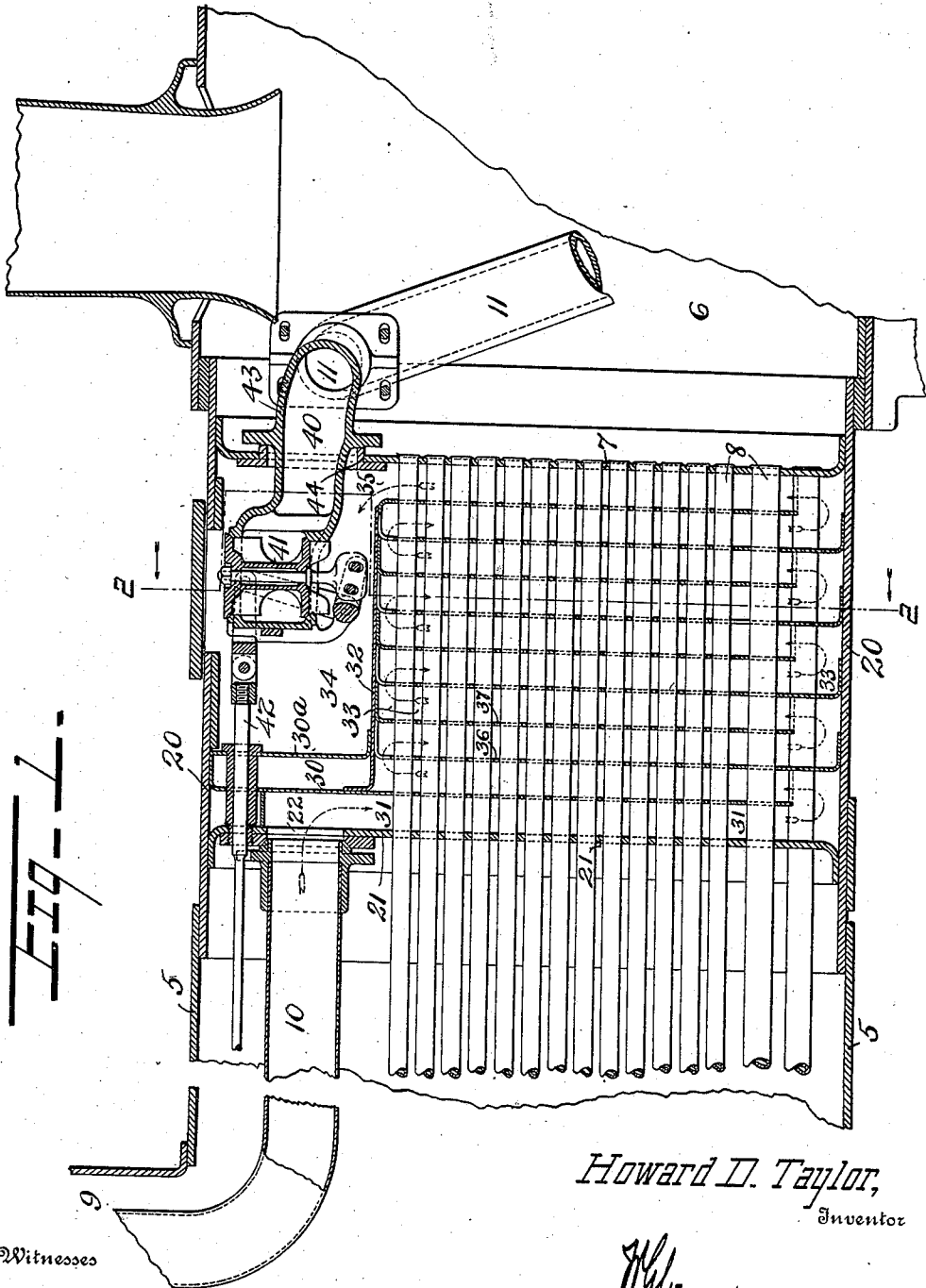


H. D. TAYLOR,
 STEAM BOILER SUPERHEATER.
 APPLICATION FILED JUNE 29, 1909.

1,013,968.

Patented Jan. 9, 1912.
 2 SHEETS—SHEET 1.



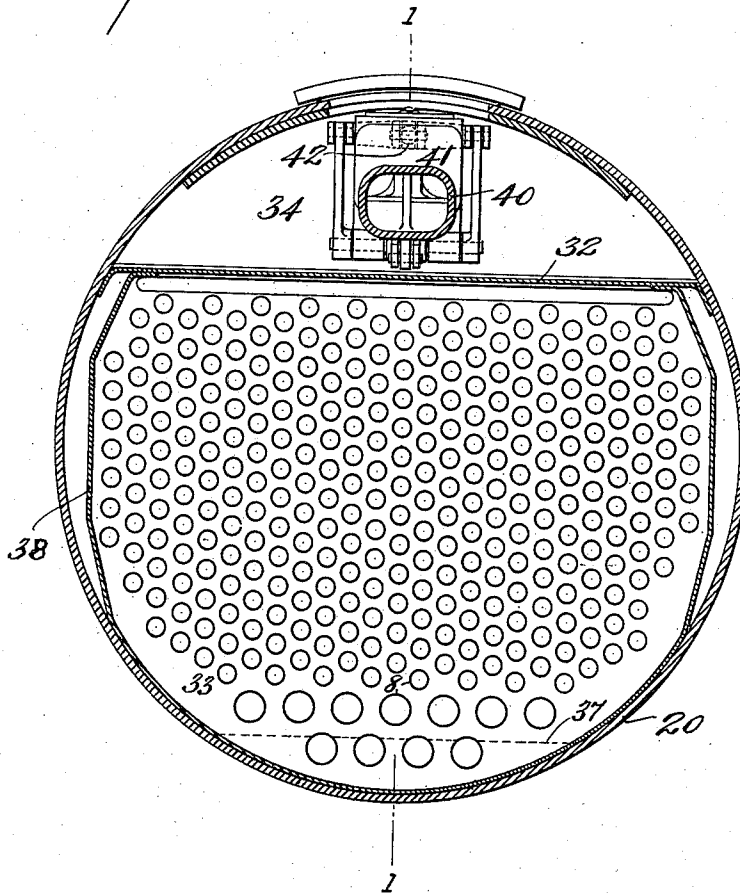
Witnesses
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1,013,968.

