

(No Model.)

G. RICHARDSON.

BRANCH ATTACHMENT FOR WATER MAINS.

No. 582,230.

Patented May 11, 1897.

Fig. 1.

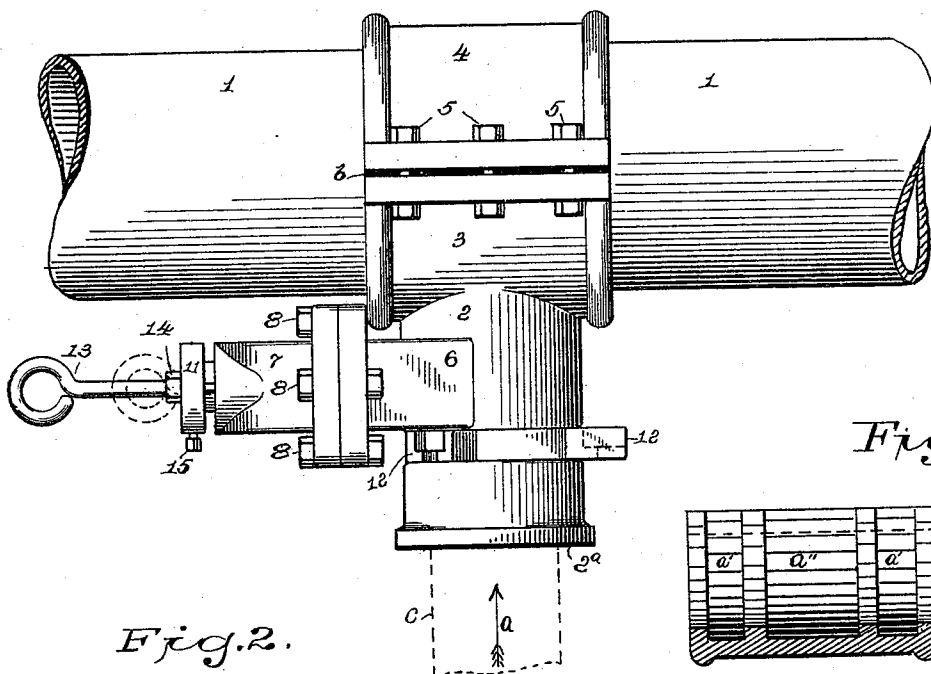


Fig. 2.

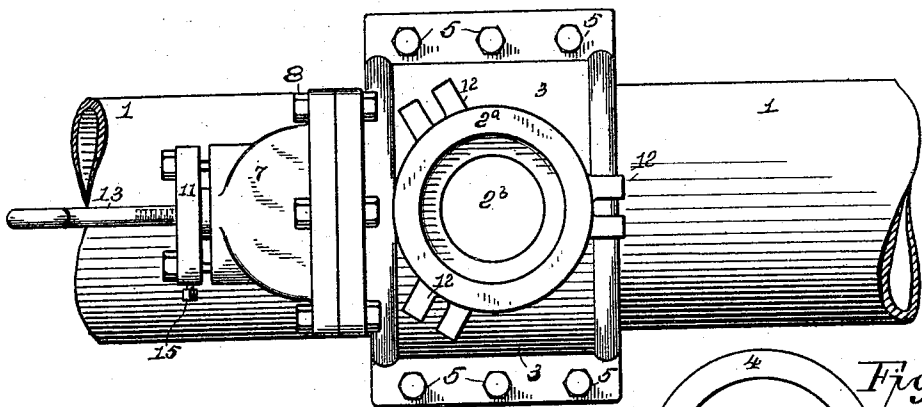


Fig. 3.

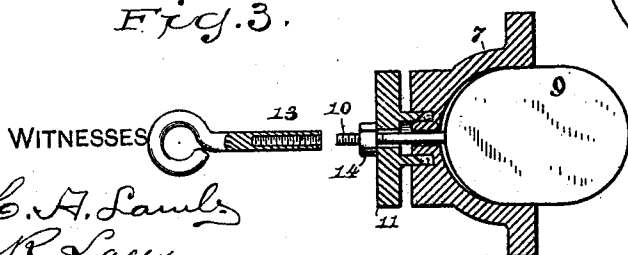


Fig. 4.

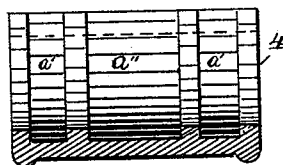
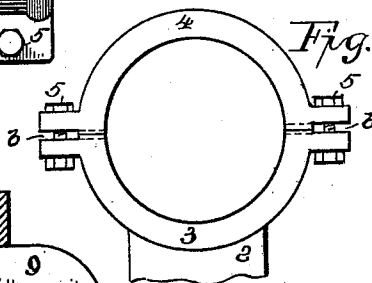


Fig. 5.



