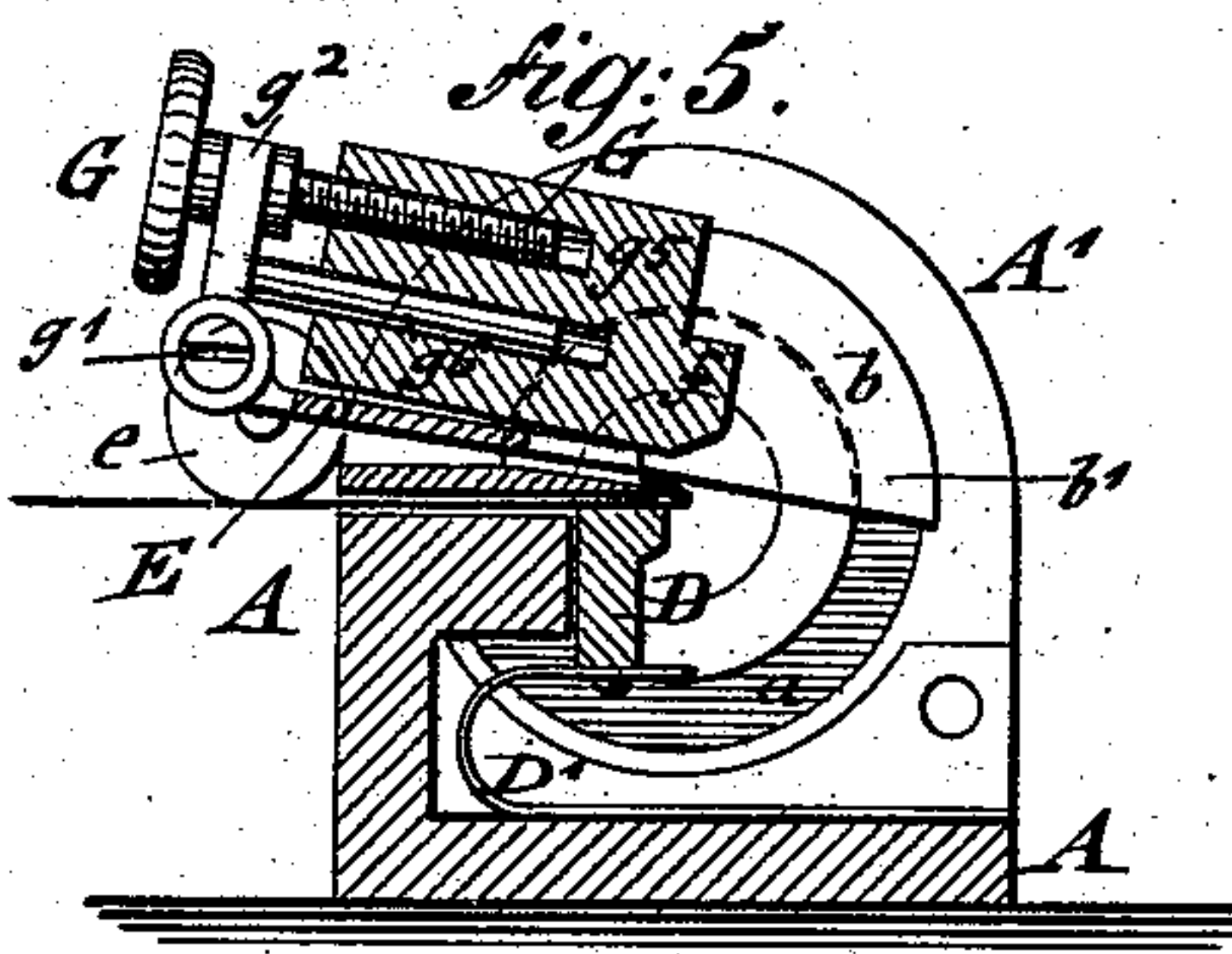
