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Patented Oct. 25, 1898.

W. G. TYSON.

BLOW-OFF DEVICE FOR BOILERS.

(Application filed July 23, 1897. Renewed Aug. 30, 1898.)

(No Model.)

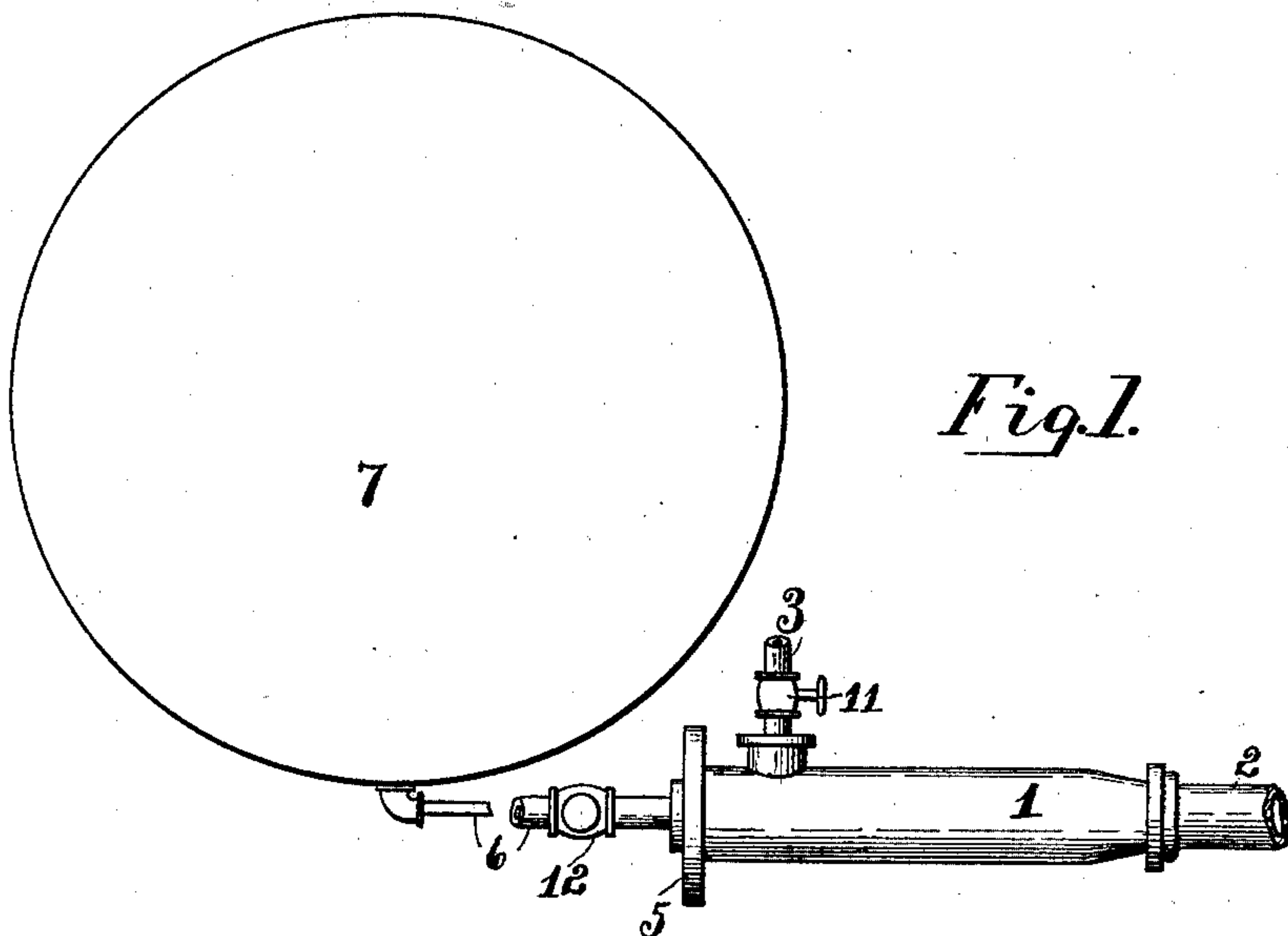


Fig. 1.

