

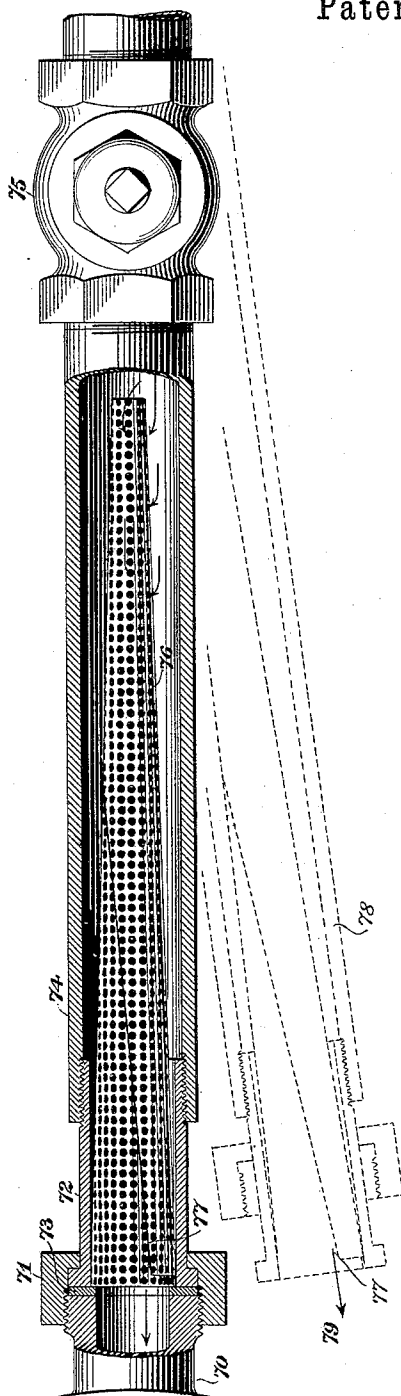
(No Model.)

J. THOMSON.

APPARATUS FOR APPLYING STRAINERS WITHIN SERVICE PIPES
IN CIRCUIT WITH WATER METERS

No. 427,447.

Patented May 6, 1890.



WITNESSES:

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APPARATUS FOR APPLYING STRAINERS WITHIN SERVICE-PIPES IN CIRCUIT WITH WATER-METERS.

SPECIFICATION forming part of Letters Patent No. 427,447, dated May 6, 1890.

Application filed March 6, 1890, Serial No. 342,890. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMSON, a citizen of the United States, residing in the city of Brooklyn, Kings county, State of New York, have invented certain new and useful Improvements in an Apparatus for Applying Strainers within Service-Pipes in Circuit with Water-Meters, of which the following is a specification.

This invention relates to an apparatus for the application of strainers within service-pipes in circuit with water-meters.

The invention is illustrated in the single figure of the drawing, which is a partial plan and central longitudinal section thereof.

The object of this invention is to make it commercially practicable to apply strainers with water-meters, particularly of the smaller sizes, to prevent the introduction of matter liable to damage or interfere with their action. To this end it is essential that their cost shall be a minimum and that certain objections heretofore held to their use shall be avoided.

Among many water-works engineers and superintendents of the United States there is a strong concurrent objection to the employment of strainers with water-meters, even when conceding the probability of increased durability of the meter, for the following reasons: When the strainer is applied within the casing of the meter and becomes clogged, it is necessary to pull down the meter in order to get at the obstruction, which process is usually troublesome and expensive. Then if the strainer is applied within the pipe—a permanent inclosed fixture—the flow is still liable to be interrupted, with no ready means for removal of the cause; or if provided with separate “dirt-boxes” having hand-holes for cleansing, &c., then the additional expense of such apparatus is an effectual barrier to their application, except in meters of large capacity.

In the drawing, 70 represents the inlet-spud of a meter, the nut 71, the sleeve 72, and washer 73 together comprising one type of regular “coupling.” To the sleeve of the coupling the service-pipe 74 is connected, leading to the regular service stop-cock 75. It is the usual practice to place such service stop-cocks about twelve inches from the meter, between the meter and the main.

The strainer 76 is made from a perforated sheet of brass or braided wire, first cut to the required dimensions as a blank, next simply coiled or wound upon a conical mandrel, and then the end pinched together to effect a closure, thereby producing the cone or frustum, as illustrated. The blank is cut to such dimensions that one side, as 77, preferably laps the other about a quarter of an inch, and, preferably, the line of this lap may be somewhat spiral, following around the cone, as illustrated in the figure. The outside diameter of the base of the strainer or cone should be slightly greater than the inside diameter of the sleeve. Now, the parts being assembled as described, the strainer is inserted point first into the inlet side of the coupling and the pipe, and as the lapped joint will yield like a spring a joint sufficiently close for all practical purposes will be then made between the base of the strainer and the inside of the sleeve. The water will then impinge against the point of the strainer, be deflected on all sides, passing to the interior thereof through the perforations and thence on through the meter. If the bore in the spud is greater than that of the sleeve, the strainer is retained in place against the pressure of the water by the washer 73, as shown. This strainer may be made from regular market stock, even when its length is equal to ten or fifteen times its diameter; therefore it meets the desirable features of low cost, great area in the perforations, presenting the minimum obstruction to flow, a considerable space for detention of foreign material, and is exceedingly convenient to apply; but the final and particular feature of this system is shown in the dotted outline 78 of the figure, from which it will be seen that when the strainer becomes clogged, which will gradually appear in the discharge of the meter, to repair such difficulty it is simply necessary to act as follows: First, turn the service stop-cock, and thus shut off the pressure; second, disconnect the nut from the meter and slide it back on the sleeve; third, force the pipe aside “out of line,” as indicated; fourth, again turn the stop-cock and let on the pressure, which will blow out not only the collected debris, but the strainer as well, as indicated by the arrow 79; finally, after cleansing the strainer replace it

to position, force the pipe back in line and couple up to the meter, all as at first described. From this it will be seen that the objections cited are entirely obviated, while among the 5 contingent advantages may be mentioned the feasibility of introducing strainers with smaller perforations than would be justifiable were the strainer a fixture inconvenient to get at.

10 What I claim is—

1. The combination, with the main supply-pipe provided with a joint, of a service-pipe, a detachable coupling for the service-pipe, and a coiled strainer fitting the interior of the 15 service-pipe at or near its free end and arranged to bear against the spud of the meter, the construction and arrangement being substantially such as described, whereby the coupling may be loosened, the service-pipe bent to 20 one side, and the strainer discharged therefrom by the flow of the fluid in the pipe, substantially as set forth.

2. The combination, with the main supply-pipe having a joint, of a service-pipe, the detachable coupling to connect the service-pipe 25 with the meter, and a loosely-coiled conical strainer having a closed end inserted into the pipe at or near its end and arranged to bear against the spud of the meter, the construction and arrangement being substantially such 30 as described, whereby when the service-pipe is in position the strainer will be held in place by the meter, but when not in position the strainer may be freely inserted or discharged therefrom in the manner set forth. 35

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

JOHN THOMSON.

Witnesses:

F. A. LORECRAFT,
JOS. W. KAY.