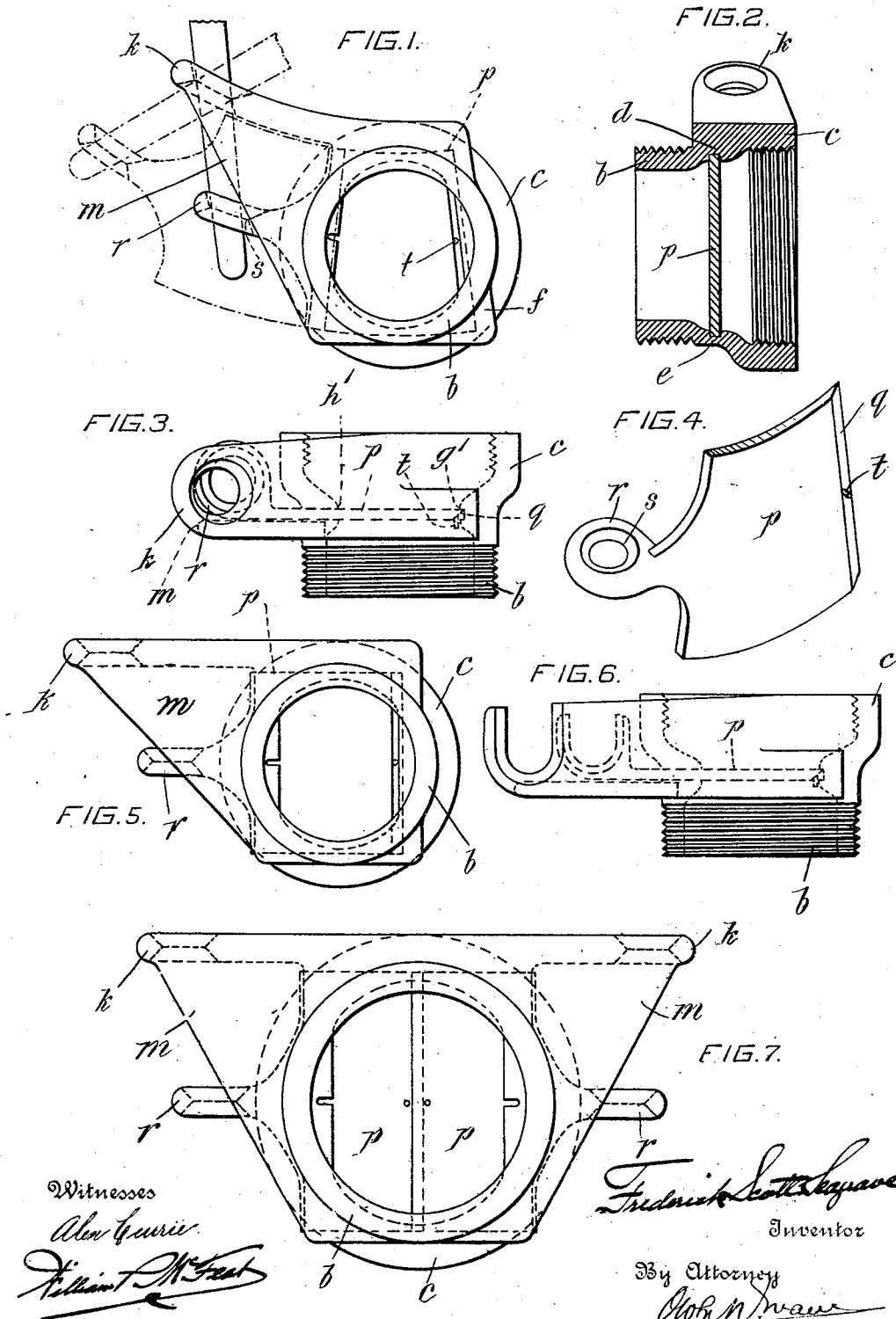


No. 880,581.

PATENTED MAR. 3, 1908.

F. S. SEAGRAVE.
HYDRANT AND HOSE CUT-OFF VALVE.

APPLICATION FILED NOV. 22, 1905.



UNITED STATES PATENT OFFICE.

FREDERIC SCOTT SEAGRAVE, OF DETROIT, MICHIGAN.

