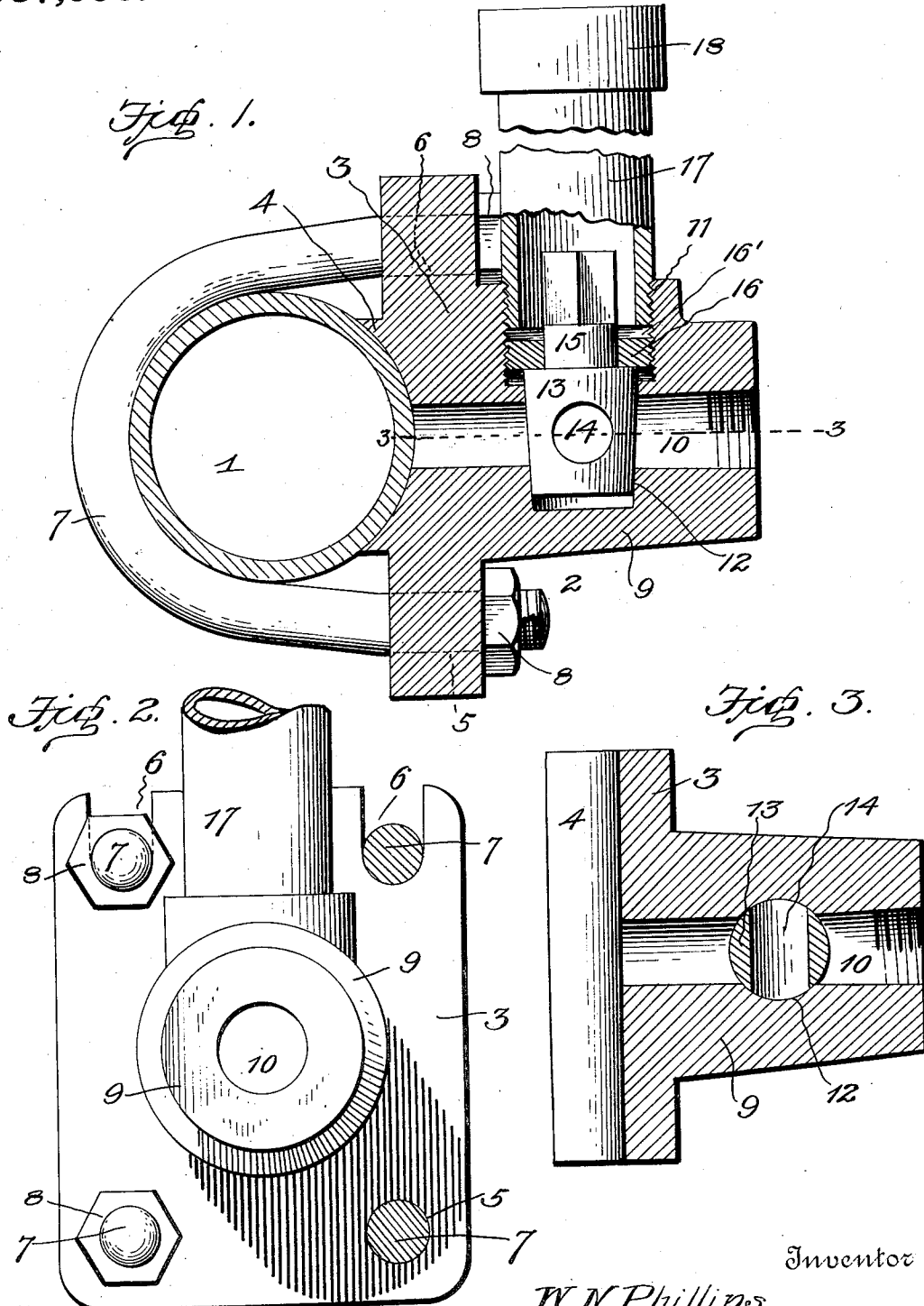


W. N. PHILLIPS.
SERVICE CONNECTION FOR PIPE MAINS.
APPLICATION FILED MAY 6, 1909.

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Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM N. PHILLIPS, OF RENO, NEVADA.

SERVICE CONNECTION FOR PIPE-MAINS.

937,958.

Specification of Letters Patent.

Patented Oct. 26, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM N. PHILLIPS, a citizen of the United States, residing at Reno, in the county of Washoe and State of Nevada, have invented certain new and useful Improvements in Service Connections for Pipe-Mains; and I do 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.

This invention relates to improvements in service connections for water, gas, or similar mains.