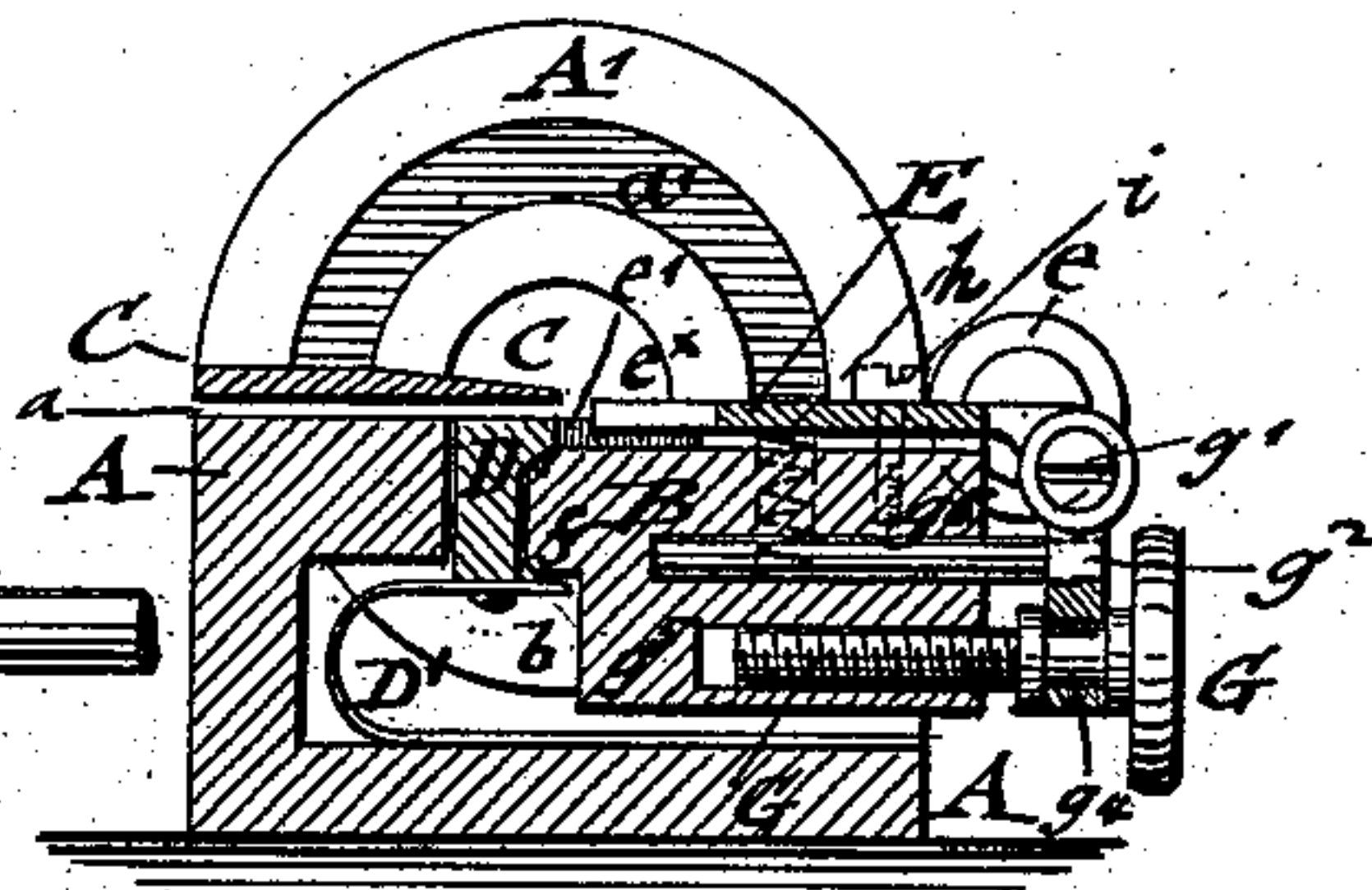


