Nov. 8, 1932. F. L. BADGETT 1,887,393

SIGHT FEED DEVICE

Filed June 17, 1930

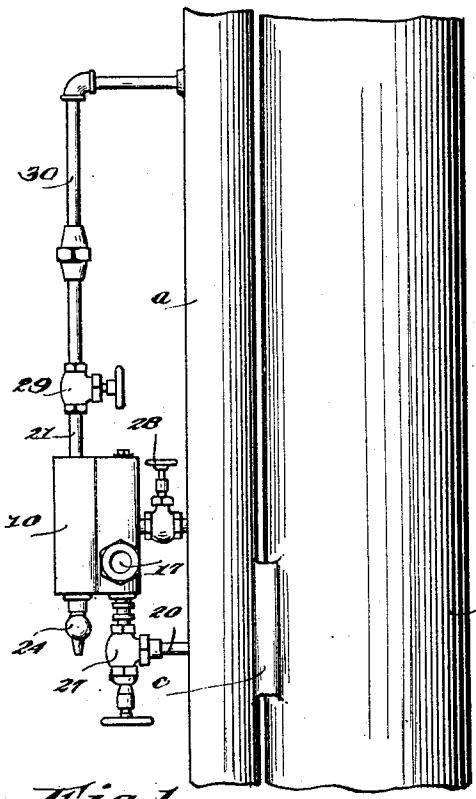


Fig. 1.

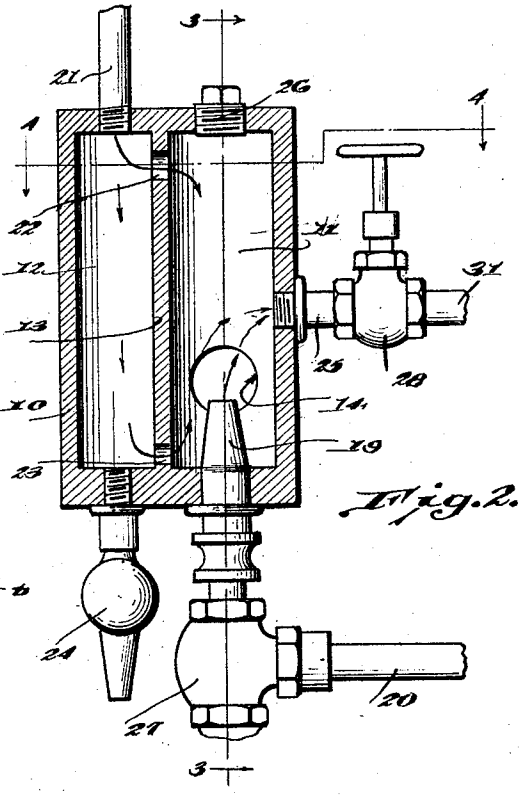


Fig. 2.

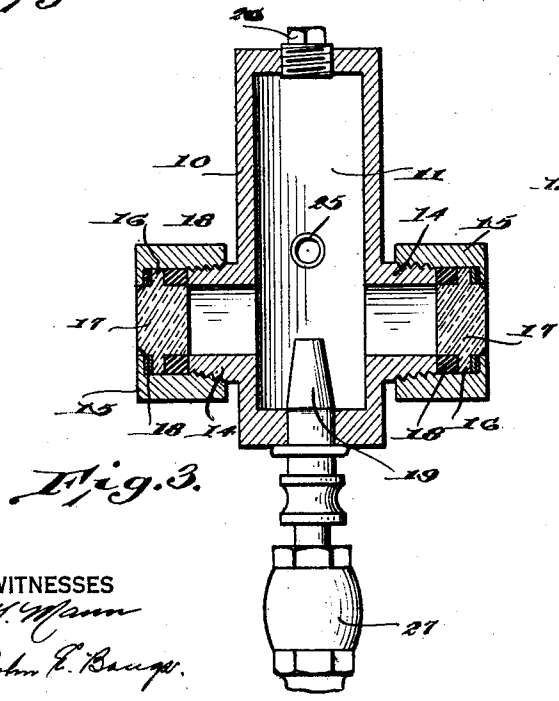


Fig. 3.

