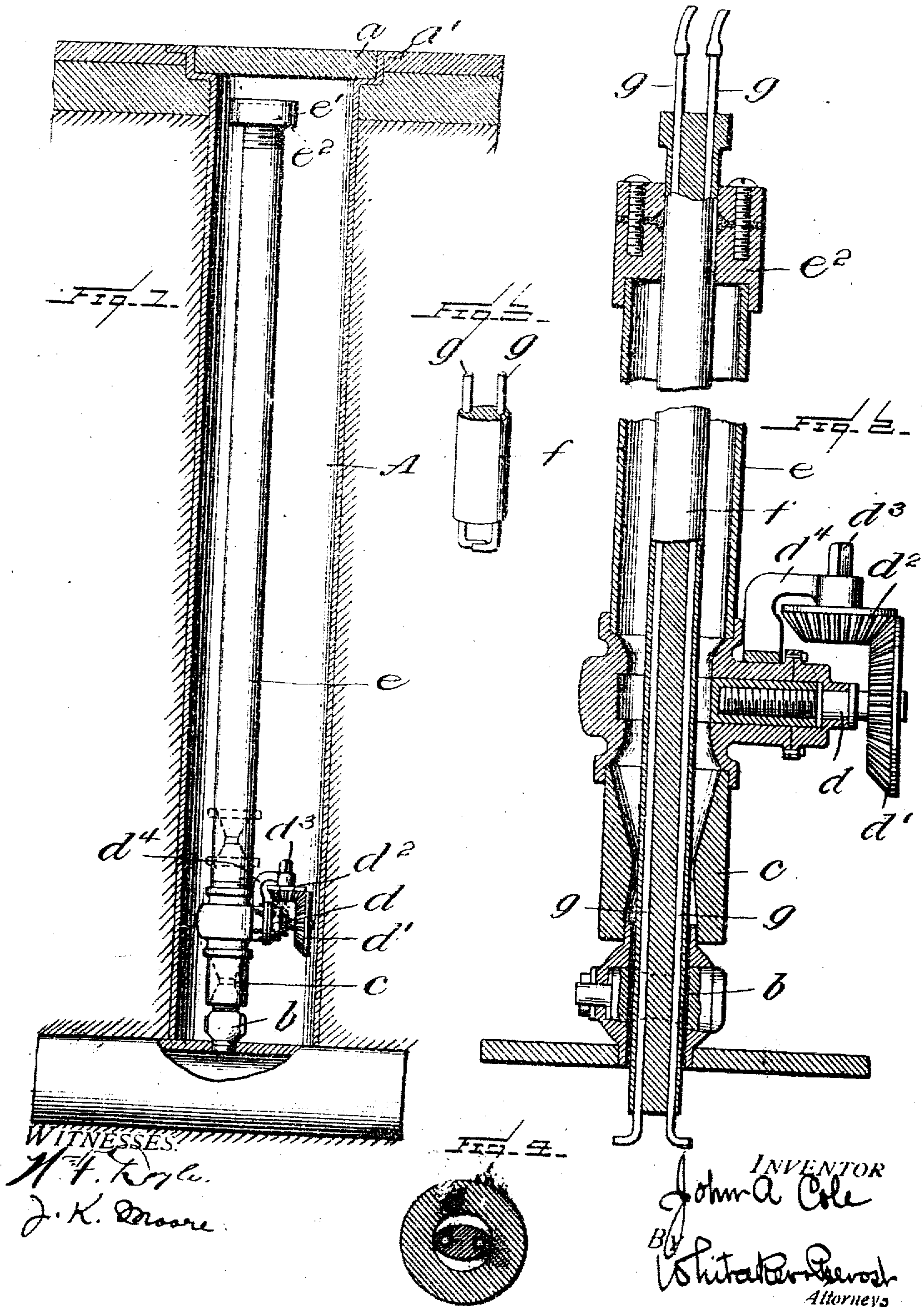


No. 811,763.

PATENTED FEB. 6, 1906

J. A. COLE.
STREET CONNECTION FOR PITOMETERS.
APPLICATION FILED APR 19, 1905.



UNITED STATES PATENT OFFICE.

JOHN A. COLE, OF CHICAGO, ILLINOIS.

STREET CONNECTION FOR PITOMETERS.

No. 811,763.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed April 19, 1905 Serial No. 256,466.

To all whom it may concern:

Be it known that I, JOHN A. COLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Street Connections for Pitometers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In the use of the pitometer heretofore in connection with street water mains and pipes or other underground pipes it has been found necessary in order to give access to the pipe or main to take up the pavement and dig down to the main or pipe. This was costly and inconvenient, as the opening in the ground had to be closed and the pavement relaid when the test had been concluded. In case it was desired to repeat the test at that point it could only be done by a like operation. In order to avoid this, I provide the construction forming the subject-matter of this application, which has for its object the providing of a permanent means at desired points, whereby the pitometer can be easily and quickly applied and removed from the mains and pipes of a town, city, or other circulating system.

It consists, mainly, in providing at the requisite points of the pipe or main a small casing provided with an easily-removable cover, within which is located a valved passage or pipe communicating with the interior of the pipe or main in respect to which the test is to be made. Through this pipe or passage the pitometer can be introduced to the interior of the pipe or main and removed therefrom at any time it is desired.

In the accompanying drawings I have illustrated one form in which I have contemplated embodying my invention, and said invention is disclosed in the following description and claims.