Patented Feb. 14, 1888.



INVENTOR

INVENTOR
Casper Reising.
BY *Goebel & Paegemer*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

CASPAR REISING, OF PLANTSVILLE, CONNECTICUT.

MACHINE FOR FOLDING SHEET METAL.

SPECIFICATION forming part of Letters Patent No. 377,863, dated February 14, 1888.

Application filed September 20, 1887. Serial No. 250,159. (No model.)

To all whom it may concern:

Be it known that I, CASPAR REISING, of Plantsville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machines for Folding Sheet Metal, of which the following is a specification.

This invention has reference to an improved machine for folding sheet metal in a quick and reliable manner, either at the edge or at any other point of the same; and the invention consists of a machine for folding sheet metal, which comprises a stationary folding-plate, a hinged folding-bar that is guided in semicircular grooves of the yoke-shaped standards supporting the stationary plate, a hinged and spring-actuated gage that is horizontally adjustable in the supporting-stand of the machine, a spring-actuated clamp located below the folding-plate, and means for locking the gage flush with said clamp, so as to permit the passage of the sheet metal above the gage when it is to be folded at a point away from the edge, as will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a top view of my improved gage for folding sheet metal, showing the folding-bar in position before folding the metal, parts of the machine being in section. Fig. 2 is a front elevation of Fig. 1, showing the folding-bar. Fig. 3 is a side elevation. Fig. 4 is a vertical transverse section showing the folding-bar turned back to receive the sheet metal, and Fig. 5 is a similar view showing the bar turned over to bend the sheet at its edge. Fig. 6 is a side elevation of one of the end standards of my improved machine, showing the hinged folding-bar in section and the method of guiding the same in said standard.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the base-frame of my improved machine for folding sheet metal, which base-frame is made of L-shaped cross-section, as shown in Figs. 4 and 5, and provided at the ends with upright standards A', that are rigidly attached thereto by suitable screws. Each standard A' has a central opening, and at the rear part a horizontal slot, *a*, on a level with the upper edge of the base-frame A. At their inner sides the

standards A' are provided with nearly circular guide-grooves *a'* for the semicircular guide-ribs *b'* of the end plates, *b*, of a folding-bar, B. The guide-grooves *a'* and guide-ribs *b'* form a kind of hinge for the folding-bar B, so that the same may be swung by its handle B' from its normal position in the base-frame A (shown in Fig. 4) into the position shown in Fig. 5. To the rear ends of the yoke-shaped standards A' is attached, by means of fixed exterior ears, *d*, and fastening-screws *d'*, a stationary folding-plate, C, the inner tapering edge of which extends toward the interior of the base-frame A and standards A', and which serves to fold the edge of the sheet metal in connection with the folding-bar B.

To facilitate the swinging motion of the folding-bar B, the same is provided at both ends with anti-friction rollers *e*, which turn loosely on shafts that are supported in fixed sockets *e'* of the folding-bar B, said anti-friction rollers moving over the exterior semicircular surface of the end standards, A', and facilitating thereby the swinging motion of the folding-bar.

Below the stationary folding-plate C is arranged a clamp, D, which is guided along the inner edge of the L-shaped base-frame A, as shown in Figs. 4 and 5, said clamp D being attached to the free ends of strong U-shaped springs D', which press the clamp against the sheet metal introduced between the rear part of the frame A and the stationary plate C and hold it in proper position for being folded by the hinged folding-bar B.

The folding-bar B is provided at the rear part with a shoulder, *f*, below which the springs D' project, said shoulder preventing the clamp D from pressing on the sheet metal before the folding-bar B is turned, so that the sheet metal can be introduced without being obstructed by the clamp D. As soon as the shoulder *f* releases the projecting ends of the springs D', the clamp D presses on the sheet metal inserted between frame A and bar C and holds it firmly in position for being folded by the bar B.

