

(No Model.)

2 Sheets—Sheet 1.

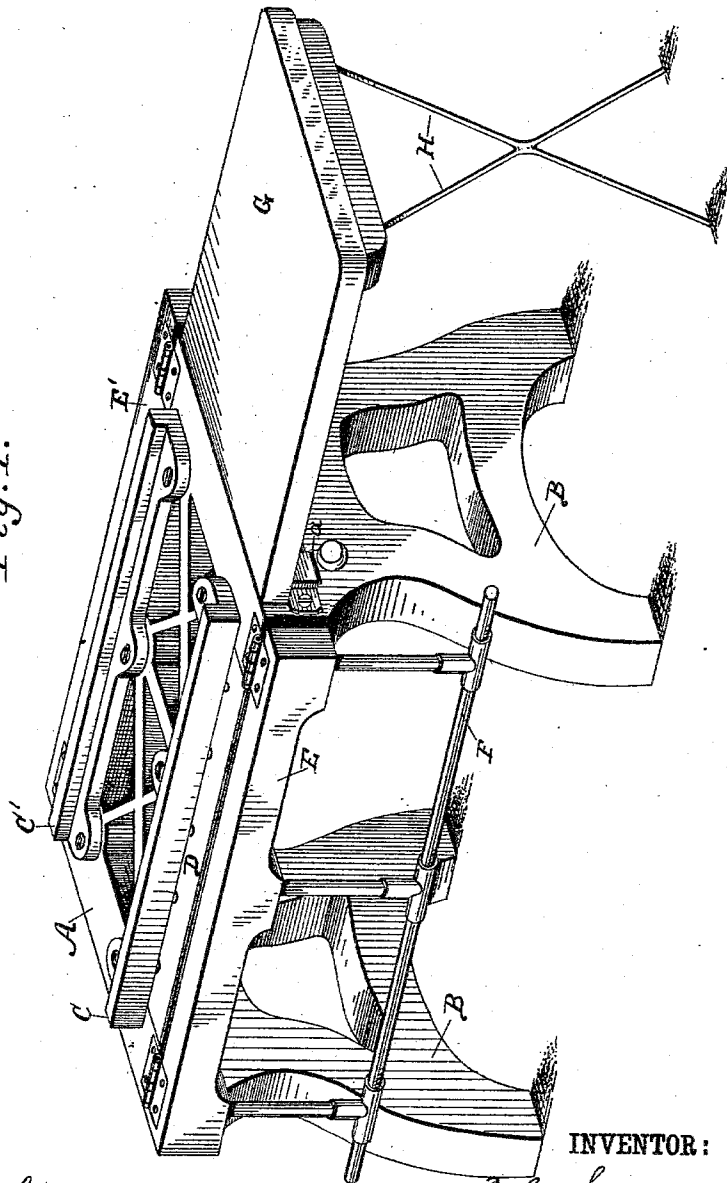
R. C. SNOWDEN.

METAL BENDING MACHINE FOR TIN ROOFERS.

No. 274,398.

Patented Mar. 20, 1883.

Fig. 1.



WITNESSES:

Thos. Houghton.
Edw. L. Byrn

INVENTOR:

