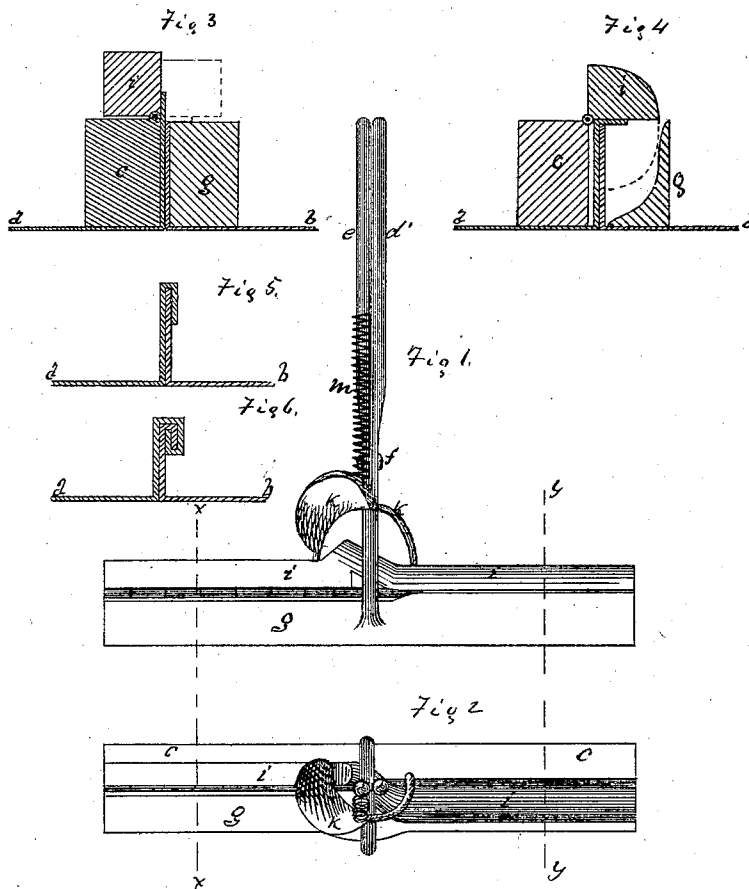


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Improvement in Machines for Double-Seaming Sheet-Metals.

No. 131,547.

Patented Sep. 24, 1872.



Witnesses.

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IMPROVEMENT IN MACHINES FOR DOUBLE SEAMING SHEET METAL.

Specification forming part of Letters Patent No. 131,547, dated September 24, 1872.

To all whom it may concern:

Be it known that I, FRANCIS KENNEY, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machines for Joining Plates of Sheet Metal by a Double Seam, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a side elevation of the machine. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged cross-section of the same through the dotted line *x x*. Fig. 4 is a similar enlarged cross-section through the line *y y*. Fig. 5 is a cross-section of two plates of sheet metal joined by a "single seam;" and Fig. 6 is a similar cross-section of two plates of sheet metal joined by a "double seam."

This machine is intended for tinmen's use in roofing. This double seaming is now generally done by hand. The sheets of tin, copper, &c., are first prepared for this process by turning up the two parallel lengthwise edges to a right angle with the body of the sheet. One edge is turned up a little higher than the other. This is done by tools in common use, and it is at this point that my machine takes hold and completes the process.

Before describing my machine and its operation I will first describe the completion of the work by the ordinary hand process. The edges of two of these sheets, turned up as described, are placed together, as shown by sheets *a* and *b* in Fig. 3, (not referring now to my machine.) The tinman takes his mallet and turns the projecting edge of the sheet down over the edge of sheet *b*, as shown in Fig. 5. This forms a "single seam." The tinman again plies his mallet and turns this "single seam" down into a "double seam," as shown in Fig. 6. My machine—used in two sizes—accomplishes this much more quickly and better. This machine may be roughly described as a large pair of tongs, one of whose lips is formed by the bar *c*, which is nearly square in cross-section, being of the same shape throughout its entire length, as shown in cross-section in Figs. 3 and 4. This bar is attached to the handle *d*. The two handles *d* and *e* are pivoted together at *f*. To the end of the handle *e* is attached the bar *g*, which is

of the shape in cross-section shown in Fig. 3, from the left end—as viewed in Fig. 1—to the middle of its length where it is attached to the handle. From this middle point to the right end it is of the shape in cross-section shown in Fig. 4. To the upper right-hand corner of the bar *c* is hinged the forming-bar *i*, which is of the shape in cross-section, in Fig. 3, from the left end up to near the middle of its length. From the right end up to near the middle of its length it is of the shape in cross-section shown in Fig. 4. The bar *g* extends the whole length of the machine for the purpose of clamping and steadying the sheets of tin while being turned down. The joining of these two formations at the middle of the forming-bar is shown in Figs. 1 and 2. The letter *k* indicates a foot piece fastened to the forming-bar, whereby the forming-bar is operated, and the letter *m* indicates a spiral extension spring which draws back the forming-bar after it has been operated.

The operation of the machine is as follows: The sheets of tin *a* and *b*, with their edges turned up, as described hereinbefore, are put together, as shown in Fig. 3. These turned-up edges are then grasped by the right half of the tongs, as indicated in Fig. 3. The operator then puts his foot upon the foot-piece *k*, and turning down the forming-bar on the top of the bar *g*, as outlined in Fig. 3, bends down the projecting edge of the sheet *a*, as also outlined in the same figure. The operator now slides the tongs along till the right half is ready to operate in the manner just described on a fresh part of the upturned edge of the sheet *a*, when the part just turned down is ready to be operated upon by the right half of the tongs, which position of things is shown in Fig. 4. The operator again puts his foot on the foot piece *k*, and again turning down the forming-bar, the right half of the forming-bar turns the edge of the sheet *a* straight down, as outlined in Fig. 4, thus completing the "single seam." At the same time the left half of the forming-bar has turned down another part of the edge of the sheet *a* ready to be operated upon by the right half of the forming-bar. The tongs are again moved along for that purpose, and so on, indefinitely.

The "double seaming" is simply a repeti-

tion of the "single seaming," and is accomplished by a machine exactly like that just described, except that it is adapted in size and grasp to operate on metal already single seamed.

I claim as my invention—

1. The combination of the handles, the bar *g* shaped as described, and the bar *c*, having the forming-bar *i*, shaped as described, hinged thereto, the whole arranged and operating sub-

stantially as described, for the purposes set forth.

2. In combination with the parts, as claimed in the last clause, the foot piece *k* and spring *m*, substantially as described.

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Witnesses:

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