W. S. DARLEY.

VELOCITY PRESSURE AND CALCULATING GAGE.

APPLICATION FILED MAY 20, 1916.

1,276,732.

Patented Aug. 27, 1918.

2 SHEETS—SHEET 1.

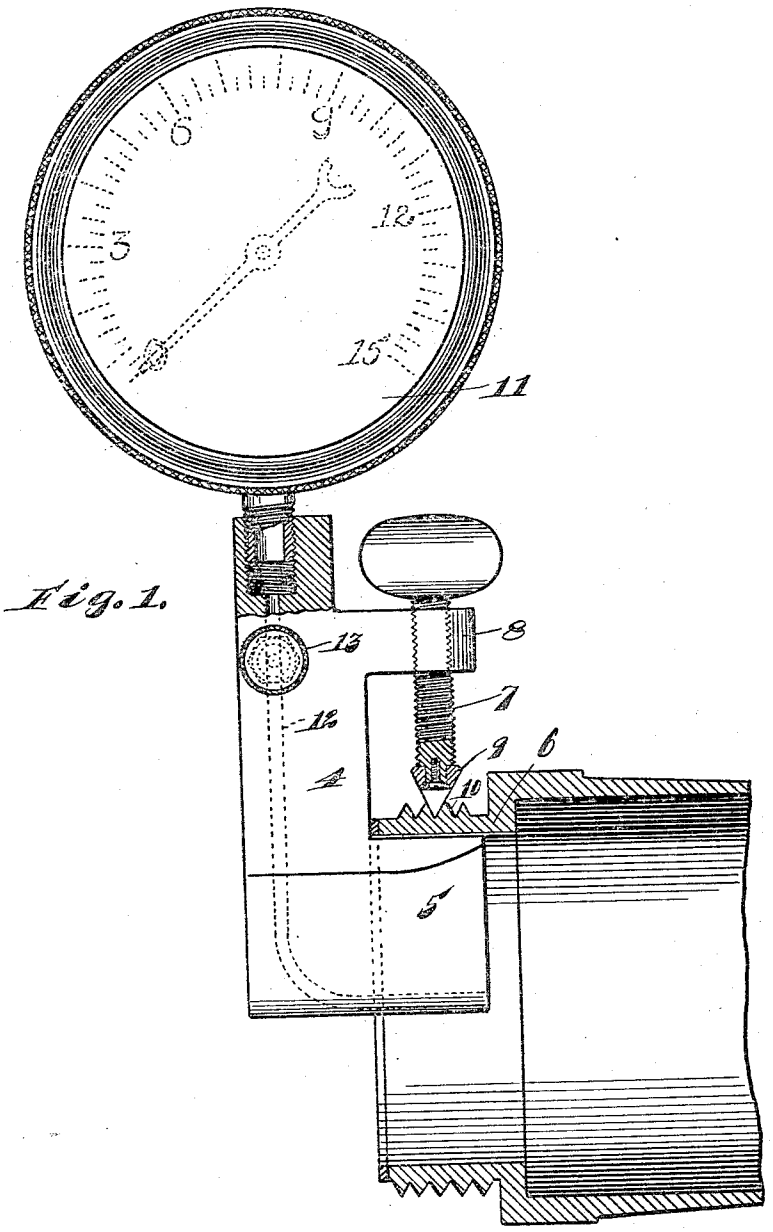


Fig. 1.

Witnesses:
C. E. Wessels.
B. G. Richards

Inventor:
William S. Darley,
By Joshua R. H. Potts
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig. 2.