Figure 1 is a view in elevation of the connection or passage pipe with the inclosing casing in section. Fig. 2 is a vertical sectional view, a few of the parts only being shown in full lines. Fig. 3 is a detail view showing the lower end of my pitometer-rod arranged for insertion. Fig. 4 is a transverse section of the connection or passage pipe and the pitometer-rod within it.

In the drawings, A is a cylindrical casing adapted to be placed in the ground at the

point at which it is deemed advisable to apply the pitometer for the tests desired. This casing is of cast-iron similar to other casings in the water service. It extends from the main to the surface of the ground or pavement and is preferably provided at the top with an offset to receive a detachable cover *a*. The top is also preferably provided with an outwardly-extending flange *a'*.

The connection or passage pipe through which the pitometer-tubes are inserted, as shown in the drawings, consists in this instance of the common valved or open tap *b*. To the top of this is secured the guiding-section *c*. Above this is the valve *d*, and above this is the pipe *e*, extending upward and which is provided at the top with a stuffing-box or the lower half of such box, as at *e'*. It will be seen from my manner of using the invention that a complete stuffing-box is always required; but the gland might be on the rod of the pitometer, so that but one gland for each pitometer might be required. This, however, is not my preferred construction. When the pipes of the pitometer are removed, the upper end of the communicating pipe or passage is preferably covered by the removable cover *e'*, which may be attached by a double bayonet-joint or other simple securing means permitting the easy removal of the same. This connection or passage pipe is made with a view of accommodating my improved pitometer pipe-rod *f*, which carries the pitometer-pipes *g g*, as more particularly shown and described in my application, Serial No. 250,314. The pipes *g g* are necessarily of small size and easily injured or bent, and to prevent this while inserting them and the rod *f* I provide the guiding-section *c*, the interior of which is at its central portion made of a little greater size than the rod. The walls above this are made of an easy incline or taper, so that when engaged they will center the rod and will guide it through the remainder of the passage without permitting the lower ends of the tubes or pipes *g g* to come in contact with the interior of the passage.

The valve *d* I provide with means by which it can be opened and closed from the surface of the ground. In this case I have shown a sliding valve, to the stem of which is secured the bevel-gear *d'*, meshing with the bevel-gear *d''*, which is provided with the square or other form of stem *d'''*, by which the stem of the valve can be turned to open or close the

valve. The gear d^2 can be mounted in any preferred way, a bracket d^4 , secured to the valve-casing, being employed for this purpose in this instance.

5 The guiding-section c may, if preferred, be located above the valve d , or such a section may be employed both above and below such valve, as shown in dotted lines in Fig. 1.

The manner of placing the pitometer-rod 10 with the pipes $g g$ in position in the main or water-pipe is as follows: The gland or upper portion of the stuffing-box is placed upon the pitometer-rod f and the rod lowered into the upper part of the pipe e until the rod reaches 15 a point just above the valve d . The stuffing-box is then packed and closed by screwing down the gland. When this has been accomplished, the valve d is opened, as described, and then the rod is lowered to the position de- 20 sired in the main.

It will be seen that the pipes $g g$ are mounted revolubly in the rod f . In inserting the rod these pipes are turned so that their lower angular ends are turned inwardly, so that they 25 have no greater lateral extent than the rod itself. This enables me to make the passage or pipe communicating with the water main or pipe of a minimum size. When the rod f has been placed in the position desired, the 30 pipes $g g$ are turned to their operative position.

While I have designed this construction primarily for use with my said pitometer-rod, as above described, it may also be used 35 with other forms and construction of pitometer-pipes.

What I claim, and desire to secure by Letters Patent, is—

1. The combination with a liquid-conduit, 40 of a pipe or passage extending from the surface of the ground and communicating with the interior of said conduit; a pitometer extending through said pipe or passage into said conduit, means for closing the top of the 45 said pipe or passage against the pitometer, and a valve for closing said pipe or passage on the withdrawal of the pitometer, substantially as described.

2. The combination with a water main or 50 pipe, of a pipe or passage extending from the surface of the ground and communicating with the interior of said main, and a pitometer extending through said pipe or passage into said main, said construction including a

means for guiding the pitometer centrally 55 through the pipe or passage when inserting the same, substantially as described.

3. A street connection for applying a pitometer to a water main or pipe comprising a casing extending from the main or pipe to 60 the surface of the ground, and a valved pipe or passage within the same connected with the interior of the main, capable of admitting a pitometer, said pipe or passage being provided with a valve for opening and closing 65 said passage and a guiding portion for directing the pitometer in inserting the same, substantially as described.

4. In a street connection for applying a pitometer to a water main or pipe, the combination with the tap, of the valve, the guid- 70 ing-section, the pipe connection above these and the stuffing-box, substantially as described.

5. In a street connection for applying a 75 pitometer to a water main or pipe, the combination with a water main or pipe, of a pipe or passage extending from the surface of the ground to the said water main or pipe, said pipe or passage being provided with a valve 80 to open the same for the admission of a pitometer and to close it on the removal thereof, of a stuffing-box at the upper end of said pipe or passage, a detachable cover for closing the 85 upper end of said pipe or passage when there is no pitometer passing through the stuffing-box and a detachable cover for closing the upper end of said casing above the upper end of said pipe or passage, substantially as de- 90 scribed.

6. A street connection for applying a pitometer to a water main or pipe, comprising a casing from the main or pipe to the surface of the ground, a pipe or passage within the 95 same connecting with the interior of the main or pipe, said pipe or passage being provided with a valve for opening and closing the same, and guiding means for directing the pitometer in inserting the same, substan- 100 tially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN A. COLE.

Witnesses:

D. G. STUART,
F. H. HUBBARD.