

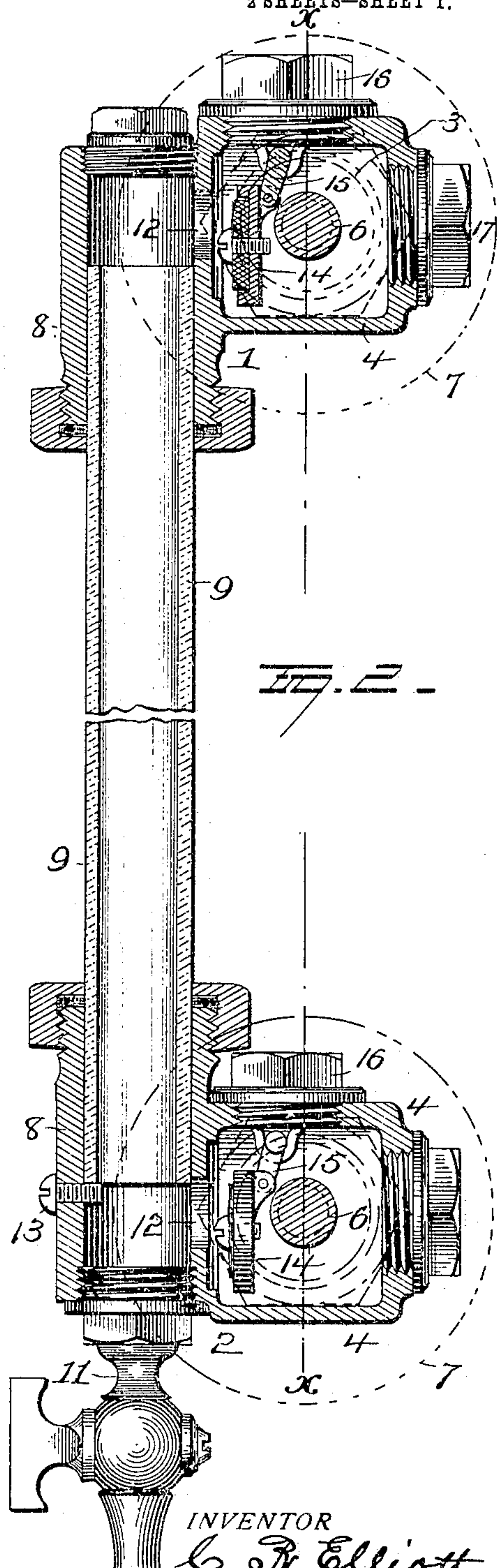
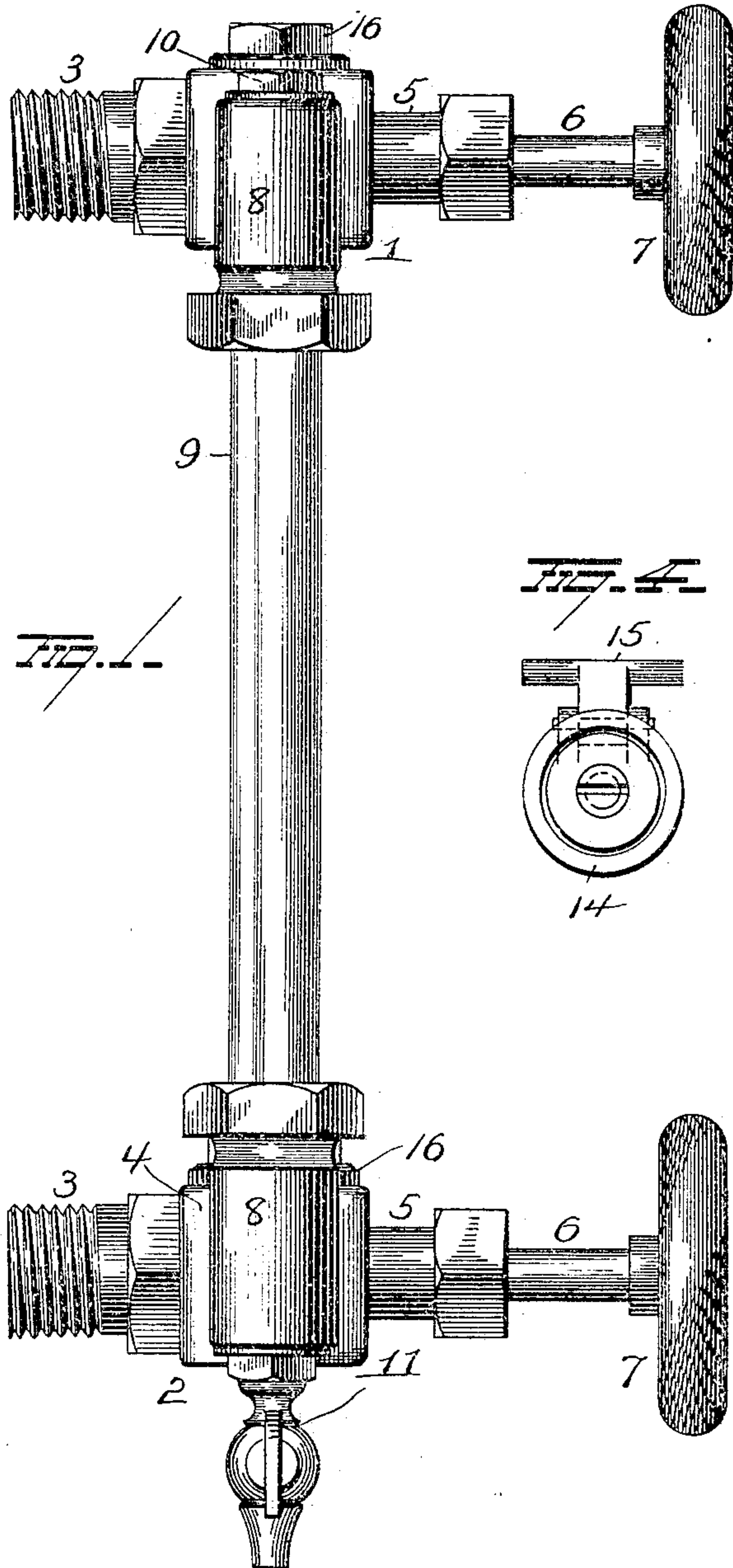
No. 788,030.

