No. 620,426. Patented Feb. 28, 1899.

A. DANZER.

ROOFING TOOL.

(Application filed Nov. 25, 1898.)

(No Model.)

Fig. 1.

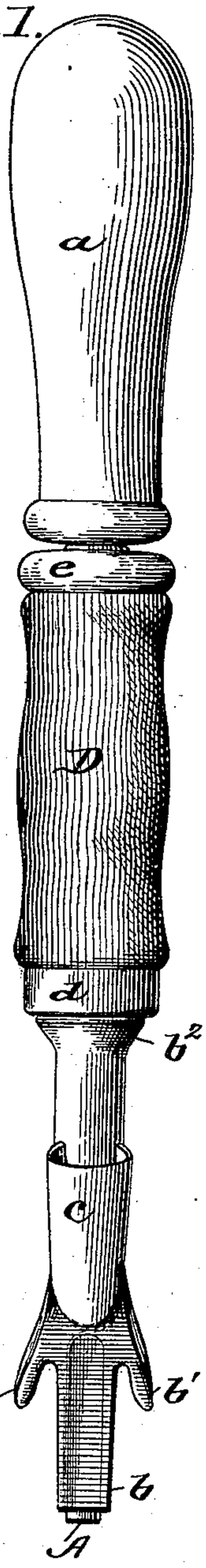


Fig. 2.

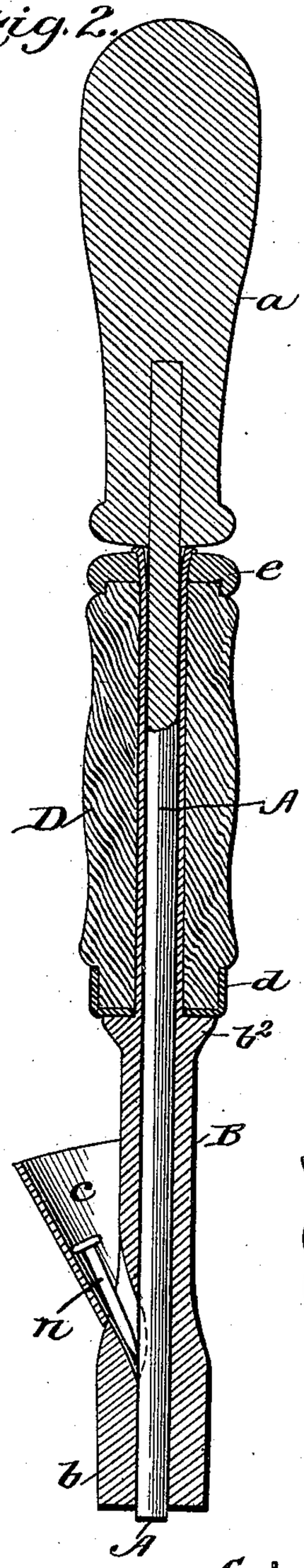


Fig. 3.

