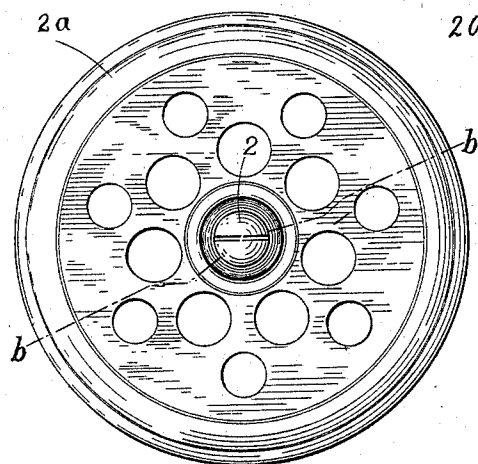
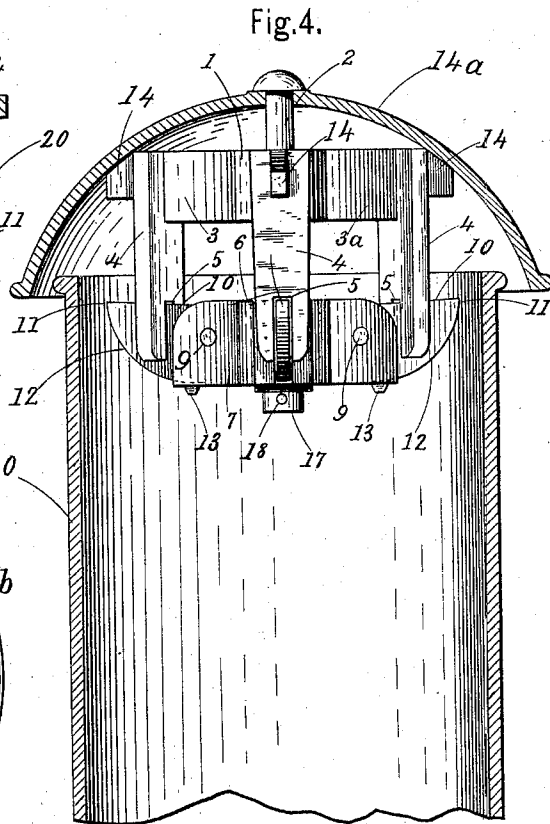
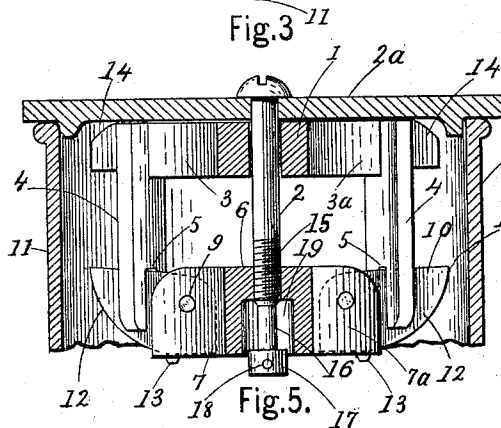
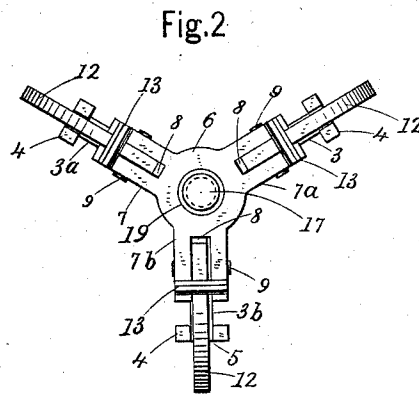
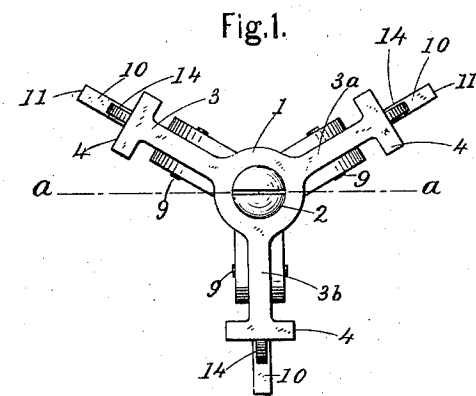


(No Model.)

H. D. WATERS.
VENTILATING CAP.

No. 580,588.

Patented Apr. 13, 1897.



Witnesses,
J. C. Gould
L. M. Spang.

Howard D. Waters, Inventor.

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UNITED STATES PATENT OFFICE.

HOWARD D. WATERS, OF BUFFALO, NEW YORK.

VENTILATING-CAP.

