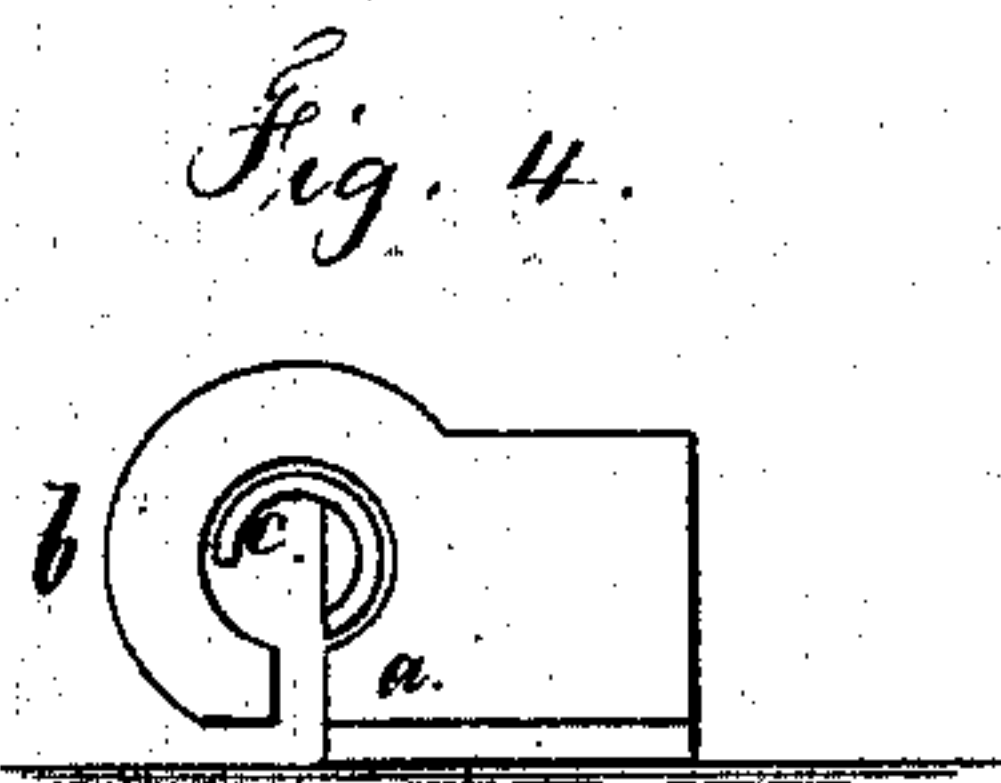