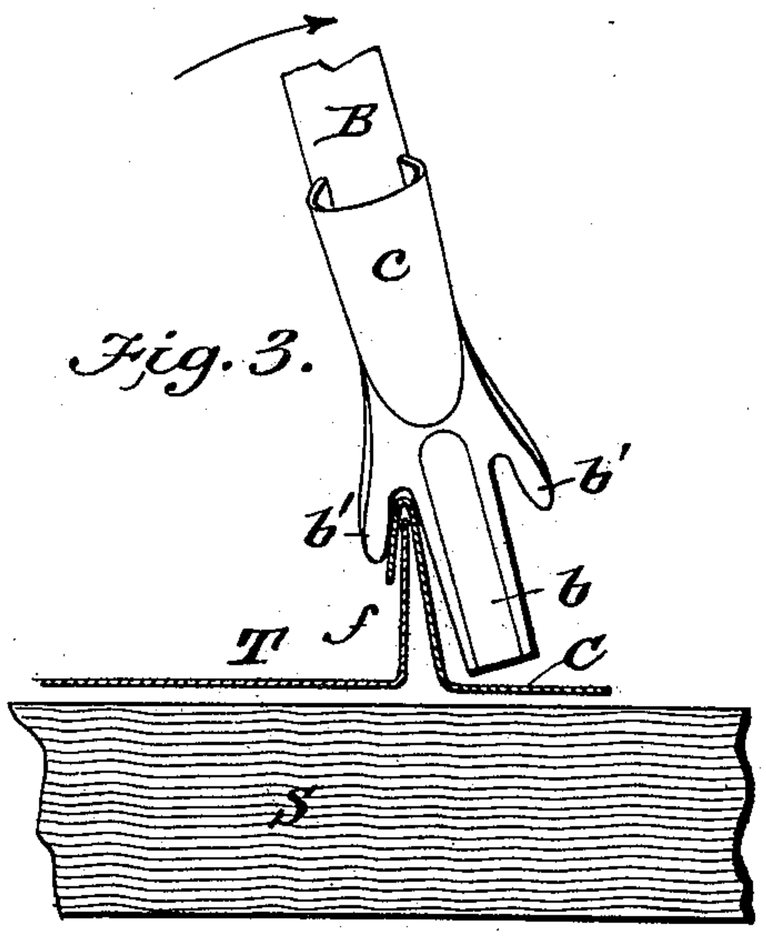


Fig. 4.

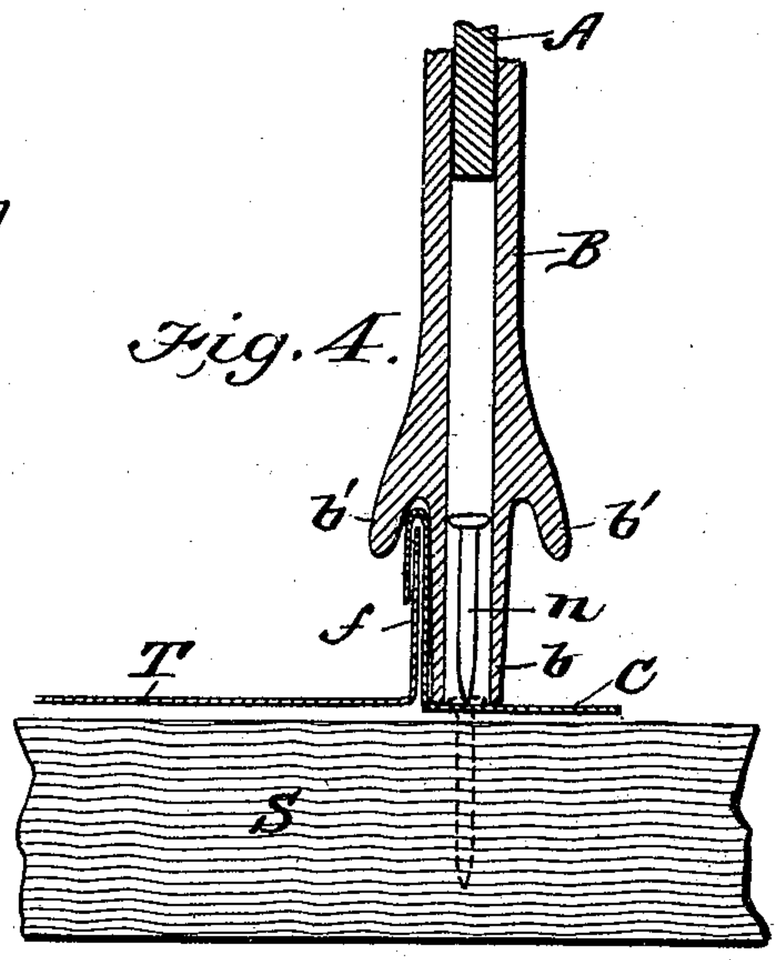


Fig. 6.