PATENTED APR. 25, 1905.

C. R. ELLIOTT.
WATER GAGE.

APPLICATION FILED JULY 26, 1904.

2 SHEETS—SHEET 1.



WITNESSES
E. Nottingham
G. F. Downing

INVENTOR
C. R. Elliott
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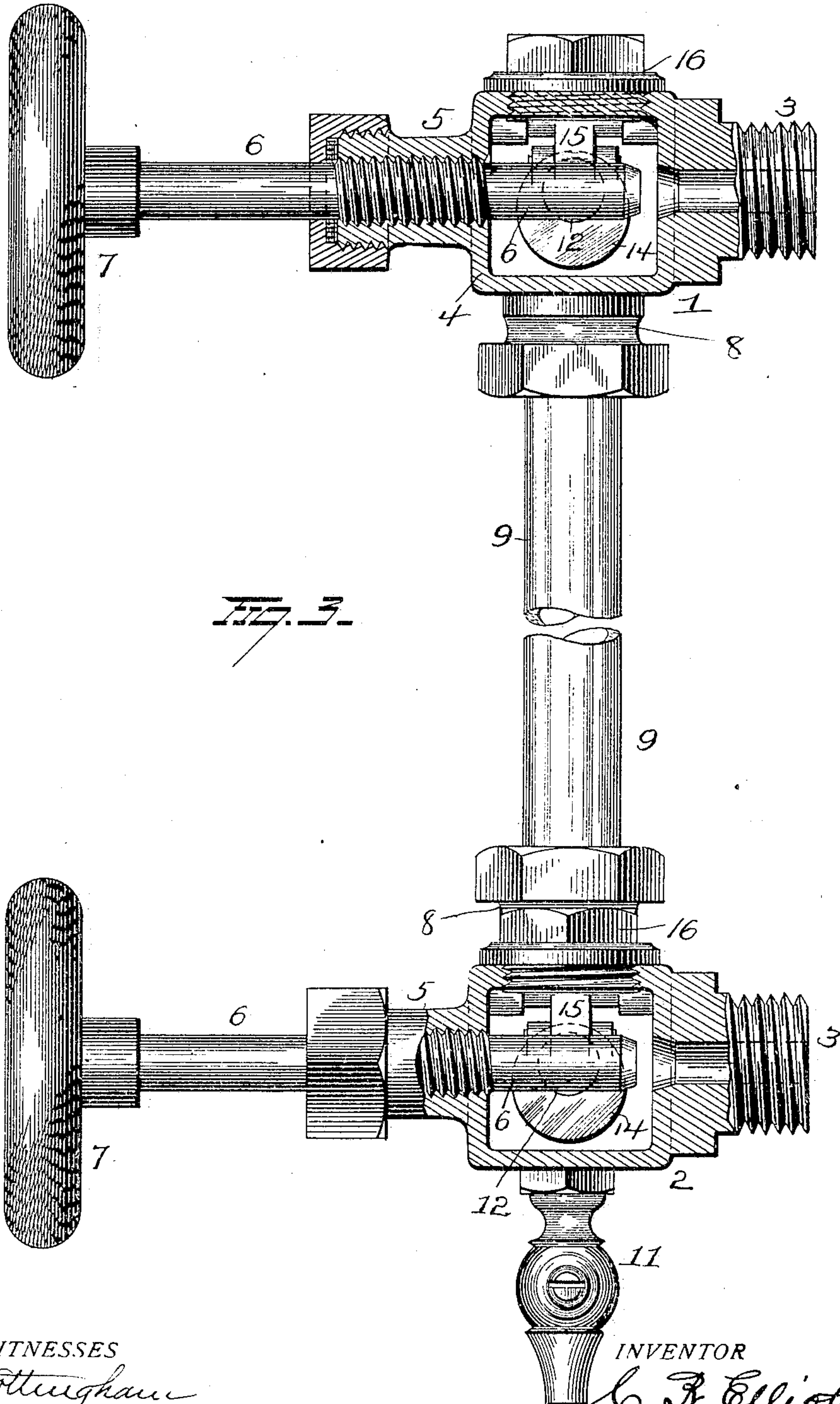
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PATENTED APR. 25, 1905.

