

F. D. CHILD.
Boiler and Steam-Pipe Connections.

No. 152,034.

Patented June 16, 1874.

Fig. 1.

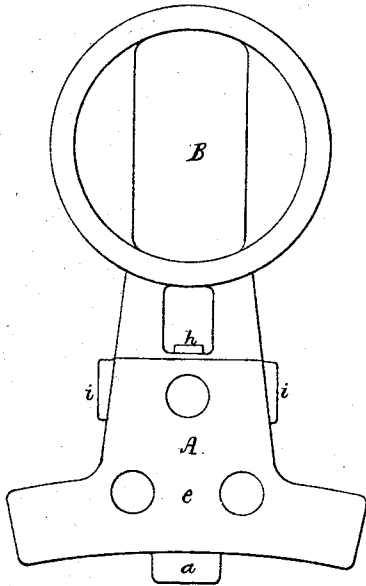


Fig. 2.



Fig. 3.

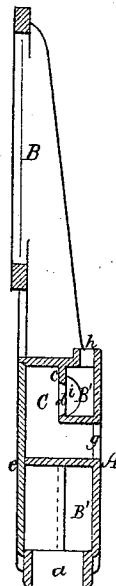


Fig. 4.

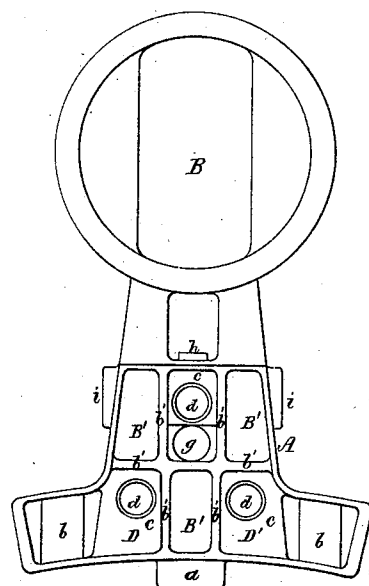


Fig. 7.

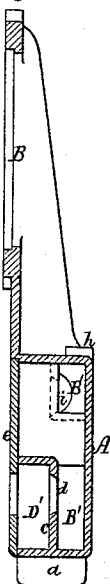


Fig. 6.

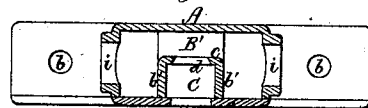


Fig. 5.

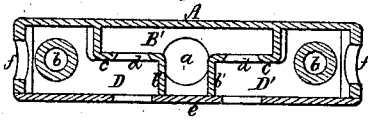
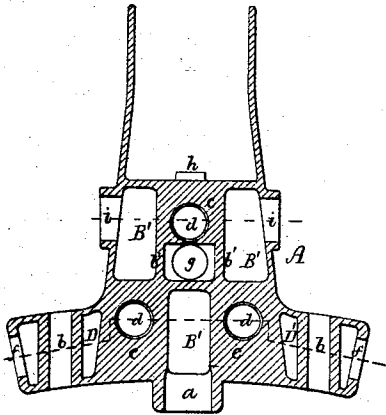


Fig. 8.



Witnesses
S. N. Piper.
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Frank D. Child.
by his attorney.
R. H. Eddy

UNITED STATES PATENT OFFICE.

FRANK D. CHILD, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN BOILER AND STEAM-PIPE CONNECTIONS.

Specification forming part of Letters Patent No. **152,034**, dated June 16, 1874; application filed May 13, 1874.

To all whom it may concern:

Be it known that I, FRANK D. CHILD, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful Locomotive-Boiler and Steam-Pipe Connection; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 denotes a front elevation, Fig. 2 a side view, and Fig. 3 a transverse and vertical section, of it. Fig. 4 is a front elevation of it, with the cap removed. Fig. 5 is a horizontal section taken through the two lower valve-seats; Fig. 6, a horizontal section taken through the upper valve-seat; and Fig. 7 is a vertical section taken through one of the said lower valve-seats. Fig. 8 is a vertical section taken through all the valve-seats.

The object of the invention is the production of a convenient boiler and steam-cock connection for a series of pipes leading to the pumps and the smoke-stack, or to such and the steam-gage of a locomotive-engine boiler.

In the drawings, A denotes the boiler and steam-cock connection, surmounted by a steam-gage carrier or supporting-standard, B, all being formed externally as represented. The part A is chambered, and at the middle of its base is furnished with a tubular teat or projection, *a*, to open into the boiler, to which the part A may be secured by screw-bolts going through tubes *b b*, arranged within the part A, as shown, and opening through it. The interior of the part A, by means of partitions, as seen at *b' b' b'*, &c., is divided into one or more induction-chambers, B', and three separate education-chambers, C D D', there being a valve-seat, *d*, in the partition *c*, which separates each of the said education-chambers from the induction chamber or chambers B'. Each induction-chamber is to be completely insulated from the education-chamber by a partition whose portion containing the valve-seat, as shown in the drawings, is parallel to the cap-plate or cover *e*. From the two education-chambers D D', or from openings *f f* in their

outer ends, the pipes that are to convey steam to the supply-pumps are to be led. From another opening, *g*, leading out of the upper education-chamber C, the pipe to go into the smoke-stack for increasing its draft when the locomotive-engine is at rest is to be led. The induction-chamber B' is shown as provided with three discharge-openings, *h i i*, the first of which is to connect with and open into a pipe to lead to the steam-gage. Such pipe may be provided with a cock to close communication with the gage or open it, as occasion may require. The openings *i i* are intended for the pipes that lead steam to the apparatus for supplying the cylinders with oil. Each valve-seat *d* is to be furnished with a valve fixed on the end of a stem to screw into the cap-plate or a suitable stuffing-box applied thereto.

From the above it will be seen that the education-chamber B' opens directly into the steam-space of the boiler, and consequently becomes charged with steam while there may be any in the boiler. On opening either of the valves or moving it off its seat, steam from the education-chamber B' will escape through the valve-seat into the induction-chamber of such valve.

I claim—

1. The locomotive-engine boiler and pipe-connection, substantially as described, consisting of the induction-chamber B' and the series of separate or insulated education-chambers C D D', arranged and provided with valve-seats *d*, all essentially as specified.

2. The steam-gage standard B, combined with the said boiler and pipe-connection A, all being essentially as shown and set forth.

3. The tubular teat *a* and the bolt-fastening tubes *b b*, arranged and combined, as represented, with the induction-chamber B' and series of separate education-chambers C D D', provided with valve-seats, all being substantially as specified.

FRANK D. CHILD.

Witnesses:

R. H. EDDY,
J. R. SNOW.