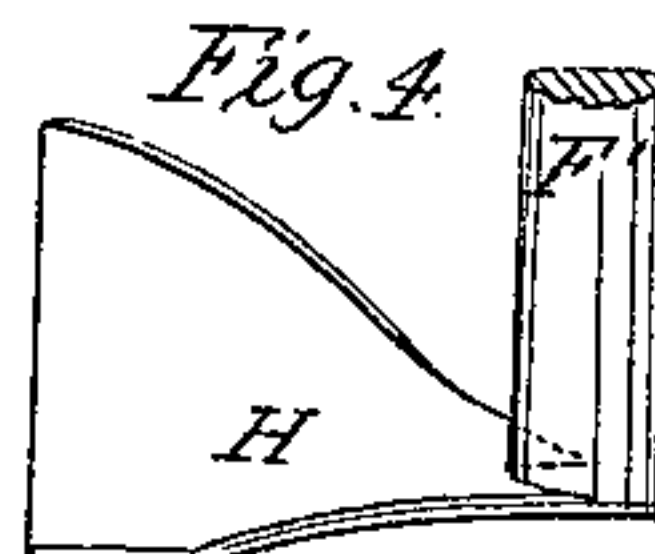
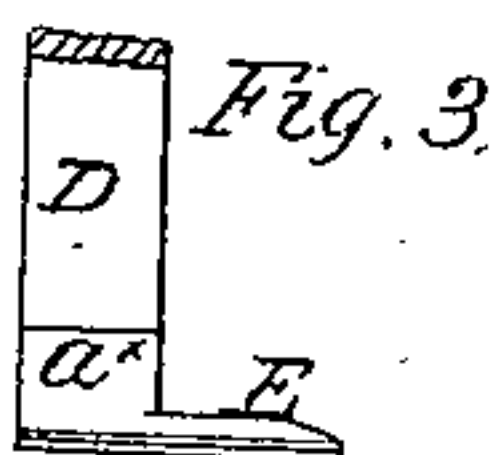