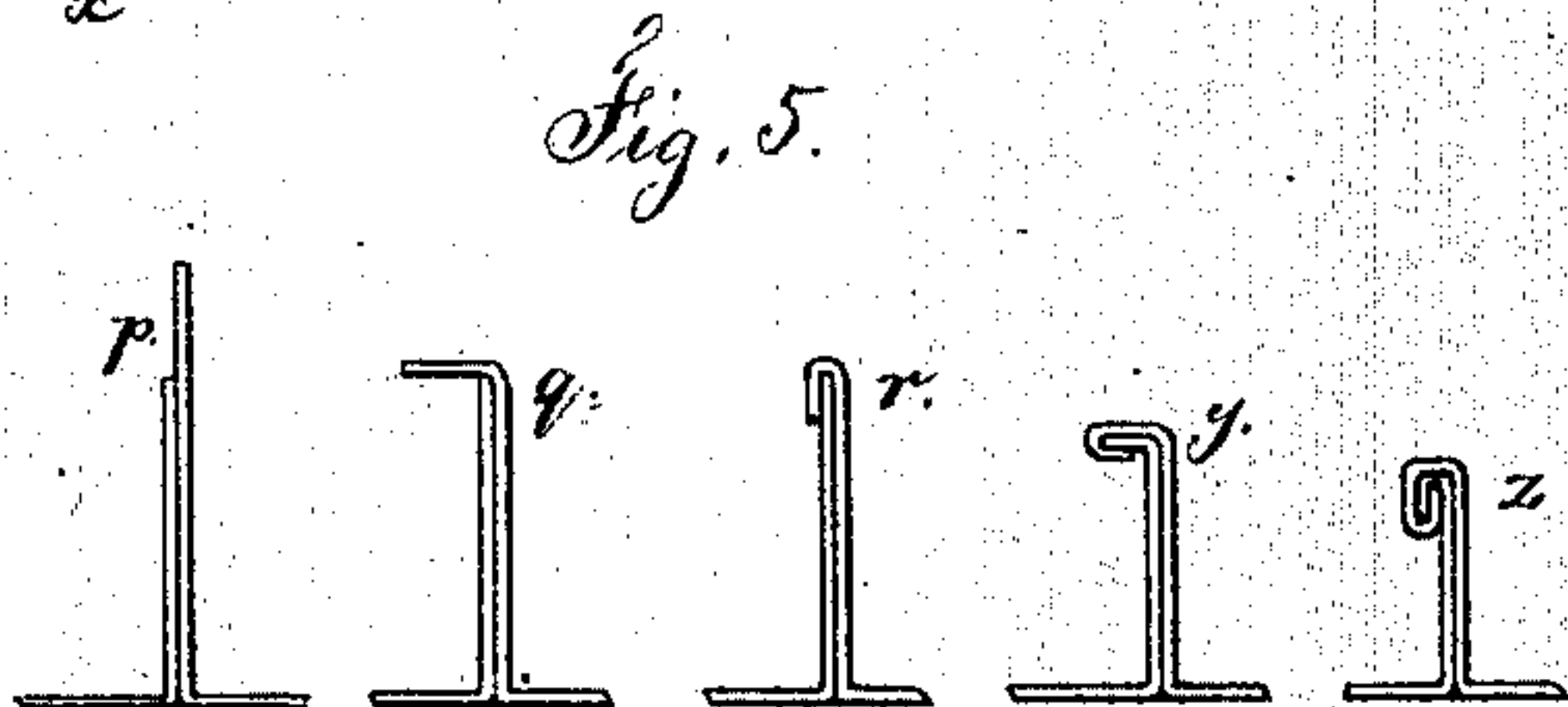
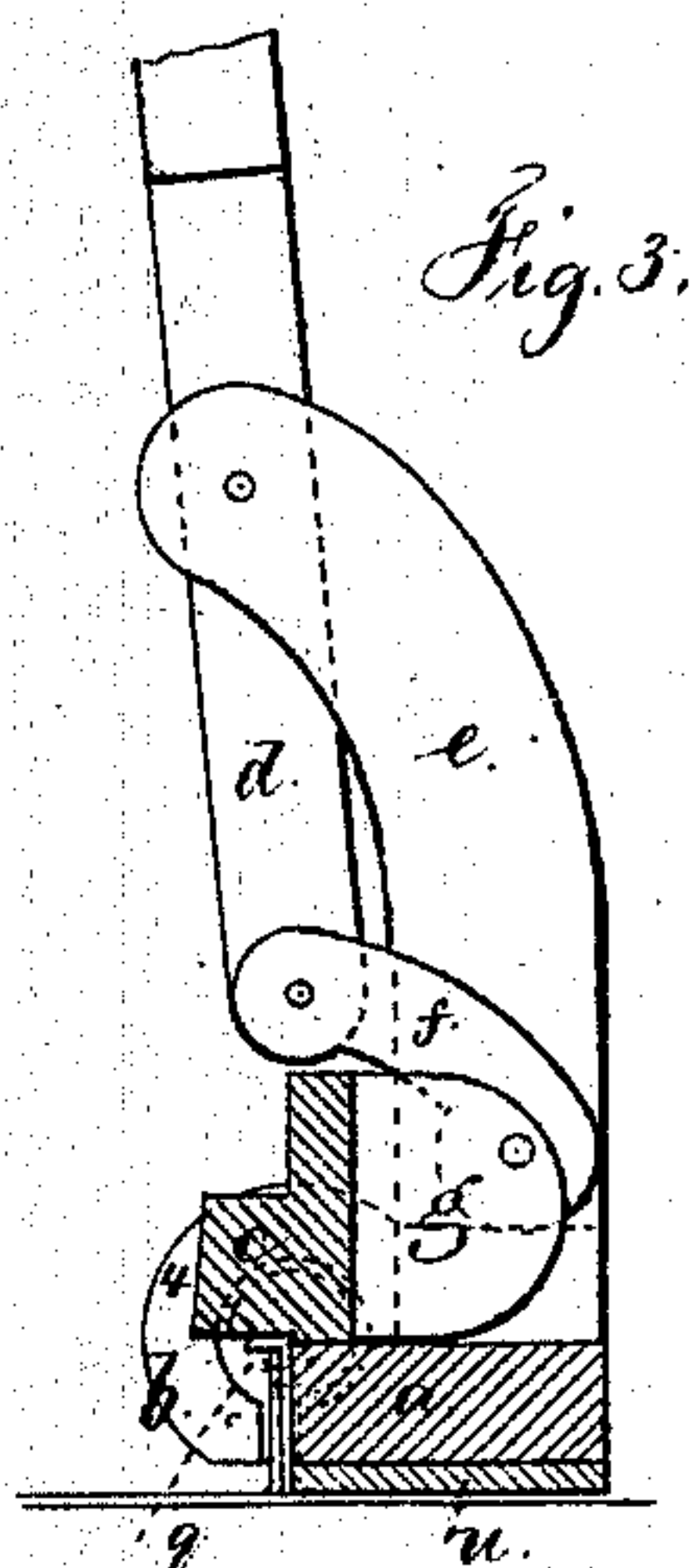
