

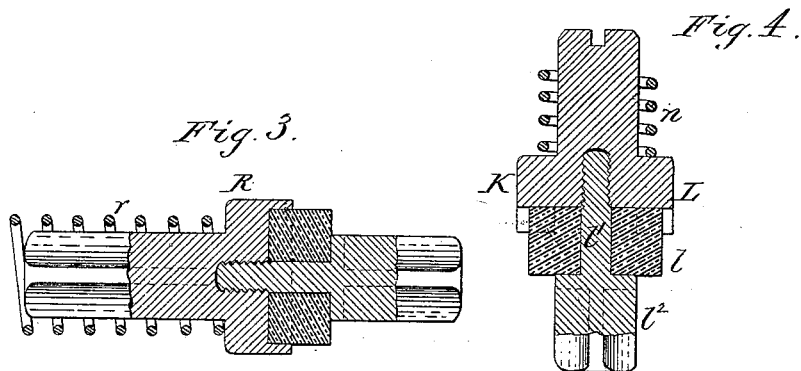
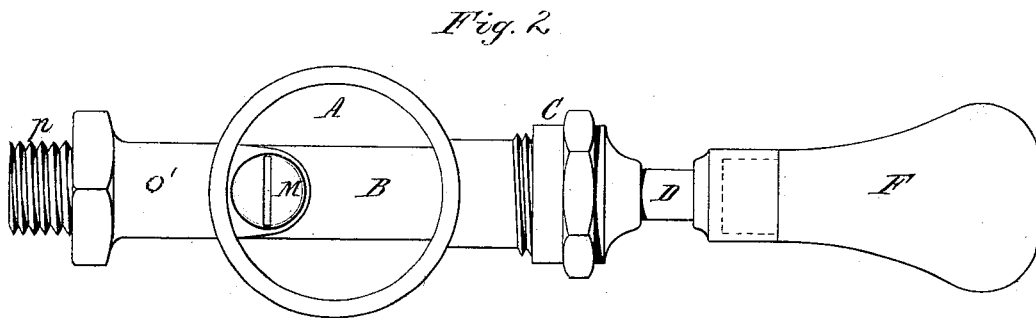
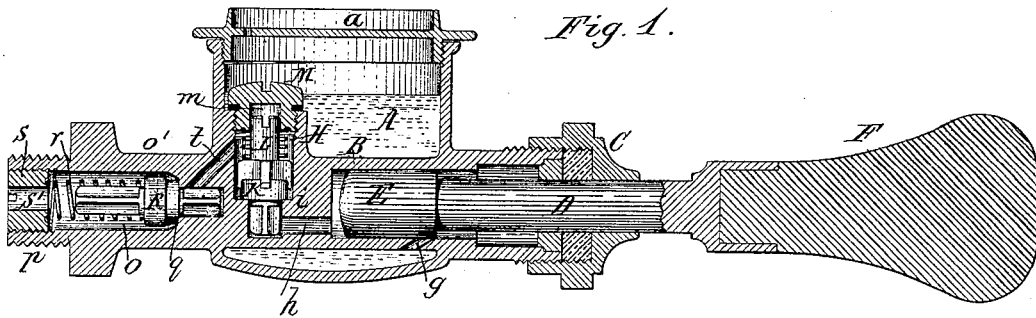
(No Model.)

E. G. FELTHOUSEN.

OIL PUMP.

No. 262,389.

Patented Aug. 8, 1882.



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Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD G. FELTHOUSEN, OF BUFFALO, NEW YORK.

OIL-PUMP.

SPECIFICATION forming part of Letters Patent No. 262,389, dated August 8, 1882.

Application filed January 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. FELTHOUSEN, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Oil-Pumps, of which the following is a specification.

This invention relates to that class of pumps which are employed in connection with steam or other engines for injecting the lubricant into the space to be lubricated against the pressure of the fluid contained in such space. It is desirable that such pumps should be provided with two check-valves in order to lessen the danger of the lubricating material being forced out of the pump-reservoir by the steam or other fluid entering said reservoir through a defective or imperfectly-closed check-valve.

