No. 859,271. PATENTED JULY 9, 1907.

C. G. WIELAND.

STEAM BOILER.

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Fig. 1

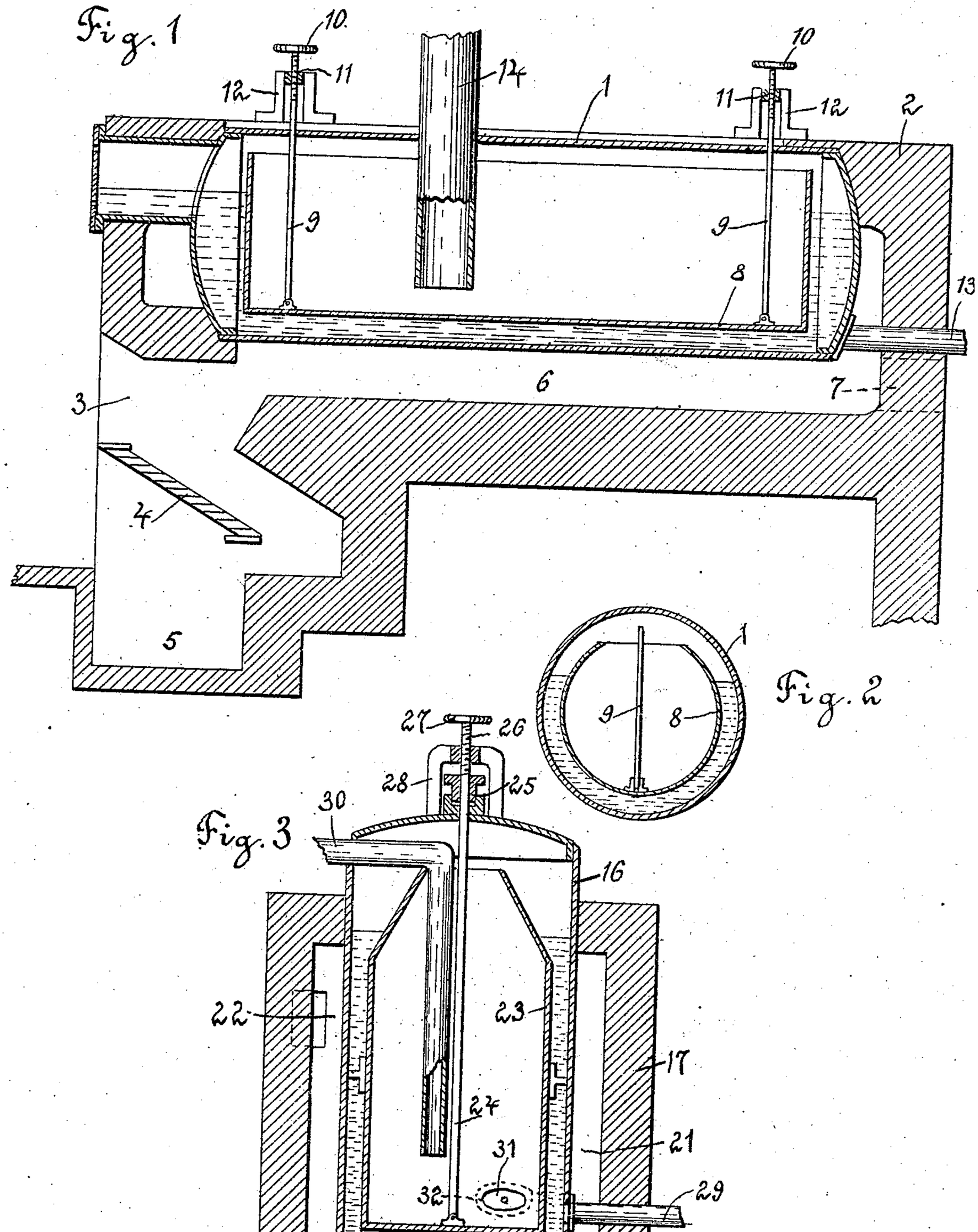

Fig. 2

Fig. 3

WITNESSES

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CHARLES G. WIELAND, OF HOBOKEN, NEW JERSEY.

STEAM-BOILER.

No. 859,271. Specification of Letters Patent. Patented July 9, 1907.

Application filed April 2, 1907. Serial No. 366,040.

