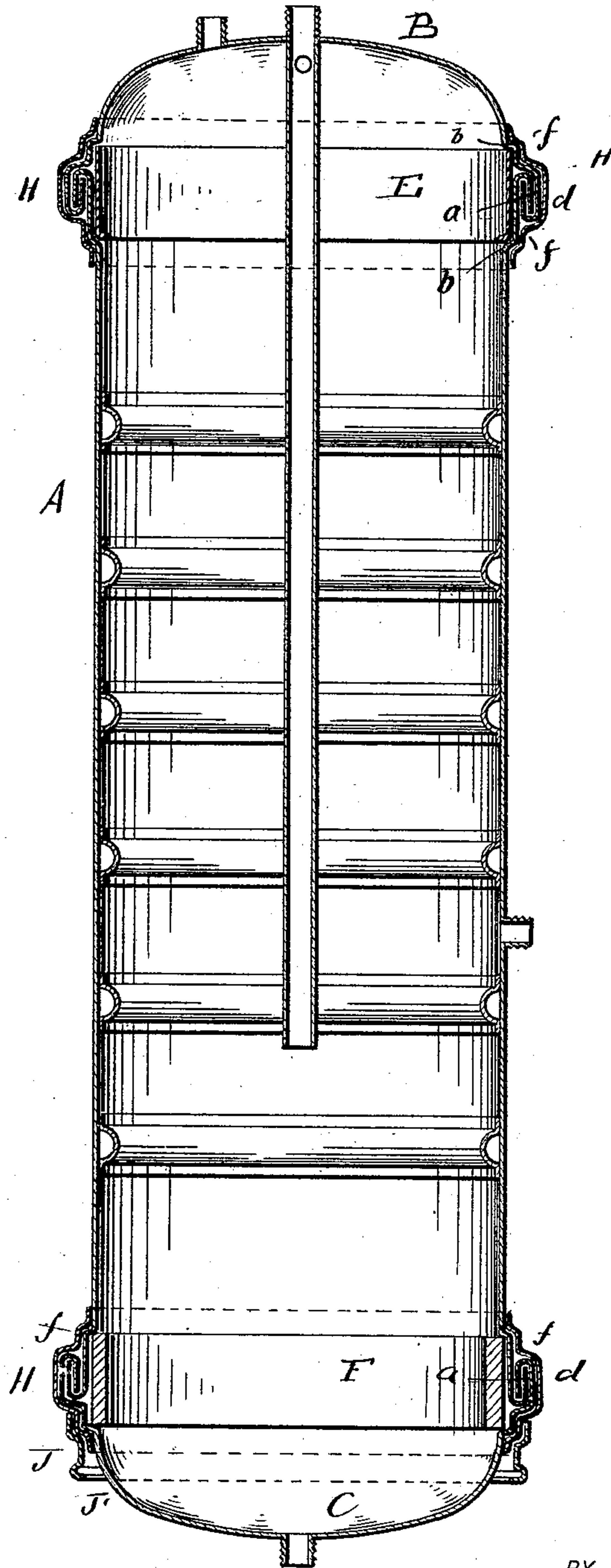


(No Model.)

V. WILHELMI.
RANGE BOILER.

No. 495,236.

Patented Apr. 11, 1893.



WITNESSES:
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UNITED STATES PATENT OFFICE.

VALENTIN WILHELMI, OF PATERSON, NEW JERSEY.

RANGE-BOILER.

SPECIFICATION forming part of Letters Patent No. 495,236, dated April 11, 1893.

Application filed January 12, 1893. Serial No. 458,104. (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 improvements in that kind of boilers that are connected with the water-backs of ranges and cooking stoves; and the object of my invention is to provide a boiler of this kind which is reinforced and strengthened at the heads.

The invention consists in a range boiler composed of a cylindrical sheet-metal shell and sheet-metal heads, said boiler being provided with annular sheet-metal bands that are spun over part of the heads and parts of the ends of the shell and over the doubled and folded edges of said shell and heads.

In the accompanying drawing a vertical transverse view of my improved range boiler is shown.

The boiler consists of the cylindrical shell or body A, the cup-shaped top-head B and the cup-shaped bottom-head C, which shell and heads are preferably made of copper but may be made of any other sheet-metal. In the ends of the shell A the reinforcing rings E and F are placed, and over the outer surface of said rings the end-parts of the shell and parts of the heads are spun and also on said outer surface of the reinforcing rings the edges of the shell and the heads are interlocked and doubled over to form a close and tight joint, which folded joint forms a flattened bead on the outside of the boiler at each end, as shown at *a*, and at each side of said flattened bead an annular shoulder *b* is formed at the top and bottom of each reinforcing ring F. Boilers such as have been now described are old and well known.

For the purpose of reinforcing the boiler and more rigidly and permanently connecting the heads with the end-parts of the shell an annular band or ring H of sheet-metal is spun around the boiler at each end, so as to cover the doubled and folded parts of the sheet-metal forming the flattened bead *a* and

also the shoulders *b*, which sheet-metal rings H are spun down in close contact with said flattened beads and shoulders, so that each ring when spun in place will have the central raised part *d* and the shoulders *f*. As said raised parts *d* and shoulders *f* engage and interlock with the flattened bead *a* and the shoulders *b* of the boiler, they prevent all displacement of the heads in relation to the ends of the shell and compel all the parts of the boiler to contract and expand uniformly. These spun bands do not rely upon hard or soft solder for holding them and firmly holding the parts together, but depend entirely upon their shape, as they are spun over the parts of the boiler in such a manner as to fully adapt themselves to the shapes of those parts as close as possible. The foot J has its upper part placed against the lower part of the lower band or ring H and its lower edges turned inward to form a flange J' to rest upon the boiler stand.

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

1. In a range boiler, the combination with a cylindrical shell, of top and bottom heads, the edges of the shell and heads being doubled over and folded to form a close joint, and of sheet-metal rings placed over said doubled and folded joints and spun in close contact with said joints, substantially as set forth.

2. In a range boiler, the combination with a cylindrical shell, of top and bottom heads, the edges of the heads and shell being doubled over and flattened to form a tight joint, and a sheet-metal ring spun over each end of the boiler at the joint, so as to overlap part of the shell and part of each head, each ring having a raised central portion and a shoulder at each side of the raised central portion, 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:

OSCAR F. GUNZ,

CHARLES SCHROEDER.