

UNITED STATES PATENT OFFICE.

GREENE CHOATE, OF EAST SAGINAW, MICHIGAN.

IMPROVEMENT IN DEVICES FOR CUTTING SHEET METAL FOR CURVED PIPE-ELBOWS.

Specification forming part of Letters Patent No. **191,312**, dated May 29, 1877; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, GREENE CHOATE, of East Saginaw, county of Saginaw, and State of Michigan, have invented a new and useful Improvement in Shears for Cutting Sections for Curved Sheet-Metal Elbows, of which the following is a specification:

Figure 1 is a plan view. Fig. 2 is a side elevation.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide shears for cutting the curved edges of sections of curved stove-pipe elbows.

In the drawing, A is the bed of the shears, having the cutting-edge *a b*, which is formed on an ogee or reversed curve. Arms *c* project from the bed, and to them the arms *d* of the curved shear-blade B are pivoted. The curved shear-blade B is the counterpart of the curved cutting-edge of the bed A. Eyes *e* project downward from the arms *d* of the shear-blade B, for receiving rods that connect the same with a foot-lever. A spring, *f*, is attached to one of the arms *c*, and bears against a projection on one of the arms *c*, for throwing the curved shear-blade B upward.

Pins *g* project upward from the bed for engaging holes in the sheet to be cut by the shears. A sheet, C, of metal, having been punched by another machine, is placed upon the bed of the shears, with two of its perforations on the pins *g*, as indicated by the drawing, when the curved shear-blade B is forced down by means of the foot-lever, and the sheet C is severed along the line of the cutting-edge *a b*.

The sheet is reversed and cut upon the dotted line *e f*. It is again reversed and cut upon the line *g h*. The sheet is thus cut by the shears into sections that may be formed into a curved elbow without trimming.

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

The bed A, having the curved cutting-edge *a b*, arms *c*, and guide-pins *g*, and the curved shear-blade B, having arms *d*, in combination, substantially as shown and described.

GREENE CHOATE.

Witnesses:

FREDERICK HARTMAN,
F. J. MOELLER.