

No. 741,223.

PATENTED OCT. 13, 1903.

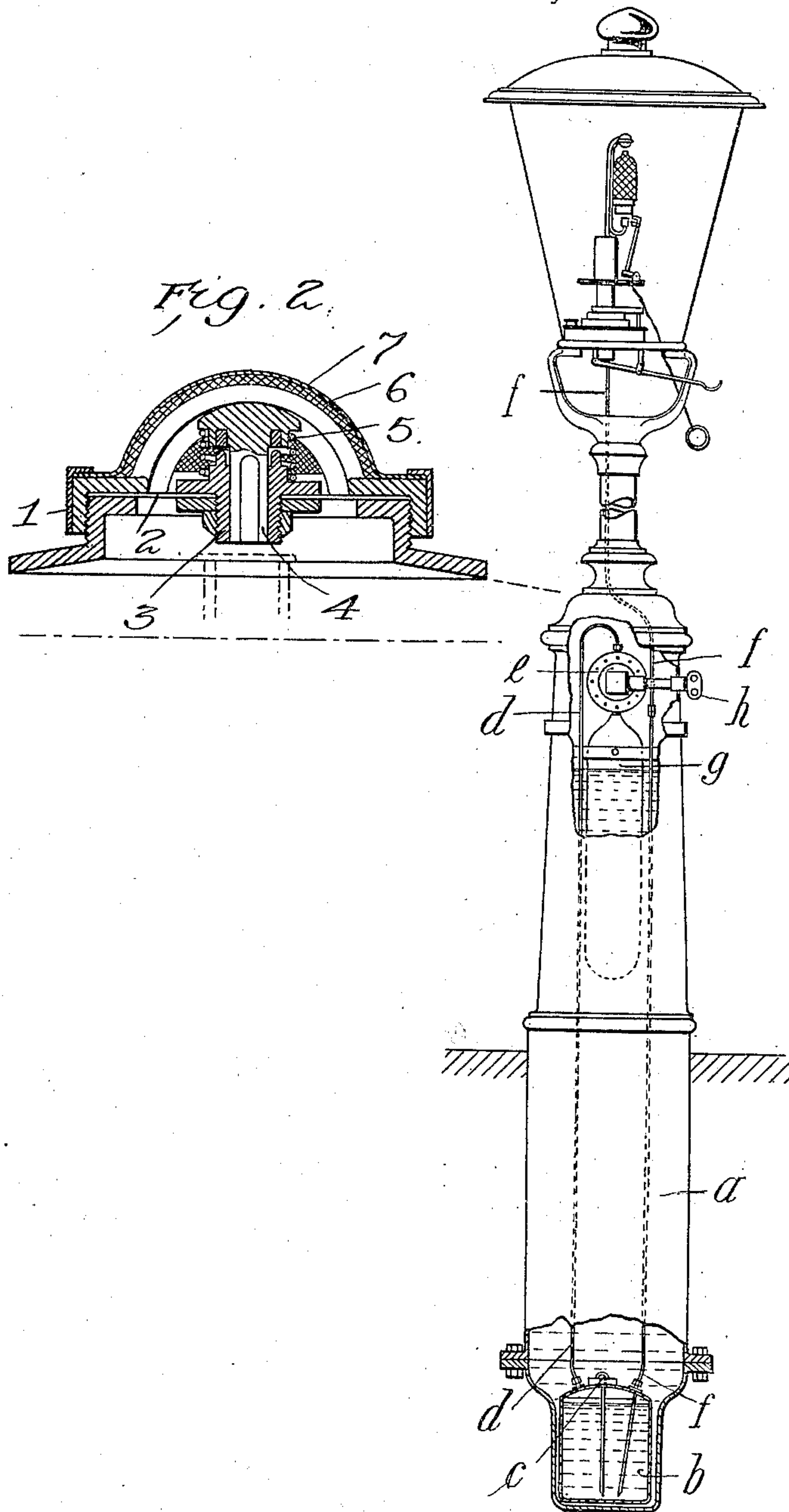
S. CARLSON.
PETROLEUM LAMP.

APPLICATION FILED FEB. 18, 1902.

NO MODEL.

Fig. 1.

Fig. 2.



WITNESSES:

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SVEN CARLSON, OF STOCKHOLM, SWEDEN.

PETROLEUM-LAMP.

SPECIFICATION forming part of Letters Patent No. 741,223, dated October 13, 1903.

Application filed February 18, 1902. Serial No. 94,674. (No model.)