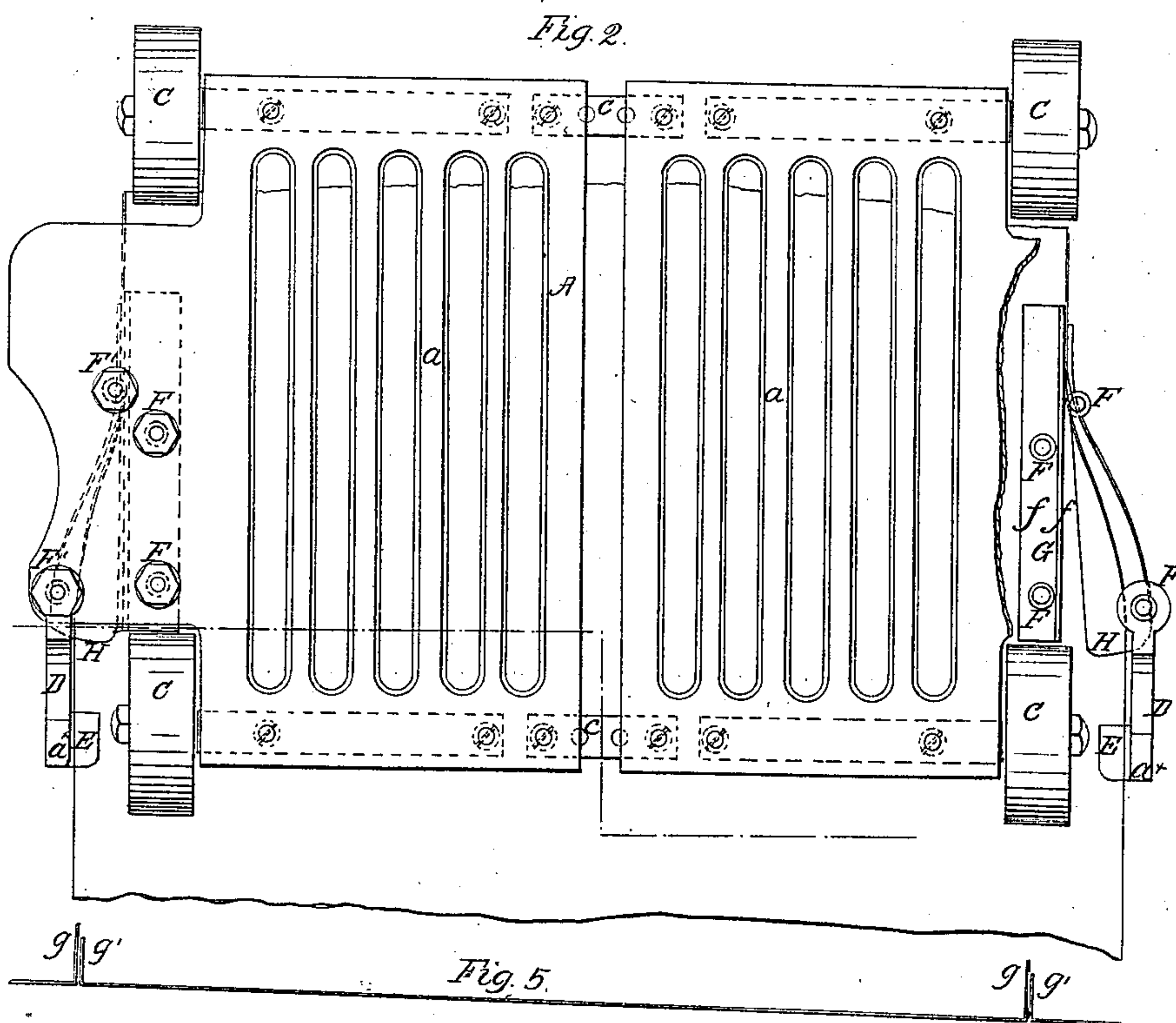
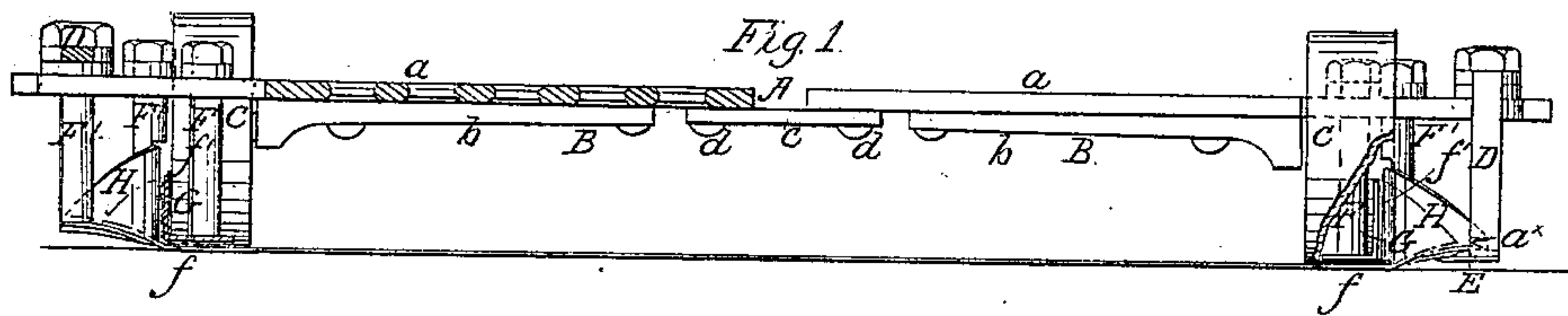