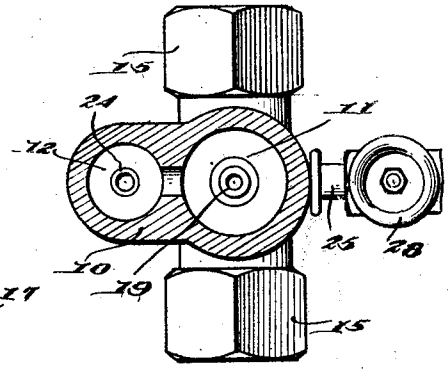


Fig. 4.

WITNESSES

H. Mann

John E. Burgo.

INVENTOR

F. L. Badgett,

BY Munn & Co.

ATTORNEY

Patented Nov. 8, 1932

1,887,393

UNITED STATES PATENT OFFICE

FRED LEE BADGETT, OF CHICKASHA, OKLAHOMA; BILLIE B. BADGETT, ADMINISTRATRIX OF THE ESTATE OF SAID FRED L. BADGETT, DECEASED

SIGHT FEED DEVICE

Application filed June 17, 1930. Serial No. 461,778.

This invention appertains to improvements in sight feed devices generally and more particularly to a type thereof adapted for use in connection with steam lubricators of the class as set forth in my co-pending applications (1) filed July 26, 1927 (Serial No. 208,636), (2) filed January 25, 1929 (Serial No. 335,077); and (3) filed June 17, 1930 (Serial No. 461,777).

An object of the invention is to provide a sight feed device, through which a supply of lubricant is passed to a point of use, which is of a construction and arrangement to facilitate the passage of the lubricant therethrough in a manner that the bull's-eye or sight windows, through which the flow of lubricant is to be observed, will not become filmed with the lubricant or otherwise rendered opaque or translucent to the sight of the observer over comparatively long periods of operation of a steam lubricator or the like with which the device is employed.

Another object of the invention resides in the provision of means whereby a supply of steam is admitted to the interior of the sight feed device to heat the same in order that the lubricant will remain in a fluid condition in its passage therethrough and as a consequence whereof will not tend to contact and film the bull's-eyes or sight windows aforesaid.

A further object of the invention is to so construct the sight feed device that the steam admitted to the interior of the same will be at least partially condensed in order that a supply of water will be maintained in the lower part of the said interior and of a depth sufficient to cover the bull's-eyes or sight windows and thereby act as an added preventative against the obscuring or clouding of the latter by the lubricant feed through the device.

With the foregoing and other equally important objects and advantages in view, the invention resides in the certain new and useful combination, construction and arrangement of parts, as will be hereinafter more fully described, set forth in the appended claims, and illustrated in the accompanying drawing in which:—

Figure 1 is a side elevation of a practical embodiment of the improved sight feed device as it appears when installed on a steam lubricator, the latter being shown in fragmentary side elevation,

Figure 2 is an enlarged vertical section through the sight feed device per se,

Figure 3 is a vertical transverse section taken on the line 3—3 of Figure 2, and

Figure 4 is a horizontal section taken on the line 4—4 of Figure 2.

Referring to the drawing, wherein like characters of reference designate corresponding parts throughout the several views thereof, the embodiment of the invention, as shown therein by way of example only, is constituted in a body 10, preferably of cast metal or the like, which has its interior hollowed out to form a sight feed compartment 11 and a steam receiving compartment 12, the two compartments being separated by a partition wall 13 extending vertically within the body.

Formed in the opposite sides of the lower end portion of the sight feed compartment 11 are outwardly nippled aligned sight openings 14, which are each exteriorly screw threaded to receive a clamp nut 15 thereon. These clamp nuts 15 are each counter-bored outwardly of their inner ends to a diameter substantially equal to the exterior diameter of a nipple 14 in order to clamp the annular flange portion 16 of a sight lens or bull's-eye 17 between the outer end of the nipple 14 and the similar ends of the counter-bore aforesaid. Interposed between the opposite sides of each flange 16 and the opposed portions of adjacent nipple 14 and nut 15 are compressible washers or the like 18 which act to protect the flange 16 against breakage, as well as to prevent leakage of water or oil outwardly of the nipple openings 14.

