

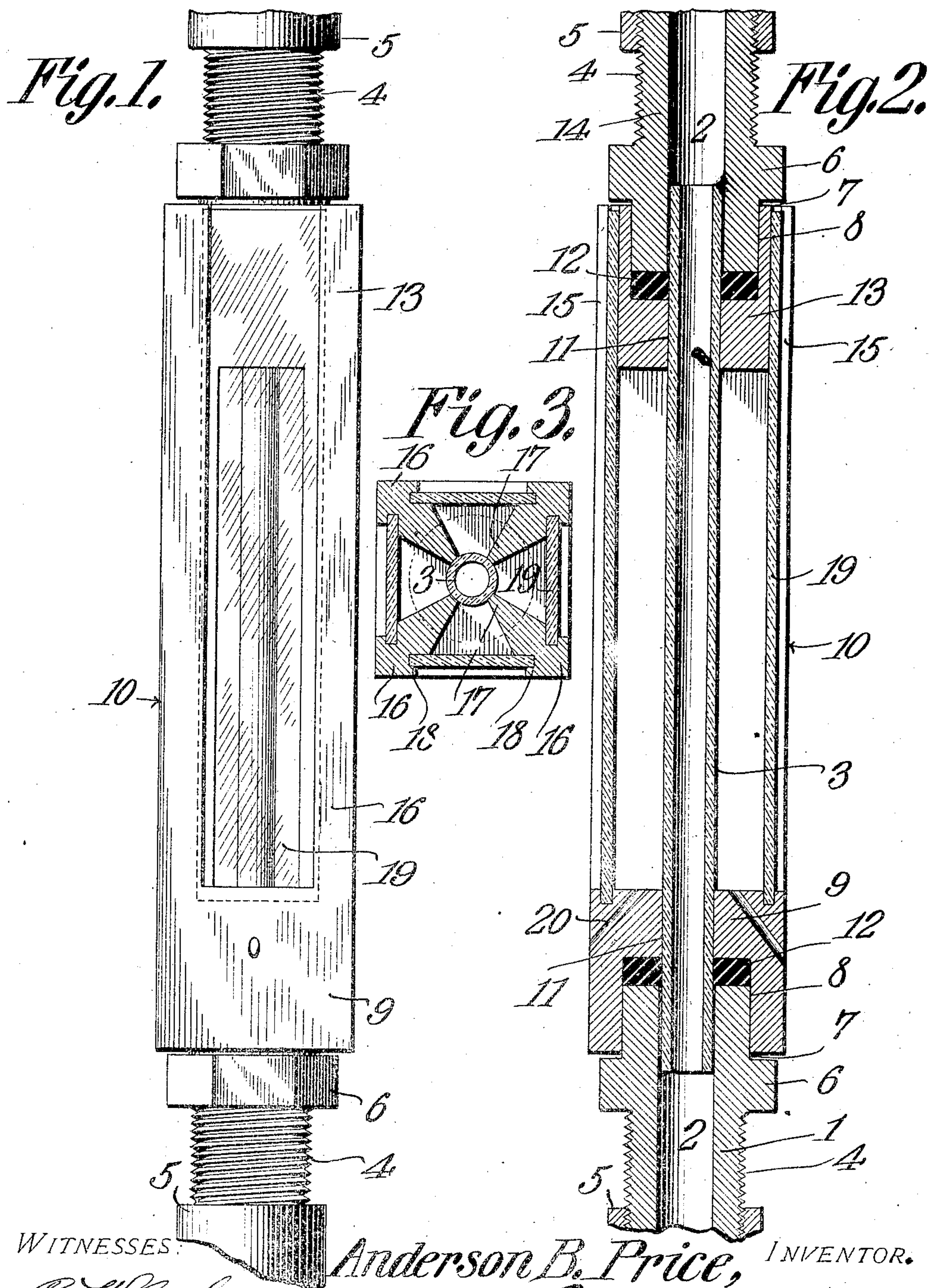
No. 845,258.

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A. B. PRICE.

GAGE.

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WITNESSES:

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ANDERSON BITTLE PRICE, OF VICAR SWITCH, VIRGINIA.

GAGE.

No. 845,258.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ANDERSON BITTLE PRICE, a citizen of the United States, residing at Vicar Switch, in the county of Montgomery and State of Virginia, have invented a new and useful Gage, of which the following is a specification.

This invention relates generally to water-gages for boilers, and particularly to that class of such devices which is provided with means for preventing injury due to the bursting of a gage-tube.

The objects of the invention are to improve and simplify the construction of such devices, furthermore, to increase their efficiency in operation and to decrease the expense attending their manufacture.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of the following claims without departing from the spirit of the invention or sacrificing any of its advantages.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a gage constructed in accordance with the present invention. Fig. 2 is a vertical section. Fig. 3 is a horizontal section through the middle of the gage.

Like reference numerals indicate corresponding parts in the different figures of the drawings.

