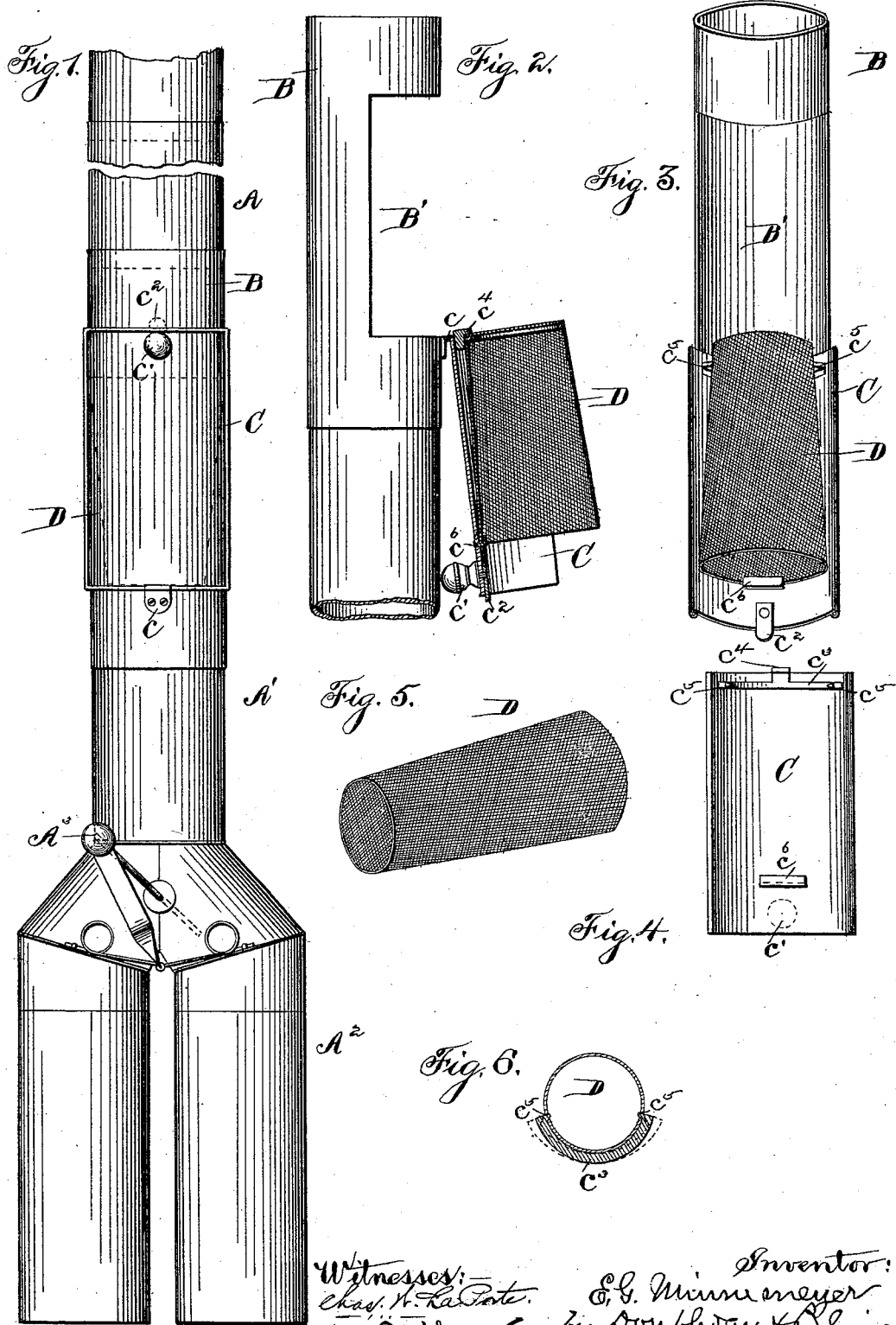


(No Model.)

E. G. MINNEMEYER.
STRAINER FOR CONDUCTOR PIPES.

No. 522,667.

Patented July 10, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

EDWARD G. MINNEMEYER, OF CHICAGO, ILLINOIS.

STRAINER FOR CONDUCTOR-PIPES.

SPECIFICATION forming part of Letters Patent No. 522,667, dated July 10, 1894.

Application filed August 31, 1893. Serial No. 484,488. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. MINNEMEYER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Strainers for Conductor-Pipes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to new and useful improvements in strainers for conductor pipes, the object of the invention being to provide a strainer which may be placed in a rigid line of conductor pipe sections, and yet which
15 may be readily removed without disturbing or detaching the rest of the said pipe sections. This end is attained by placing in the line of pipe, somewhere in an accessible place between the eaves trough and the cistern, a section
20 of pipe, or filtering chamber, having a removable or hinged part to which is secured, detachably or otherwise, a straining device or sieve, through which when it is in an operative position the water must pass. And while
25 as will be hereinafter described, I have shown a single strainer, yet other and more complicated sieves and filters may be used with equal facility and with the same results.

Referring to the drawings, in which is
30 shown one form embodying my invention, Figure 1 is a front view of part of a conductor pipe and the filtering chamber, showing in dotted lines the strainer in an operative position. Fig. 2 is a side view showing the
35 strainer in a position to be emptied and cleaned. Fig. 3 is a front view similar to Fig. 1 but showing the door open. Fig. 4 shows the door with the strainer detached. Fig. 5 shows in perspective the strainer, and Fig. 6
40 is a cross section of the strainer and its supporting bracket, both being reduced in size.