*F. Roys,*  
*Edging Sheet-Metal.*

*N<sup>o</sup> 42,967.*

*Patented May 31, 1864.*



*Witnesses:*  
*J. W. Cornhill*  
*Henry Morris*

*Inventor*  
*F. Roys*  
*per [Signature]*  
*Attorneys.*



# UNITED STATES PATENT OFFICE.

F. ROYS, OF EAST BERLIN, CONNECTICUT.

## IMPROVEMENT IN MACHINES FOR BENDING EDGES OF SHEET METAL.

Specification forming part of Letters Patent No. 42,967, dated May 31, 1864.

*To all whom it may concern:*

Be it known that I, F. ROYS, of East Berlin, in the county of Hartford and State of Connecticut, have invented a new and Improved Machine for Bending Edges of Sheet-Metal Roofing-Plates Preparatory to Forming the Locks or Joints thereof; 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, making a part of this specification, in which—

Figure 1 is a front sectional view of my invention, taken in the line  $x x$ , Fig. 2; Fig. 2, a plan or top view of the same; Figs. 3 and 4, detached front views of the metal plates which bend the edges of the metal sheets; Fig. 5, an end view of a roofing-plate bent by my invention.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful machine for bending the edges of sheet-metal roofing-plates when applied to the roof, said machine being designed for preparing the plates to form locks or joints by which they are connected together.

The invention consists in the employment or use of guides and folding or bending plates attached to a frame mounted on wheels, and all arranged as hereinafter fully set forth.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a frame or platform composed of two plates,  $a a$ , which are secured to transverse bars B B, the latter being composed each of two parts,  $b b$ , connected by a short bar,  $c$ . These short bars  $c$  are attached to the two parts  $b b$  of the bars B by screws  $d$ , one of which of each bar passes through an oblong slot to admit of the frame or platform A being increased or diminished in width, as may be required. The frame or platform A is mounted on wheels C, which are on the outer ends of the bars B, and to the front end of each plate  $a$  of the frame or platform A there is secured an inclined bar, D. These bars extend down by the sides of the front wheels, C, and each of them has a plate, E, projecting laterally from it and toward the wheel C. (See more particularly Figs. 2 and 3.) The inclined bars D D perform two functions, to wit: They support the plates E E, which pro-

ject from the lower parts or under sides of the bars, and they also serve as guides or gages, as the lower parts,  $a^x$ , of the bars above the surfaces of the plates E are in a horizontal position, and the plates  $a a$  are so adjusted that the edges of the sheet-metal plates will just touch the inner sides of the lower horizontal parts,  $a^x$ , of the bars D D.

To each outer side of each plate  $a$  of the frame or platform A, and between the wheels C, there are attached pendent rods F F', two of each. The rods F F' are in line with each other longitudinally with the machine, and to said rods there is attached an angle-plate, G, the lower part,  $f$ , of which has a horizontal position, and the other part,  $f'$ , a vertical position, as shown clearly in Fig. 1.

To the rods F' there is attached a curved plate, H. The front ends of these plates H have a horizontal position, and they have a gradual twist from their front to their back ends, so that the back ends will be in a vertical position and parallel with the vertical parts  $f'$  of the angle-plates G, and be quite close to them. (See more particularly Fig. 2.)

The operation is as follows: The metal plates are laid upon the roof, side by side, lengthwise with the pitch of the roof, and the plates  $a a$  of the frame or platform A are so adjusted that the edges of the plates will be in contact with the inner surfaces of the lower horizontal parts,  $a^x$ , of the bars D D. The machine is then moved along, the operator sitting upon it. The plates E E, at the front ends of the bars D, work under the edges of the roofing-plates, (shown in red,) and slightly raise them from the roof, the lower parts,  $f$ , of the angle-plates G, and the front wheels, C, holding the main portions of the plates down in proper position on the roof. The edges of the roofing-plates raised by the plates E pass between the vertical parts  $f'$  of the angle-plates G and the curved plates H, which cause the edges of the roofing-plates to be bent upward in a vertical position, as shown at  $g$  in Fig. 5. The vertical part  $g$  at one edge of the roofing-plate is a trifle higher than the one  $g'$  at the opposite edge, as will be seen by referring to Fig. 5, and the highest bent part,  $g$ , at the edge of one plate is by the side of the lower bent part,  $g'$ , of the plate. By this simple device the edges of roofing-plates may be very expeditiously bent while laid upon the

roof and prepared for being jointed or locked together.

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

1. The raising or lifting plates E, in connection with the angle-plates G and twisted or curved plates H, all being attached to a mounted frame, and arranged to operate in the manner substantially as and for the purpose herein set forth.

2. The guides or gages  $a^x$ , adjoining the

plates E, when used in connection with the plates G H, for the purpose specified.

3. The adjustable frame or platform A, composed of two parts,  $a$   $a$ , attached to bars B B, which are connected together by bars  $c$ , all arranged, as shown, for the purpose of admitting the plates E G H being adjusted to suit the width of the roofing-plates, as set forth.

F. ROYS.

Witnesses:

MARCELLUS CLARK,  
HENRY NASH.