The object of the invention is to provide a connection of this character adapted to be applied to a pipe main to enable the latter to be tapped and a service pipe connected therewith.

A further object is to provide a service clamp having combined therewith a cut-off valve, adapted to be operated from the surface of the ground.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts, as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings: Figure 1 is a cross-sectional view of my improved service connection, showing the same applied to a main. Fig. 2, is a side view of the connection; and, Fig. 3, is a vertical sectional view taken at right-angles to and on the line 3—3 of Fig. 1.

Referring more particularly to the drawings, 1, denotes the main to be tapped and 2 denotes my improved connection. The connection 2, comprises a base or saddle plate 3, having on its under side a concave or segmental extension 4, adapted to fit the side of the main with which it is engaged. The saddle plate 3, is provided in one end with bolt holes 5, and in its opposite end with notches 6. Adapted to be engaged with the holes 5 and notches 6, are curved clamping rods or bolts 7, which are passed around the main, as shown. The ends of the bolts are threaded and project beyond the outer side of the saddle plate, and are adapted to receive nuts 8, by means of which the saddle plate is clamped into tight engagement with the main.

On the saddle plate 3, is formed an outwardly extending boss or projection 9, in

which is formed the central longitudinally disposed passage 10, which is continued through the base or saddle plate, as shown. The outer end of the passage 10, is threaded to receive a suitable tapping or drilling machine, (not shown).

In one side of the boss 9, is formed a threaded socket 11, which is disposed at right-angles to the passage 10, and connects at its inner end with a valve seat 12, formed in the boss 9, and intersecting the passage 10. Operatively mounted in the seat 12, is a plug valve 13, having a transversely disposed passage 14. On the outer end of the valve plug 13, is formed a stem 15, having a squared outer end adapted to receive a wrench. In the inner portion of the threaded socket 11, is arranged a packing ring or washer 16, which engages the stem 15, at its outer end of the plug 13, and has a screw driver slot 16' to facilitate the screwing in and out of the same, and is adapted to prevent leakage around the valve and which may be adjusted to take up wear and hold the valve into fluid tight engagement with the seat.

Adapted to be screwed into engagement with the outer end of the socket 11 is a pipe or tubular casing 17, which extends upwardly to the surface of the ground and is adapted to receive the wrench or turning tool, whereby the valve 13, may be operated from the surface of the ground. The casing 17, is preferably incased in the usual surface box (not shown), and is provided on its upper end with a closing cap 18, which prevents the entrance of dirt or foreign matter to the casing.

In the application of the invention, the saddle plate is clamped into engagement with the main at the point where it is desired to tap the same, and the valve 13, turned to an open position. The tapping machine is then screwed into engagement with the threaded outer end of the passage 10, and the drill of the machine operated through the passage 10, and the passage 14, in the valve plug, and a hole thus formed in the main. After the hole is thus formed in the main, the drill is retracted and the valve 13, turned off. The tapping machine is now disengaged from the threaded outer end of the passage 10, and in place thereof is connected a service pipe, (not shown). After the service pipe has thus been connected, the valve 13 is again turned on, thus permitting

the fluid from the main to flow through the service pipe. The valve when arranged as herein shown and described, may be operated at any time to cut off the supply of fluid to the service pipe.

A connection constructed as herein shown and described is especially adapted for use in connection with high pressure gas or water mains, as by the use of this connection the possibility of leakage is entirely prevented. The combined arrangement of the valve and saddle plate and the strong and durable construction of the device enables the same to withstand sudden increase of pressure or the contraction or expansion of the parts without danger of being broken.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention, as defined in the appended claim.

Having thus described my invention, what I claim is:

In a connection of the character described,

an apertured saddle plate having a main engaging projection, clamping rods or bolts arranged in said saddle plate, and adapted to engage said main, whereby the plate is clamped into fluid tight engagement with the main, a boss formed on said saddle plate, said boss having arranged therein a passage communicating with the aperture in said saddle plate, said passage having a threaded outer end and a threaded socket, a valve seat formed in said boss across said passage, a valve plug operatively mounted in said valve seat, a valve stem formed on said plug, an adjustable packing ring arranged in said threaded socket to hold the said valve plug in fluid tight engagement with its seat, and a tubular casing engaged with the outer end of said socket around the stem of the valve and extending to the surface of the ground, whereby the valve may be operated through said casing, and a cap arranged on the outer end of the casing.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM N. PHILLIPS.

Witnesses:

S. McDOWALL,

ALBERT D. AYRES.