose connection. The pump may be working but the purchaser does not know whether he is getting the proper quantity of oil because of the fact that the oil is not visible at the point where it is supposed to pass into the outlet hose connection. And, again the purchaser does not know the character of the gasolene owing to the condition of the strainer, which is often permitted to clog up because such strainers are difficult of removal for the purpose of cleansing. In other words, the inaccessibility of the oil strainer prevents its easy removal and it is often permitted to remain in use when it should be removed and cleansed or a new one placed in position. It is, therefore, the object of the present improvements to provide a gasolene dispensing pump which is free from these and other faults. For example, another common annoyance met with in the use of pumps of this description is leakage on account of numerous joints in the discharge pipe which conducts the oil to the strainer from whence it discharges to the outlet hose connection. And still another advantage is the unerring means I provide for enabling the purchaser to witness the passage of gasolene to the discharge hose connection during the operation of the pump so that he may readily know that he is getting in reality the quantity of gasolene for which he is paying. This latter means consists of a vane or spinner which is arranged in the path of the gasolene after it passes through the strainer.

Preceding a detail description of my invention reference is made in general terms to the accompanying drawings thereof. Of these, Figure 1 is a vertical front elevation of a pump in which my invention is utilized. Fig. 2 is an elevation showing the upper portion of the pump. Fig. 3 is a sectional view on the line 3—3 of Fig. 2. Fig. 4 is a sectional view on the line 4—4 of Fig. 3. Fig. 5 is a detail view of a portion of the inclosing case. Fig. 6 is a detail view of the computing dial and Fig. 7 is a detail view of the computing dial and the means by which it is operated in the discharge of gasolene from the pump.

In a more particular description of the improvements similar reference characters will indicate corresponding parts both in the drawings and the description. 1 designates the hollow stand or base of the pump in which is placed the pump cylinder 2 within which the discharge piston 3 moves. The cylinder 2 is mounted upon a casting 4 in which there is an inlet chamber 5. The passage from the inlet chamber 5 to the cylinder 2 is controlled by a suction valve 6 which operates through the action of the piston 3, in a well known manner. The gasolene is discharged into the chamber 5 through the inlet pipe 7 which extends from the source of supply not shown. In gasolene pumps, trouble is often experienced during winter months due to freezing of the water in the inlet chamber for the gasolene. It is well known that there is a certain amount of water present in commercial gasolene and this has a tendency to separate from the gasolene when the latter is in a quiescent state. This tendency to freeze is detrimental to the pump structure and often interferes with the efficiency of the pump. Such trouble is avoided in the present construction by making the walls of the chamber 5 of an upward and outward flaring shape as shown at 8—Fig. 1. The walls being thus of an outward flaring form, no resistance is offered to the expansion of the water or liquid in the chamber 5 due to freezing and therefore any breakage of parts is avoided. The body of the pump is supported on the hollow stand 1 and consists of an inclosing casing 1'. The gasolene is discharged into a head 9, into the lower portion of which is screwed a discharge pipe 10 which receives gasolene from the pump cylinder. Owing to the avoidance of the usual number of connections in the discharge pipe, any leakage of gasolene from the pump is avoided. Leakage is a common annoyance at this point in gasolene pumps as they are commonly constructed and by thus avoiding a multiplicity of joints in the pipe 10 this annoyance is very materially overcome. The discharge head 9 supports a

