L. S. CHAPMAN.

Service-Coupler Pipe.

No. 160,305. Patented March 2, 1875.

Fig.1

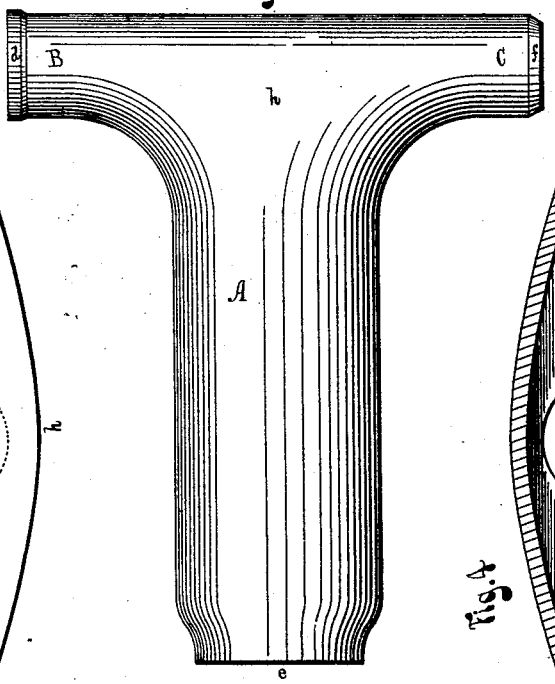


Fig.3

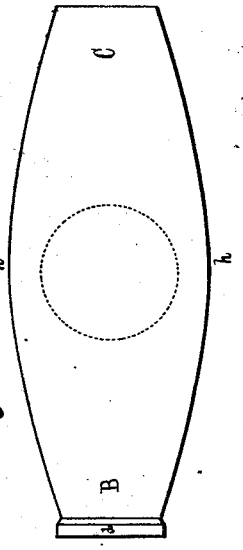


Fig.4

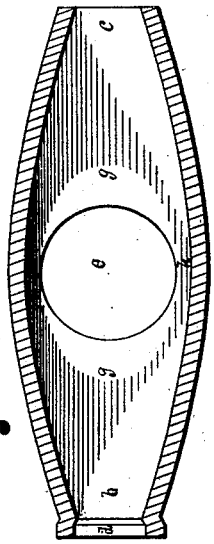
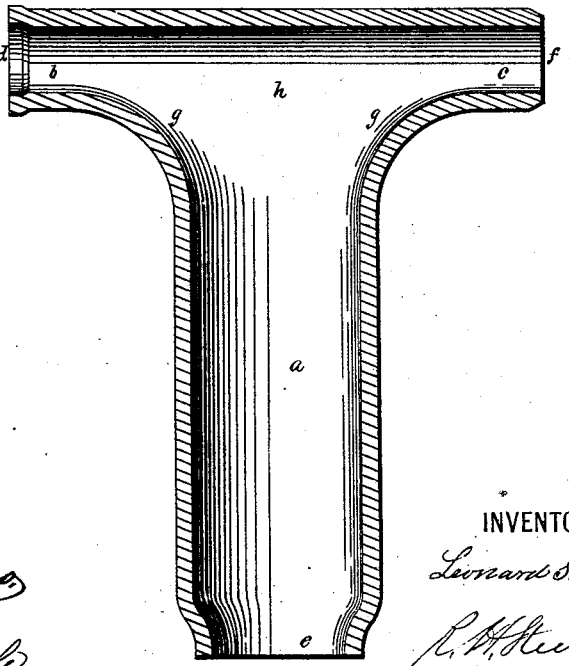


Fig.2.



WITNESSES

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UNITED STATES PATENT OFFICE.

LEONARD S. CHAPMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

IMPROVEMENT IN SERVICE COUPLER-PIPES.

Specification forming part of Letters Patent No. **160,305**, dated March 2, 1875; application filed December 30, 1874.

To all whom it may concern:

Be it known that I, LEONARD S. CHAPMAN, of Washington, in the county of Washington and District of Columbia, have invented a new and valuable Improvement in Service Coupler-Pipe; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a plan view of my device, showing the reservoir portion, and two arms or transverse portions. Fig. 2 is a longitudinal middle section of the same, showing the bores of the transverse and the reservoir-chamber. Fig. 3 is a side view of the transverse portion, showing the outside swell from the ends toward the middle, top, and bottom. Fig. 4 is a longitudinal middle section of the same, showing the said inside swell, and looking through the reservoir-chamber toward its outlet.

My invention is a service coupler-pipe; and consists in the novel construction and operation of the same, for the purpose of producing two currents of water in any one branch main, which shall converge toward a service-pipe, providing said branch main is connected in the usual manner with other branch mains, whereby it receives a supply of water into both of its ends at the same time, thereby largely increasing the volume of supply through said pipe, and adding greatly to the force of the same toward and through the outlets of discharge of such devices as hydrants, street-washers, or fire-plugs, all of which is hereinafter more fully described and illustrated by the accompanying drawings, in which the same letters designate identical parts of my device, in the different figures respectively.

The letter A represents that part of my device which is a little over double the caliber, and at least double the length of the other two parts or arms B and C, taken together. Said pipe is made of any suitable metal, cast or otherwise, of any suitable thickness of shell, and of a T form; the transverse portion or arms B and C, having the bores *b* and *c* at their outer ends, of continuous and exactly corresponding size to the water-main which is tapped, and with which the service-pipe is connected by said coupler. The portion A is directly coupled in the usual way, with the service-pipe and the arms B and C, respectively with the said water-main. This is done by means of the usual collar *d*, on the end of the arm B, and by having the ends *e* and *f* of the portions A and C so formed as to easily fit within the usual collars of the service and main pipe respectively.

The bores *b* and *c* of the said transverse portion of my coupler turn each by an easy curve, *g*, into the chamber *a*, within the part A; and each is also gradually swelled in size toward the point *h*, the outer shell of said bores also correspondingly swelling, so that they shall together become gradually enlarged into the caliber of the said reservoir-chamber *a*, said construction serving to produce two constant currents of water, from opposite directions, in any main, which shall converge toward and into said chamber *a*, thereby largely increasing the volume of supply ready for discharge through the outlet *e* into any aforesaid service-pipe.

The chamber *a* is gradually narrowed in, as shown, toward the outlet *e*, the shell also correspondingly formed, for the purpose of conveniently joining as aforesaid the coupler with the service-pipe, and of compressing the column of water in the said chamber, when it shall flow through the outlet *e* into said service-pipe. This compression increases the velocity (hence the momentum) of the flow, so that the column of water in the chamber *a* is discharged through the aforesaid final outlets with an increased force, without decreasing in the least its volume. Hence, double currents as aforesaid being first produced in the water-main to converge into the said chamber *a*, said largely increased volume of water is then ejected through the outlets of discharge, not only without any sensible diminution but with a largely-increased force.

Therefore, what I claim as my invention, and desire to secure by Letters Patent, is—

A service coupler-pipe, A B C, consisting

essentially of the transverse bores *b c*, swelling from their outer ends toward the middle and point of conjunction *h* into the caliber of the reservoir-chamber *a*, which is narrowed at its outlet *e*, substantially as and for the purposes specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

LEONARD S. CHAPMAN.

Witnesses:
E. C. WEAVER,
CHAS. B. STEELE.