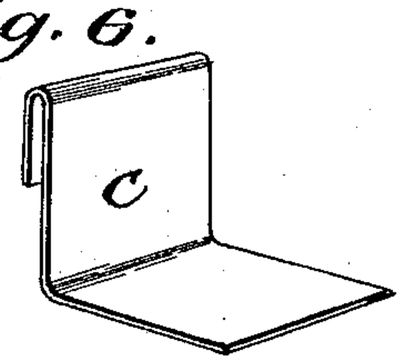
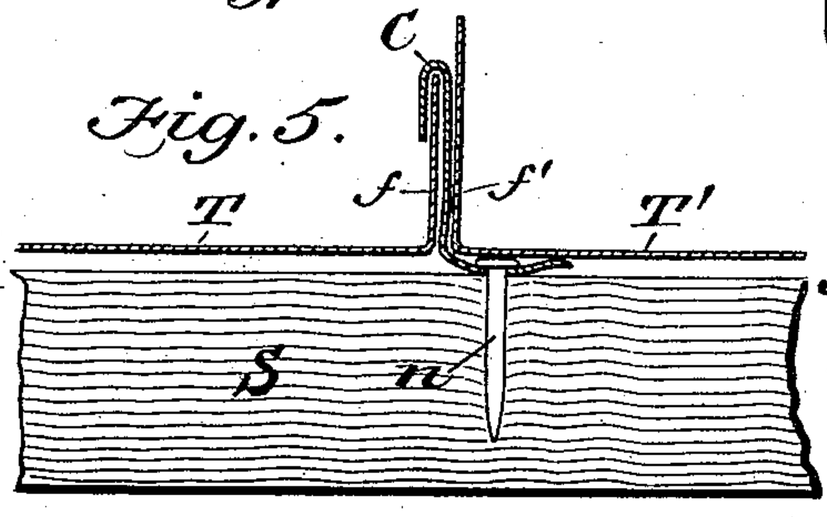


Fig. 5.



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ALBERT DANZER, OF HAGERSTOWN, MARYLAND.

ROOFING-TOOL.

SPECIFICATION forming part of Letters Patent No. 620,426, dated February 28, 1899.

Application filed November 25, 1898. Serial No. 697,384. (No model.)

To all whom it may concern:

Be it known that I, ALBERT DANZER, of Hagerstown, in the county of Washington and State of Maryland, have invented a new and useful Improvement in Roofing-Tools, of which the following is a specification.

In the application of tin roofing to buildings it is customary to first solder the sheets of tin together to form long strips and then turn up both edges of each strip to form standing flanges. Then the tin is anchored down to the wooden sheathing of the roof by small clips or hooks of tin hooked over the top of the standing flange and nailed down into the sheathing. Then when the next adjacent strip of tin is laid one of its standing flanges is made to abut closely against the standing flange that has been thus tied down by nailing, and the two abutting flanges and inclosed hook-clips are next by a special tool seamed and rolled over to lock them together, thus making the ordinary form of standing-flange roof. In this operation the nailing of the numerous hook-clips down into the sheathing is not only a tedious operation, but as the nails have to be held in the fingers while being driven through the tin hook-clips the work is very hard on the fingers, frequently involving the mashing or bruising of the same and the partial disabling of the hand of the workman.

My invention is designed to provide a special tool for nailing down the hook-clips in such a manner as to relieve the hands of all damage and to enable the work to be done in a more expeditious and secure manner; and to this end it consists in the peculiar construction and arrangement of the tool, which I will now proceed to describe with reference to the accompanying drawings, in which—

Figure 1 is a side view of the tool; Fig. 2, a longitudinal section of the same. Fig. 3 is a partial view of the tool, showing its first application to the hook-clip. Fig. 4 is a sectional view showing the operation of driving the nail. Fig. 5 is a view of the work as done by my tool and ready to receive the seaming-tool, and Fig. 6 is a perspective view of one of the hook-shaped clips.

