

H. Steeger. Hot-Water Boilers.

no 72760

Patented Dec. 31, 1867.

Fig. 1.

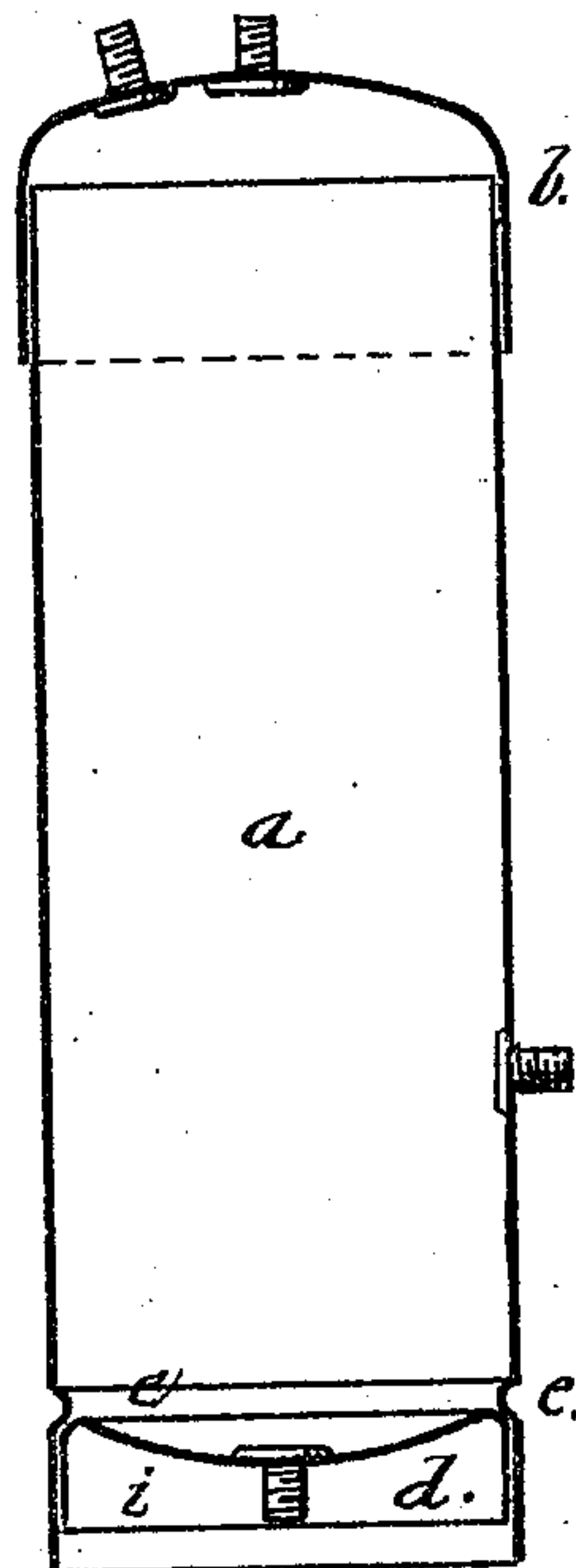
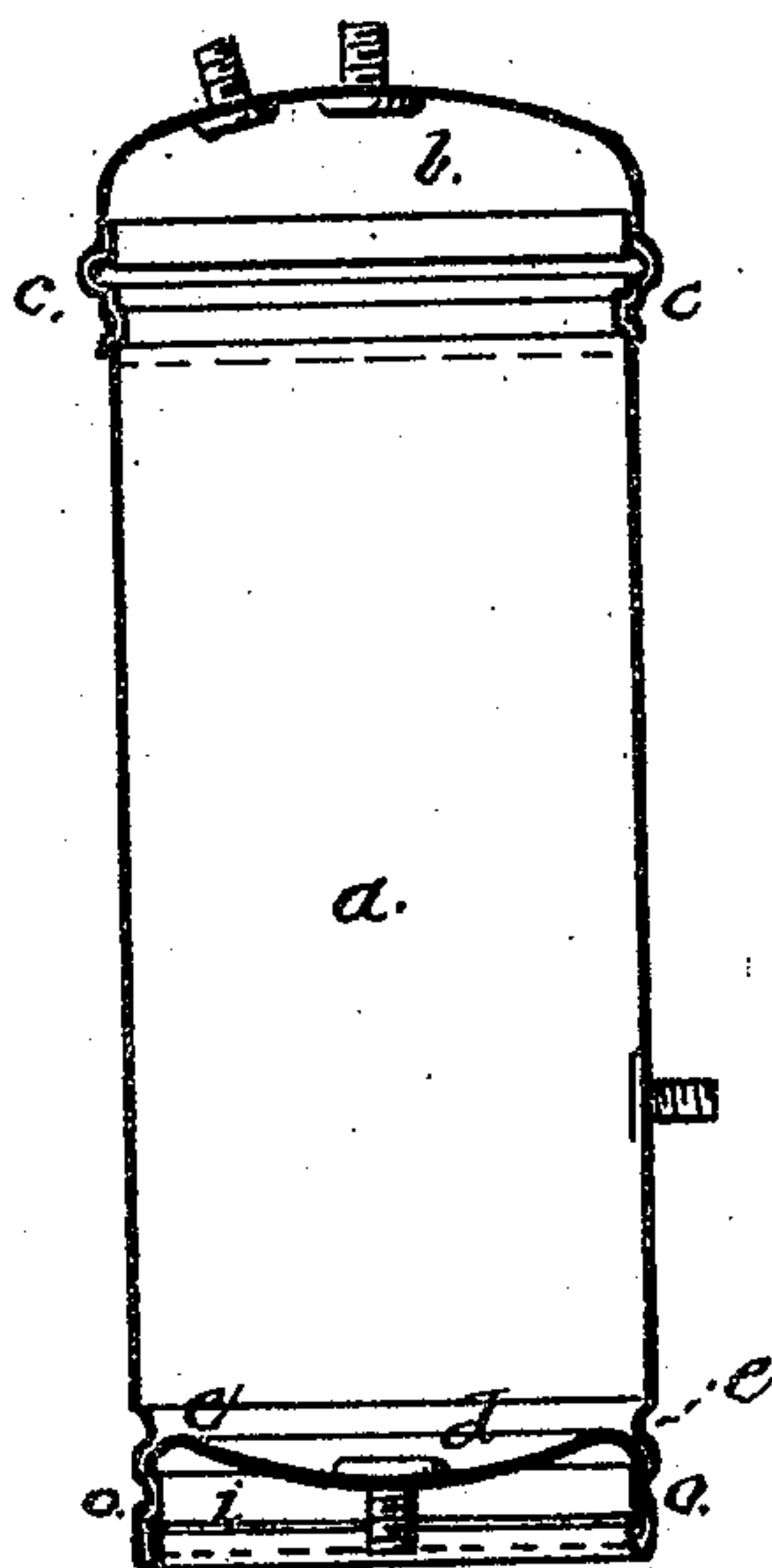


