

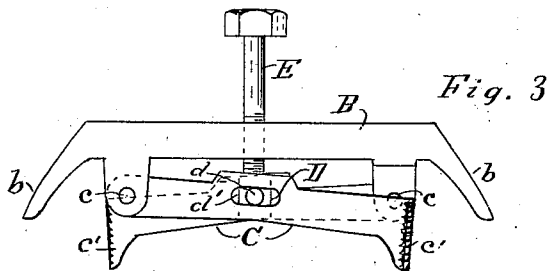
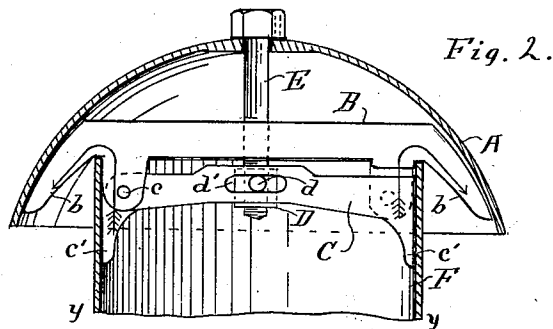
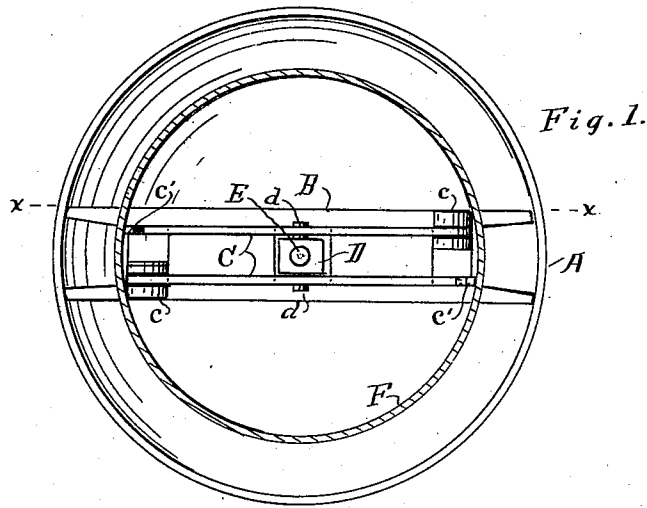
No. 755,254.

PATENTED MAR. 22, 1904.

F. STRUHS.
VENTILATING PIPE FOR SEWER SYSTEMS.

APPLICATION FILED AUG. 7, 1903.

NO MODEL.



Witnesses

b. V. Billey
a. Allgier

By

Inventor

Frank Struhs

Wm. J. Billey
Attorney

UNITED STATES PATENT OFFICE.

FRANK STRUHS, OF GRAND RAPIDS, MICHIGAN.

VENTILATING-PIPE FOR SEWER SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 755,254, dated March 22, 1904.

Application filed August 7, 1903. Serial No. 168,691. (No model.)

To all whom it may concern:

Be it known that I, FRANK STRUHS, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Ventilating-Pipes for Sewer Systems, of which the following is a specification.

My invention relates to improvements in the manner of securing the caps upon the ends of ventilation-pipes in sewer systems; and its object is to provide a means whereby the cap may be readily applied, removed, or adjusted at pleasure, including the clamping device, &c. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a sectional plan of the top of a ventilation-pipe looking up from the line *yy* of Fig. 2 with my cap and attaching device attached. Fig. 2 is a sectional elevation of the same on line *xx* of Fig. 1, and Fig. 3 is an elevation of the clamping mechanism detached from the cap and the top of the pipe.

Similar letters refer to similar parts throughout the several views.

In the accompanying drawings, A represents the ventilator-cap, and F represents the top of the ventilator-pipe.

My improvement consists of the supporting-frame B, which is constructed of two sides connected and having the ends curved down, as at *b b*, to practically conform to the contour of the inner surface of the cap. This frame has a post or pivotal support *c* at each end, but upon opposite sides of the frame, to which one end of each of the clamp-arms C is pivoted. The supports *c c* are so situated that the pipe F will pass down over them, and the free ends of the clamp C are so located that when drawn up to the position indicated in Fig. 2 they will press heavily against the inner surface of the pipe F at opposite sides and hold it securely to place, thus leaving practically the entire area of the pipe F opening into the cap A and a free outflow for the gases upward, as indicated by the arrows in Fig. 2. The clamping-arms are provided with a short slot *a'*, in which the gudgeons *d*, projecting from each side of the nut D, work freely.

When applying this device to use upon a pipe, the clamping-frame, which is detached from and independent of the cap A, is placed upon the top of the pipe F. Then the cap A is placed over all and the bolt E is passed through the top of the cap and screwed into the nut D until the clamp-arms C are drawn up sufficiently to produce the proper pressure upon the inner surface of the pipe to hold the cap firmly to place.

I prefer that the ends *c'* of the clamp-arms C be serrated, as indicated in Fig. 3, as by this means they will engage the pipe much more firmly and give better results than if left plain.

One of the principal advantages of this form of clamp is that the clamp-arms C being pivoted to the frame B at opposite sides near the inner surface of the pipe F, the free ends engaging opposite surfaces of the pipe and the clamping-bolt and nut D engaging the arms near the center when the arms are drawn up to engage the pipe, the pipe and the frame are drawn toward each other and form a firm support for the cap, and it has a further advantage of sufficient variation in length to accommodate itself to pipes having considerable variation of size diametrically.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In combination with a ventilator-pipe for sewers, and an open inverted cap therefor; a detached supporting-frame in said cap, clamping-arms pivoted at one end each to opposite ends of the supporting-frame, thence extending across the frame lapping by each other and having clamping-jaws at opposite ends in position to engage the inner surface of the pipe, a nut pivotally connected with said arms at the longitudinal center, and a bolt passed through the cap and engaging said nut, substantially as and for the purpose set forth.

Signed at Grand Rapids, Michigan, July 16, 1903.

FRANK STRUHS.

In presence of—
F. G. FRIEND,
ITHIEL J. CILLEY.