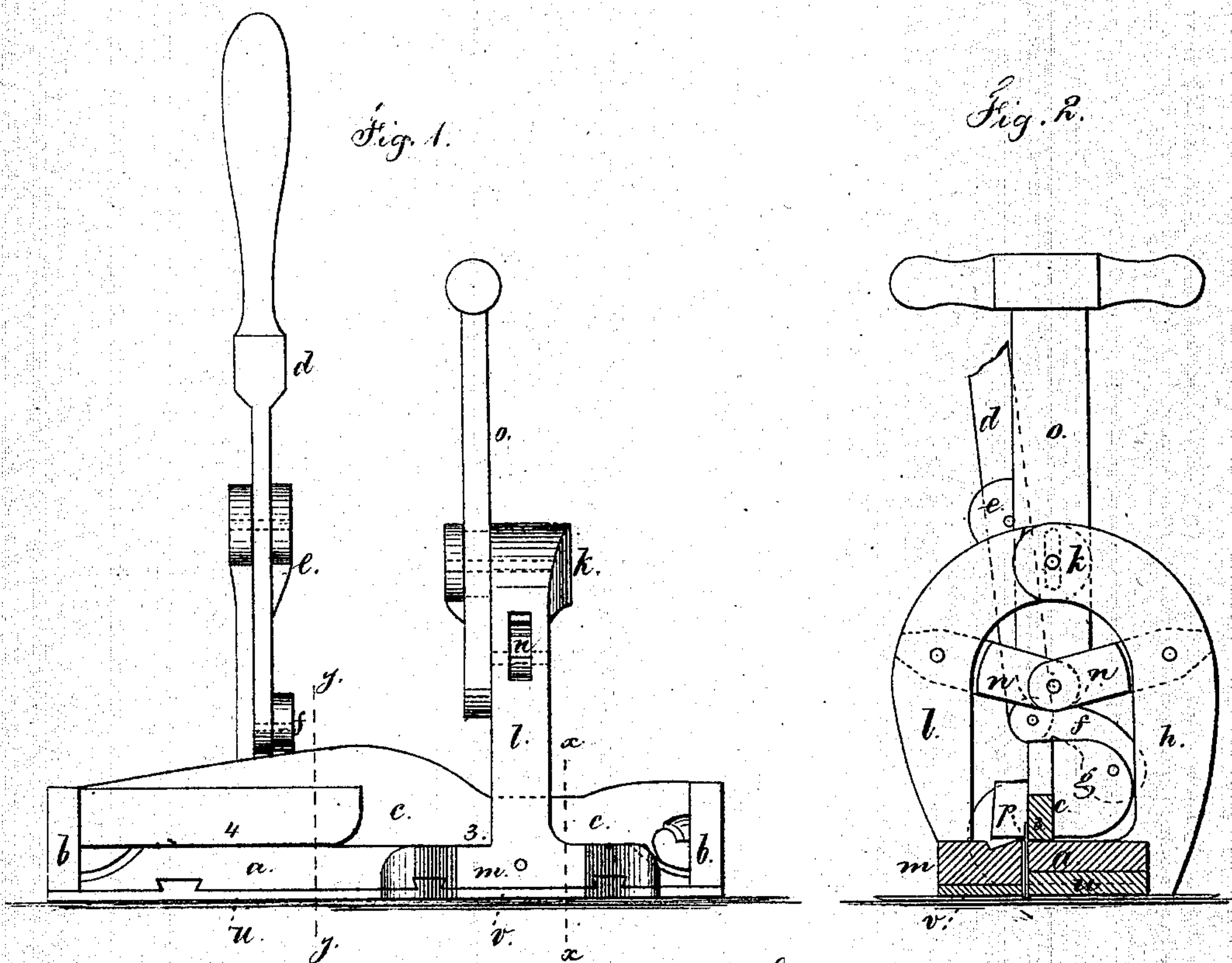


