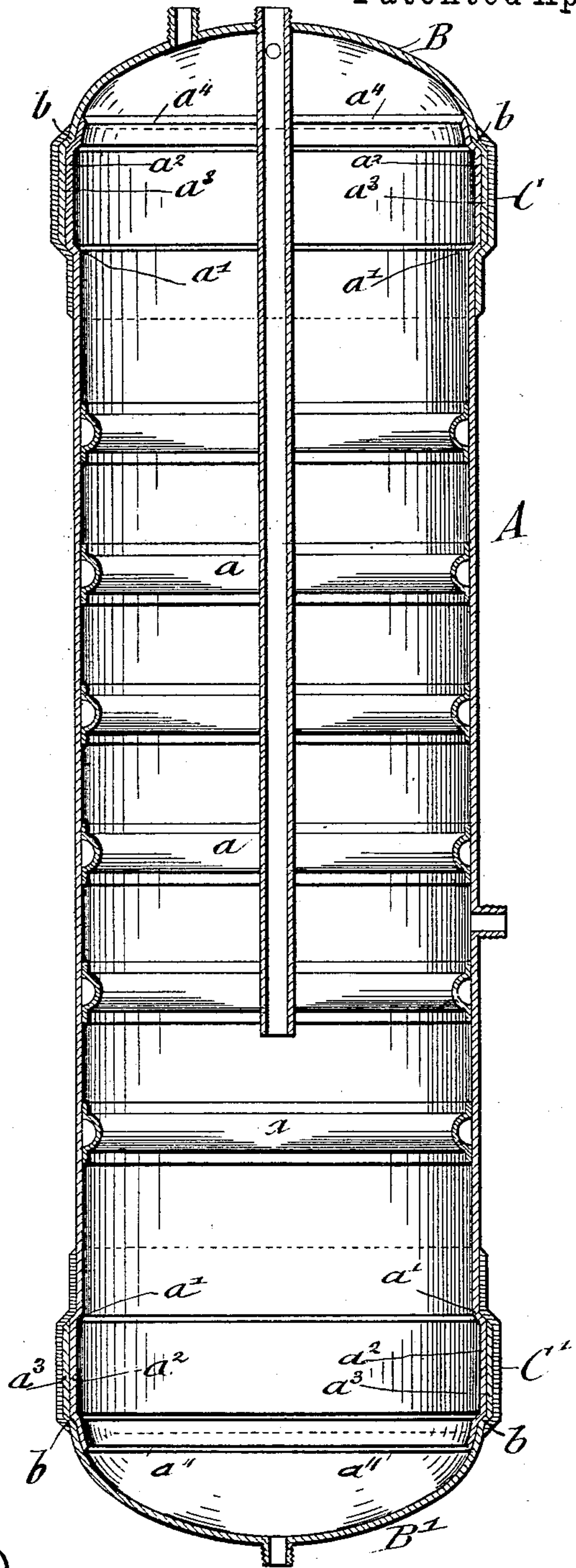


(No Model.)

V. WILHELMI.
RANGE BOILER.

No. 602,650.

Patented Apr. 19, 1898.



WITNESSES:
Geo. H. Jaeger.
M. C. Schmidt.

INVENTOR
Valentin Wilhelmi
BY *Louis Regnier*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

VALENTIN WILHELMI, OF PATERSON, NEW JERSEY.

RANGE-BOILER.

SPECIFICATION forming part of Letters Patent No. 602,650, dated April 19, 1898.

Application filed October 20, 1897. Serial No. 655,811. (No model.)

To all whom it may concern:

Be it known that I, VALENTIN WILHELMI, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Range-Boilers, of which the following is a specification.