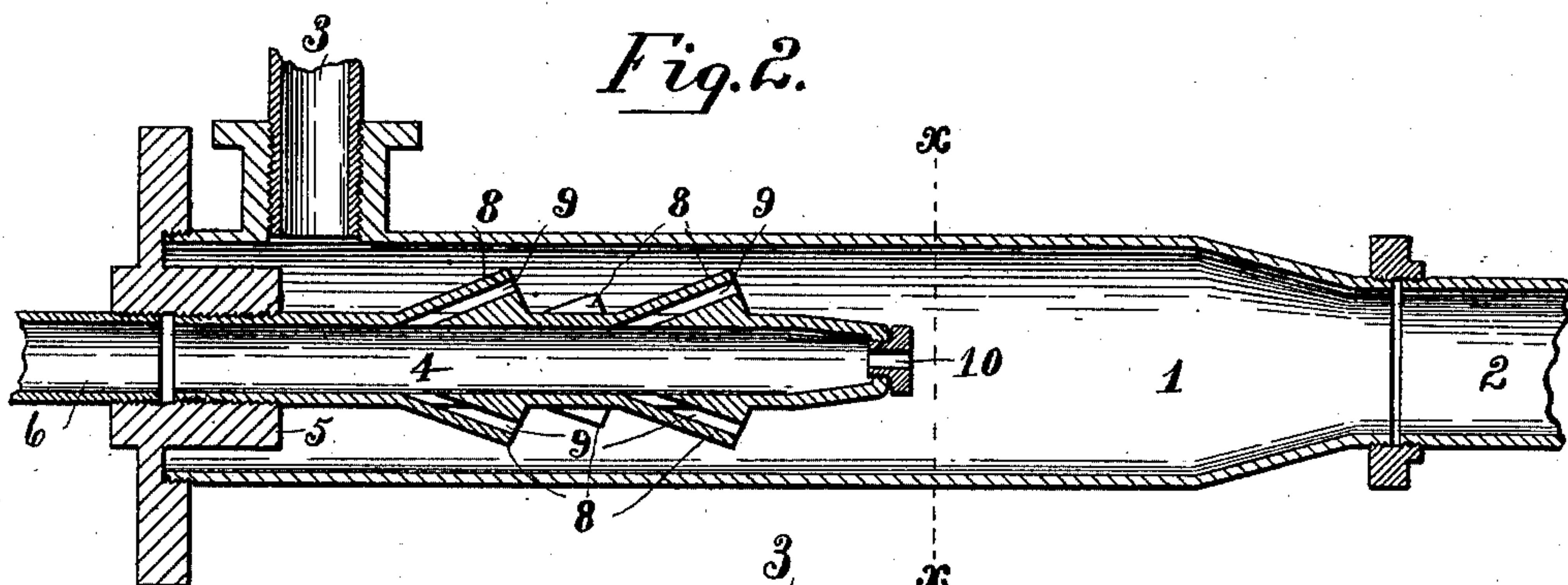


Fig. 2.