C. BROMBACHER.

Machines for Seaming Sheet-Metal.

No. 139,863.

Patented June 17, 1873.



Inventor

Charles Brombacher,

Lemuel M. Serrell
att'y.

Witnesses
Charles Smith
Geo. D. Parker

UNITED STATES PATENT OFFICE.

CHARLES BROMBACHER, OF TARRYTOWN, NEW YORK.

IMPROVEMENT IN MACHINES FOR SEAMING SHEET METAL.

Specification forming part of Letters Patent No. **139,863**, dated June 17, 1873; application filed November 19, 1872.

To all whom it may concern:

Be it known that I, CHARLES BROMBACHER, of Tarrytown, in the county of Westchester and State of New York, have invented an Improvement in Tinmen's Sheet-Metal Bending Machines, of which the following is a specification:

Metal plates are frequently employed for roofs of buildings, in which the edges of the sheets are turned up at right angles and then the upper edges of the said vertical flanges are folded over double so as to unite the edges of the sheets and render the roof water-tight. This operation has usually been performed by hand at the expenditure of considerable time. In some instances the edges of the metal have been clasped by holding-tongs, but they are liable to be misplaced in grasping the sheet-metal flanges. My invention relates to stamping-jaws that are brought together in the act of pressing the instrument down to place over the sheet-metal flanges, so that said flanges are not only grasped but also pressed down to position on the roof, and also the bending-tool occupies the correct position relatively to the sheet-metal flanges. Bending mechanism is combined with the foregoing parts.

In the drawing, Figure 1 is an elevation of the said machine. Fig. 2 is a section at the line *x x*. Fig. 3 is a section at the line *y y*. Fig. 4 is a view of the hollow journal. Fig. 5 represents the successive folds made in the sheet metal.

The jaw *a* forms the base of the machine; at its ends there are hooked journal-boxes, *b*, in which are the hollow open journals at the ends of the folding-bar *c*. This bar *c* is made to swing or roll in these journal boxes or bearings *b*, and is moved by a lever, *d*, upon a standard, *e*, connected by a link, *f*, to the arm *g* upon said folding-bar *c*. The standard *h* upon the jaw *a* has a joint, *k*, connecting the arm *l* of the clamping-jaw *m*, and the toggle links *n* and sliding handle *o* serve to operate the toggle and jaw *m*. The edges of the tin or metal plates are turned up with flanges, as at

p, Figs. 2 and 5. The machine is placed upon these with the flanges between the jaws *a* and *m*, the hollow journals and hooked bearings allowing the instrument to sit down over these flanges and upon the surface of the roofing-plates.

Upon pressing down the handle *o* the flanges *p* are clamped firmly between *a* and *m*. The handle or lever *d* is moved and the bending jaw is swung or turned over, and the part 3 bends the edges of the flanges *p* at a right angle upon the upper surface of the jaw *m*. The entire instrument is slipped along upon the flanges *p* after the jaw *m* has been released and the bending jaw *c* turned back. The portions of the flanges *p* that have been folded by 3 and *m* into the shape shown at *q*, Figs. 3 and 5, are now adjacent to the folder 4 upon *c*, so that at the next movement of the jaw *c* the fold is turned down against the side of *p* in the form illustrated at *r*, Fig. 5, and at the same time the edges of the flanges *p* at the next portion of the sheet receive the first bend, as shown at *q*, and in this way the bending progresses. If the joint is to be "double-seamed," the shoe-plates *u v* are to be taken off the jaws *a* and *m*, so as to lower the machine down bodily, after which the bending operations are proceeded with as before, and a second fold or bend will be made as before, except that the second bends will be nearer to the surface of the sheet metal, and will operate upon greater thickness of metal. These folds are shown in the diagrams, Fig. 5, at *y* and *z*.

I claim as my invention—

The standard *h*, joint *k*, arm *l*, jaws *a m*, toggle *n*, and handle *o*, in combination with the turning and folding-jaw *c*, as and for the purposes set forth.

Signed by me this 9th day of November, A. D. 1872.

CHAS. BROMBACHER.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.