The improved gage of the present invention is provided with a lower pipe-section 1, which is formed with a longitudinal bore 2 of sufficient size to receive in a loose manner the lower end of a glass gage-tube 3. The lower pipe-section 1 is formed exteriorly, adjacent the lower end thereof, with threads 4 and is adjustably fitted into the upper end of a pipe 5, which communicates with the boiler. Intermediate its ends the lower pipe-section 1 is formed with a collar 6, and above said collar the pipe-section is formed with a smooth upper end 7. The smooth upper end 7 of the pipe-section 1 is adapted to fit into an annular packing-chamber 8, formed in the lower member 9 of a gage-shield, which is indicated generally by 10. Leading out of the upper end of the annular packing-chamber 8 is a bore 11, through which the gage-tube 3

extends, as shown. A soft washer 12, constructed, preferably, of rubber or similar material, is fitted into the upper end of the annular packing-chamber 8 above the pipe-section 1, so that when said pipe-section is screwed upwardly with respect to the pipe 5 the washer 12 is compressed tightly around the gage-tube 3, so as to form a fluid-tight joint.

The upper member 13 of the gage-shield 10 is constructed, in the same manner as the lower member 9, with a packing-chamber 8, having a washer or packing-ring 12 and being adapted to receive the smooth lower end 7 of an upper pipe-section 14, which is formed with a collar 6 and threads 4 to engage an upper pipe 5, which leads into the boiler. The upper member 13 of the gage-shield 10 is formed in each of its flat faces with an undercut groove 15. The lower and upper members 9 and 13 are connected with each other by a plurality of rods 16, which, as shown in Fig. 3, preferably are approximately diamond shape in cross-section and radiate with respect to the gage-tube 3, the inner ends 17 of said rods being preferably in contact with the gage-tube 3, so as to brace the same. The rods 16 may be either formed integral with the end members 9 and 13, as shown, or they may be suitably secured to said end members. Each of the rods 16 preferably is formed with a pair of grooves 18, which act as guideways to receive glass protecting-plates 19. In the event that the gage-tube 3 should burst under excessive pressure the protecting-plates 19 will prevent the scattering of the pieces of glass. For the purpose of draining the shield 10 in the event that any water should enter the same the lower member 9 is formed with a plurality of inclined drain-passages 20.

Whenever it is necessary to supply a new gage-tube 3, the lower pipe-section 1 is screwed downward into the pipe 5 and the upper pipe-section 14 is screwed upward into the upper pipe 5, so that said pipe-sections 1 and 14 become disengaged from the lower and upper members 9 and 13 of the gage-shield 10. This disengagement of the pipe-sections removes the compression from the packing-rings 12 and permits the insertion of a new gage-tube through the bores 11 of the upper and lower members, after which the shield 10 can be replaced between the pipe-sections 1 and 14, and said sections can be screwed together in order again to com-

press the packing-rings 12 and hold the shield 10 securely in position.

It will be apparent from Fig. 2 that the collar 6 of the upper pipe-section 14 projects over the upper ends of the protecting-plates 19, for which reason, when the parts are assembled, it will be impossible to move the protecting-plates 19 upward out of their guideways.

10 The improved gage of the present invention is strong, simple, durable, and inexpensive in construction, as well as thoroughly efficient in operation.

While a shield of square cross-section has been depicted in the present instance, it is to be understood that the shape can be changed to suit any given requirement and that one or more glass plates 19 may be employed.

What is claimed is—

20 1. A device of the character described comprising upper and lower pipe-sections each having a longitudinal bore, a collar and a smooth upper end, a shield comprising upper and lower members each having a bore and a packing-chamber adapted to receive the smooth upper end of one of said pipe-sections, said upper member having undercut grooves, rods connecting said upper and lower members and having grooves therein forming guideways, transparent plates extending down through the undercut grooves of the upper member and through the guideways of said rods, a gage-tube extending through said upper and lower members and projecting loosely at its upper and lower ends

into the bores of said upper and lower pipe-sections, and packing-rings surrounding said gage-tube and disposed in said packing-chamber, said gage-tube being in contact with the inner ends of said rods.

2. A guard for water-gages said guard having longitudinally-disposed openings therein gradually diminishing in width toward their inner ends, said inner ends being adapted to be closed by a gage-tube, and a transparent plate closing the outer end of each opening.

3. A device of the character described comprising tubular gage-tube-receiving devices, connections between said devices adapted to contact throughout their lengths with and to reinforce a gage-tube, and transparent plates secured to and closing the spaces between, the connections to completely inclose the tube.

4. A device of the character described comprising tubular gage-tube-receiving devices, connections between said devices adapted to contact throughout their lengths with and to reinforce a gage-tube, and transparent plates secured to and closing the spaces between, the connections to completely inclose the tube, one of the gage-tube-receiving devices having a drain therein.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ANDERSON BITTLE PRICE.

Witnesses:

G. O. CORBOUGH,
J. S. PRICE.