HYDRANT AND HOSE CUT-OFF VALVE.

No. 880,581.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed November 22, 1905. Serial No. 288,612.

To all whom it may concern:

Be it known that I, FREDERIC SCOTT SEAGRAVE, of the city of Detroit, State of Michigan, United States of America, have
5 invented certain new and useful Improvements in Hydrant and Hose Cut-Off Valves; and I do hereby declare that the following is a full, clear, and exact description of the same.

10 The invention although relating particularly to hydrant and hose cut-off valves is applicable with advantages to devices for coupling hose lengths or wherever a cut-off gate is required.

15 The object of the invention is to simplify the construction and reduce the cost of valves of the above type and provide a device of this nature adapted to be operated by any tool presenting a substantially straight
20 member of small cross-section such as the small end or handle of the fireman's hose key or spanner universally in use.

The invention may be said briefly to consist of a valve casing provided with a pair of
25 fulcrum points, and a valvular member having a device presenting a pair of bearing points, the fulcrum points being preferably presented by the opposite sides of a ring
30 cast upon the valve casing and disposed a sufficient distance apart to allow the handle of the usual fireman's hose key or spanner to lie therebetween while the bearing points are preferably presented by opposite sides of
35 a ring cast upon the valvular plate and disposed a sufficient distance apart to allow the end of such handle to be inserted therebetween. The valvular plate is preferably in the form of a flat quadrant and movable in the plane of its curve.

40 For full comprehension, however, of my invention reference must be had to the accompanying drawings forming a part of this specification, in which similar reference characters indicate the same parts and wherein

45 Figure 1 is a side elevation of my improved cut off; Fig. 2 is a vertical axial sectional view thereof; Fig. 3 is a plan view thereof; Fig. 4 is a detailed view of the valvular member; Figs. 5 and 6 illustrate a modification of
50 my invention, in which the valvular plate is straight instead of quadrantal; and Fig. 7 illustrates a further modification in which a pair of valvular plates with duplicate operating gear, for use in connection with a

coupling member having a large passage 55 therethrough.

My improved valve casing consists of a one piece structure preferably having all its parts cast integrally, and it comprises male and female coupling members *b* and *c* in the 60 form, respectively, of externally and internally screw-threaded sleeves, joined together at their top and bottom by concentrically curved walls *d* and *e* respectively and at one end by an abutment wall *f*. These three 65 walls and the adjacent ends of the coupling sleeves inclose a quadrantal guideway or valve chamber and such adjacent ends of the coupling sleeves, present shearing edges *g'* and *h'*, while a ring *k* is cast upon one side 70 of the casing contiguous to the mouth of the guideway, the inner edge of such ring or adjacent sides of the lugs being formed to present substantially a knife edge or a pair of knife edges to have opposite sides thereof 75 constitute fulcrum points, and a web *m* extending from the edge of the ring to one side of the said mouth of the guideway acts as a stay for the ring or a carrier for the lugs and as a curtain hiding the mouth from the male 80 side of the device.

The valvular plate, *p*, is of flat quadrantal form and equal in dimensions to the quadrantal guideway or valve chamber. One end, *q*, thereof is of chisel-edge formation and 85 exerts a shearing action upon the edges of the adjacent ends of the coupling members or sleeves thereby clearing the same and, consequently the valve chamber, of ice or other foreign matter. A ring *r* is cast upon the 90 opposite end of the valvular plate and its inner edge, like that of the fulcrum ring, is formed to present an inwardly projecting knife edge *s*, the opposite sides whereof constitute a pair of bearing points. This bearing ring, *r*, is preferably disposed to lie parallel to the fulcrum ring when the valve is half out, in order that it may lie in angular positions of the same degree (although extending in opposite directions) relatively to 100 the fulcrum ring, when such valvular member is in completely closed or full open positions.

To operate my improved valve the small end or handle of the usual fireman's spanner 105 is inserted through the fulcrum ring or the space between the lugs and into the bearing ring, and upon being rocked upon the ful-

crum points will either draw out or return the valve and, consequently, either open or close the passage through the cut out. The port through my device is preferably of substantially acute angular form with its apex truncated, thus reducing the travel necessary to manipulate the valve. The capacity of this port being equal to that of the passage through the male and female coupling members.

