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3,134,658

BREATHER TRAP

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1 Claim. (Cl. 55-441)

This invention relates to breather devices for crankcases of internal combustion engines and the like, and more particularly to a breather having a trap to collect fluid particles entrained with gas being vented.

It is an object of this invention to provide a structure for a crankcase breather easily manufactured, inexpensive and efficient.

Other objects and the advantages of the construction will be in part obvious and in part pointed out hereinafter.

The drawing illustrates an improved and preferred embodiment.

FIGURE 1 is an end view of the breather trap taken from the inlet side,

FIG. 2 is a longitudinal section taken along the line 2-2 looking in the direction of the arrows,

FIG. 3 is a cross section taken along the line 3-3 looking in the direction of the arrows, and

FIG. 4 is a sectional view taken along the line 4-4 looking in the direction of the arrows.

Referring to the drawing, the internal combustion engine breather trap of the invention is in this instance constructed of tubes and plates, mainly, put together in such a way as to be rigid, not easily damaged and put together with a minimum of time and effort. To this end the main body of the trap is formed of a cylindrical tube 10 blanked at one end by a plate 12 held in place by welding at its outer edge as shown at 14. The other end of the chamber casing 10 is likewise provided with a plate 16 welded in place and of substantial thickness to receive and support an inlet tube 18, plate 16 being provided with a circular recess to fit closely the inlet tube or conduit 18 as shown at 20, the two parts being welded together. Inlet tube or conduit 18 is flanged as at 22 for connection with a crankcase (not shown).

The outlet which is to be connected to a stack 24 serves a double purpose as is here formed, not only as an outlet but as a baffle to direct condensate or rainwater draining back from stack 24 into tube 34 and to prevent condensate and rainwater from entering casing 10. For this purpose the upper side of casing 10 is provided with a circular opening 26 to receive a tubular member 28 welded into an orifice 26 and extending therethrough and well into the interior of casing 10 perpendicular to the axis of conduit 18. For connection to stack 24, tubular outlet 28 is provided with a sturdy flange 30 which can be formed of a suitable piece of plate material.

Interposed between the tubular outlet 28 and the inlet orifice 20 is positioned a baffle 32 consisting of a semi-circular plate perpendicular to the axis of inlet conduit 18. Still another baffle is formed by a cylindrical tube 34 extending into casing 10 from the bottom at a hole 36 at which casing 10 and baffle 34 are welded. Baffle 34

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extends upwardly above the lower edge of tubular outlet 28 and above the lower edge of the straight baffle 32. The lower end of the tubular baffle 34 is closed by a plate 38 welded in place.

Positioned between baffle 32 and the hole 20 is a perforated plate 40 preferably acting as a diffuser to cause gas into chamber 10 from inlet conduit 18 to spread evenly throughout the inner area of casing 10 and additionally to catch a large part of whatever droplets of lubricating oil may be entrained in the gas.

It will be seen that such gas entering through inlet conduit 18 will first impinge on the diffuser 40 by which a large amount of the entrained liquid will be caught and drop to the bottom of casing 10 from either side of the diffuser, and then pass in a relatively straight stream in the direction of baffle 32 by which the direction of flow will be changed to pass upwardly and about the upper edge of the tubular baffle 34. Not being able to pass out at the outlet directly the stream of gas will be deflected by the outlet-baffle 28 downwardly toward the bottom of the chamber formed by the circular baffle 34. However, in order to get out at the stack 24 the stream will again turn upwardly. In the course of the various turnings and due to the velocity of such gas, maintained because of the relatively small cross sectional area of the stream, particles of the liquid lubricant will impinge on the baffle surfaces and drop to the bottom of the casing 10 where it will be drained back by a pipe 42 attached to casing 10 at a hole 44 in the bottom of the casing or at least at a low point thereof and straddling in this instance the diffuser 40. Condensation inside baffle 34 can be removed at a drain 46 usually closed by plug 48.

Thus, by the above construction are accomplished, among others, the objects hereinbefore referred to.