C. R. ELLIOTT.
WATER GAGE.

APPLICATION FILED JULY 28, 1904.

2 SHEETS—SHEET 2.



WITNESSES
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UNITED STATES PATENT OFFICE.

CHARLEY R. ELLIOTT, OF DENVER, COLORADO.

WATER-GAGE.

SPECIFICATION forming part of Letters Patent No. 788,030, dated April 25, 1905.

Application filed July 26, 1904. Serial No. 218,226.

To all whom it may concern:

Be it known that I, CHARLEY R. ELLIOTT, a resident of Denver, in the county of Denver and State of Colorado, have invented certain
5 new and useful Improvements in Water-Gages; 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
10 the same.

My invention relates to an improved water-gage for steam-boilers, the object of the invention being to provide improved mechanism for automatically preventing the escape
15 of steam and hot water in the event of breaking the glass tube and to so construct the parts as to permit the glass tube to be inserted from above or below without disturbing the metal fixtures.

20 With these and other objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

25 In the accompanying drawings, Figure 1 is a view in side elevation, illustrating my improvements. Fig. 2 is a view in vertical section. Fig. 3 is a view in vertical section on the line *x x* of Fig. 2, and Fig. 4 is a view of
30 the safety or automatic valve removed.

1 represents the upper and 2 the lower metal fixture, having threaded ends 3 for attachment to the boiler. Both fixtures 1 and 2 are made with angular enlarged casings 4
35 and internally-threaded sleeves 5 opposite the opening communicating with the boiler, and threaded valve-stems 6 are mounted in said threaded sleeves and are adapted to close said openings, and enlarged handholds 7 are lo-
40 cated on the outer ends of the stems to facilitate their operation.

Integral with the angular casings 4 and at one side thereof are vertical alined sleeves 8, suitably packed to receive the glass tube 9.
45 The upper end of upper sleeve 8 is closed by a threaded plug 10, and the lower end of lower sleeve 8 is closed by a threaded cock 11, either of which can be removed and the glass

tube inserted or removed from above or below through either of said sleeves 8. 50

The casings 4 are made with ports 12, permitting the free passage of water and steam to the tube 9, and a screw 13 is located in lower sleeve 8 and projects thereinto below the end of tube 9, limiting the downward
55 movement of said tube and holding it above the port 12, so as not to interfere with the free passage of water, this screw being removed or unscrewed slightly when the tube is to be removed or inserted through the lower
60 sleeve 8.

In casing 4 in both of the fixtures flap-valves 14 are mounted, and said flap-valves 14 normally hang in a vertical position adjacent to ports 12 and are supported on hang-
65 ers 15, having trunnions at their ends supported in notches in the casing, and said valves can be readily removed and replaced through openings in the top of the casings, which are normally closed by threaded plugs
70 16, and threaded plugs 17 close openings in the sides of the casings which permit ready inspection of the parts when desired.

In the ordinary operation of the gage the valves 14 hang idle, due to the uniform pres-
75 sure throughout; but should the glass tube break the pressure behind valves 14 will force them to their seats and close ports 12, preventing the escape of hot water and steam. The broken tube can be removed through the
80 upper sleeve 8 by removing plug 10 or through the lower sleeve 8 by removing cock 11, and the new tube can be inserted through either the upper or lower sleeve, as may be desired.

A great many slight changes might be made
85 in the general form and arrangement of the parts described without departing from my invention, and hence I would have it understood that I do not restrict myself to the pre-
90 cise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters
95 Patent, is—

1. In a gage, the combination with two fixtures, each having a sleeve, a glass tube connecting said sleeves, removable devices closing said sleeves and permitting the insertion
5 and removal of the glass tube through either sleeve, said fixtures having lateral chambers communicating with the sleeves, and flap-valves in said chambers and designed to automatically close communication with the
10 sleeves when the tube breaks.

2. In a gage, the combination of two fixtures, each having a sleeve and each having a chamber laterally removed from the sleeve and communicating therewith, a glass tube
15 mounted at its ends in said sleeves, and removable devices closing the outer ends of said sleeves, and permitting the insertion and removal of the glass tube through either sleeve, a manually-operated valve carried by each
20 fixture for shutting off communication between the fixtures and the boiler, and automatic flap-valves mounted in said lateral

chambers for closing communication between said chambers and the sleeves carrying the tube, when the latter breaks. 25

3. In a gage, the combination of two fixtures, each comprising a chamber and a sleeve arranged side by side and communicating with each other, means permitting the insertion of a gage-tube through either of said sleeves, 30 each chamber having an opening in its top, plugs in said openings, and flap-valves suspended from said plugs and adapted to automatically close communication between said chambers and sleeves when the gage-tube 35 breaks.

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

CHARLEY R. ELLIOTT.

Witnesses:

HARRY W. GARNEY,
CHAS. L. DYE.