No. 828,856. PATENTED AUG. 14, 1906.

G. E. LOCKWOOD.

APPARATUS FOR FEEDING AND VAPORIZING OIL.

APPLICATION FILED FEB. 14, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

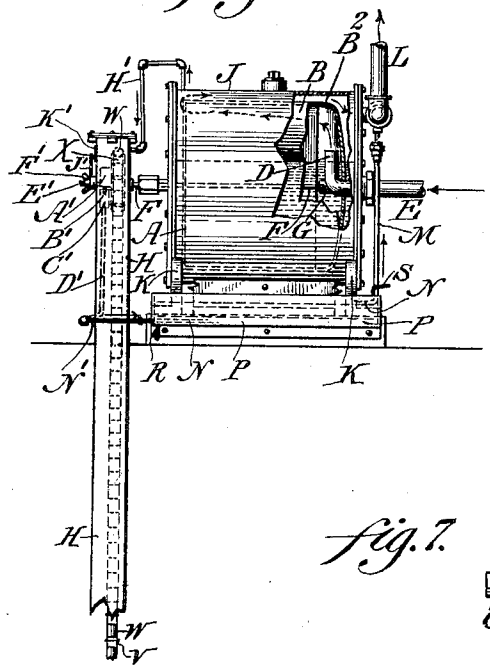


Fig. 2.

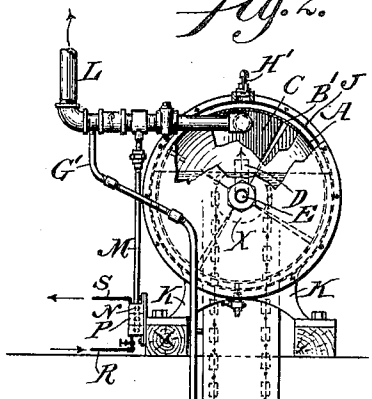
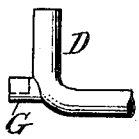


Fig. 7.



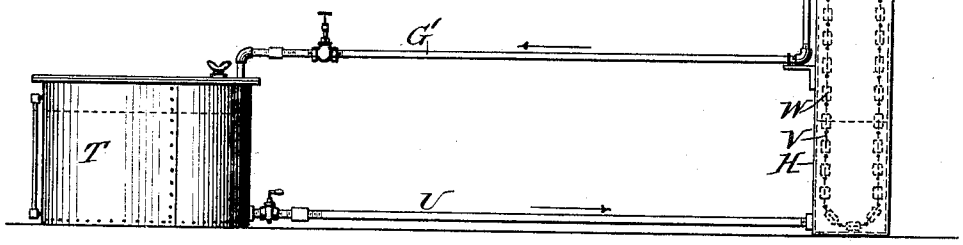


Fig. 4.



Fig. 5.

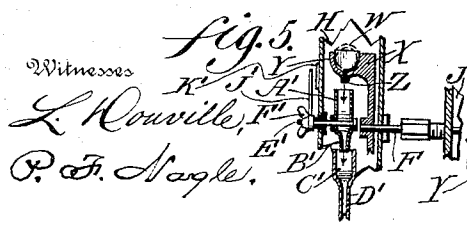
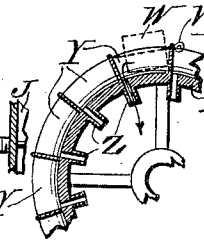


Fig. 6.



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2 SHEETS—SHEET 2.

Fig. 3.