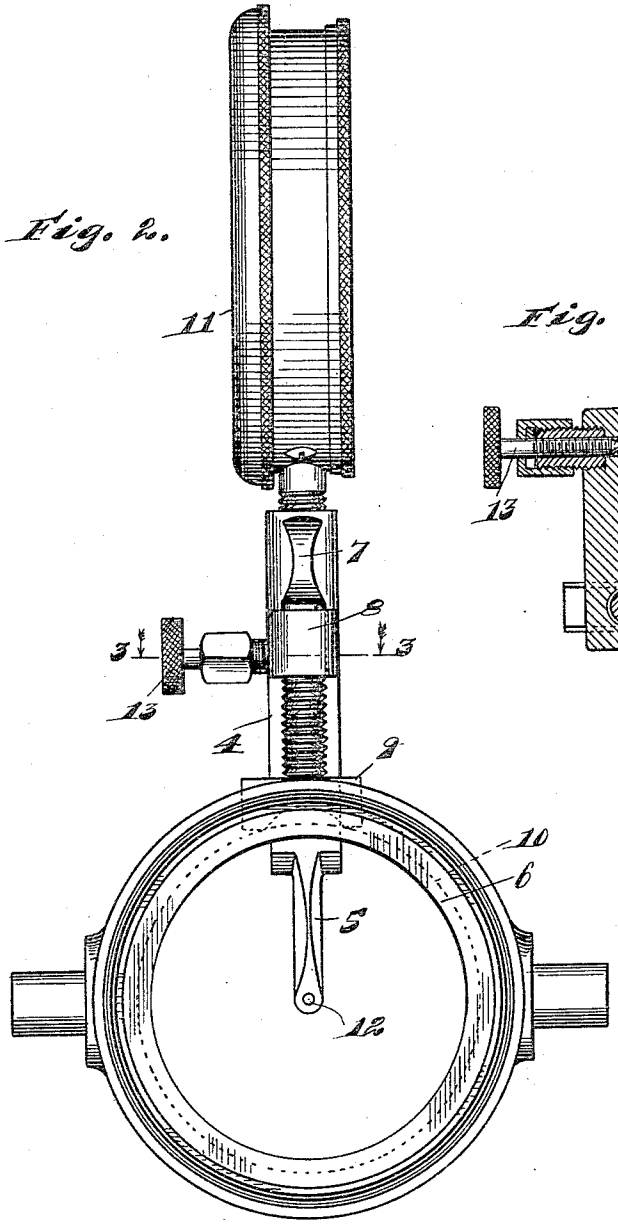


Fig. 3.

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UNITED STATES PATENT OFFICE.

WILLIAM S. DARLEY, OF CHICAGO, ILLINOIS.

VELOCITY-PRESSURE AND CALCULATING GAGE.

1,276,732. Specification of Letters Patent. Patented Aug. 27, 1918.

Application filed May 20, 1916. Serial No. 98,968.

To all whom it may concern:

Be it known that I, WILLIAM S. DARLEY, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Velocity-Pressure and Calculating Gages, of which the following is a specification.

My invention relates to improvements in velocity pressure and calculating gages, especially adapted for determining the velocity pressure and quantity of flow of fluids from orifices, such as fire-plugs or hydrants, the object of the invention being to provide a simple and efficient construction of this character which may be readily attached to any fire-plug, fire-hydrant or similar construction.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanyng drawings forming a part of this specification, and in which,

Figure 1 is a side view of a construction embodying my invention, shown partially in section and in position of use,

Fig. 2, an end view of the same, and

Fig. 3, a section taken on line 3—3 of Fig. 2.

The preferred form of construction, as illustrated in the drawings, comprises a suitable bracket 4 which may be of brass, or other suitable metal, and is provided with a clamping arm 5 adapted to extend within the orifice 6 of an ordinary fire-plug or hydrant. A clamping screw 7 is threaded in a lug 8 overhanging the arm 5 and is provided, at its lower end, with a head 9 swiveled thereto and pointed at its ends to engage within the thread 10 of the hydrant, as indicated. A pressure gage 11 is mounted on the bracket 4 and is connected by means of a substantially L-shaped passage 12 with the inner end of arm 5. A needle valve 13 is provided in bracket 4 for controlling and regulating the passage 12.

In use, the device is clamped to the edge of the orifice of an ordinary fire-plug or hydrant, with the arm 5 extending within said orifice and the clamping screw 7 and the head 9 engaging the thread on the outer side thereof, as indicated. Different fire-plugs and hydrants have different sizes of orifices and different threads thereon, but it will be observed, that the construction set forth may be readily and quickly attached to any such plug or hydrant irrespective of the size of the orifice thereof, or the thread on said orifice. The arrangement is such, that the open end of the passage 12 will be presented in opposition to the direction of flow through the orifice and well distanced from the walls of said orifice so that the current operating on the same will not be affected by friction on the walls of the orifice. The gage 11 is graduated to register different pressures exerted by the current through the passage 12 and thus to gage the velocity pressure of the current issuing through the orifice. Obviously the quantity of water issuing through an orifice of a certain size under a certain pressure or velocity head, is substantially constant and varies as does the velocity or pressure head, so that the reading of the gage 11 will furnish a ready means for calculating or estimating the quantity of flow through the orifice under the conditions registered on the gage. By regulating the passage 12 by means of the needle valve 13 to partially restrict the same, the gage 11 may be made substantially independent of sudden and slight variations in the flow from the orifice, or the tendency to impart vibrating movements to the needle of the gage, thus rendering the readings thereof more accurate.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A device of the class described comprising a bracket having an arm adapted to take within a hydrant orifice; clamping means on said bracket coöperating with said arm; and a gage on said bracket, there being a passage leading from the inner end of said arm to said gage, the inner end of said passage being located well within said orifice and distanced from the sides thereof, substantially as described.

2. A device of the class described comprising a bracket having an arm adapted to take within a hydrant orifice; a clamping screw on said bracket coöperating with said arm; a bearing member swiveled to said screw and shaped to engage a thread; and a gage on said bracket, there being a passage leading from the end of said arm to said gage, substantially as described.

3. A device of the class described comprising a bracket having an arm adapted to take within a hydrant orifice; a clamping screw on said bracket coöperating with said arm; a bearing member swiveled to said screw and shaped to engage a thread; a gage on said bracket, there being a passage leading from the end of said arm to said gage; and a valve for regulating said passage, substantially as described.

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

WILLIAM S. DARLEY.

Witnesses:
JOSHUA R. H. POTTS,
CORA F. SCHIEBER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."