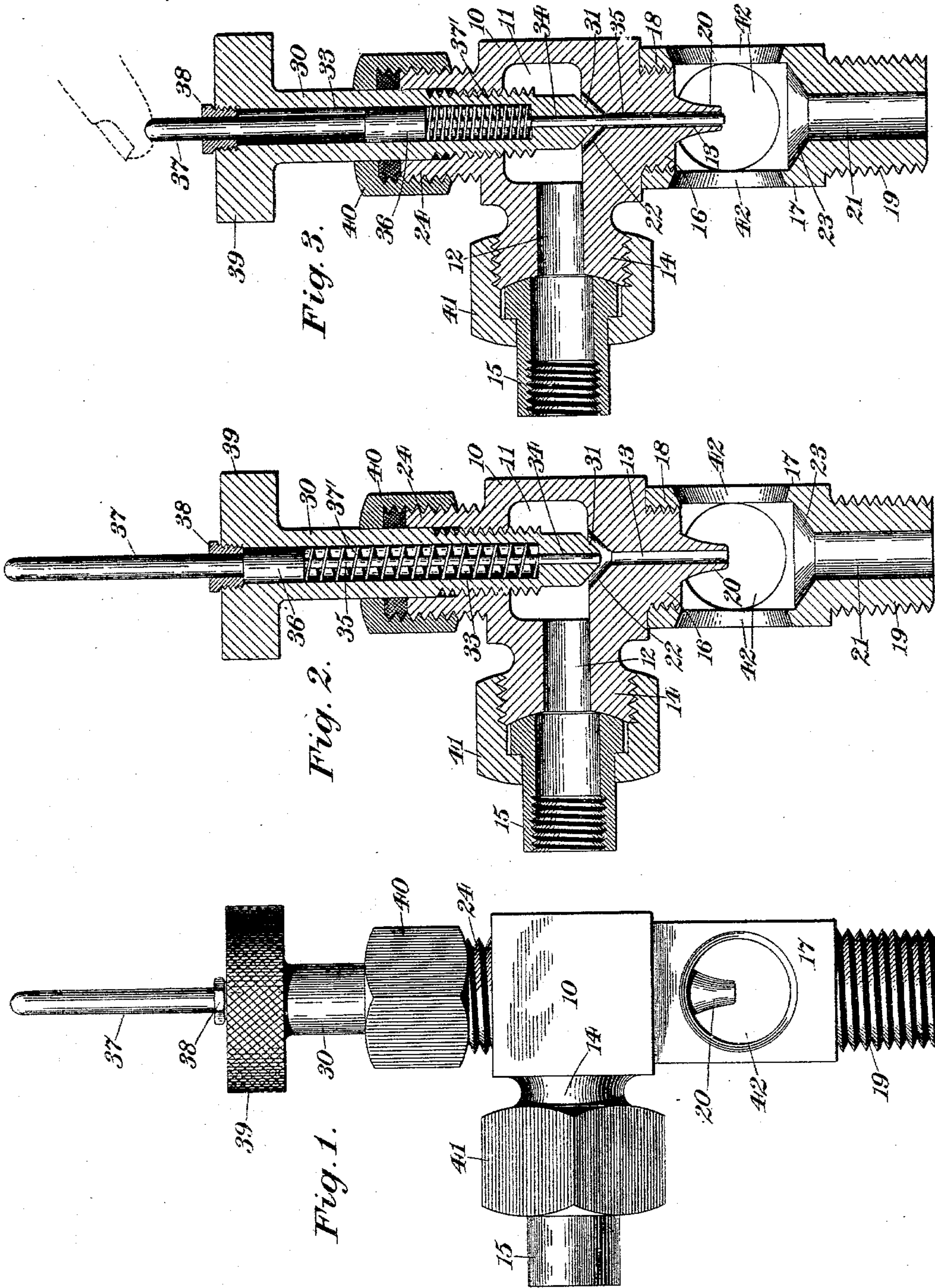


(No Model.)

F. CAUM.
LUBRICATOR.

No. 564,970.

Patented Aug. 4, 1896.



Witnesses:

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UNITED STATES PATENT OFFICE.

FRANK CAUM, OF HARTFORD, CONNECTICUT.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 564,970, dated August 4, 1896.

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To all whom it may concern:

Be it known that I, FRANK CAUM, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Oil-Feed Devices or Lubricators, of which the following is a specification.

This invention relates to an improved oil-feed device or lubricator, and more particularly to means for clearing or freeing the feed duct or passage from accumulations of gum or foreign particles; and the object of the invention is to provide an improved device of this character, whereby the oil duct or passage can be quickly and easily freed from the foreign particles that may settle therein, whereby the detachment or separation of the parts of the device for this purpose is rendered unnecessary.

In the drawings accompanying and forming part of this specification, Figure 1 is a view of this improved oil-feed device or lubricator having means whereby it is adapted for attachment to the bearing of a journal and to a supply-conductor of an oil-distributing apparatus. Fig. 2 is a vertical sectional view thereof, showing the oil-duct-clearing means in inoperative position. Fig. 3 is also a vertical sectional view thereof, showing the oil-duct-clearing means in operative position to clear the oil-feed duct or passage.