Referring to Figs. 3 to 6, S is the wooden sheathing of a roof, and T T′ are two adjacent strips of tin formed with standing flanges *f f′*. After the strip T is laid and before T′ is applied a clip C, Fig. 6, is hooked over the top of the standing flange and the bottom or horizontal end is secured by a nail *n* to the sheathing. This is the work which my tool is intended to perform. This being done, another tin strip T′, Fig. 5, is laid with its flange *f′* adjacent to and projecting a little above and abutting against the flange *f* and clip C, and the top edges of flanges *f f′* and clip C between them are then turned over by the seamer to close the seam, which is now held down to the sheathing by the anchorage of the nail *n* in the clip C.

My tool consists of two parts. The steel driving-rod A, with weighted handle *a*, of solid iron, shrunk on the rod, forms one part, and the other part consists of a hollow shank B, with a hole through it longitudinally, in which the driving-rod A plays up and down and fits closely but loosely. This shank B has at its lower end a rectangular end *b*, with a flat end face, through which the driver-channel opens. At points above the lower end, a distance about equal to the standing flanges *f f′*, there are formed obliquely-drooping lips *b′ b′*, one on each side, and just above these there is soldered or brazed a small hopper or chute *c*, whose bottom communicates with a passage-way leading into the channel-way of the driver. This chute receives the nails and guides them to the central passage-way. A little above this chute there is formed on the tubular shank a swelled shoulder b^2, on which rests a metal ferrule *d*. Above this is located a wooden handle D, and above the handle D is a recessed metal collar *e*, which is riveted or swaged tightly to the tubular shank by slightly expanding the upper end of the latter within the collar. This causes the wooden handle to be tightly held on the tubular shank between the collar *e* and ferrule *d*. The shank B, with its head *b*, lips *b′ b′*, and shoulder b^2, all formed in one piece of malleable cast-iron, is then bored or drilled to form the longitudinal channel.

In making use of this tool it is applied to the clip on the standing seam in a slightly-inclined position, as shown in Fig. 3, and is then swung over to a vertical position, as indicated by the arrow. The purpose of this movement is to cause the lower end *b* to bend

the bottom of the clip to a right angle and bring its upper portion into a vertical plane, so that the adjacent flange f', Fig. 5, can fit close up to it in flat parallel position. This puts the flanges $f f'$ in proper juxtaposition for seaming, and also gives a thinner and stronger seam and a more direct tie of the seam to the roof. After the tool is brought into the vertical position, as shown in Fig. 4, the driver A is elevated and the nail n drops from the chute c down onto the clip, as in Fig. 4, and the weighted driver being then brought down the nail pierces the clip end and is sunken into the sheathing, as shown in dotted lines in Fig. 4 and full lines in Fig. 5.

In constructing the driver A it is made a little longer than the hollow shank, as shown in Fig. 2. This is for the purpose of causing the lower end of the driver to take up against the solid bearing of the sheathing before the weighted handle a strikes the top of the hollow shank, thus avoiding the battering of the latter.

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

1. A nail-driving tool for metal roofing, comprising a tubular shank portion having near its lower end one or more downwardly-projecting lips adapted to rest upon the top of the standing flange of the roofing-sheet, a chute leading into the central passage-way of the shank, and a reciprocating driver playing in said passage-way substantially as and for the purpose described.

2. A nail-driving tool for metal roofing, comprising a tubular shank portion, with a rectangular lower end and downwardly-projecting lips on each side of the same adapted to rest upon the standing flange of the roofing-sheets, a nail-chute attached to the side of the shank and opening into its central passage-way, and a reciprocating driver playing in said passage-way substantially as and for the purpose described.

3. A nail-driving tool for metal roofing, comprising a tubular shank B with oblique downwardly-projecting lips $b' b'$, rectangular end b, and shoulder b^2 all formed in one piece, a chute c attached to the side of the shank and communicating with the passage-way within, the ferrule d, handle D, and collar e swaged upon the tubular end of the shank above the handle, and a reciprocating and weighted driver playing within the tubular shank substantially as and for the purpose described.

ALBERT DANZER.

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