

(No Model.)

D. FALVEY.
CALKING TOOL.

No. 531,411.

Patented Dec. 25, 1894.

Fig. 1.

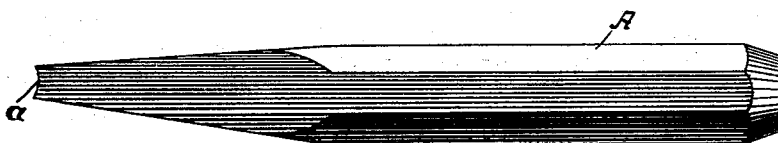


Fig. 2.

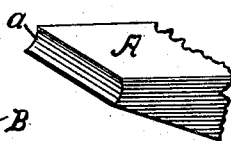


Fig. 4.

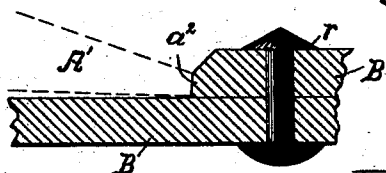


Fig. 5.

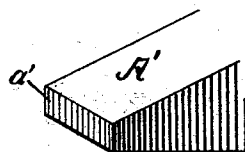
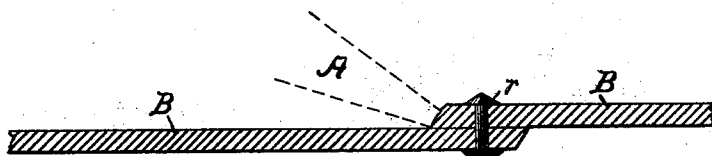


Fig. 3.



Witnesses.

F. M. Metcalf.

A. B. Metcalf.

Inventor.

Dennis Falvey.

By

Martin Metcalf.

Attorney.

UNITED STATES PATENT OFFICE.

DENNIS FALVEY, OF BATTLE CREEK, MICHIGAN.

CALKING-TOOL.

SPECIFICATION forming part of Letters Patent No. 531,411, dated December 25, 1894.

Application filed August 12, 1893. Serial No. 482,951. (No model.)

To all whom it may concern:

Be it known that I, DENNIS FALVEY, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented certain new and useful Improvements in Calking-Tools; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention pertains to tools for calking the lap-seams of steam-boilers and the like, and its object is to so improve the tools and the process of securing the said seam against leak or injury, as hereinafter fully set forth in the specification, illustrations and claim. It has been found that by means of the tools and processes heretofore employed, the extreme outermost edge of the metal of which the lap seam is constructed, is turned inwardly, but is not materially thickened, or upset; whereas, by means of my improved calking tool the substance of metal extending outwardly beyond the circumferential row of rivets is reinforced, or thickened, as is the rivet itself, in the well known way of making the lap-seam. Heretofore the edge of the metal constituting the outside lap of the boiler beyond the said row of rivets, has been peened inwardly, but not materially reinforced, or upset.

In the drawings, forming part of this specification, and in which similar letters are employed, the same designate like parts in each of the several views.

Figure 1, is a longitudinal side view of my new calking tool. Fig. 2, is a perspective view of the working end of said tool,—enlarged. Fig. 3, represents a longitudinal section of a steam boiler, showing the tool in working position,—(dotted lines.) Fig. 4, is an enlarged sectional view of the lap-seam, showing the rivets *r*, similar to Fig. 3, but in an advanced stage of the process of making and calking the lap-seam,—and Fig. 5, shows a plain faced form of tool,—also enlarged.

The calking, or working end of my new

calking tool A, is provided with a curved groove, *a*, corresponding in length and width with the dimensions of the well known plain-faced tool represented in Fig. 5—at *a'*.

I am aware that it has been suggested to make the face of the calking tool convex-faced; or curved outwardly; but such form serves no useful purpose over the plain-faced tool shown in Fig. 5,—at *a'*.

The mode of operation and process of construction of the lap seams after riveting by my new tool I will now proceed to point out. The sheet-metal plates B, composing the body of the boiler, are first riveted in the usual manner, as shown in vertical section, Fig. 3. This constitutes the first step and leaves the lap-seam with the rivets *r*, firmly holding the sheets of iron together, with the outermost end of the lap lying obliquely on its inner fellow-sheet, previously prepared, at an angle of about forty-five degrees—more or less.

Recourse is now had to my new concave-faced, or groove faced tool A, which is held in the position shown (dotted lines, Fig. 3,) and the tool driven forcibly against the plate projecting beyond the rivets, *r*, in the usual well known way; by which means the extreme edge of the metal contiguous to the inner lap is caught hold of, and that portion of the sheet metal embraced by the groove,—one-fourth, one-third or one half,—more or less,—is reinforced and upset, substantially as the rivet itself is upset, and thickened, when, in the proper manner of using a riveting tool, the metal constituting the projecting end of the rivet, is driven forcibly toward the center of itself,—thus strengthened,—and not weakened by flattening out laterally. (See rivets *r*, Figs. 3 and 4.) This is the second step in calking the lap-seam. The plain-faced tool A', is now placed in the position shown in Fig. 4,—whereby the metal extending longitudinally outside of the row of rivets *r*, around the boiler, or along the seam, is again upset, and reinforced, leaving the one-half part of the iron,—more or less—at a right angle, *a*², with the longitudinal line of the lap-seam. This is the third, and finishing step in the process of boiler, or sheet metal seam calking which I prefer to adopt in the use of my

new concave, or grooved faced calking tool; and whereby I have achieved acknowledged success not hitherto deemed attainable.

Having thus fully described and illustrated
5 my invention and pointed out clearly its peculiar and practical mode of operation, what I claim, and desire to secure by Letters Patent of the United States, is—

A calking tool having a concave face
10 formed by a shallow curved groove extend-

ing along the working face thereof, said curve extending continuously from edge to edge of said working face, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

DENNIS FALVEY.

Witnesses:

WILLIAM J. GARFIELD,
MORRIS B. SAMPSON.