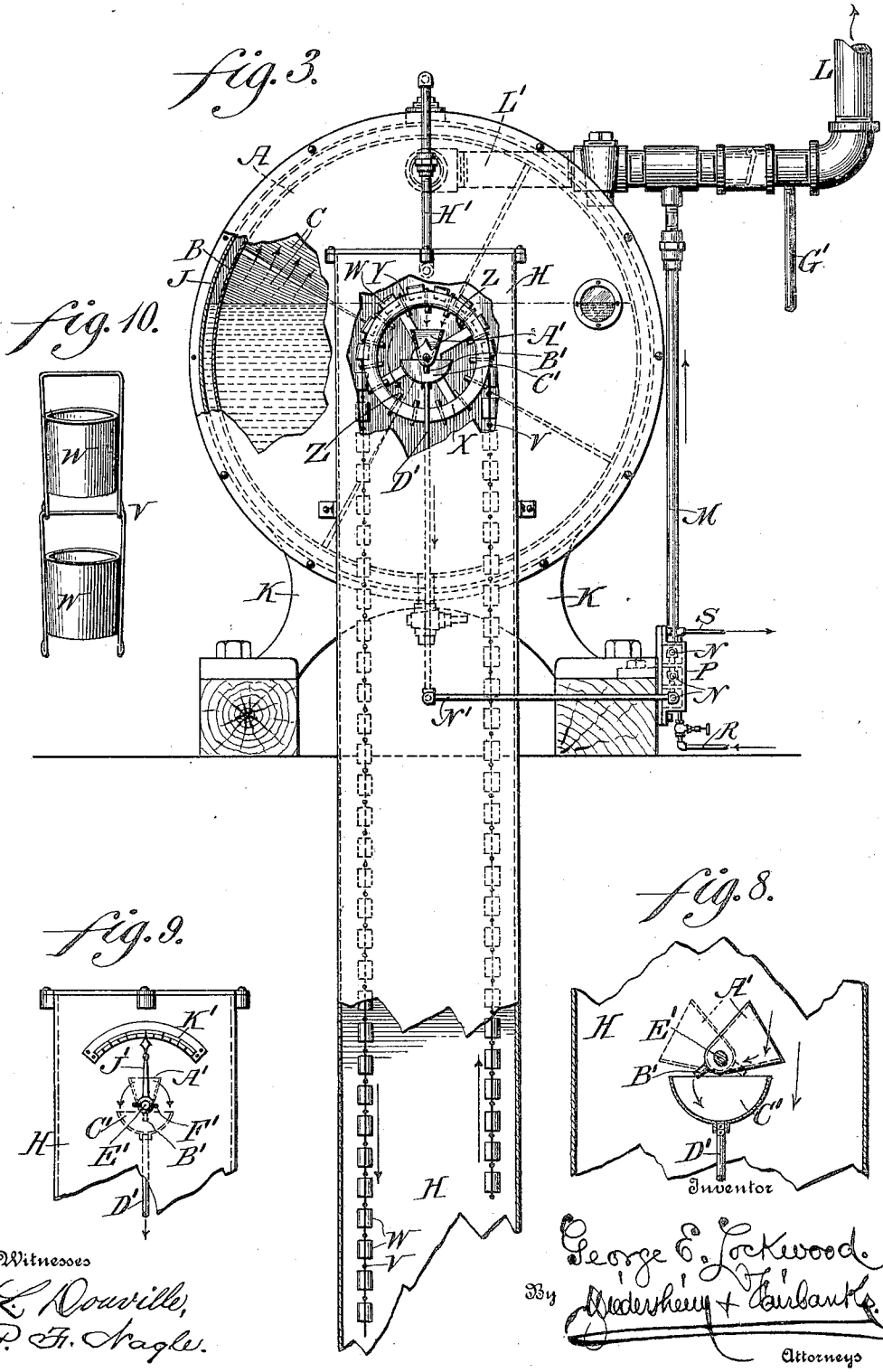


Fig. 10.

Fig. 9.

Fig. 8.

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APPARATUS FOR FEEDING AND VAPORIZING OIL.

No. 828,856. Specification of Letters Patent. Patented Aug. 14, 1906.

Application filed February 14, 1906. Serial No. 300,949.

To all whom it may concern:

Be it known that I, GEORGE E. LOCKWOOD, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Apparatus for Feeding and Vaporizing Oil for Illuminating and other Purposes, of which the following is a specification.

My invention consists of a gas-machine embodying novel features, as will be hereinafter described, and pointed out in the claims.

Figure 1 represents a partial side elevation and partial vertical section of a gas-machine embodying my invention. Fig. 2 represents a similar view at a right angle to Fig. 1. Fig. 3 represents a partial end elevation and partial vertical section of my invention on an enlarged scale. Fig. 4 represents a view of the interior of the gasolene heating or vaporizing device. Fig. 5 represents a vertical section of a detached portion. Fig. 6 represents a side elevation of a portion of the feed-wheel employed. Fig. 7 represents a side elevation of a portion detached from Fig. 1. Fig. 8 represents a vertical section of the feed-adjusting device employed. Fig. 9 represents an elevation of the means for operating said feed-adjusting device from the exterior of the machine. Fig. 10 represents a perspective view of a portion of the buckets and bucket-chain of the machine.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a motor consisting of the rotary drum B, having a series of blades C therein properly spaced apart, as at B′. Between said blades and the adjacent cap or dome B^2 is the elbow D of the air-supply pipe E, said drum having a shaft F, one end of which is mounted on a boss G on the elbow D and its other end being mounted on the well H, which latter will be hereinafter more fully referred to, it being noticed that the drum freely rotates on the horizontal portion of said elbow.

J designates an inclosing casing of the drum B, the same being supported on the legs K or other means in any suitable manner, it being noticed that the pipe E passes through the head of said casing, the inner end of which is connected with the bend D, as aforesaid, it being noticed that said pipe E is adapted to receive air under pressure and that the casing J is supplied with water which partially fills the same and the drum B, as more particularly shown in Fig. 3, it being also noticed that in Fig. 1 the upper end of the bend D is above the water-line.

L designates a gas-discharging pipe, the same being connected with the adjacent end of the casing J, and has attached to it the communicating pipe M, which latter leads from the pipe N, which is inclosed in the box or chest P, to which steam is admitted by the pipe R, the same being discharged by the pipe S, said pipes R S being suitably connected with the proper portions of said chest P, it being evident that the pipes N are adapted to be highly heated, and as gasolene passes through said pipe, said material will be volatilized, in which condition it is passed into the pipe M.