To all whom it may concern:

Be it known that I, SVEN CARLSON, doctor of philosophy, of Valhallavägen 93, Stockholm, in the Kingdom of Sweden, do hereby declare the nature of my invention for Improvements in Petroleum-Lamps, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement.

The invention has for its object a device which admits of storing a large quantity of petroleum in the reservoir of street-lamps (and like apparatus) where petroleum is forced to the burner by means of a compressed gas—as, for instance, carbonic acid—which is discharged from a special holder through the means of a pressure-reducing valve. By supplying the petroleum-reservoir with a large quantity of petroleum at once the advantage is gained that refilling need not take place at frequent intervals, it being, for instance, possible to provide such a lamp with its supply of oil for a whole year.

In the drawings, Figure 1 is a sectional elevation, and Fig. 2 is a detail view.

The improvement consists in arranging in the base *a* of the lamp-post, which base serves as a main petroleum-reservoir, a smaller supplemental closed reservoir *b*, provided with a valve *c*, which opens inward and is kept open as long as the pressure in the inner reservoir does not exceed that in the outer one. This valve *c*, as illustrated in Fig. 2, consists of a casing 1, in which is fixed a diaphragm 2, with a central sleeve 3, which at some distance surrounds a valve-plug 4 and normally is depressed by a spring 5 in such a manner that normally the passage between the sleeve and the plug is open. The plug supports a sieve 6, above which is placed a perforated cover 7. Normally the sleeve and the diaphragm are depressed by the spring, thus permitting the petroleum to pass from the reservoir *a* to the reservoir *b* through the cover, the sieve, and the passage between the plug and the sleeve; but as soon as the compressed gas through the pipe *d* is introduced into the reservoir *b* the diaphragm is raised and also the sleeve, the upper edge of which thereby is pressed against the head of the plug, thus closing the passage for the petroleum. The reservoir *b* is connected by a pipe *d* with the

chamber *e*, inclosing the reducing-valve, this reducing-valve being of any suitable construction—as, for example, that described in my former patent, No. 714,143, of the 25th of November, 1902—and by means of another pipe *f* with the burner. *g* is the holder for the compressed gas. Normally the valve *c*, as mentioned, is open, so that petroleum from the reservoir *a* can pass into the reservoir *b* and fill it; but if the reducing-valve be opened by turning the screw *h*, so that compressed gas escapes, the latter will pass through the pipe *d* to the reservoir *b* and closing the valve *c* will force the petroleum in the reservoir *b* upward through the pipe *f* to the burner, where it evaporates and is ignited in known manner. As long as the lamp burns—that is, as long as the pressure in the reservoir *b* exceeds the normal—the valve *c* is kept closed; but if this excess of pressure be suspended by closing the reducing-valve the valve *c* will be opened and a fresh quantity of petroleum admitted to the reservoir *b*. The gas in the pipe *d* and the reservoir *b* is brought into connection with the open air (on account of the construction of the reducing-valve) when the said valve is closed.

By this device the advantages are further gained that it is not necessary to make the large reservoir *a* strong enough to resist the pressure of the compressed gas, said pressure merely acting in the smaller reservoir *b*, and that the clearance-space (or waste-space) will be small. Were the small reservoir *b* dispensed with and the pressure allowed to act directly on the petroleum in the reservoir *a*, an increasing quantity of compressed gas would evidently be required, according to the contents of the said reservoir is consumed, for filling the space above the petroleum in this reservoir and producing the pressure in it, and this space may become considerably larger, more especially when the contents begins to get low. This disadvantage is entirely avoided by the use of the small reservoir *b*, which may, for instance, be given a size corresponding to one day's consumption of fuel in the lamp.

The lamp evidently need not be of the form shown in the drawings, representing a street-lamp, but it may have any suitable form desired.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is—

- 5 In petroleum-lamps and like illuminating apparatus where petroleum is forced to the burner by a compressed gas which is discharged through a pressure-reducing valve, the combination of a main reservoir, a supplemental reservoir communicating with the
10 main reservoir, a valve arranged between the reservoirs and controlling the supply from the main reservoir to the supplemental

reservoir and opening inwardly in respect to the supplemental reservoir, a pipe connecting 15 the supplemental reservoir with the burner, a gas-holder, a reducing-valve connected therewith and a pipe connecting the reducing-valve with the supplemental reservoir.

In witness whereof I have hereunto set my 20 hand in presence of two witnesses.

SVEN CARLSON.

Witnesses:

H. FELANDER,
T. RISBERG.