Projecting inwardly of the bottom wall of the compartment 11 is a lubricant discharge nozzle 19 which has its outer end provided with a pipe connection 20 leading to a lubricant supply reservoir (not shown) and its inner end terminating substantially in the horizontal plane defined by the lower sides of the aligned sight openings 14, so that

the discharge of lubricant therefrom may be readily observed through the latter.

Steam is admitted to the compartment 12 preferably from a steam pipe connection 21 opening inwardly of the top wall thereof, while a portion of the same is permitted to pass directly into the upper side of the compartment 11 through an opening 22 formed in the partition wall 13 toward its upper end. Steam filling both compartments 12 and 11 is partially condensed therein and the water therefrom will pass to the lower side of the body to a common level therein by reason of an opening 23 being formed in the partition wall toward its lower end. A drain cock or the like 24 is secured in the lower wall of the compartment 12 in order to draw off the fluid content of the two compartments 11 and 12 as occasion may require.

An outlet pipe 25 leads from one side of the compartment 11 for conveying the lubricant from the sight feed device to a point of use, while a removable plug 26 is provided in the top wall of the compartment 11 to give access to the interior of the latter at a point above and in line with the upper end of the lubricant discharge nozzle 19. The position of the lubricant outlet pipe 25 in the side wall of the compartment 11 of course will determine the normal level of the water, which, as shown, will be well above the upper sides of the bull's-eyes or sight windows 17.

As shown, the nozzle 19 will preferably have a lubricant control valve 27 interposed between the outer end of the same and the adjacent end of the supply pipe 20, and similarly the outer end of the lubricant outlet pipe 25 will also connect a control valve 28.

In the preferred use of the sight feed device as thus constructed and arranged and particularly illustrated in Figure 1, the steam pipe 21 will lead to and connect a control valve 29, which, in turn, is connected by a pipe assembly 30 to a usual steam supply line *a*, while the lubricant outlet control valve 28 is connected by a short pipe section 31 to the steam supply pipe *a* at a point between the connection therewith of the steam pipe 30 and the machinery to be operated by the steam passing through the same. Similarly, the lubricant inlet control valve 27 is connected by the pipe 20 to a lubricant supply reservoir *b*, which, as shown in Figure 1, is supported directly from the steam supply line *a* by means of a metal connection *c*, through which heat is transmitted from the latter to the reservoir *b* in order to keep the lubricant in free flowing fluid condition at all times.

In operation, a sufficient amount of water will be placed within the body 10 of the device to fill the same to the level of the lubricant outlet 25. This will be done by removing the plug 26 from the opening in the top wall of the compartment 11. After replacing the plug 26, the control valves 27, 28 and 29 will be opened, when the lubricant will be discharged from the nozzle 19 upwardly through the water in the compartment 11, in direct line with the bull's-eyes or sight windows 17, from whence it will pass outwardly of the outlet 25.

The steam admitted to the compartment 12 will be partially condensed therein and will thus maintain the level of the water in the compartment 11 through the lower opening in the partition 13, while a portion of the same will pass directly to the upper side of the compartment 11 through the opening in the upper side of the partition, where it will intimately contact the lubricant to maintain its fluidity and act to forcibly eject it from the level of the water outwardly through the outlet and into the steam supply line *a*.

With this understanding of the invention, it will be readily apparent (1) that the sight feed provided for cannot fail, since the water covering the bull's-eyes or sight windows 17 is constantly changed by the condensation in the steam condensing line, formed by the pipes 21 and 30 and the control valve 29, and in the compartment 12, passing into the compartment 11; (2) that vibration will not affect the sight feed since the lubricant is floated on the water level and is thereby prevented from striking the side walls of the compartment 11 below that level; (3) that the lubricant cannot spill and stand in the sight feed by reason of the live, dry steam being admitted to the compartment 11 from the compartment 12 above the level of the water and thereby making the feed substantially self-heating and self cleaning; and (4) that the needle-point valve or nozzle 19 at the lower side of the compartment 11 can be readily and instantly regulated to vary the amount of lubricant to be fed upwardly through the body of water, from a few drops to a constant stream.

