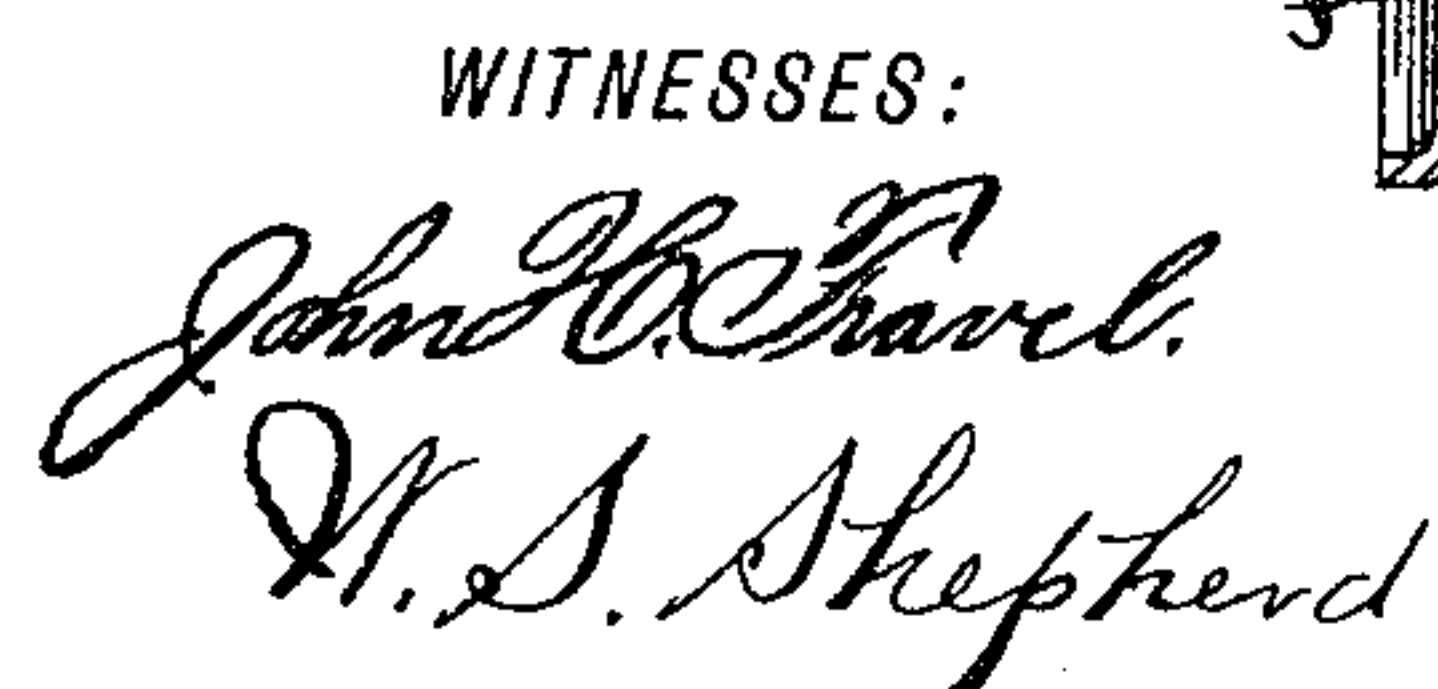


H. W. KNIGHT.  
RAIN WATER CUT-OFF.

Patented Sept. 10, 1889.



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# UNITED STATES PATENT OFFICE.

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## RAIN-WATER CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 410,597, dated September 10, 1889.

Application filed May 29, 1889. Serial No. 312,642. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. KNIGHT, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Rain-Water Cut-Offs, of which the following is a specification.

My invention relates to the improvement of rain-water cut-offs of that class by means of which the water from house-pipes is directed to a cistern or sewer; and the objects of my invention are to provide a device of this class so constructed and situated as to prevent the necessity of using more than one cut-off for a building, to so locate the cut-off tank as to prevent its becoming clogged by freezing, to so construct the same as to admit of the water passing therethrough being readily and easily directed to a cistern or sewer, and to construct said device in a simple and inexpensive manner. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved cut-off box or tank. Fig. 2 is a plan view of the same. Fig. 3 is a central longitudinal section taken on line *xx* of Fig. 2, and Fig. 4 is a transverse section taken on line *yy* of Fig. 2.