WITNESSES

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GEORGE RICHARDSON, OF BRIDGEPORT, CONNECTICUT.

BRANCH ATTACHMENT FOR WATER-MAINS.

SPECIFICATION forming part of Letters Patent No. 582,230, dated May 11, 1897.

Application filed March 28, 1896. Serial No. 585,212. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RICHARDSON, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Branch Attachment for Water-Mains, of which the following is a specification.

My invention relates to an improved branch attachment for water-mains, its object being to make a permanent connection with the main water-pipe without shutting off the same and also to provide means on such attachment for shutting off the branch pipe from the main pipe when desired.

To enable others to fully understand my invention, reference is had to the accompanying drawings, in which—

Figure 1 represents a plan view of the branch attachment connected to a main section of the main water-pipe, showing a gate-valve as part of the attachment. Fig. 2 is a vertical front elevation looking in the direction of arrow *a* of Fig. 1. Fig. 3 is a detail sectional view of the cap of the gate-valve, showing the manner of locking the gate in an open position; also, broken sectional view of the handle for temporarily operating the gate. Fig. 4 is a detail central sectional view through the cap or clamp, showing grooves on the interior of said cap to hold the lead packing. Fig. 5 is a reduced-sized side elevation of the clamping portion of the attachment and broken view of the cylindrical part of such attachment.

Its construction and operation are as follows:

1 represents the main water-pipe or water-main. The branch attachment is composed of the short cylindrical pipe or branch 2, semicircular clamp 3, integral therewith, and semicircular cap 4, connected thereto by the bolts 5. The gate-valve body 6 is also a part of the branch 2 and is provided with the bonnet 7, secured thereto by the bolts 8.

9 is the valve, operated by the short stem 10, and 11 is the stuffing-box for packing such stem.

12 are bifurcated lugs forming a part of the body or branch 2, the object of which will hereinafter be more fully explained.

a' a'' (see Fig. 4) are semicircular grooves

provided in the interior of cap 4, and a counterpart of such grooves is also provided on the semicircular portion 3 of the branch attachment. The meeting faces of the cap 4 and the semicircular part 3 are brought in close contact, as shown at Fig. 5, so as to make a continuous circle of such attachment and its cap to embrace the water-main 1. The bolting-flanges are, however, set apart to form the spaces *b*, which, together with the semicircular recesses before mentioned, are intended for lead packing.

To make a branch connection with a water-pipe, the attachment is first bolted to such main, as shown at Figs. 1 and 2. Lead is then poured into the spaces *b* and also into the grooves of the cap and attachment embracing the pipe, passages leading to the said grooves being shown in dotted lines, Fig. 5. This completely seals the said attachment to the main water-pipe, so that no water can leak by the point of contact.

A boring-machine (not shown) can then be clamped to the lugs 12 and a tight joint made between such machine and the faces 2^a of the branch 2. When an aperture sufficient to connect the branch pipe thereto has been made in the main pipe, the operating-tools are withdrawn sufficient to close the valve 9, and the boring-machine is removed, and the branch pipe *c* (shown in dotted position at Fig. 1) is then leaded into the branch 2, and when such branch pipe is fully connected the valve 9 is raised, allowing the water from the main pipe to flow through the said branch pipe. The detachable handle 13 is then removed, and the lock-nut 14 is put in its place on the valve-stem 10, so as to permanently lock the valve in an open position, the set-screw 15 being used principally for temporarily holding the valve open while operating on the main pipe, and yet it can be used in connection with the nut 14 to permanently keep the valve in a raised position.

The device above described is of great value in making connections with water-mains, and its use will obviate many of the difficulties now experienced in attaching branch pipes to such mains. It is not only valuable as a means of saving time in making connections, but its whole construction is much cheaper than the ordinary gate-valve which has heretofore been

used for such purposes, as the valve-body, branch, and semicircular clamping-surface are cast in one piece, and the valve construction can necessarily be made cheap enough to
5 meet the single requirement, as such valve will have to be abandoned as a valve as soon as the branch is fully connected to the main pipe, and the cost, therefore, of the complete branch attachment, as before mentioned, is
10 less than an ordinary gate-valve.

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

15 A branch attachment for water-mains having a body portion carrying a gate-valve integral therewith and a semicircular clamp portion integral with such body and adapted to embrace the water-main and a semicircu-

lar cap therefor, of openings *b* formed by the inner faces of the flange portion of said cap 20 and clamp, combined with semicircular recesses in such clamp and cap to receive lead packing, the clapper of the gate-valve adapted for a quick open-and-shut movement
25 by means of non-rotatable spindle having a threaded outer end to receive a nut to lock said clapper in open position and a removable handle to engage with such threaded portion of said spindle, substantially as set forth.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 13th day
30 of March, A. D. 1896.

GEORGE RICHARDSON.

Witnesses:

WILLIAM R. PALMER,
LEWIS F. PELTON.