Without further description, it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention or its scope as claimed.

I claim:

1. A sight feed device for steam lubricators and the like comprising a hollow body, a vertical partition dividing the interor of said body into compartments, said partition having an opening in each of its upper and lower end portions to establish communication between the said compartments, means for admitting steam into the upper end portion of one of said compartments to heat the body and to form a body of water in both compartments by condensation, a lubricant

outlet in a side wall of the other of the said compartments substantially in the plane of the level of the water therein, means for discharging a lubricant upwardly of the said other compartment and through the water therein for subsequent discharge from said outlet and aligned sight windows in opposite side walls of the said other compartment and below the level of the water therein.

2. A sight feed device for steam lubricators and the like comprising a hollow body, a vertical partition dividing the interior of said body into compartments, said partition having an opening in each of its upper and lower end portions to establish communication between the said compartments, means for admitting steam into the upper end portion of one of said compartments to heat the body and to form a body of water in both compartments by condensation, a lubricant outlet in a side wall of the other of the said compartments substantially in the plane of the level of the water therein, a nozzle projecting inwardly of the bottom wall of the said other compartment for discharging a lubricant upwardly of the said other compartment and through the water therein for subsequent discharge from said outlet and aligned sight windows in opposite side walls of the said other compartment and below the level of the water therein.

3. A sight feed device for steam lubricators and the like comprising a hollow body, a vertical partition dividing the interior of said body into compartments, said partition having an opening in each of its upper and lower end portions to establish communication between the said compartments, means for admitting steam into the upper end portion of one of said compartments to heat the body and to form a body of water in both compartments by condensation, a lubricant outlet in a side wall of the other of the said compartments substantially in the plane of the level of the water therein, a nozzle projecting inwardly of the bottom wall of the said other compartment for discharging a lubricant upwardly of the said other compartment and through the water therein for subsequent discharge from said outlet, means for controlling the rate of flow of the lubricant through said nozzle and from said outlet, and aligned sight windows in opposite side walls of the said other compartment and below the level of the water therein.

4. A sight feed device for steam lubricators and the like comprising a hollow body, a vertical partition dividing the interior of said body into compartments, said partition having an opening in each of its upper and lower end portions to establish communication between the said compartments, means for admitting steam into the upper end portion of one of said compartments to heat the body and to form a body of water in both compartments by condensation, a lubricant outlet in the outer side wall of the other of the said compartments substantially in the plane of the level of the water therein, a nozzle projecting inwardly of the bottom wall of the said other compartment for discharging a lubricant upwardly of the said other compartment and through the water therein for subsequent discharge from said outlet, means for controlling the rate of flow of the lubricant through said nozzle and from said outlet, means at the lower end of the first mentioned of said compartments for draining the interior of said body and aligned sight windows in opposite side walls of the said other compartment and below the level of the water therein.

5. A sight feed device for steam lubricators and the like comprising a hollow body, a vertical partition dividing the interior of said body into compartments, said partition having an opening in each of its upper and lower end portions to establish communication between the said compartments, means for admitting steam into the upper end portion of one of said compartments to heat the body and to form a body of water in both compartments by condensation, a lubricant outlet in the outer side wall of the other of the said compartments substantially in the plane of the level of the water therein, a nozzle projecting inwardly of the bottom wall of the said other compartment for discharging a lubricant upwardly of the said other compartment and through the water therein for subsequent discharge from said outlet, means for controlling the rate of flow of the lubricant through said nozzle and from said outlet, means at the lower end of the first mentioned of said compartments, for draining the interior of said body, aligned sight windows in opposite side walls of the said other compartment and below the level of the water therein, and a normally closed inlet in the upper end of the said other compartment for the introduction therethrough of an initial supply of water to be supplemented and maintained by the water of condensation from the first named compartment.

FRED LEE BADGETT.