I claim:

A crankcase breather trap comprising a tubular casing, a tubular inlet conduit coaxial with said casing and sealingly mounted thereon, a tubular outlet extending transversely into said chamber, a cylindrical baffle in said casing coaxial with and encircling said outlet, said baffle being open at the top to the interior of said casing, a perforated diffuser plate positioned transversely in said casing between said baffle and said inlet conduit, a second baffle across the upper portion of the casing and extending below the top of said cylindrical baffle and positioned parallel to said diffuser and between the tubular baffle and the diffuser, and a drain at a low point of said casing outside said cylindrical baffle.

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2,090,309

DUAL-ACTUATING UNLEAKABLE FAUCET

Giles E. Ripley, Fayetteville, Ark.

Application October 15, 1936, Serial No. 105,724

4 Claims. (Cl. 251—20)

This invention relates to faucets, to valves, and to valve-actuators, and especially to an improved faucet, that is, a dual actuating, un-leakable faucet.

5 One object of this invention is to provide, in a faucet, an improved, positive and practical two-way valve-actuator which enables the valve to close when operated by merely pushing or depressing and releasing, and which prevents the valve from closing when the valve actuator is rotated or turned and not returned to its normal position.

Another object is to provide an improved faucet that has no need of packing around its valve-stem to prevent leakage around the valve stem or around the actuator, inasmuch as the flow of liquid through the restricted-throat (hereinafter described) creates an inward suction of air which repels any tendency which the liquid might possibly have to press through the joint around the valve-stem.

Another object is to provide in a valve, an actuating means or manipulator which is adjustable to an infinite number of positions for holding the valve in an infinite number of positions between the closed and wide-open positions, so as to regulate the flow to any desired rate between the minimum and maximum rate of flow.

Another object is to provide a valve-actuator that is operable to quickly stop any leakage around the valve-closure, in case such leakage is caused by an obstruction such as a gravel or grain of sand in the valve, by depressing the actuator and quickly releasing it, so the impact either displaces the obstruction, crushes it, or imbeds it in the conformable valve-seat.

Another object is to provide an improved faucet that is not only thoroughly practical from a standpoint of the users, but also thoroughly practical from the standpoints of the manufacturer and dealer, inasmuch as it consists of very few essentially separate or originally separate parts, so it can be manufactured at a low production-cost and can be sold at good profits for manufacturer, distributors and retailers, while retailing at a reasonable price to the user.

Other objects and important features are pointed out or implied in the following details of description, in connection with the accompanying drawing in which:

Fig. 1 is a view mainly in central vertical section, only parts of the valve-stem and actuator being in side elevation.

Fig. 2 is a front elevation, as seen from the right of Fig. 1 when the inner element of the

dual-actuator is omitted or removed, the normal position of the actuating lever or handle being indicated in a dot-dash line bowed at its upper extremity.

Fig. 3 is a bottom plan view of the externally threaded outer actuating element, considering Figs. 1 and 2 to show the normal position of the faucet, parts of the inner actuating element herein also being shown in full and dotted lines, and the assembling position (hereinafter described) being indicated in dot-dash lines.

Fig. 4 shows a fragment of the actuating lever, a plan view thereof considering Figs. 1 and 5 as showing it in its normal position.

Fig. 5 is a side elevation of the inner actuating element having its handle broken off, that is, a fragmental view of the actuating lever removed from the outer actuating element.

Fig. 6 is a vertical cross-sectional view, the section being along the line 6—6 of Fig. 1.

Referring to the drawing in detail, in which similar parts are referred to by similar reference numerals in the drawing and following specification, the invention is described in detail as follows:

The seven primarily or initially separate parts of the faucet are the main body 10, the valve-seat 11, the valve-member 12, the valve-guide 13, the valve-lever or inner actuator 14, the outer actuating element 15, and the single securing and limiting element or screw 16.

The main body 10 is formed with any appropriate means for securing it to a liquid container, for instance, screw-threads 17, and with a shoulder 18 on which the annular valve-seat is disposed, this valve seat 11 being of leather or any other appropriate conformable material. The body 10 also includes a tubular part 19 in which the valve-seat is disposed near the inlet end, said tubular part including the spout or liquid outlet 20. Considering the axis of rotation of the body 10 when being threaded at 17 or at 21, or the axis of rotation of a boring tool in making the bore 22 in the body 10, it is seen that this bore 22 is axially aligned with the cylindrical cavity 23 that is surrounded by the screw-threads 21 and that is directly in open communication with an arcuate channel or groove 24 into which the screw or limiting element 16 extends from the member 15 (see Fig. 2).