R. C. Snowden
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(No Model.)

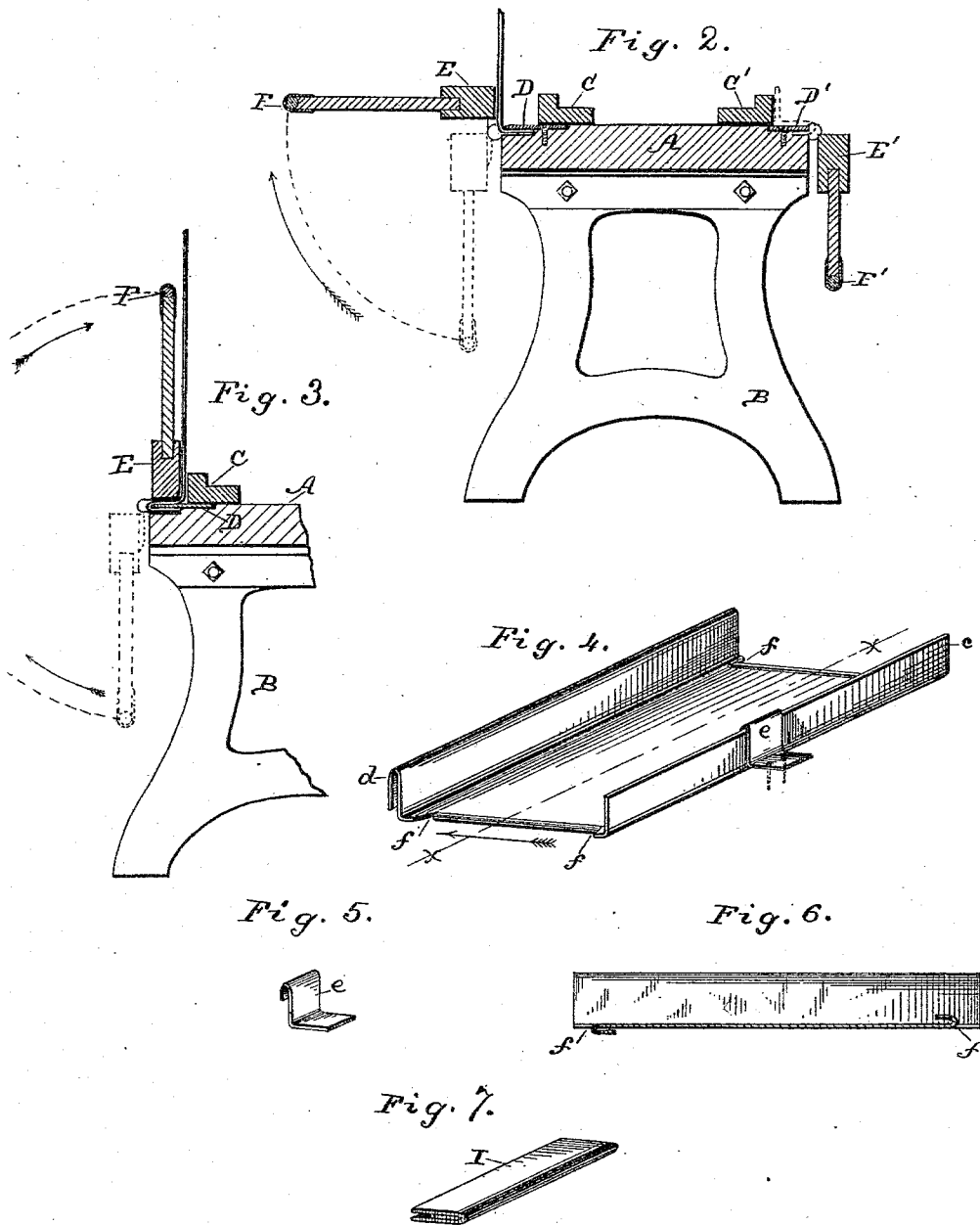
2 Sheets—Sheet 2.

R. C. SNOWDEN.

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WITNESSES:

Thos. Houghton.

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UNITED STATES PATENT OFFICE.

ROBERT C. SNOWDEN, OF ELIZABETH, PENNSYLVANIA, ASSIGNOR TO
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METAL-BENDING MACHINE FOR TIN-ROOFERS.

SPECIFICATION forming part of Letters Patent No. 274,398, dated March 20, 1883.

Application filed February 5, 1883. (No model.)

To all whom it may concern:

Be it known that I, ROBERT C. SNOWDEN, of Elizabeth, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Metal-Bending Machines for Tin-Roofers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming

part of this specification, in which—
Figure 1 is a perspective view of my entire machine. Fig. 2 is a vertical cross-section of the same, showing the movement necessary to bend one edge of the tin. Fig. 3 is a broken view, showing a continuation of the same movement for bending the other edge of the tin. Fig. 4 is a perspective view of a sheet of tin bent and in position to be applied to the roof. Fig. 5 is a detail of one of the cleats. Fig. 6 is a longitudinal section of Fig. 4, and Fig. 7 is a detail of a hand-tool for bending the edges at *f*.