Similar characters of reference designate like parts in all the figures of the drawings.

In oil-feed devices or lubricators of this character heretofore in use, when the oil duct or passage becomes clogged, which is frequently the case, owing to the nature of the lubricant used, in order to clear such oil-duct and free the same from the foreign particles that have settled therein, it has been necessary to separate the various parts of the device so as to reach such duct or passage, thus causing the loss of considerable time and labor. In order to obviate these disadvantages, I have provided an improved means whereby the oil duct or passage can be quickly and effectively cleared and freed from the clogging materials.

This improved lubricator is adapted for use in connection with suitable oil-distributing devices or systems, although it will be

understood that it might be constructed for use independently thereof, in which case it would simply be necessary to form the oil-chamber somewhat larger, in order to constitute an oil-reservoir adapted to hold a sufficient quantity of oil at one time, and to supply such reservoir adjacent to the top rather than at the side thereof; but, for the purposes of this description, the device will be described as adapted for use in connection with an oil-distributing apparatus; and it comprises, in a general way, a chambered casing having an oil-inlet and an oil-outlet, together with means whereby it can be placed in position for use, said casing carrying the oil duct or passage clearing means operable to free the same from accumulated matter.

In the preferred form thereof herein shown and described, this improved oil-feeding device or lubricator comprises a suitable casing 10, having an oil-chamber 11, an oil-inlet 12, and an oil-outlet in the nature of a duct or passage 13.

The casing 10 is provided adjacent to the inlet 12 with suitable means—such as a screw-threaded extension 14—whereby the device can be coupled to the supply-pipe 15 of an oil-distributing apparatus or system, and, adjacent to its outlet, with suitable means—such as a screw-threaded extension 16—for the attachment of a coupling member 17, whereby the device can be secured to the engine or machine in connection with which it is to be used.

The coupling member 17 is interiorly screw-threaded at its upper end 18 to engage the screw-threaded extension 16 of the casing; and it is provided with an exteriorly-threaded extension 19 at its lower end, whereby it can engage the interior screw-threads of a shaft-bearing or other part of a machine. It will be understood, however, that any other suitable means might be used for securing this improved device in operative position.

The oil-duct 13 extends from the chamber 11 through the casing 10, and preferably terminates in a nozzle 20 above a suitable channel or opening 21, extending through the coupling member 17, whereby the oil is conducted to the shaft or bearing. At the upper end of the oil-duct the casing has a suitable funnel-shaped opening 22, forming a valve-seat for

the valve, (hereinafter set forth,) and at the upper end of the channel 21 the coupling member also has a suitable funnel-shaped opening 23, by means of which openings 22 and 23 the oil is conducted into the passages 13 and 21, respectively.

The casing 10 above the oil-chamber 11 is preferably provided with a suitable exteriorly and interiorly threaded tubular extension 24 for the attachment of the oil duct or passage clearing means.

In the preferred form thereof herein shown and described this improved means for clearing the oil-duct of accumulations of gum and foreign particles, and thereby preventing the clogging thereof, and thus permitting the free and uninterrupted passage of the oil, comprises a supporting member preferably comprising a stem 30, extending through the tubular extension 24, and having exterior screw-threads adapted to engage the interior threads of said extension, and in one construction thereof terminating in a suitable cone-shaped end whereby it may form a valve 31, adapted to engage the valve-seat 22. This stem is provided with a suitable elongated chamber 33, opening at the upper end thereof and terminating adjacent to its lower end, and with a central longitudinal opening or perforation 34, extending from the lower end of the chamber to the lower end of the stem.

Disposed in the chamber 33 and extending through the opening 34 thereof is a suitable plunger in the nature of a rod 35, having a shoulder 36, adjacent to its upper end, and having a rod or handle 37, projecting beyond the stem for actuating said plunger. Intermediate of the lower end of said chamber and the shoulder 36 is disposed a suitable spiral spring 37', whereby the plunger will be held in position with its end flush with the lower end of the stem or valve.

As a means for closing the stem-chamber 33, and also for preventing the plunger from being forced from the chamber, a suitable interiorly-bored and exteriorly-threaded removable plug 38 fits into the upper end of the chamber, and forms an abutment for the shoulder 36.

Formed at the upper end of the stem is a milled head 39, whereby the stem and its valve can be adjusted toward and from the valve-seat of the oil-duct, and thereby regulate the supply of oil to such duct, and also close the same against the passage of oil, if desired.

In order to prevent the exit of oil from the upper portion of the casing around the stem, a suitable interiorly-threaded cup-shaped cap 40 fits around said stem and engages the exterior threads of the extension 24, suitable packing being interposed between the upper end of said extension and the cap.

In the use of this improved oil-feed device or lubricator it is secured in position by means of the extension 19 of the coupling member 17, fitting, for instance, within the

bearing of a shaft, and the supply-pipe 15 is coupled adjacent to the oil-inlet 12 by any suitable coupling, as 41, whereby oil can be fed into the chamber 11, and from thence to the duct or passage 13 and to the shaft or bearing.