transparent cylinder 12 by means of an annular groove in the upper portion of said head which receives the lower edge of the cylinder 12, said cylinder being preferably constructed of glass. Surrounding the lower portion of the cylinder 12 is a stationary metal cylinder 13 which is likewise supported in a channel in the upper end of the head 9. The cylinder 13 extends approximately to a distance equal to half the length of the glass cylinder 12. 14 designates a movable cylinder which telescopes over the lower stationary cylinder 13 and may be elevated to wholly conceal the glass cylinder 12 or lowered to uncover the upper portion of said glass cylinder 12 in order that purchasers of gasolene may observe the gasolene passing through the outlet or discharge portion of the pump. Within the lower portion of the glass cylinder 12 is located the wire screen 15 of cylindrical form and of suitable mesh to act as a filter for the gasolene in passing therethrough and outwardly around the sides thereof. The lower end of this screen 15 is open to admit of the entrance of the gasolene and the upper end is closed to compel the gasolene to pass out through the sides of the screen. The said screen 15 is supported on a suitable frame 16 which in turn is supported on a spider or frame 17 which extends across the opening below the screen. The said screen is supported in this manner by means of a central shaft 18 which extends above the upper end of the screen into the space thereabove. It will be observed from Fig. 3 that the screen 15 is approximately not more than half the length of the transparent cylinder 12. This is important for the reason that were the screen to be of a length substantially equal to that of the transparent cylinder it would be impossible for the purchasers of gasolene to tell whether or not the gasolene was passing out of the pump. This is true because of the fact that the strainer 15 being of such length would wholly darken the interior of the glass cylinder. For this reason I preferably shorten the length of the strainer 15. The securing shaft 18 of the strainer is projected into the space above in order to receive a spinner or revolving vane 19 which lies in the path of the gasolene as it passes upwardly from the surrounding space between the strainer 15 and the cylinder 12. The spinner or vane 19 is so shaped that the upwardly passing gasolene contacting therewith will cause the same to whirl or spin and to thus visually indicate through the glass cylinder that the gasolene is passing upwardly into the discharge head 20. By means of this device so arranged in the path of the outgoing gasolene, observers, or those who are purchasing gasolene can readily see whether the pump is discharging gasolene or not. Above the glass cylinder 12 is mounted an apertured plate 21 through the opening of which the gasolene passes into the final discharge head 20. This plate 21 has an annular groove which receives the upper end of the glass cylinder 12 and seals it in a manner similar to the lower head 9. The glass cylinder 12 is thus sealed at both ends through its connection with these parts and when once in position it is unnecessary for it to be removed. This is important owing to the fact that when once sealed at its upper and lower ends it is desirable to have it remain in that condition undisturbed. For this reason the upper discharge head 20 is detachable from the plate 21 without disturbing said plate and in order that the screen 15 may be removed from its position when necessary to be cleaned. It is a common practice in pumps of this character to permit the screen to remain in position after it has become clogged up and inefficient for the purpose of filtering the gasolene; this is due to the fact that pumps of this type are generally so constructed that the pump has to be practically dismantled in order to remove the strainer. In the present case the upper discharge head 20 is united to the plate 21 by a suitable number of screw bolts 22 which pass through a flanged portion of the head 20 and into the plate 21. The plate 21 is secured to the lower discharge head 9 by means of a suitable number of elongated screw bolts 23. The said discharge head 20 has a discharge spout 24 projecting from it which couples with a flexible discharge pipe 25 which empties into the gasolene tank (not shown) of the consumer. When the pump is not in use and in order to protect the glass cylinder from vandalism during such period, the telescopic cylinder 14 may be elevated as shown in Fig. 3 and locked in such position. For this purpose the upper end of the cylinder 14 is provided with oppositely disposed slot lugs 26 which receive lugs 27 on opposite parts of the plate 21.

Referring now to the computing device by means of which the quantities of gasolene and the prices thereof are ascertainable reference is made to Figs. 6 and 7 of the drawings. In this instance 28 designates the section of a dial upon which numerals from 1 to 12 consecutively appear. This portion of the dial is fixed and the figures thereon indicate quantities of gasolene by gallons, for example, from 1 to 12 gallons. Within the circumference of the dial portion 28 a removable dial portion 29 is placed consisting of a series of concentric spaces containing numerals which indicate various prices of gasolene in gallon quantities and multiples thereof. It is well known that the price of gasolene is subject to fluctuation and that a fixed price per gallon does not continue,