The member 15 is apertured and screw-threaded at 25 (Fig. 2) to receive the screw 16 when in normal position of the latter, but the latter may be retracted so as to permit the member 15 to be screwed into the internally

UNITED STATES PATENT OFFICE.

GILES EMMET RIPLEY AND WILLIAM N. GLADSON, OF FAYETTEVILLE, AND ROSS EMILE THOMPSON, OF HEBER, ARKANSAS.

PROJECTING APPARATUS FOR MOVING-PICTURE MACHINES.

1,091,864.

Specification of Letters Patent.

Patented Mar. 31, 1914.

Application filed November 21, 1911. Serial No. 661,579.

To all whom it may concern:

Be it known that we, GILES E. RIPLEY and WILLIAM N. GLADSON, residents of Fayetteville, in the county of Washington and State of Arkansas, and ROSS E. THOMPSON, a resident of Heber, in the county of Cleburne and State of Arkansas, all citizens of the United States, have invented a new and Improved Projecting Apparatus for Moving-Picture Machines, of which the following is a full, clear, and exact description.

The invention is an improvement in projecting apparatus for moving picture machines, and has in view a reflecting mechanism to cause the image of one picture to dissolve into the next without employing a tinted or softening light, or otherwise lessening the brilliancy of the screen during the picture change, and this invention is regarded as an improvement over our device patented April 30, 1912, No. 1,025,074. We accomplish this object by disposing a number of reflecting mirrors upon the inner face of a revolving wheel, which wheel is in the shape of the frustum of a pyramid, and receives the images at an angle to the axis of the wheel and at an angle to the plane of the wheel. Each reflecting member, as it moves through the active portion of its path of travel, causes the reflected rays to travel across the screen at the same time that a picture on the film is moving through the cone of light from the condensing lenses, thereby holding the field on the screen stationary, and causing one picture to dissolve into the next. If the successive pictures on the moving film are identical, the reflected pictures on the screen will be stationary, but if the successive pictures on the film show a change of position of the object photographed, the reflected pictures will show a like change. Each reflecting member, as it moves into an active position, sends its part of the picture to the screen at the point where the picture of the advanced active member is just dissolving.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the views, and in which—

Figure 1 is a transverse sectional view through a reflecting wheel, showing a preferred embodiment of our invention, with the essential projecting features shown in elevation; and Fig. 2 is a plan view, looking down upon the device shown in Fig. 1.

For the purpose of illustrating the nature and application of our invention, we have shown diagrammatically the prime features of a moving-picture machine, in which 5 is a source of light, 6 the condensing lens, 7 the projecting lens, and 8 the film passing between the two sets of lenses over the guide rollers 9. To cause one picture to dissolve into the next on the screen 10 without softening or tinting the light, or otherwise lessening the brilliancy of the light on the screen, we provide a reflecting mechanism, comprising a series of mirrors or other reflecting members 11, which are arranged relative to the machine, to successively pass into active position with respect to the rays from the lens 7, the mirrors being guided in a curved path in passing through the sphere of their travel, the radius of which curve depends on the position of the mirrors in the path of light and the focal length of the lenses. To carry out this mode of operation, the reflecting members are set at an angle to and extend from one side of the periphery of a revolving wheel 12, which wheel is mounted upon an actuating shaft 13 by any suitable mechanism, as by means of a bearing plate 14. All of these mirrors are plain, are in contact along their longitudinal edges 15, and together form, in effect, the inner surface of a wheel in the form of the frustum of a pyramid. The angular disposition of these mirrors with reference to the plane of the wheel may be varied from 90° to nearly 180°, depending



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(11) CA 139338

(54) MOVING PICTURE MACHINE

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ABSTRACT
 CLAIMS [Show all claims](#)

*** Note: Data on abstracts and claims is shown in the official language in which it was submitted.

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