No. 881,483. PATENTED MAR. 10, 1908

C. N. OLSEN & A. P. PETERSEN.

GAS FILTER.

APPLICATION FILED DEC. 9, 1907.

Fig. 1.

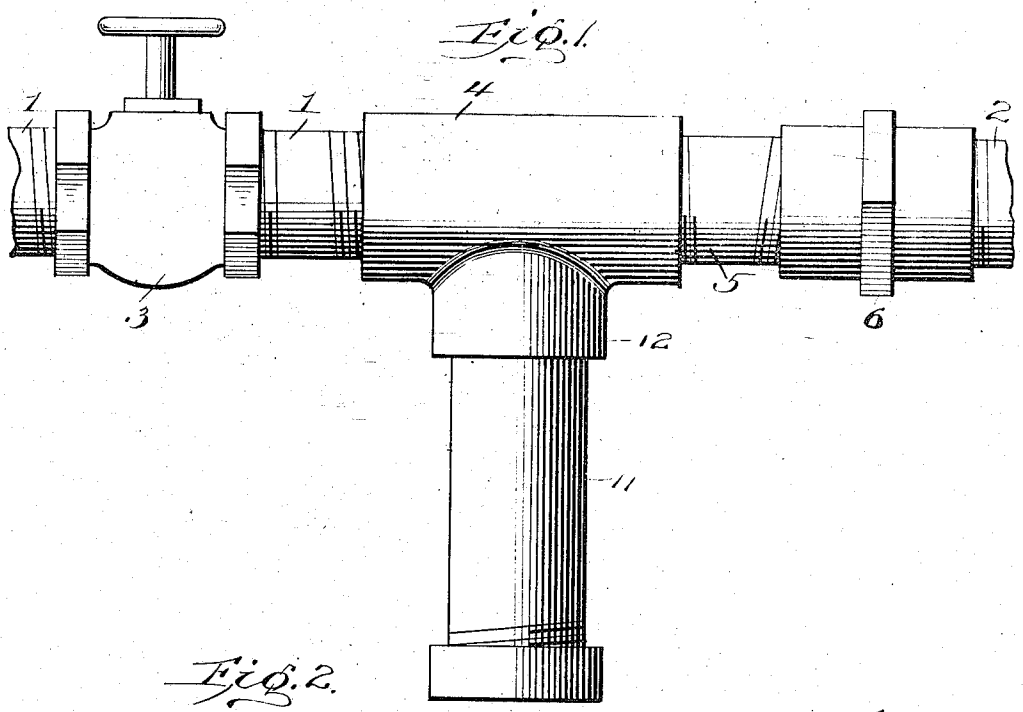
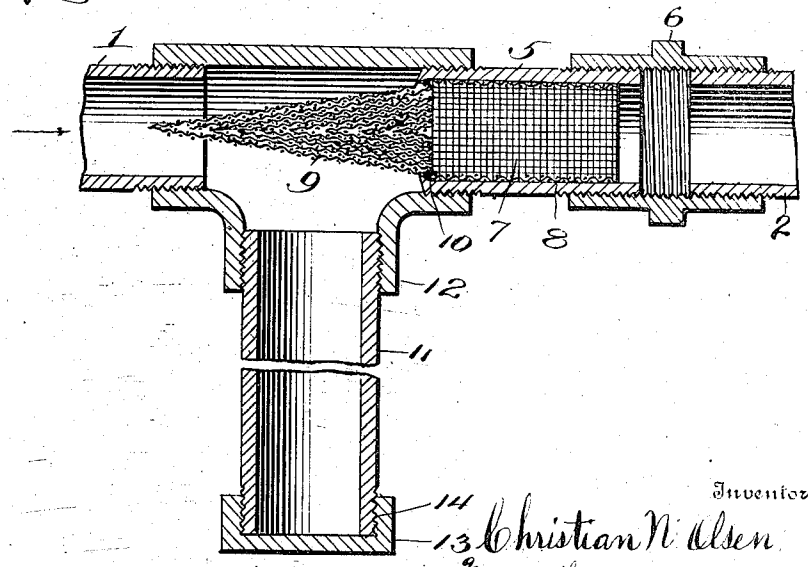


Fig. 2.



Witnesses

J. M. Fowler Jr.

W. S. Kitchin.

Inventors

Christian N. Olsen

and Axel P. Petersen

By Mason Fenwick & Lawrence.

their Attorneys

UNITED STATES PATENT OFFICE.

CHRISTIAN N. OLSEN AND AXEL P. PETERSEN, OF JERSEY CITY, NEW JERSEY.

GAS-FILTER.

No. 881,483. Specification of Letters Patent. Patented March 10, 1908.

Application filed December 9, 1907. Serial No. 405,781.

To all whom it may concern:

Be it known that we, CHRISTIAN N. OLSEN and AXEL P. PETERSEN, citizens of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Gas-Filters; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in filters and particularly to filters and strainers for gases.

The invention comprises the provision of a filtering medium and a receptacle for receiving dirt and extraneous matter and means for holding the filtering material and receptacle in proper relations to each other.

The invention further comprises the provision of a filtering device formed of a plurality of layers of wire netting arranged in cones for receiving and distributing the gas over the entire surface thereof, and a drip receptacle positioned for receiving dirt and other extraneous matter from the strainer, together with connection adapted to fit an ordinary gas pipe and at the same time hold a receptacle and a filter in proper relation to each other.