The object of my invention is to save much hard work, time, and expense to tin-roofers by providing a machine which shall perform in the shop much of the labor that has, at great disadvantage, been heretofore done on the roof; and it consists in the peculiar construction of the machine hereinafter described, whereby each sheet of tin is bent upward at a right angle on one edge, and on the other edge is bent up at a right angle and then down again to lap over the standing edge of the adjacent sheet or plate, and by which machine, also, the cleats that hold the sheets to the sheathing may be quickly formed, a number at a time.

In the drawings, A represents a table mounted upon legs B. Near each edge of the table is a horizontal gage-bar, C and C', whose faces are vertical. Beside these bars is a horizontal plate, D D', running, like the gage-bars, along the side of the machine. Beneath these plates D and D', and between them and the sides of the table, there is a free space left sufficient to receive beneath the plate the thickness of the tin to be bent.

E E' are brakes or folding-bars, which are hinged to the edges of the table, and are provided with handles F F'.

G is a supplemental table for holding the sheets of tin to be bent. This table is mount-

ed on folding legs H, and has two tongues, *a a*, that fit into keepers at the end of the main table A.

Now, the form the metal sheets are to be bent into by my machine is shown in Fig. 4, in which one edge, *c*, is simply turned up at right angles, while the other, *d*, is turned up first at right angles and then down again. To make the bend *d* the sheet of tin is placed horizontally, with its edge under plate D, as in dotted lines, Fig. 3, and the brake or bending bar brought from its pendent position, as shown in dotted lines, up to its vertical position, or through one hundred and eighty degrees, which folds the bend *d* upon the edge of the tin. For making the other bend, *e*, the opposite edge is inserted horizontally in the same plane and the brake or bending bar is brought up to a horizontal position or through only ninety degrees, as in Fig. 2.

The object in organizing the machine with a set of bending devices on each side is to permit those on one side to be used for bending the tin sheets, while those on the other are used for bending the cleats *e*, which are to be nailed to the sheathing, and are hooked over the edges of the sheets for the purpose of holding the roof down. The formation of these cleats is a very tedious job when made separately by hand, and the duplication of the bending devices permits a great number of blanks to be placed on the machine, side by side, and all formed or bent at once by the same operation illustrated in Fig. 3.

For fastening the sheets of tin transversely, or making the cross-seams, which is usually done with solder, I slit the ends of each sheet at *f f*, and then bend one edge up and over and the other down and under, and these bends, when interlocked and hammered down, form a water-tight joint, and are superior to solder, for the reason that they permit of expansion and contraction lengthwise the roof, and avoid the buckling up of the roof from heat. For making these transverse bends a hand-tool, I, is employed.

In the old style of roofing with tin the sheets have to be edged on two sides, locked together, hammered down and soldered, forming rolls of a size convenient to be handled, and this is all that can be done at the shop. When the

rolls are transported to the building they are cut to the required length and placed on the roof. The tongs are then used to turn up the sides, after which the roofing is cleated to the sheathing. Then the seamers (two pairs) have to be worked over each seam four times, with the assistance of the mallet, all of which is very hard work and has to be done on the roof, requiring the services of at least two men. My machine takes the tin from the box, does all the forming of seams without going upon the roof, saving all this hand-work, and only requires the plates to be laid in place, thus enabling two men to do five times the amount of work accomplished in the old way.

Having thus described my invention, what I claim as new, is—

1. The sheet-metal-bending machine consisting of a table with a gage-bar, C, and flat horizontal plate D, set beside the gage-bar a little distance above the edge of the table, combined with a brake or folding bar, E, hinged at the edge of the table, substantially as described.

2. The sheet-metal-bending machine consisting of table A, with gage-bars C C', plates D D', hinged folding-bars E E', and handles F F', all combined substantially as and for the purpose described.

ROBERT C. SNOWDEN.

Witnesses:

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M. P. WINTERBURN.