The sections of conductor pipe are designated by A A' and A², the latter two leading to the cistern and to a water pipe respectively,
45 there being also shown in the drawings a cut-off device A³. As I do not claim this cut-off as of my invention, it is unnecessary to describe it, except to say that by it the water may be deflected either into the section of
50 pipe leading to the cistern, or into that leading to the waste pipe. The sections of pipe are fitted together by telescoping them in the

ordinary way so as to form a rigid pipe or conductor.

At B there is a section of pipe constituting 55 a filtering chamber having a large aperture B' closed by a door C preferably hinged at c to the chamber, and having a button c' and a catch c² to engage with the metal of the pipe above the aperture B' to hold the door 60 in place.

A strainer D, frusto-conical in shape, is detachably secured with its large end up to the door C by means of brackets as follows: c³ is a strip of spring metal conforming to the 65 curvature of the door, secured thereto by means of rivets or otherwise, and having the inwardly extending bracket c⁴ at a point near its center, and at its ends, sharp inwardly projecting spurs or pins adapted to enter the 70 meshes or perforations of the strainer. c⁵ is an inwardly and downwardly projecting clip adapted to clasp the rim of the strainer against the door. The strainer is secured in position
75 by slipping the rim under the clip c⁵, and then bending apart the ends of the strip c³ so that the end of the strainer may rest upon the bracket c⁴, the resiliency of the metal then
80 springing the strip back so that the spurs c⁵ hold the strainer in place.

This strainer is shown for sake of convenience as being made of a wire mesh, but it will be understood that it may be made of perforated sheet metal as well without affecting
85 my invention.

Instead of using but one strainer, two or more may be employed to catch the leaves or dirt, they graduating from a thick mesh to one much finer, all being secured by brackets to the door.

When the door is closed as in Fig. 1, the strainer D is in its operative position, but when the door is thrown downward as in Fig. 2, the strainer automatically cleans itself as it is turned at such an angle that the leaves 95 and other material which are caught therein will readily drop out. If they do not drop out easily, the strainer may be detached and effectually cleaned before it is returned to its place.

The advantages which are due to this construction are many, and need not be enumerated, for they are obvious. The pipe section B is of the same diameter as the remainder of

the pipe sections, and may be inserted in the pipe line at any point without marring its appearance. Should a strainer prove to let too much dirt pass through, it can be removed and another with a finer mesh be substituted, or when there is a heavy rain, and there is a tendency to choke up the conductor pipe and cause the water to flow over the edge of the eaves trough, the strainer may swing out of the longitudinal lines of the pipe, or it may be entirely removed, allowing the water to pass through into the water-pipe without any obstruction.

I am aware of the fact that it is not broadly new to provide a pipe section having an aperture in the side thereof, with a door and a strainer. Such a construction has been heretofore made or proposed, but it had several disadvantages, which I desire to overcome and avoid. In such construction the door formed part of a cylinder which was moved into and out of the longitudinal lines of the pipe, whereby it was impossible to form a water tight cover for the aperture. Hence a deflecting sleeve had to be employed. Again the strainer was placed in the cylinder resting loosely against an inwardly turned lip extending around the cylinder, so that it was not rigidly secured vertically, and had to be entirely removed from the cylinder for the purposes of cleaning.

My device is preferable to that just mentioned in a number of respects, among which may be enumerated the following: The door is not a cylinder but fits closely around the outside of the pipe, making a water-tight covering; its edges overlapping the edges of the aperture, thereby dispensing with the inwardly turned deflecting sleeve. The strainer is secured to the door by brackets and is free and unobstructed for the purposes of cleaning, and is held rigidly against displacement when it is swung out of the lines of the pipe.

I have shown the pipe as being cylindrical, but it may be polygonal in cross section as well. In such case, the door will be of the same shape, so that when I refer to the door as being "semicylindrical" I intend to be understood as meaning that the door corresponds to one half of the pipe when intersected by a vertical plane, and that instead of being curved in cross section it may be angular.

When I herein speak of "means supplemental to the door" for securing the strainer thereto, it is for the purpose of distinguishing between my device and those in which

the strainer rests loosely upon the door, and any fastener which holds the strainer securely upon the door against vertical displacement may be used without departing from my invention.

What I claim is—

1. The combination with the conductor pipe section having an aperture in one side thereof intermediate of its ends, and the semi-cylindrical door for closing said aperture, co-extensive therewith and having its edges overlapping the edges of the pipe section around the aperture, of a strainer and a fastener supplemental to the door for positively securing said strainer to said door, substantially as set forth.

2. The combination with the conductor pipe section having an aperture in one side thereof, a door closing said aperture and lying entirely outside of the longitudinal lines of the pipe section, and having its vertical edges lying outside thereof, of a strainer supported upon said door and detachable therefrom on lines transverse to the longitudinal lines of the door, substantially as set forth.

3. The combination with the conductor pipe section having an aperture in the side thereof, and the strainer, of the swinging door supporting said strainer and extending part way around said strainer, whereby said strainer is left free and uncovered for the purpose of cleaning and means supplemental to the door for securing the strainer rigidly thereto, substantially as set forth.

4. The combination with the conductor pipe section having an aperture in the side thereof, and the semi-circular door for closing said aperture, and having brackets, of the strainer, supported by said door, and secured in said brackets, substantially as set forth.

5. The combination with the pipe section or filtering chamber B, having an aperture, of the door, the cup-shaped filtering device secured thereto, and the hinges connecting the door with the said chamber on lines below the central transverse line of the straining device, whereby when the door is opened, the contents of the filtering device are automatically emptied therefrom, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD G. MINNEMEYER.

Witnesses:

O. L. McMURRY,
GEO. H. DAVIS.