The object in view is the provision of a filtering medium arranged in the flow of gas when above a receptacle for receiving dirt.

Another object in view is the provision of a conically shaped filter or strainer arranged in the path of the flow of gas for separating from the gas dirt and other extraneous matter contained therein, a receptacle positioned in proximity to the strainer for receiving dirt therefrom and means for holding the strainer and receptacle in proper relation to each other.

With these and other objects in view the invention comprises certain novel constructions, combinations and arrangement of parts that will be hereinafter more fully described and claimed.

In the accompanying drawings: Figure 1 is a side elevation of the present invention connected up ready for use. Fig. 2 is a longitudinally vertical section through Fig. 1, the valve being omitted.

In manufacturing gas and distributing the same to pipes or mains various foreign substance or extraneous matter is mechanically suspended in the gas and is delivered with the gas. Also it has been found that various extraneous matter or particles taken up by the gas from the corrosion of the pipe, and such extraneous matter either taken from the pipes or suspended in the gas from any other source gathers momentum as the same are forced along and when striking the meter near the point of destination will greatly assist the gas in operating the same. In order to therefore secure pure gas and to register in the meter only the passage of gas, various means have been provided with varying successes, and it is to this class of devices that the present invention relates.

Referring more particularly to the drawings 1 indicates the pipe of any desired construction for containing gas and is designed to supply the gas meter (not shown) with gas in the usual manner through pipe 2. Secured in pipe 1 is a valve 3 of any desired construction for letting off the gas as may be desired. Connected to pipe 1 is a T fitting 4 preferably of the usual construction. Connected to fitting 4 is a short pipe 5 which in turn is connected to pipe 2 by means of union 6. Positioned in pipe 5 is a filter 7 that is formed with a cylindrical portion 8 and a conical portion 9. The cylindrical portion 8 is firmly secured to pipe 5 generally but if desired may be simply forced into pipe 5 and held there by friction. As shown in the drawings conical part 9 is soldered to cylindrical portion 8 at 10 or if desired the same may be secured by any other means as by simply mixing the wires and twisting the same after mixing or interlocking. The conical portion 9 is formed of a plurality of cylinders of wire netting fitted into each other, the outer cone being the largest and the inner most cone the smaller, so as to form a plurality of distinct cone-shaped sieves or filters arranged in succession against which the gas passing from pipe 1 to pipe 2 must impinge. The impinging of a gas against the first or outer cone will greatly clean the gas and remove a major part of the dirt and other extraneous matter from the gas. As the gas continues through the cone-shaped member 9 it will be further cleaned as it passes through the respective cones successively until it is almost absolutely pure when it enters pipe 2.

Secured to fitting or member 4 is a receptacle 11 that is preferably removably secured to member 4 as by threads 12. Receptacle

10 may be of any desired size and is provided with a bottom or cap 13 that is removably secured in position preferably by threads 14.

The filter 7 is so arranged as to have the conical shaped members or portions 9 projecting toward the flow of gas and across the receptacle 11 so that all the dirt and other matter may fall into the receptacle that is removed from the gas.

It is to be observed that the filter or strainer 7 will not only filter the gas in the usual acceptation of the word but will also catch all solid particles which are mechanically suspended in the gas so that the same are deposited in a resevoir or receptacle 11 and not forced through the meter. The forcing of such solid particles through the meter has a tendency to accelerate the speed of the meter and consequently register a greater volume of gas than actually passes through the meter.

In forming the conical-shaped member 9 the same may be formed of any desired material as copper or brass and in distinct cones and secured together by solder. However, under some circumstances I wind wire netting into a conical-shaped coil and then secure the same to cylinder 8. This will give the same effect as distinct cones and is more quickly and cheaply constructed. When the strainer is full of dirt or other extraneous matter the same may be removed and cleaned in any desired way and also the receptacle 11 may be cleaned by simply removing cap 13.

What I claim is:

1. A strainer for gas comprising a casing a netting wound into a plurality of convolutions, means for holding the same in position and a receptacle for receiving extraneous matter therefrom.

2. A strainer comprising a holder, a conical-shaped strainer formed from a plurality of conical-shaped sieves telescoped into each other and in contact their entire length, and means for receiving dirt from said conical-shaped strainer.

3. A strainer, comprising a holder, a dirt receptacle and a strip of netting wound into a conical-shaped strainer having a plurality of layers, said strainer being in position above said receptacle for receiving dirt and deposing the same in said receptacle.

4. A gas strainer comprising a holder, a dirt receptacle, a conical-shaped strainer in position above said receptacle and constructed of a plurality of conical shaped strainers formed of netting and positioned in contact with each other through their entire length and in the same general cross-sectional plane, and means for holding said conical shaped strainer in position.

5. A gas filter comprising a holder, a conical-shaped filtering medium formed of wire netting wound into a plurality of conical-shaped cones, and means for holding said conical-shaped windings in position for compelling the gas to pass through said windings.

In testimony whereof we affix our signatures in presence of two witnesses.

CHRISTIAN N. OLSEN.
AXEL P. PETERSEN.

Witnesses:
N. LOVE,
HUGO MOCK.