Fig. 2.



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UNITED STATES PATENT OFFICE.

HOWARD D. TAYLOR, OF READING, PENNSYLVANIA.

STEAM-BOILER SUPERHEATER.

1,013,968.

Specification of Letters Patent.

Patented Jan. 9, 1912.

Application filed June 29, 1909. Serial No. 504,957.

To all whom it may concern:

Be it known that I, HOWARD D. TAYLOR, a citizen of the United States, and a resident of the city of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Steam-Boiler Superheaters, of which the following is a specification.

My invention relates to steam boilers in which a portion of the boiler shell is utilized as a superheating section by providing for the passage of the steam in contact with the fire-tubes therein prior to its delivery from the boiler; and it consists in certain improvements in the construction and arrangement of the superheater section as hereafter fully described in connection with the accompanying drawings and specifically pointed out in the claim.

Figure 1 is a longitudinal section of a portion of a boiler having my invention applied thereto. Fig. 2 is a cross-sectional view on the line 2—2 of Fig. 1.

The boiler indicated is of the locomotive type, and the forward portion only thereof is shown as necessary to the proper setting forth of my invention.

The boiler shell 5 is provided at its forward end with a smoke box extension 6 and a flue sheet 7, to which the flues 8 lead from the fire box as usual. The steam dome ordinarily employed, is indicated at 9, with a steam pipe 10 leading therefrom.

My invention relates to the improved construction and arrangement of the forward end of the boiler shell and of the steam controlling means provided in connection therewith for insuring the effective superheating of the steam taken from the main body of the boiler, prior to its delivery to the engine supply pipes 11; which structure will now be described with reference to the specific showing of the drawing.

A superheater section 20 is formed rearward of the end flue sheet 7, by an intermediate partition flue-sheet 21 in said shell; which section is especially arranged as hereafter described to serve as a superheater for the steam supplied thereto from the main body of the boiler. This supply as shown is received from the dome 9, through the steam-pipe 10 which connects with an aper-

ture 22 in the upper portion of the flue sheet 21. Located in the superheating boiler section 20, just forward of and parallel with the apertured flue sheet 21, is a partition wall-plate 30 extending to near the bottom of the boiler shell section 20 and forming a down-flow passage 31 between it and said flue sheet, for steam admitted thereto through the aperture 22. And extending forward from said wall-plate 30, above the flues, is a horizontal roof plate 32 covering said flues and forming a lower superheating compartment 33 and an upper storage chamber 34; said chamber being in communication with the steam passage 31 through said superheating compartment 33 and an opening 35 at the forward end of said horizontal roof plate 32. To provide for effectively utilizing the superheating surface of the flues a series of baffle-plates 36, 37 are provided in the superheating compartment 33 below the roof plate 32, said plates being extended laterally beyond the flues but not to the side walls of the boiler shell, and the outer edges thereof being provided with spacing flanges 38 between the plates; said flanges forming an insulating partition to prevent contact of the steam with the shell; and to more effectively maintain the temperature of the superheated steam in the storage chamber 34 the upper portion of the partition wall 30 is formed as shown with an additional spaced-apart partition plate 30^a.

The superheated-steam storage chamber 34, which is thus effectually separated from the main body of the boiler, is used as a direct source of supply for the engines through the exit pipe 40; the throttle valve 41 for controlling the flow being located in said chamber and operated by a rod 42 extending through the partition wall 30, 30^a and the partition flue sheet 21 as shown.

The cylindrical superheater section of the boiler shell is formed without a dome, the throttle valve body 41, which is formed integral with the usual T-head 43 thereof located against the outer face of the flue sheet 7, being adapted to be inserted or removed through the flue sheet aperture 44.

What I claim is:—

A boiler having a partition flue sheet

therein forming a cylindrical superheater
section rearward of the smoke-box flue sheet,
a longitudinal partition in said section form-
ing a storage chamber therein above the
5 flues, and a series of vertical baffle plates
in said section extending across the flues;
the outer edges of said plates being provided
with spacing flanges extending between the

plates and forming insulating partitions
substantially as described. 10

In testimony whereof, I affix my signa-
ture, in the presence of two witnesses.

HOWARD D. TAYLOR.

Witnesses:

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W. G. STEWART.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."