therefore the price dial 29 contains three different prices per gallon and if gasolene should fluctuate beyond the highest price indicated upon said dial 29 the dial may be easily removed and replaced with one showing a still higher price per gallon. The dials are mounted upon a shaft 30 and are held fast to studs 31 which project from the arm 32 that extends up above the pump and is usually provided with a lamp (not shown) to be illuminated at night time. This is a convenient place upon which to mount the computing dial. The shaft 30 is pivoted to the pointer or index arm 33 which moves over the face of the dials 28 and 29 to indicate the prices per gallon. The arm 33 is tapered at its outer end to point to the gallon indications and is provided with a lateral indicator 34 which points to the prices. This indicator 34 may be moved along the arm 33 to point to the different positions by means of a binding screw 35 which passes through the body of the indicator 34 and binds against the side of the arm 33. The indicator arm 33 is operated from the usual rack bar 36 which extends from the rod of the piston 3 and which is operated from the well known drive gear. These features are common to pumps of this character therefore it has not been deemed necessary to illustrate them in their entirety. The rack bar 36 when elevated moves up into the hollow extension 32 upon which the dial is mounted, as before stated. Upon this rack bar 36 a lug 37 is mounted in the path of which a pin 38 projects through an opening 39 in the side of the extension 32. The pin 38 extends from the crank arm 40 which is pivoted at 41 and carries a pawl 42 which engages a ratchet 43 on the shaft 30 of the pointer 33. (See Fig. 6). It will be seen that as the rack 36 is elevated and lowered in the operation of the pump, the lug and pin 37 and 38 respectively engaging each other will cause the hand 33 to move to the proper indications of the quantity of oil discharged and the price, it being understood that the movement of the rack 36 corresponds in the extent of its movement with the indications of the quantity of oil discharged in each operation.

Having described my invention I claim as new and desire to secure by Letters Patent:

1. The combination with a gasolene dispensing pump, of a single continuous discharge pipe connected to said pump, a head connected to the discharge end of said pipe and forming a passage for the gasolene, a screen mounted on said head in a position to receive the gasolene therefrom, a transparent cylinder surrounding said screen, the lower end of said transparent cylinder having a sealed connection with said head, a plate with which the upper end of said transparent cylinder also has a sealed connection, and a discharge head mounted on said plate and adapted to be removed therefrom to permit the screen to be removed without disturbing the sealed connections of the transparent cylinder.

2. In a gasolene dispensing pump, the combination with the pump cylinder, and a discharge pipe receiving the gasolene therefrom, of a head into which said pipe discharges, a screen mounted on said head and receiving the gasolene therefrom, a transparent cylinder inclosing said screen and providing space thereabove through which the gasolene passes from the screen, and a vane within said space in the path of the gasolene and adapted to be set in motion thereby.

3. In a gasolene dispensing pump, the combination with a pump cylinder, and a discharge pipe receiving the gasolene therefrom, of a head to receve the gasolene from said pipe, a screen mounted on said head and receiving the gasolene therefrom, a transparent cylinder surrounding said screen and extending thereabove, the lower end of said transparent cylinder having a sealed connection with said head, an apertured plate with which the upper end of said transparent cylinder has a sealed connection, and a discharge head mounted on said plate.

4. In a gasolene dispensing pump, the combination with a pump cylinder and a discharge pipe, of a head receiving the gasolene from said discharge pipe, a screen mounted on said head in the path of the gasolene, a transparent cylinder the lower end of which has a sealed connection with said head, a plate with which the upper end of said transparent cylinder has a sealed connection, an imperforate stationary cylinder mounted on said head and inclosing the lower portion of said transparent cylinder, and a movable imperforate cylinder adapted to be supported by said plate when elevated to conceal the upper portion of said transparent cylinder, and to be lowered to expose the upper portion of said transparent cylinder.

In testimony whereof I affix my signature.

WILLIAM T. HATMAKER.