(No Model.)

E. SCHLENKER.

HYDRANT.

No. 346,951. Patented Aug. 10, 1886.

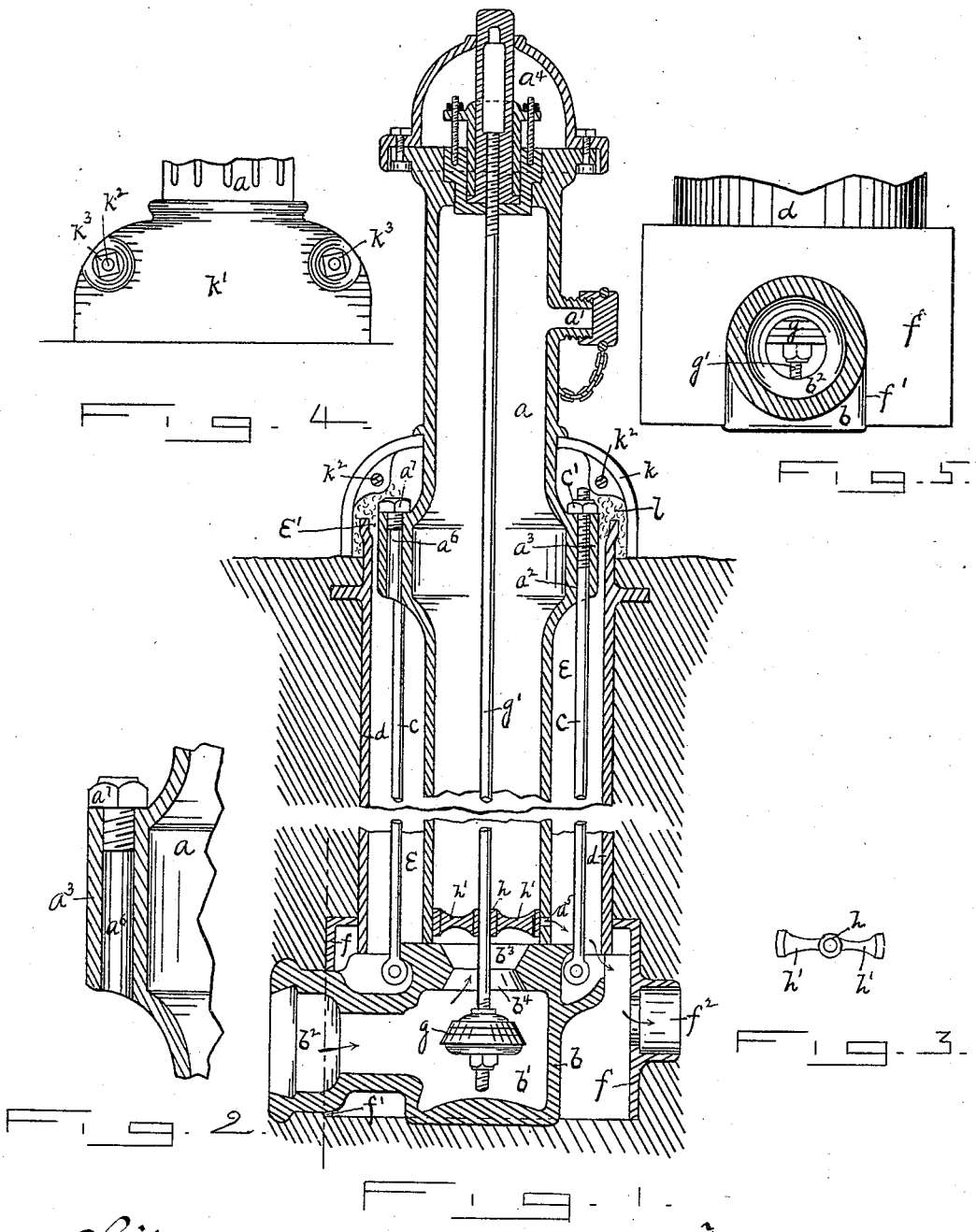

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

ERHARD SCHLENKER, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO THE HOWARD IRON WORKS, OF SAME PLACE.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 346,951, dated August 10, 1886.

Application filed May 12, 1886. Serial No. 201,899. (No model.)

To all whom it may concern:

Be it known that I, ERHARD SCHLENKER, 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 Hydrants; and I 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention consists, first, in the combination, with the hydrant stand-pipe and the casing surrounding same, of a shell located at the base of the casing, adapted to convey the waste water from the stand-pipe to the sewer or ground, and to permit the warm gas from the sewer to pass around the base of the hydrant and up into the space between the stand-pipe and its casing, to prevent freezing; second, in other details of construction, all of which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is a vertical central section of my improved hydrant complete. Fig. 2 is an enlarged view of the opening for the admission of steam. Fig. 3 is a top plan view of the cross-head or guide of the valve. Fig. 4 is an outside view of the head, and Fig. 5 is a side elevation of the sewer-shell.

Referring to the drawings, *a* is the hydrant stand-pipe with the outlet *a'* to which to attach the hose.

b is the base of the hydrant, having the valve-chamber *b'*, the opening b^2 in its side, to which connection is made by the branch pipe leading to the main and the opening b^3 in its top wall, the lower tapering portion b^4 of which forms the valve-seat.