The object of my invention is the construction of a simple and effective pump of this character; and my invention consists of the peculiar construction and arrangement of the check-valves and their seats, as hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of a lubricating-pump provided with my improvements. Fig. 2 is a top plan view thereof with the cover of the oil-reservoir removed. Figs. 3 and 4 are vertical sections of the check-valves.

Like letters of reference refer to like parts in the several figures.

A represents the oil-reservoir, provided with the usual cover, *a*.

B is the horizontal pump-cylinder, arranged centrally in the reservoir A, near its bottom, and extending through one side of the reservoir.

C is a stuffing-box formed at the outer end of the pump-cylinder, and D is the piston-rod, which is guided in the stuffing-box C.

E is the piston, formed at or attached to the inner end of the piston-rod D, and working in the cylinder B, and F is a knob or handle secured to the outer end of the piston-rod D.

g represents the oil-passage, whereby the cylinder B communicates with the reservoir A, and through which the lubricating-liquid enters the cylinder B when the piston E has been retracted to the outer end of the cylinder B. The passage *g* is closed by the piston during its forward movement, and the oil which

has entered the cylinder is thereby prevented from flowing back into the reservoir, but is expelled through the discharge-passage *h*. The latter communicates with a vertical valve-chamber, H, which is formed within the reservoir A at the inner end of the cylinder B. The lower portion of this chamber is contracted to form a horizontal annular offset, *i*, between the lower contracted and the upper enlarged portion of the chamber H.

K represents a check-valve, which is seated upon the offset *i*, and which plays in the chamber H. The valve K consists of a disk, *l*, which is constructed of suitable elastic material, preferably Jenkins' patent packing, and secured to a frame or holder, L, by a screw-bolt, *l'*, passing centrally through the disk *l* into the holder L. The lower portion of the bolt *l'* is enlarged and provided with wings *l''*, whereby the valve is guided in the lower contracted portion of the chamber H. The upper portion of the disk-holder L is contracted and guided in a screw-cap, M, which closes the upper end of the chamber H, and which has on its inner side a cylindrical recess, *m*, in which the cylindrical upper end of the holder L plays.

n is a spiral spring, which is interposed between the disk-holder L and the screw-cap M, and which serves to hold the valve K to its seat.

O represents a horizontal valve-chamber, formed in a shank, *o'*, which is preferably arranged in line with the pump-cylinder B and provided with a screw-thread, *p*, whereby the pump is attached to the engine-cylinder or other part to be lubricated. The inner portion of the valve-chamber O is contracted to form a flat valve-seat, *q*, at the junction of the contracted and enlarged parts of the valve-chamber.

R represents a check-valve arranged in the chamber O, and constructed in all respects like the valve K, except that the valve R is arranged with its axial line horizontally, while the valve K is arranged vertically. The valve R is held against its seat *q* by a spiral spring, *r*, which is interposed between the disk-holder of the valve R and a bushing, *s*. The latter is secured by a screw-thread or otherwise in the outer portion of the chamber O, and pro-

vided with a central aperture, s' , through which the lubricant is expelled. The upper portion of the valve-chamber H communicates with the inner portion of the valve-chamber O by a passage, t . The parts in which the valve-chambers H and O are formed are cast in one piece with the reservoir A and pump-cylinder B, whereby the construction of the pump is greatly simplified and the pump rendered more compact and convenient for use. The check-valves K and R, being provided with flat elastic disks seated upon flat annular surfaces, are not so liable to leak by the lodging of solid matter between the faces of the valves and their seats as ordinary valves are, and as two check-valves are employed the probability of steam or other fluid entering the oil-receptacle is greatly reduced, as both valves must get out of order before such escape can occur. The elastic disks of the check-valves can be readily renewed when they have become unfit for use.

I claim as my invention—

1. In a lubricating-pump, the combination of an oil-reservoir, A, a pump-cylinder, B, provided with an inlet-orifice, g , a check-valve chamber, H, a passage, h , leading from the pump-cylinder B to the chamber H, a check-valve chamber, O, arranged in a shank projecting from the reservoir A, and a passage, t , leading from the chamber H to the chamber O, substantially as set forth.

2. The combination, with the reservoir A and pump-cylinder B, of a check-valve chamber provided with a flat seat, and a check-valve composed of an elastic disk, l , disk-holder L, and screw-bolt U , provided with wings l' , substantially as set forth.

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Witnesses:

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