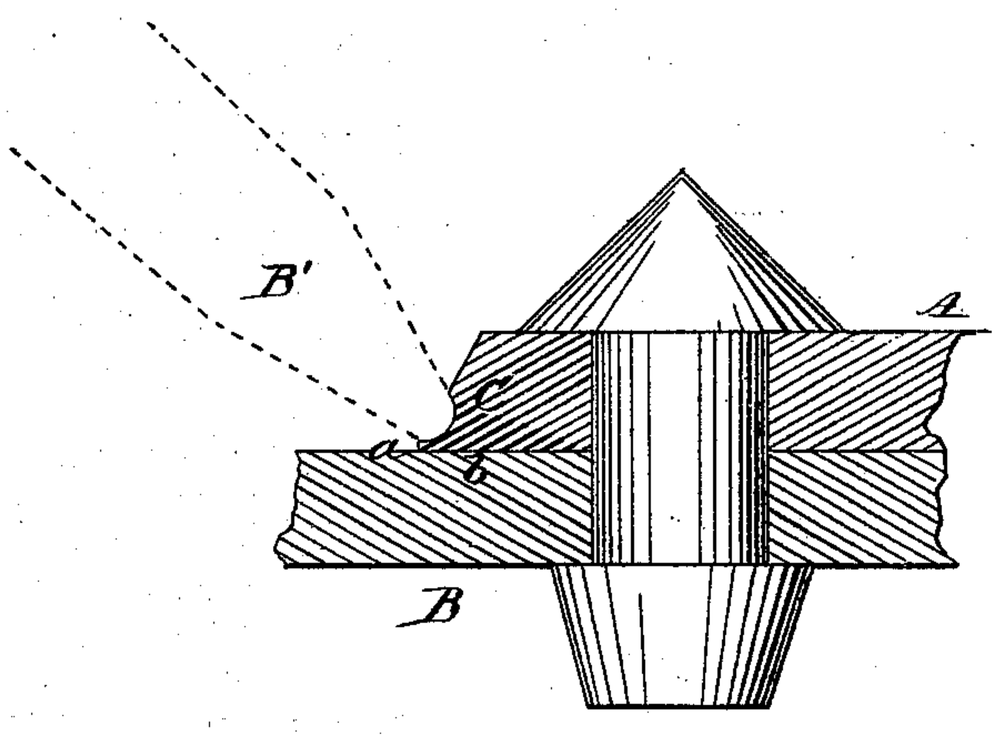
J. W. CONNERY.

Processes of Calking Boilers.

No. 150,831. Patented May 12, 1874.



Witnesses
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JAMES W. CONNERY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN THE PROCESSES OF CALKING BOILERS.

Specification forming part of Letters Patent No. **150,831**, dated May 12, 1874; application filed April 4, 1874.

To all whom it may concern:

Be it known that I, JAMES W. CONNERY, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Methods of Calking Boilers, Ships, and other metallic plates; and do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which is illustrated a section of boiler showing the method of calking the seams by means of a convex tool.

The object of this invention is to provide an improved method of calking the seams of steam-boilers, tanks, and all kinds of vessels composed of, or covered with, wrought-metal plates; and it consists in the employment and novel application, for the purpose in view, of a calking chisel or tool, having a convex edge, whereby a concave channel or depression will be formed in the edge of the upper or overlapping plate, and a lip or flange thereby produced, and made to impinge closely against the adjacent surface of the lower or under plate.

The principal advantages of this method of calking are, that the indenting and consequent weakening of the lower plate, caused by the use of the ordinary or split calking-tool, is avoided, and that the metal at the edge of the upper plate is compressed, and a larger impinging surface produced than heretofore, according to the ordinary method.

Referring to the accompanying drawings, A represents the upper or overlapping, and B the under, plates of a steam-boiler or other vessel, or series of plates, the seams of which are illustrated as calked according to my improved method. B′ designates the calking-tool, the body of which is of usual or any suitable form, tapering or converging toward the edge, which, instead of being beveled or formed with angles, has its edge smoothly and evenly rounded or made convex, as shown.

The manipulation of this tool is similar to that required in the ordinary operation—that is, the edge of the tool is laid against the edge of the overlapping plate and then driven with sufficient force to compress the metal, which it does, producing, as before observed, a concave channel, C. The tool is, of course, held at a proper inclination, so as to drive the metal toward the lower plate. As the edge of the overlapping plate yields the lower portion of the concave groove or depression gradually projects beyond the original line of the seam, and produces a lip or flange, *a*, while the metal behind the latter bulges downward or inward toward the lower plate and forms a continuation of the lip or flange, as clearly appears at *b* in the drawing. In this way the seam is more tightly and evenly calked than when subjected to the ordinary method, while, as will be readily comprehended, no indentation or cutting of the lower plate whatever occurs.

The above-described method may be effectively accomplished by the use of a single tool used throughout the operation, but it may be found convenient and desirable, in some instances, to employ a set of different-sized tools, in which case the work would be commenced with the smallest and completed with the largest.

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

The method of calking seams in metal, substantially as described.

In testimony that I claim the foregoing, I have hereunto set my hand this 2d day of March, 1874.

JAMES W. CONNERY.

Witnesses:

JNO. A. BELL,

M. DANL. CONNOLLY.