As will be seen from the foregoing my improved hydrant or hose cut-off valve is more simple and less costly to construct than valves of this type heretofore known, while the internal parts thereof present no spaces wherein water can lodge and freeze, and the guideway is cleaned by the valve each time it is opened and closed.

If desired the valvular plate can be straight and flat as shown in Figs. 5 and 6 without departing from the spirit of my invention, or the valvular plate and the means whereby it is operated can be duplicated thereby reducing the travel necessary to open and close the port and, consequently, reducing the measurement of the structure in the direction of the travel. The valvular plate is provided with a stop *t* adapted to prevent the same being drawn completely out of its way.

What I claim is as follows:—

1. The combination with a hydrant, of a cut-off valve comprising a valve chamber means for securing such chamber to a hydrant, a valvular member located slidably in such chamber and movable at right angles to the port controlled thereby, a bearing device upon the valvular member and a fulcrum upon the coupling members, such bearing device and fulcrum being adapted to coact with and have a portion of a separate tool inserted therein for moving the said valvular member from and to closing position.

2. The combination with a hydrant, of a cut-off valve consisting of a pair of coupling members rigidly secured together with a guideway or valve chamber between them, one of such coupling members being adapted to be connected to a hydrant, a valvular member located slidably in such guideway and movable in a flat plane at right angles to the part controlled thereby, a bearing device upon the valvular member and a fulcrum upon the coupling members, such bearing device and fulcrum being adapted to coact with and have a portion of a separate tool inserted therein for moving the said valvular member from and to closing position.

3. A cut-off of the type specified consisting of a pair of coupling members rigidly secured together with a guideway or valve chamber between them such guideway or valve chamber being quadrantal and flat in the direction of its curvature, a valvular member conform-

ing to and located slidably in such guideway, a fulcrum device upon the valve casing and a bearing device upon the valvular member such devices being adapted to coact with a separate tool for moving the said valvular member from and to closing position.

4. A cut-off of the type specified consisting of a pair of coupling members rigidly secured together with a guideway or valve chamber between them a valvular member located slidably in such guideway, a fulcrum ring upon the valve casing and a bearing ring upon the valvular member such rings being adapted to coact with a separate tool for moving the said valvular member from and to closing position.

5. A cut-off of the type specified consisting of a pair of coupling members rigidly secured together with a guideway or valve chamber between them, a valvular member located slidably in such guideway, a fulcrum ring upon the valve casing and a bearing ring upon the valvular member such rings being formed with the interior edges thereof of inwardly tapered cross-section and adapted to coact with a separate tool for moving the said valvular member from and to closing position.

6. A cut-off of the type specified consisting of a pair of coupling members rigidly secured together with a guideway or valve chamber between them and adapted to present a port of angular form with truncated apex and extending transversely to the guideway, a valvular member located slidably in such guideway, and means for moving the said valvular member from and to closing position.

7. A cut-off of the type specified comprising a valve casing having a valve chamber with a port extending therethrough and effecting a communication between the ports of a passage in the opposite ends of the casing and a valve located slidably in such chamber, the said port being of less measurement in the direction of movement of the valve than transversely thereto and equal in capacity to the said passage.

8. A portable cut-off for hydrants, consisting of a one piece casing with all its parts cast integrally and comprising coupling sleeves, concentrically curved walls and an abutment wall joining the said sleeves together and presenting a quadrantal guideway; and a valvular plate of flat form.

9. A portable cut-off valve for hydrants, consisting of a one piece casing having a port of substantially acute angular form with its apex truncated with all its parts cast integrally and comprising coupling sleeves, concentrically curved walls and an abutment wall joining the said sleeves together and presenting a quadrantal guideway; a pair of fulcrum devices projecting from such casing; a

web bracing the said devices; and a valvular plate of flat quadrantal form and presenting a chisel edge scraping in its movement the face of the valve seat a pair of bearing devices projecting from the valve and disposed
5 to lie parallel to the fulcrum device.

In testimony whereof, I have signed my

name to this specification, in the presence of two subscribing witnesses.

FREDERIC SCOTT SEAGRAVE.

Witnesses:

WILLIAM P. McFEAT,

FRED. J. SEARS.