J. Iggett,

Seaming Sheet Metal.

No. 3,177. Patented July 15, 1843.

Fig. 2

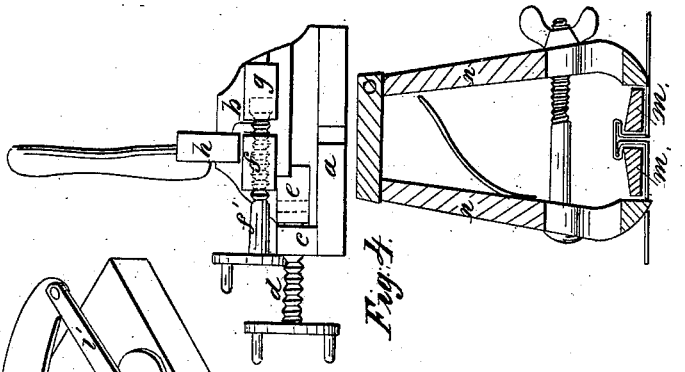


Fig. 4.

Fig. 3.

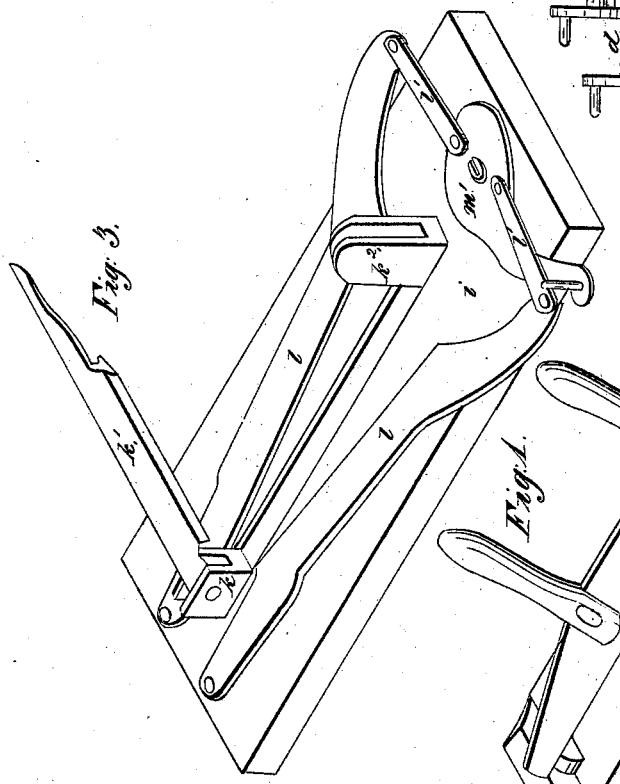
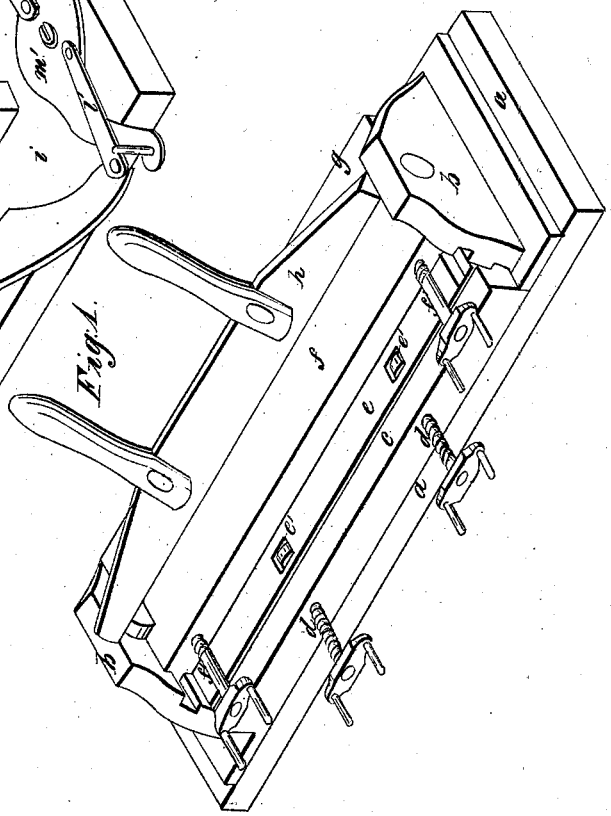


Fig. 1.



UNITED STATES PATENT OFFICE.

JOHN IGGETT, OF ALBANY, NEW YORK.

IMPROVEMENT IN MACHINERY FOR BENDING METAL PLATES FOR ROOFING HOUSES.

Specification forming part of Letters Patent No. **3,177**, dated July 15, 1843.