Fig. 2.



Witnesses

Chas. H. Smith

Geo. A. Walker

Henry Steeger
per L. W. Small
Att.

United States Patent Office.

HENRY STEEGER, OF NEW YORK, N. Y.

Letters Patent No. 72,760, dated December 31, 1867.

IMPROVEMENT IN THE CONSTRUCTION OF HOT-WATER BOILERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HENRY STEEGER, of the city and State of New York, have invented, made, and applied to use, a certain new and useful Improvement in Boilers for Hot Water, &c.; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is a section of a boiler, showing the shape of the parts before they are connected together, and

Figure 2 is a section of said boiler, with the heads secured in place.

Similar letters denote the same parts.

Heretofore copper boilers for hot water have been made with heads soldered in; they have also been made with the heads riveted on. In the first-named mode considerable labor, expense, and time are required to make a proper connection of the head to the cylinder; in the second-named mode, the rivet-heads have an unsightly appearance, and cannot easily be kept clean and bright, as is desirable with hot-water boilers, in well-regulated kitchens; besides this, the pressure sometimes blows off the heads, because the rivets have but a small hold on the thin sheet metal.

The nature of my said invention consists in uniting the top and bottom heads of the boiler to the cylindrical portion by circular beads and grooves, formed in the sheet metal, where the two thicknesses of metal exist at the lap of the heads and cylinder. By this mode rivets are dispensed with, but little soldering is necessary, there is no possibility of leakage, and the handsome appearance of the boiler is very much increased.

In the drawing, *a* is the cylindrical boiler, and *b* is the upper head, made of sheet metal, with the usual sockets or thimbles attached, and the head is drawn down cylindrically at its edges of a size to fit over the cylinder *a*, as seen in fig. 1. I bend the two thicknesses of sheet metal by means of suitable rollers or tools, so as to form beads and grooves around the same in a circular form, as seen at *c c*, fig. 2, and I prefer that these grooves be formed with as sharp bends as convenient, without injuring the metal, in order that the joint may be made perfectly tight, with the use of but little solder. The said ribs or beads and grooves stiffen the sheet metal, and make a tight and handsome joint between the head and the cylinder. The bottom head, *d*, is to be introduced within the cylinder *a*, the bead *e*, formed inwardly in the cylinder *a*, sustaining the same, while the lower edge of the cylinder *a* is turned over the cylindrical flange *i* of the head *d*, after which the two thicknesses of metal are formed or bent into the ribs and grooves, as shown at *o*, to connect the parts firmly together.

By this construction the joint of the head is as strong as any other part of the boiler, and injury from pressure is not likely to occur at the joint any more than at other parts of the boiler.

It will be evident that by this mode of construction the head *b* can be firmly secured in place before the bottom head *d* is put in, and that the flange *i*, of this head *d*, being just within the cylinder *a*, can be bent into the grooves and ribs for securing it in place, and at the same time a base be formed for the boiler to stand on.

What I claim, and desire to secure by Letters Patent, is—

The convex head *b*, secured to the boiler *a*, by the ribs and grooves at *c*, in combination with the head *d*, setting within the lower end of the boiler, and its flange *i*, secured by ribs and grooves at *o*, as and for the purposes set forth.

In witness whereof, I have hereunto set my signature, this seventh day of May, A. D. 1867.

HENRY STEEGER.

Witnesses:

FRED. ADEE,

GEO. T. PINCKNEY.