T designates a tank or vessel for containing gasolene in primary condition, the same having connected with it the pipe U, which leads to and communicates with the bottom of the well H, within which latter is an endless chain V, to which are affixed the buckets W, the portions of the chain, and consequently of the buckets, dipping into the gasolene, which is supplied to said well H by said pipe U.

The chain V passes at top around a feed-wheel X, which is mounted on an extension of the shaft F, said wheel having in its periphery a series of pockets Y, into each of which one of the buckets W enters, the bases of said pockets having outlet-spouts Z, which are on the inner side of the wheel X.

Mounted on one of the walls of the well H is a chute A′, the base of which has a nozzle B′, the latter being adapted to discharge into the cup C′, which is also located within said well H, and has connected with the wall of an opening in its bottom the pipe D′, with which latter is coupled the pipe N′, which extends to and is connected with the vaporizing-pipe N in the chest P.

The chute A′ is mounted on the shaft E′, the latter having its bearings in a stuffing-box on one of the walls of the well H, it being noticed that said chute may be turned to the right or left, as shown in Fig. 8, and held by said stuffing-box in its required or adjusted position.

The shaft E′ of the chute A′ has connected with it by the nut F′ the index-finger or pointer J′, back of which is the graduated arc K′, the same being connected with the wall of the well H, by which means the chute A′ may be placed in the proper position for the purpose of discharging the contents thereof into the cup C′, it being also noticed

that the pockets Y of the wheel X are adapted to have their discharge-spouts Z successively brought above said chute A′, as most plainly shown in Fig. 3.

In order to subject the tank T to the pressure of air, I employ the pipe G′, which is connected with said tank and the pipe L, by which provision the gasolene will be forced from the tank T under pressure into the well H, so as to properly supply the same.

The tendency of said pressure might, however, raise the height of the gasolene in said well to an undesirable extent. So in order to counteract this I employ the pipe H′, which is connected at one end with the casing J and at the other end with the top of the well H and directs air under pressure from said casing downwardly into the well, the equalizing effect on the gasolene in the well then being apparent.

While the pipe G′ is employed for equalizing the pressure of the gas in the tank T, as has been stated, it also serves to carry off the condensation in the pipe L and return the same into said tank for reuse.

The operation is as follows: Air is forced into the drum B through the pipe E and elbow D by suitable means, as a blower, (not shown,) and as it impacts itself against the blades C motion is accordingly imparted to said drum to rotate the same, it being noticed that the water in the drum and casing J acts as a seal for well-known purposes. This communicates motion to the wheel X, and consequently to the chain V, whereby the buckets of the latter dipping into the gasolene in the well H lifts said fluid, and when the buckets reach the top of the well they overturn, as shown in Fig. 6, and their contents discharge into the pockets Y, which they occupy, and then the fluid flows from said pockets through the nozzles Z into the chute A′ and from the latter into the cup C′ and pipe D′, the fluid then entering the pipe N′, and consequently the pipe N in the chest P, whereby the fluid is highly heated and vaporized, in which condition it enters the pipe M and is directed into the pipe L, where it mingles with the air directed thereinto from the casing J, the resultant gas then being directed to a place of service.

As the chute A′ may be placed at different inclinations, more or less gasolene may be directed into the same, as apparent in Fig. 8, the surplus that overflows from said chute then returning into the well H, as apparent in Fig. 8.

The pipe N consists of a series of pipes connected by return-bends, so as to provide a lengthened heating-surface for the gasolene to pass through the same.

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

1. In a fluid-feeding apparatus of the character described, a well, a conveyer therein, buckets on said conveyer, a feed-wheel adapted to receive said conveyer, and pockets in said feed-wheel adapted to receive said buckets, said pockets having discharge-openings on the inner side of the wheel.

2. In a fluid-feeding apparatus of the character described, a fluid-feeding device embodying a pocketed wheel, and a chute adapted to have said device communicate therewith, said chute being adapted to have a variable discharge.

3. In a fluid-feeding apparatus of the character described, a fluid-feeding device embodying a pocketed wheel, and a chute adapted to have said device communicate therewith and a well containing said chute and adapted to receive gas-generating fluid, said chute being movable, whereby it may be placed at different angles and variably overflow into said well.

4. In a fluid-feeding apparatus of the character described, a chute, means for feeding fluid thereto, and embodying a pocketed wheel, a well containing said chute, a shaft for said chute, an index-finger carried by said shaft, and graduations adjacent to said finger.

5. In a fluid-feeding apparatus of the character described, an adjustable chute, means for successively feeding fluid thereto in predetermined quantities, a well containing said chute, and means for varying the angle of said chute for adjusting the discharge capacity thereof, said means being on the exterior of said well.

6. In a fluid-feeding apparatus of the character described, a feed-wheel having pockets about its periphery and an outlet for each pocket on the interior of the wheel.

7. In a fluid-feeding apparatus of the character described, a well and a chute pivotally mounted in said well to turn to discharge its contents to either side of the vertical line through its pivot, and having discharge-openings near its center at its base.

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