Similar letters refer to similar parts throughout the several views.

*a* represents my improved cut-off box or tank, consisting, as shown, of an oblong box having a lid *b*, said box and lid preferably being formed of earthenware.

Projecting outwardly from the rear end of the box *a*, and formed therewith near the center of its height, is a short pipe-socket *c*, said pipe-socket having a flaring mouth, as shown.

Projecting from the opposite or forward end of the box and adjoining the lower side thereof are two short pipes *d*. These pipes *d* are formed integral with the box, and, as shown, project, respectively, from each side of the center of the width thereof.

Formed with the box, and projecting from each side thereof near the center of its height and at oppositely-located points, is a short pipe-socket *f*.

Formed in the lid *b*, in close proximity to the front end thereof, is a transverse slot *g*,

of a length slightly less than the width of the lid.

*h* represents a valve-closing plate, the upper end of which is pivoted to the inner side of the forward end of the box *a* at a point above and between the inner mouths of the pipes *d*. This plate is continued upwardly from its pivot-point in the form of a lever-arm *h'*, which, passing through the slot *g* of the lid, terminates some distance above said lid. As shown in the drawings, I may form on said lid about its slot an upwardly-projecting flange *i*. This flange *i* forms a partial support for a thin guide-block or sheath *k*, which is made to rest upon said lid and surround the flange *i*. This guide-block has a central mortise formed vertically therein, which, when said guide-block is connected with the lid, forms an upward continuation of the lid-slot *g*, and also forms a sheath for the upper portion of the valve-plate lever, which projects therethrough.

The above-described cut-off box is designed to be located within the ground in close proximity to a cistern, and at such depth as to bring the upper end of the lever sheath or guide *k* about flush with the surface of the ground.

*m* represents an inlet-pipe, which may be provided with one or more branches, as shown, and which is connected with the pipe-socket *c*. Connected with one of the pipes *d* is a pipe *n*, which leads to a cistern, and connected with the remaining pipe *d* is a pipe *n'*, which leads to a sewer.

The pipe *m* or its branches, or both, may be made to connect with one or more house rain-water pipes at a point adjoining the building.

The operation of my device is as follows: The herein-described cut-off box having been located within the earth, the above-described connections made therewith, and the earth filled in about the same, it will be seen that rain-water from the building will be directed into the inlet-pipe *m*, and thence through the socket *c* into the box *a*. The lever *h'* being so turned as to cause the outlet-pipe *d*, which leads to the cistern, to be closed by the valve-plate, it will be seen that the water will be allowed to escape from the box through the remaining pipe *d* into the pipe *n*, and thence



to a sewer or other desirable point. By changing the position of the lever, as shown in dotted lines in Fig. 4 of the drawings, the cistern-pipe outlet may be opened and the sewer-pipe outlet closed.

In case the number of house-pipes makes it necessary, it will be seen that an inlet-pipe having one or more branches, as described, for the pipe *m* may be made to enter the side of the sockets *f*.

By the above-described operation and construction it will be seen that the cut-off is entirely hidden from view, with the exception of the upper portion of the operating-lever, which, as shown, is allowed to project above the ground, and that the location of the said box will operate to prevent its contents from freezing during cold weather.

Heretofore it has been customary to connect with large buildings a number of cut-offs; but by the herein-described device it will be seen that a number of house-pipes may be connected with one cut-off box, thus producing a saving of labor and expense.

It is obvious that the herein-described box might be adapted for use as a flushing-box for vaults by closing both openings *d* and those inlet-openings not in use till the desired amount of water has accumulated within the box, when one of the openings *d* may be opened and the water allowed to escape through suitable piping to a vault.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

In a rain-water cut-off, the combination, with the box *a*, located within the earth, its inlet-pipe sockets *c* and *f*, outlet-pipes *d*, and detachable slotted lid *b*, of the pivoted valve-plate *h*, having handle *h'* passing through slot *g* of said lid and projecting above the ground, substantially as and for the purpose set forth.

HENRY W. KNIGHT.

In presence of—

BARTON GRIFFITH,  
C. C. SHEPHERD.