When the oil duct or passage 13 becomes clogged and it is desired to free or open the same, the plunger 35 is depressed, Fig. 3, against the action of its spring 37', whereby it will pass through said oil duct or passage 13, and remove the accumulated matter therefrom, and thoroughly clear the same for the passage of the oil therethrough, and thus obviate the necessity of uncoupling the various parts of the device in order to be able to reach said oil duct or passage.

When it is desired to regulate the supply of oil, the feed of which can be ascertained by means of the sight-openings 42 in the coupling member, the stem is adjusted by means of its head 39 to permit the valve to move toward or from its seat, whereby the passage of oil to the oil duct or passage will be regulated.

If it is desired to stop the feed of the oil, it is simply necessary to seat the valve in its seat, whereby the passage of oil to the duct is prevented.

By means of this improved oil-feed device or lubricator, embodying means for freeing the oil-duct from foreign particles and thereby preventing the lubricant from clogging the same, said duct or passage can be quickly and easily cleared at all times to permit the free and uninterrupted passage of the oil therethrough, whereby the necessity of detaching or separating the various parts of the device in order to reach the oil-duct is obviated.

Having described my invention, I claim—

1. A lubricator comprising a chambered casing having an oil inlet and outlet duct or passage; a valve carried by said casing and having an opening extending therethrough; a plunger carried by said valve and having its lower end in position to enter said oil-passage and having its upper end projecting beyond said valve, said plunger having a shoulder thereon; and a spring intermediate said shoulder and the lower wall of said valve for actuating said plunger in one direction.

2. The combination of a chambered casing having an oil-inlet and an outlet duct or passage; means for regulating the feed of the oil; and independent reciprocative means carried by said feed-regulating means, and operable to clear said duct or passage from accumulated matter.

3. A lubricator comprising a chambered casing having an oil-inlet and an outlet duct or passage; a valve operative to regulate the feed of the oil; independent means operable within said valve to clear said duct or passage from accumulated matter; and a spring for actuating said passage-clearing means in one direction.

4. The combination of a chambered casing having an oil-inlet and an outlet duct or passage; means for regulating the feed of the oil; and independent means carried by said feed-regulating means and disposed outside of said outlet duct or passage, and operable to enter and clear said duct or passage.

5. The combination of a chambered casing having an oil-inlet and an outlet duct or passage, and having a valve-seat at the upper end of said outlet-passage; a stem carried by said chamber, and having its lower end adapted to engage the valve-seat to regulate the feed of oil through said passage; a plunger carried by said stem, and operable to clear the said duct or passage, and means for actuating said plunger in one direction.

6. The combination of a chambered casing having an oil-inlet and an outlet duct or passage, the latter having a valve-seat at its upper end; a chambered stem carried by said casing, and operable to have its lower end engage the valve-seat; a plunger carried by said stem, and having a shoulder; an actuating-rod projecting from said stem; and a spring in said chamber, and in engagement with said shoulder.

7. A lubricator comprising a chambered casing having means adapted for attachment to a machine or engine, and means adapted for attachment to the supply-conductor of an oil-distributing apparatus or system, and having an oil-inlet and an outlet duct or passage, and a valve-seat at the upper end of said outlet duct or passage; a stem carried by said casing and operable to have its lower end engage the valve-seat; a plunger carried by said stem, and operable to clear said outlet duct or passage, and a spring for actuating said plunger in one direction.

8. A lubricator comprising a chambered casing having means adapted for attachment to a machine or engine, and means adapted for attachment to the supply-conductor of an

oil-distributing apparatus or system, and having an oil-inlet and an outlet duct or passage, and a valve-seat at the upper end of said outlet duct or passage, said casing also having an extension above the outlet duct or passage; a chambered stem carried by said casing, and operable to have its lower end engage the valve-seat; a plunger carried by said stem, and having a shoulder and an actuating-rod, a spring for actuating said plunger in one direction; and a plug encircling said actuating-rod and closing the upper end of the stem-chamber, and forming an abutment for the shoulder.

9. A lubricator comprising a chambered casing having an oil-inlet and an outlet duct or passage, and having a valve-seat at the upper end of said outlet duct or passage; a coupling member secured to said casing, and having means adapted for attachment to a bearing or other support, and also having an oil-channel; said casing having means for attachment to the supply-conductor of an oil apparatus or system, and also having an interiorly and exteriorly threaded tubular extension; an exteriorly-threaded and chambered stem carried by said extension, and operable to have its lower end engage the valve-seat; a plunger carried by said stem, a spring for returning said plunger to its normal, inoperative position; and an interiorly-threaded cap surrounding the stem, and engaging the exterior threads of the extension.

10. The combination of a chambered casing having an oil-inlet and an outlet duct or passage; rotary reciprocative means for regulating the feed of the oil; and independent reciprocative means in position and operable within said regulating means to clear said duct or passage from accumulated matter.

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Witnesses:

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