The stand-pipe *a* is secured to the base *b* by a series of bolts, *c*, pivoted at their lower ends to the base *b*, their upper ends passing through bolt-holes a^2 in the annular collar or enlargement a^3 of the stand-pipe *a*. The bolts *c* are tightened in position by the nuts *c'*. The junction of the stand-pipe with the base can be made in any well-known manner to prevent leakage at that point.

Around the stand-pipe *a* is placed the cylindrical casing or frost-shell *d*, the lower end of which rests upon the base *b*, its upper end projecting several inches above the street line, as shown in the drawings, to prevent the admission of water. The diameter of the casing or frost-shell is sufficiently large to form an annular space, *e'*, around the stand-pipe. The space *e'*, between the upper end of the casing *d* and the stand-pipe, is adapted for the reception of a suitable packing, which can be so placed that the lifting of the casing by the frost will not throw out the packing, but simply slide along same in its slight upward movement under the action of the frost.

f is the sewer-shell, either of circular or rectangular form, and is placed over and surrounds the base *b* of the hydrant, the casing *d* telescoping into the shell through an opening in the top a distance sufficient to prevent the frost from lifting the casing *d* clear of the shell *f*. An arched opening, *f'*, admits of the exit of the projecting portion b^2 of the base, and f^2 is an opening adapted for the reception of a pipe or tile leading to the nearest sewer, into which the waste water from the stand-pipe is discharged, as will more fully hereinafter appear. In the absence of a sewer a hole is made in the ground and filled with loose stones, into which the waste water is then discharged.

By means of the arrangement of parts just described the warm gas with which the sewer is filled is permitted to pass around the base of the hydrant and up into the space *e* surrounding the stand-pipe, to assist in preventing the freezing of the hydrant.

g is the valve, preferably made of soft leather and of tapering form to fit the tapering seat b^4. This valve is mounted upon a rod, *g'*, which extends up through the stand-pipe to its top portion a^4, where it is seated in such a manner as to be raised or lowered in the operation of turning the water on or off. Surrounding this valve-rod *g'* is the cross-head or guide, consisting of the collar *h*, rigidly secured to the rod *g'* and the branches *h'*. The outer ends of the branches *h'* fit snugly, but loosely, against the inner wall of the stand-pipe, and serve, by their contact, to hold and guide the valve-rod in its movements up or down. A small orifice, a^5, is so located in the

side wall of the stand-pipe that when the valve *g* is moved away from the opening b^3 to admit water from the main into the stand-pipe the small orifice a^5 will be closed by one of the branches *h'* of the cross-head, to prevent the water from escaping, as clearly shown in Fig 1; and when the valve is in closed position the cross-head will then have moved away from the orifice a^5, thus permitting the water remaining in the stand-pipe, after the valve is closed, to pass down into the sewer-shell and from thence to the sewer or ground, as indicated by the arrows in Fig. 1. The top of the cast-iron casing *d*, which incloses the stand-pipe, is surrounded and covered by a cast-iron hood or cap made in two separate and similar portions, *k* and *k'*, secured together around the stand-pipe *a* by bolts k^2 and nuts k^3. Packing *l*, of any suitable description, can be placed within this hood and between the stand-pipe and frost-shell, thereby preventing the cold air from entering the casing, and at the same time retaining the warm air admitted from the sewer. This hood not only holds the packing in place, but serves as a protection for the upper ends of the bolts *c* and the nuts *c'* thereon.

In one side of the annular collar or enlargement a^3 of the stand-pipe is the vertical opening a^6, having the removal screw-cap a^7 in its upper end. This opening is for the purpose of admitting steam to the space *e* surrounding the stand-pipe, and to the interior of the sewer-shell *f*, surrounding the base of the hydrant, for the purpose of thawing the hydrant when frozen.

It will be seen that in my improved construction every possible provision is made to prevent the freezing of the hydrant, as with the orifice a^5 in the stand pipe, in connection with the winged cross-head *h h'*, the waste water in the stand-pipe above the valve is discharged through the shell *f* into the sewer or ground. Through this sewer-shell the warm gas from the sewer is allowed to pass in around the base *b* and stand-pipe *a*, thereby lessening the danger of freezing, while the cold air is prevented from entering in around the stand-pipe by means of the removable hood *k k'* and packing *l*, which also prevents the gas from escaping; and should the hydrant by any chance become frozen up, it can be quickly thawed out by removing the hood *k k'* and screw-cap a^7, and passing steam in through the passage a^6, where it can freely circulate around the stand-pipe and base. The body of the hydrant can be quickly taken out and any or all of its parts replaced without any digging being required after the hydrant has once been set, and by unscrewing the nuts on the holding-down bolts the hydrant can be made to face any direction independent of the direction of the supply-pipe to the same.

I claim—

1. In a hydrant, the combination, with the stand-pipe and base and the casing surrounding the stand-pipe, of a shell placed around the base and connected with the sewer for the purpose of utilizing the warm gas from the sewer in preventing the freezing of the hydrant, substantially as shown and described.

2. In a hydrant, the combination, with the stand-pipe provided with a discharge-valve at its lower end and the casing surrounding the stand-pipe, of a shell placed around the base and surrounding the lower end of the frost shell or casing and connected with the sewer, whereby the waste water in the stand-pipe may be discharged into the sewer, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ERHARD SCHLENKER.

Witnesses:
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