To the top of the hinged folding-bar B is applied a gage, E, which is connected by perforated sleeves *g* and screw-pintles *g'* to a downwardly-extending arm, *g''*, that engages by a central recess an annular groove, *g'''*, on the shank of a screw, G. The screw G engages a

threaded socket, g^5 , of the folding-bar B. The arm g^2 is provided with a fixed guide-rod, g^6 , that slides in a hole of the folding-bar B and serves to guide and steady the gage E while it is adjusted in forward or backward direction on the folding-bar B by the adjusting-screw G. The gage E is provided with fingers e^x , that extend into grooves e' of the bar B, and is acted upon by spiral springs h , that are set into sockets of the folding-bar B, said spiral springs serving to raise the gage E and the fingers e^x , so that they project above the folding-bar B and serve as stops for the sheet metal introduced between the base-frame A and clamp D and the stationary plate C, determining thereby the width of the edge to be folded over. By adjusting the gage-fingers farther away from the folding-plate C a greater width of sheet metal is folded over at the edge of the same, while when the gage-fingers are adjusted closer to the plate a smaller strip of sheet metal is folded over at the edge.

When it is desired to fold the plate of sheet metal not at the edge, but at any other point of the same, the gage-fingers are pressed down against the tension of the springs h into the grooves e' flush with the surface of the folding-bar, and retained in this position by suitable fastening-screws, i , as shown in Fig. 4. The sheet-metal plate may thus be passed through the gage-plate without being stopped by the fingers of the same, and bent at any desired point. It is obvious, however, that only plates of less width than the width of the machine between the end standards can be folded in this manner.

For operating the machine the sheet metal is introduced between the base-frame A and spring-clamp D and the stationary folding-plate C until the edge of the same is stopped by the gage-fingers e^x , which have been adjusted for the required size of fold. The folding-bar B is then swung by its handle B' from its horizontal position (shown in Fig. 4) into an inverted position above the stationary plate C, its sharp edge bending the projecting strip of sheet metal over the folding-plate, as shown in Fig. 5. The folding-bar B is then returned into its former position and the sheet-metal plate moved lengthwise in the openings in the end standards, A', until the next section of the sheet-metal plate is in position for folding, which is then folded by swinging over the bar B, and so on until the edge along the entire length of the plate is folded. The plate is then removed in longitudinal direction from the stationary folding-plate. When the plate of sheet metal is to be folded at any other point than at the edge, it is moved over the gage after the same has been secured in position flush with the folding-bar, the folding-bar being then swung backward by its handle for folding the plate, which is removed in for-

ward direction over the gage, as the gage-fingers are not in the way in this case.

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

1. The combination of a base-frame having fixed yoke-shaped end standards, a stationary folding-plate attached to the said standards, a hinged folding-bar guided by said end standards, a spring-clamp below the stationary plate, and a hinged adjustable and spring-actuated gage having fingers guided in grooves of said folding-bar, substantially as set forth.

2. The combination of an L-shaped base-frame having fixed yoke-shaped end standards, a stationary folding-plate attached to said standards, a folding-bar guided by ribbed end plates in circular grooves of the standards, a spring-clamp below the stationary plate, a gage having fingers guided in grooves of said folding-bar, said gage being hinged to a bracket-plate guided in the folding-bar, and a set-screw engaging said bracket-plate and folding-bar for adjusting the gage, substantially as set forth.

3. The combination, in a sheet-metal-folding machine, with the hinged folding-bar having top grooves, of a gage having fingers, a bracket-plate guided by a rod in said folding-bar, the gage being hinged to said bracket-plate, an adjusting-screw engaging said bracket-plate and a socket in the folding-bar, and spiral springs located in sockets of the folding-bar for raising the fingers of the gage out of the grooves of the folding-bar, substantially as set forth.

4. The combination of a supporting-frame having fixed yoke-shaped end standards, a stationary folding-plate attached to said standards, a hinged folding-bar guided by said standards and provided with an interior shoulder, a clamp supported on bent springs below the stationary plate, said springs being engaged by the shoulder of the folding-bar, and a hinged and adjustable gage having fingers guided in grooves of the folding-bar, substantially as set forth.

5. The combination of a supporting-frame having fixed yoke-shaped end standards, a stationary folding-plate attached to said standards, a hinged folding-bar, a spring-clamp below said stationary plate, a hinged adjustable and spring-actuated gage having fingers guided in grooves of the folding-bar, and means for locking the gage flush with the folding-bar, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

CASPAR REISING.

Witnesses:

HENRY C. UMBA,
A. M. LEWIS.