To all whom it may concern:

Be it known that I, CHARLES G. WIELAND, a subject of the Emperor of Germany, and a resident of Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Steam-Boilers, of which the following is a specification.

The use of steamboilers for modern motor vehicles has made it desirable to construct boilers in which steam may be generated in as short as possible time. Various constructions have been proposed for accomplishing this result, most of them require rather complicated means, while it is obvious that this means should be as simple as possible, and should be easily accessible for cleaning and repairing purposes. Boilers adapted to generate steam in a short time are in most of the cases of the tubulous type, comprising a large number of tubes of very small diameter, providing thereby a plurality of interconnected water-spaces. It can be seen that the cleaning and repairing of these tubes is very difficult on account of not being accessible.

It is now the object of the present invention to provide a boiler of simple construction and of a very small water-space, which water-space may be regulated at will according to the requirements, while at the same time every part of this boiler is easily accessible for cleaning and repairing purposes.

The invention is illustrated in the accompanying drawings, in which

Figure 1 is a central vertical cross-section of a boiler constructed according to the present invention, Fig. 2 a vertical cross-section of the boiler at right angles to the axis of the same, and Fig. 3 shows a modification of the device.

1 in Fig. 1 is a boiler of cylindrical form and of the horizontal type, inclosed in furnace walls 2, having the usual fire box 3, provided with grate bars 4, ash pit 5 and flue-spaces 6, connected by means of the passage 7 to the chimney. Thus far the boiler is of ordinary construction of the class named and is provided with the usual boiler accessories, not shown in the drawing.

A cylindrical hollow body 8, closed at its ends and open only at the uppermost portion of the cylindrical part, is centrally supported within the boiler 1 by means of rods 9. These rods pass through the shell of the boiler 1 and are provided with hand wheels 10 and screw-threads 11, in mesh with the corresponding screw-threads of the yoke 12. The boiler is provided with the feed water pipe 13 and the steam pipe 14, leading into and near to the bottom of the cylindrical body 8. It will be seen that the cylindrical body may be lowered or raised and thereby the water space of the boiler may be varied.

Fig. 3 illustrates a boiler of the vertical type, in which the construction of the means for varying the water space of the boiler is changed according to the requirements of this particular type.

16 indicates a boiler of the vertical type walled-in in the inclosure 17, having the usual fire box 18, with the grate 19 and the ash pit 20. For the purpose of increasing the heating surface, flue spaces 21 are provided, connected by means of the passages 22 to the chimney. A bell 23 is centrally located within said boiler, closed at its lower and open at its upper obstructed end. A rod 24, secured thereto, passes through the shell of the boiler and the stuffing box 25. The upper end of this rod is provided with screw-threads 26 fit unto the threads of the yoke 28. The hand wheel 27, secured to the rod 24, facilitates the rotating of the rod 24, lowering and raising thereby the bell 23.

29 indicates a feed water pipe and 30 a steam pipe of the boiler. A manhole 31 in the bell is provided for the purpose of cleaning the same when necessary, and this manhole coincides with the similar manhole 32 of the boiler 16.

It is obvious that the water space of the boilers may be regulated to any predetermined degree by lifting or lowering the cylindrical body 8 or the bell 23, as the case may be. The water space regulating means serves at the same time as a dome for the steam, increasing thereby the steam space of the boiler.

As new and useful is claimed and desired to be secured by Letters Patent of the United States:—

1. The combination with a steam boiler, of means located therein and adapted to determine the water space of said boiler, irrespective of the water actually contained therein.

2. The combination with a steam boiler, of means located therein and adapted to vary the water space of said boiler, irrespective of the water actually contained therein.

3. The combination with a steam boiler, of a hollow member therein and adapted to determine the water space of said boiler, irrespective of the water actually contained therein.

4. The combination with a steam boiler, of a hollow member located therein, and means adapted for adjusting the position of said hollow member in said boiler, irrespective of the water actually contained therein.

5. The combination with a steam boiler, of a hollow member therein open at its upper end, and means adapted to adjust the position of said member in said boiler, irrespective of the water actually contained therein.

6. The combination with a boiler, of a hollow member therein adapted for storing the steam of said boiler, and means adapted to adjust the position of said hollow member in said boiler, irrespective of the water actually contained therein.

Signed at New York, in the county of New York, and State of New York, this 23rd day of February, A. D. 1907.

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Witnesses:

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