SPECIFICATION forming part of Letters Patent No. 580,588, dated April 13, 1897.

Application filed October 21, 1896. Serial No. 609,587. (No model.)

To all whom it may concern:

Be it known that I, HOWARD D. WATERS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Ventilating-Caps, of which the following is a specification.

My invention relates to a new and improved device for quickly securing a ventilator-cap or other cover to a sewer or other pipe, and it will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 represents a top plan view of the device. Fig. 2 represents an inverted plan view of the same. Fig. 3 is a vertical central section through the device on or about line *a a*, Fig. 1, showing also a vertical central section through a piece of pipe and a flat cover on or about line *b b*, Fig. 5, to which the device is secured. Fig. 4 represents a side elevation of the device and a vertical central section through a piece of pipe and a hollow cover to which it is connected. Fig. 5 represents a top plan view of the flat cover shown in section in Fig. 3.

The object of my invention is to provide a simple and efficient device for readily and rigidly connecting or disconnecting a cover of any kind to a sewer or other analogous pipe.

Referring to the drawings for the details of the construction, the top portion consists of the central portion 1, having a central opening through which the bolt 2 passes, and three radial arms 3, 3^a, and 3^b. To each arm 3, 3^a, and 3^b is a pendent bar 4, having a slot 5 in its lower end. Below the arms 3, 3^a, and 3^b is a holding portion 6, provided with three radial portions 7, 7^a, and 7^b, each having a slot 8, (see Fig. 2,) between each of which is pivoted by pins 9 a movable holding-piece formed with a substantially straight portion 10 at the top, a pointed end 11, and a curved under portion 12. The free ends of these holding-pieces fit loosely in the slots 5, (see Figs. 3 and 4,) and they are kept from falling down too far by means of the small transverse pieces 13, secured to the under sides of each of the radial portions 7, 7^a, and 7^b.

At the upper portions of each of the slotted bars 4 is rigidly secured or formed integral with it an extension-piece 14, by which the

device is adapted to secure a hollow or concave cover 14^a, as in Fig. 4, as well as a flat cover 2^a, as in Fig. 3.

The bolt 2 is provided with a screw portion 15, adapted to screw into a screw-threaded hole through the portion 6.

It will be noticed that the bolt 2 is provided with a reduced portion 16 (see Fig. 3) below the screw portion, and at the lower end of said reduced portion is a head or collar 17, removably secured thereto by a pin 18, or in any well-known way, and below the screw-threaded hole in which the screw portion 15 fits is an enlarged opening 19, up into which the head or collar 17 can pass. (See Figs. 2 and 3.) The object of this construction is to prevent the portion 6 and its several parts from falling off and down into the sewer or other pipe when the screw-bolt is turned or unscrewed far enough to release it from the screw-threaded portion.

To rigidly secure a cover to a pipe by this device, the collar or head 17 is removed from the lower reduced end of the bolt 2. Said bolt is then passed down through a hole in the cover to be secured, and is then screwed into the portion 6 and the head 17 secured in place again. The cap is then placed over the end of the pipe, the pivotal holding portions passing down into said pipe. By now tightening up the screw-bolt 2 the portion 6 is drawn up toward the cap, which operation causes the ends 11 to tip downward, thereby causing them to expand, acting as a toggle-joint, and bind tightly against the inner sides of the pipe, and thereby hold the cap rigidly to the pipe 20. To remove the cap, all that is required is to turn the screw the other way, and thereby loosen the device, so that it can be easily taken off.

I claim as my invention—

1. In a device for securing a cap or cover to a pipe, the combination, with an upper supporting-frame provided with a central perforation and radial arms, each of said arms being provided with a depending bar, the lower end of which is slotted, of a lower supporting-frame provided with a central screw-threaded perforation and a slot registering with each depending bar, a cross-bar at the under side of each slot, a holding-piece pivotally secured within each slot of the lower

frame the lower surface of which rests against the cross-bar and the upper surface is adapted to be forced against the end wall of the slot in the depending bar, and a bolt through the frames for moving the lower frame vertically, whereby the ends of the supporting-pieces are forced against the interior of the pipe, substantially as set forth.

2. In a device for securing a cap or cover to a pipe, the combination, with a cap, of an upper frame provided with depending bars, of a lower perforated frame below the same, the under surface of which is provided with

a recess, holding-pieces pivotally secured to the lower frame, one for each bar, the outer end of which is adapted to be forced against the interior of the pipe, a bolt through the cap and through the two frames, the lower end of which is reduced, and a detachable head upon the end of the reduced portion, substantially as set forth.

HOWARD D. WATERS.

Witnesses:

JAMES SANGSTER,
L. M. SPONG.