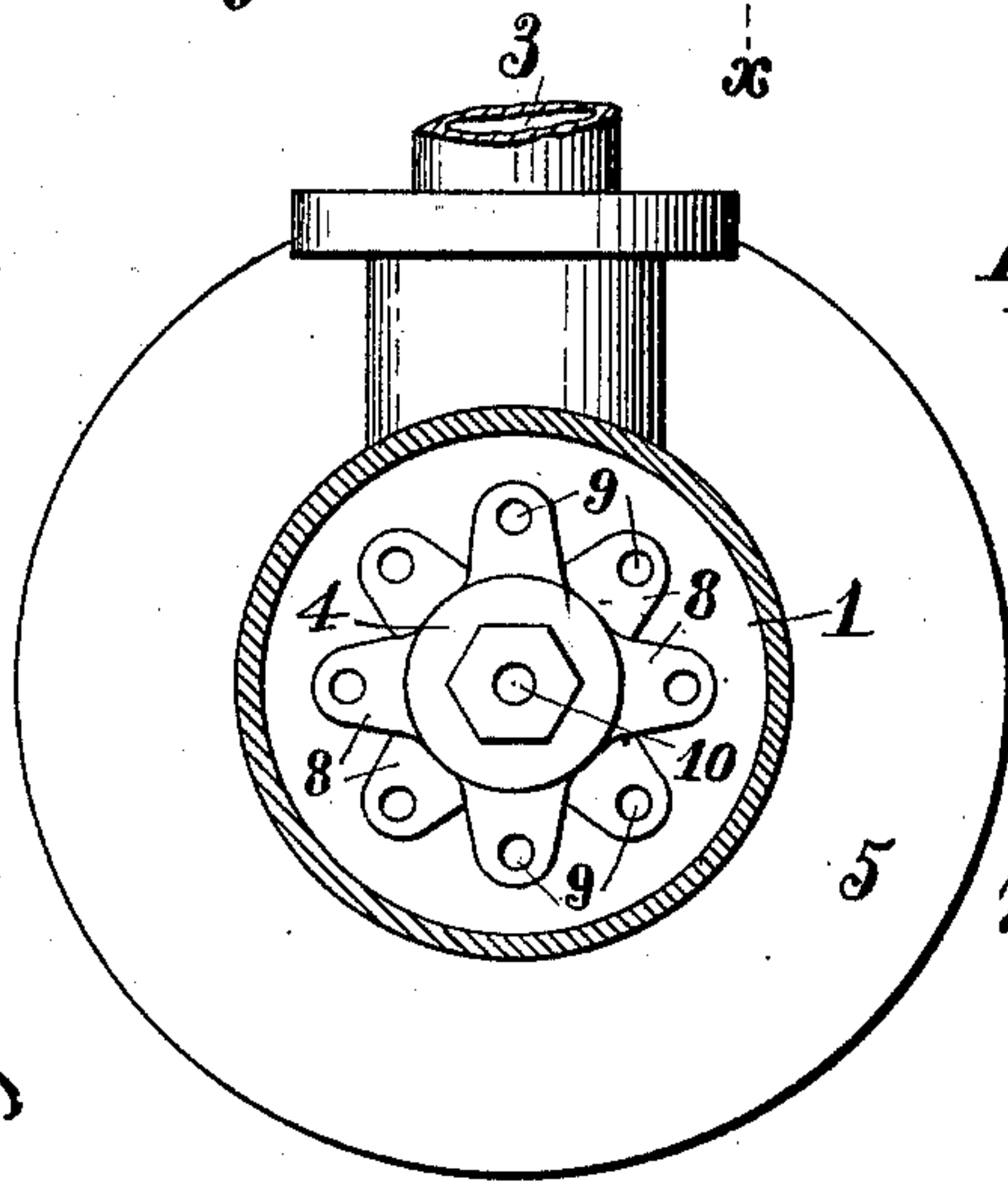


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

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BLOW-OFF DEVICE FOR BOILERS.

SPECIFICATION forming part of Letters Patent No. 613,093, dated October 25, 1898.

Application filed July 23, 1897. Renewed August 30, 1898. Serial No. 689,850. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. TYSON, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Blow-Off Devices for Boilers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, of which—
10 Figure 1 is a side elevation. Fig. 2 is a longitudinal section through the middle, enlarged; Fig. 3, a vertical section on line xx , Fig. 2, enlarged.

The object of this invention is to provide a simple and efficient device for "blowing off" steam or hot-water boilers into sewers or the like, whereby the usual noise is avoided and the hot water or steam from the boiler is cooled or condensed and passes on to the sewer without injury to the same either from undue pressure or by a corrosive or disintegrating action upon the material of which the sewer is constructed.

To this end the invention consists, essentially, of a closed vessel that is adapted to communicate with the sewer or the like at one end and having also at the opposite end a pipe leading to a cold-water main or other cold-water supply, together with a pipe that is adapted to communicate with the interior of the boiler and also the said vessel, into which latter it extends, the extension being provided with apertures for the passage of the hot water into the vessel.

35 The invention consists in the particular construction and arrangement of the aforesaid parts, as hereinafter pointed out.

Referring to the accompanying drawings, which illustrate an embodiment of the invention substantially in the preferred form and which I have used with practical success, 1 marks a closed vessel, preferably of cylindrical form, as shown, and to whose open forward end is secured an exit-pipe 2, that leads to the sewer. On the upper side and near the rear end of said vessel is an inlet-pipe 3, that communicates between the interior of the latter and a suitable source of supply of

cold water—as, for example, a reservoir or street water-main.

Extending forward from the rear end of the vessel some distance beyond the mouth of the inlet-pipe 3 is a second inlet-pipe or conduit 4. This pipe is secured to the head of the vessel and communicates with a pipe 5 of the vessel and communicates with a pipe 6, leading to the interior of a boiler 7, Fig. 1.

Pipe 4 is provided with a series of projections 8 on its periphery, in each of which is a passage-way 9, directed forward at an angle to the side or longitudinal axis of the pipe and leading from the interior of the latter to the interior of the vessel 1. There is also an aperture 10 in the forward end of the said pipe 4.

One object of making the passage-ways 9 at an angle, as shown, is to induce by an injector-like action a strong and swift flow of the water into the vessel through the pipe 4.

Having thus described the construction of my invention, I shall now explain its mode of operation, which is as follows: When it is required to blow off the boiler, a cock or valve 11, Fig. 1, in the pipe 3 from the cold-water supply is opened and the water flows into and fills the vessel 1. A cock or valve 12 in the pipe 6, leading to the boiler, is now opened, whereupon the hot water passes into the pipe 4 and thence through the passage-ways 9 and also through aperture 10 and, coming into contact with the moving body of cold water, will be immediately and noiselessly cooled or condensed, passing harmlessly away by the exit-pipe 2 into the sewer.

I do not wish to be understood as limiting myself to the special construction shown and described, as the same may be considerably varied without departing from the principle of the invention.

When the lateral passage-ways 9 are used, the contracted end opening 10 of pipe 4 may be dispensed with. It is, however, preferable to use the same in order to avoid the accumulation of sediment in the said pipe.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a device of the character and for the purpose recited, the combination of the closed vessel, adapted to communicate with a sewer, the pipe adapted to communicate with a
5 source of cold-water supply, and opening into said vessel adjacent to the rear end thereof, and the inlet-pipe within said vessel adapted to communicate with a boiler, and extending beyond the mouth of said water-supply pipe,
10 and provided with the series of passage-ways

directed forward at an angle to the longitudinal axis of said pipe, substantially as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two sub- 15 scribing witnesses.

WILLIAM G. TYSON.

Witnesses:

WALTER C. PUSEY,
JOSHUA PUSEY.