This invention relates to certain improvements in range-boilers of that class which are made of copper and the cylindrical body of the boiler is connected with a bulging top and bottom by an overlapping retaining-ring which is firmly brazed with the overlapping parts of the body and ends and in which the reinforcing interior iron ring heretofore used can be dispensed with while an equally strong and reliable construction of the boiler is obtained; and the invention consists of a range-boiler consisting of a body having a flattened ring portion offset therefrom, so as to form a shoulder at its junction with the body and being of greater diameter than the diameter of said body, a head having an offset-rim forming a shouldered flange of greater diameter than the body thereof, the shouldered flange of the head overlapping said flattened ring portion and being throughout in firm contact therewith, and said flange also terminating short of the shoulder at the base of said ring portion, and an exterior band extending over the said ring portion and the overlapping portion of the head, the upper and lower edges of said band fitting over the shoulders on said ring portion and flange so as to form a three-ply joint from the inner surface of said body to the outer surface of said band, as will be fully described hereinafter and finally pointed out in the claim.

The drawing illustrates a vertical central section of my improved range-boiler complete.

Similar letters of reference indicate corresponding parts.

Referring to the drawing, A represents the body of my improved range-boiler, which is made of copper. The interior of the body is reinforced by annular ribs a , that are brazed to the inside of the body, so as to prevent the collapse of the same by pressure. The ends of the body A are provided with shoulders or offsets a' , from which shoulders or offsets the body of the boiler is extended, forming cylindrical flattened ring portions a^2

of slightly larger diameter than the diameter of the body. The extremities of the body are again shouldered or offset at a^3 , forming cylindrical rims a^4 , which are of substantially the same diameter as that of the body and slightly curved to conform to the curvature of the heads. These shoulders a' a^3 and the cylindrical flattened ring portions a^2 form a means of attachment for the heads B B' and the reinforcing rings or bands C C' spun around the same. The heads B B' are curved or bulged at their upper portion and are provided with shoulders or offsets b , which rest upon the shoulders a^3 and from which shoulders the rim b' of the heads B B' extend, which rims are of a diameter somewhat greater than the diameter of the beads or corrugations a^2 of the body A of the boiler, so as to form a close fit thereon. The edges of the rims b' terminate short of the connecting-shoulders a' between the body A and the ring portions a^2 . By means of the rims a^4 at the ends of the body A, said rims being contracted and curved to conform to the shape of the larger bulged portions of the heads B, the latter are firmly and solidly braced and strengthened. The exterior rings or bands C C' are spun or brazed over the shoulders a' of the body A and the shoulders b of the heads, covering the points of connection or seams between the heads and the body A, so as to impart thereto the required strength. After the heads are applied to the body of the range-boiler and the rings or bands C C' spun thereon the joints are thoroughly sweated together with solder. The ring portions a^2 , the rims b , and the exterior bands c' form a three-ply joint from the inner surface of the body of the boiler to the outer surface of said bands. The flattened beads or corrugations give additional strength to the ends of the range-boiler when the heads B B' and exterior bands or rings C C' are being brazed thereon, thus doing away with the necessity of employing iron strengthening bands or rings upon the inner surface of said boiler, as is customary in boilers of the usual construction.

By the construction described a very strong range-boiler is obtained, by which the heads are rigidly and tightly attached to the body of the boiler and by which a neat and ornamental appearance is imparted to the same

without the objectionable bulging at the joints and seams as heretofore required. Furthermore, the heads are by my improved construction attached to the body of the boiler
5 so as to be leak-proof, and the heads cannot be loosened by an accidental blow or by unusual pressure tending to drive them downward, as may be done with boilers constructed in the ordinary manner. The boiler is finally
10 put through a finishing process and polished in a manner which gives it a handsome appearance.

Having thus described my invention, what I claim is—

15 A range-boiler, consisting of a body having a flattened ring portion offset therefrom and of greater diameter than the diameter of said body, the said ring portion being provided with an offset and terminating in a cylindrical
20 rim of substantially the diameter of the body

of the boiler and inclined and curved to conform to the shape of the head, a head having an offset rim forming a shouldered flange of greater diameter than the body thereof, the shouldered flange of the head overlapping 25 said flattened ring portion, and an exterior band extending over the said ring portion and the overlapping portion of the head, the upper and lower edges of said band fitting over the shoulders on said ring portion and flange 30 so as to form a three-ply joint, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

VALENTIN WILHELMI.

Witnesses:

PAUL GOEPEL,
GEO. W. JAEKEL.