To all whom it may concern:

Be it known that I, JOHN IGGETT, of the city and county of Albany, and State of New York, have invented a new and useful Improvement in Machinery for Bending Metal Sheets for Roofs, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2, a section of machine for bending roof-plates; Fig. 3, perspective of machine for forming cap-pieces; Fig. 4, section of roof.

The nature of my invention consists in machinery for bending sheets of metal for covering roofs at their edges, so as to allow for their expansion and contraction, and also for forming caps for the same, as hereinafter described. Each sheet of metal requires to be bent up at the edge at right angles, and its upper part is again bent at right angles parallel with and over the flat part that lies upon the roof. (For this shape see Fig. 4.) Two of these are laid side by side, and the upper horizontal parts are embraced by a cap or strip of metal that lies over them, and the edges turn down under them.

The machine for giving the double turn to the roof-plates is formed of a flat bed-plate, *a*, near each end of which are bolted uprights *b*. Along one edge of the plate *a* there is a rib, *c*, sufficiently high to cut a female screw for the two screws *d*. This rib extends from one upright to the other, and at about half its height the uprights are grooved horizontally, in which groove the ends of a bar, *e*, which I denominate the "lower folding bar," slides parallel with the rib *c*, above named. This is moved back and forth by hand-screws *d*, which move in the rib *c*, and the inner end of which enters a hole in the bar *e*. This hole is intersected by a mortise, *e'*, in which there is a collar which is attached to the screw, thus connecting the bar to the screw, so that it will be moved back and forth by it. Just above the bar *e* a brace, *f*, extends from one upright to the other, and is firmly affixed to them. This has screws *f'* passing horizontally through it, and connected with a horizontal bar, *g*, in a similar manner to the bar *e*, first named. The bar *g* moves in grooves in the uprights, and is made to fit against the edge of the brace *f*, so as to hold the sheet metal which is put between them, as hereinafter described. Over the brace *f* is what I denominate the "upper folding bar" *h*. One side of this bar is parallel with the inner edge of the brace *f* when in the position shown in the drawings, Fig. 2, in which two handles that are attached to the bar are elevated. The bar turns on gudgeons, the center of which should be just on a line with the lower edge of the bar, said gudgeons entering the uprights near the top. When a sheet of metal is to be bent, the space between the bar *h* and brace *f* is opened sufficiently to admit the sheet metal vertically between them, the lower edge resting on the lower folding bar, which is rabbeted sufficiently at its edge to let the metal fall as far below the bar *g* as the lip is to be turned. The bar *g* is then screwed up, so as to pinch the metal, and the lower folding bar is forced forward till the lower edge of the metal plate is turned up against the bar *g*. The upper folding bar is then turned down, bending the upper part of the metal along with it, and completing the operation.

The machine for bending the cap-pieces is as follows: A bed-piece, *i*, Fig. 3, has a flat shallow groove running its whole length, at one end of which there is a forked upright, *k*, to which a bar, *k'*, is jointed. The lower edge of this lever is flattened out so as to fill the groove, and the upper side of this broad part is chamfered off from the bar outward on each side. The bar is guided in its descent into the groove by two guide-pieces, k^2, placed one each side of the groove at the end opposite that at which the bar is jointed. On each side of the groove there are levers *l*, turning on pins horizontally and close to the platform, the pins being beyond the piece to which the bar *k'* is jointed. These levers project inward before the upright *k*, and the whole length of the groove between it and the guides k^2. They are straight on their edges and project a little over the groove when brought in at the ends next the guide k^2. They flare out and are connected by rods *l'* with a lever, *m'*, the fulcrum of which is on a line with the groove, and the rods are connected on each side and equidistant from it. As this lever is turned the levers *l* are brought up to the center. A strip of sheet metal of the proper width and length for the cap is put onto the bed-plate *i* over the groove, and the bar *k'* is brought down onto it and forces it into the groove. This

operation causes the edges to rise. The lever *m* is then turned, which brings the two side levers, *l*, up and turns the edges of the cap-pin over the chamfered part of the bar *k'*, which completes the operation. When the sheets of metal are put on the roof, they are laid side by side, (see section Fig. 4,) and the cap-piece is slipped on over the upper projecting lips of the two contiguous sheets. Two bars of iron or mandrels, *m*, are then placed one on each sheet of metal under the cap, and pressed together by two or more vises, *n*, of common construction, so as to bring the edges of the cap up. It is then beat down on the upper side, and the joint is complete.

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

1. The combination of the lower folding bar, *e*, Fig. 1, worked by screws, and the upper folding bar, *h*, with jaws formed by the brace *f*, and horizontal bar *g*, constructed and arranged in the manner and for the purpose herein set forth.

2. The combination of the grooved bed-piece *l'*, bar *k'*, and levers *l*, constructed and arranged as before specified.

Albany, July 8, 1843.

JOHN IGGETT.

Witnesses:
LEML. JENKINS,
DAVID BENSEN,
JOHN NEBLOCK.