(No Model.)

G. J. H. GOEHLER.

BENDING ANGLE IRON.

No. 268,011. Patented Nov. 28, 1882.

FIG. 1.

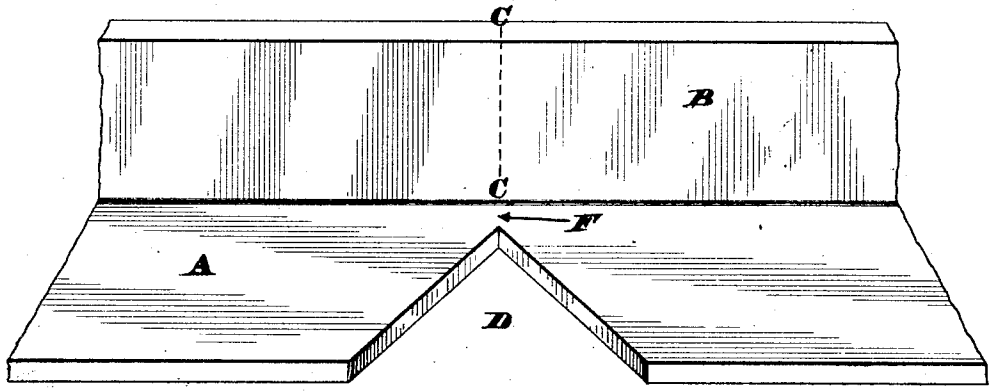


FIG. 2.

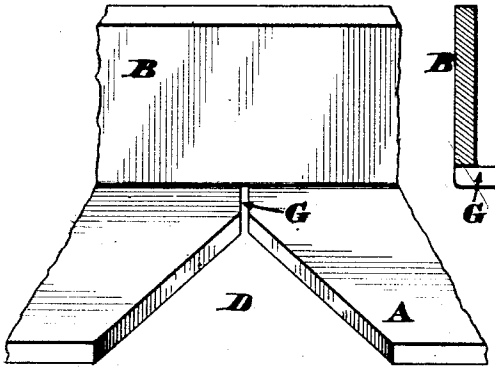


FIG. 8.

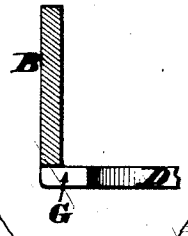


FIG. 3.

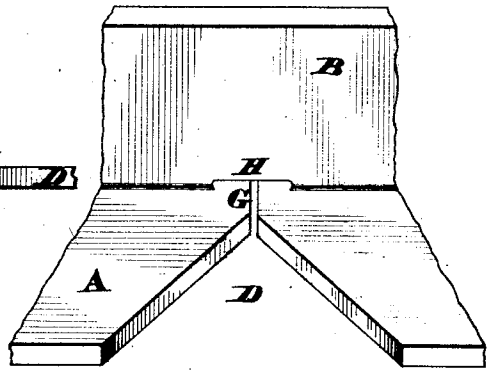


FIG. 4.

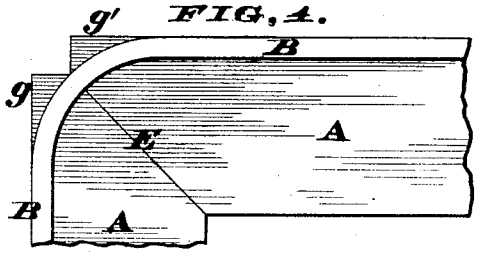


FIG. 5.

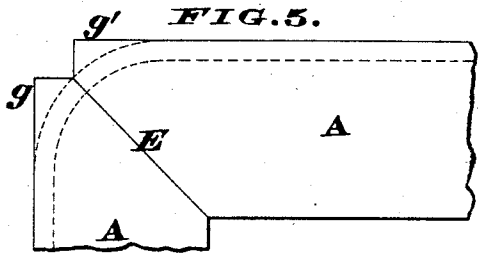


FIG. 6.

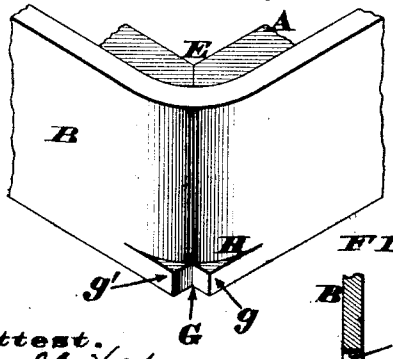


FIG. 9.

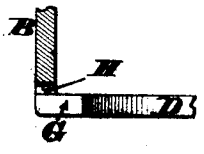
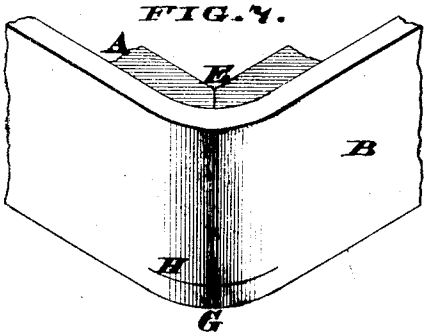


FIG. 7.



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UNITED STATES PATENT OFFICE.

GEORGE J. H. GOEHLER, OF CINCINNATI, OHIO, ASSIGNOR TO THE MOSLER, BAHMANN & COMPANY, OF SAME PLACE.

BENDING ANGLE-IRONS.

SPECIFICATION forming part of Letters Patent No. 268,011, dated November 28, 1882.

Application filed May 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. H. GOEHLER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Bending Angle-Irons, of which the following is a specification.

My invention comprises a process or method whereby a cold angle-iron can be readily bent so as to produce a secure and evenly-rounded corner on one of the webs, while the other web has a close miter-joint. This result is accomplished by first notching and slotting transversely the web that is to be mitered, and then making a slot at the junction of the two webs and longitudinally of the bar, after which act the latter is bent, as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figures 1, 2, and 3 are perspective views of the successive notching and slotting operations. Fig. 4 is a plan of the upper side of the bent angle-iron. Fig. 5 is a plan of the under side of the same. Fig. 6 is a perspective view of the corner of the angle-iron. Fig. 7 is a perspective view of the same corner after being finished. Fig. 8 is a vertical section taken through the slot G of Fig. 2. Fig. 9 is a similar section taken through the slots G H of Fig. 3.

A and B represent two angle-iron webs of any suitable size, the web A being, for the purpose of illustration, alluded to as the "horizontal member" of the bar and the other web, B, as the "vertical member" thereof. It being desired to form a rounded corner on the vertical web B at the place indicated by the dotted line C C in Fig. 1, the first step consists in making a suitable notch or cove, D, transversely of the horizontal member A. This notch is angular, and is so shaped as to cause its two converging sides to meet quite accurately, and thereby form a perfect miter-joint, E, when the angle-iron is finally bent. Said notch is not cut completely across the web A, but a solid piece of metal, F, is left between the apex of this cove D and the junction or angle of the two members A and B, the width of this remaining interval F being about a quarter of an inch, or more, according to the thickness of the metal. The web A having been thus properly notched, the next operation consists in cutting a slot, G, completely through said interval F, as seen in Figs. 2 and 8, which slot is of course vertical with reference to said web. A horizontal slot, H, is then cut through the iron exactly at the junction of the webs A B, this slot being about one inch in length and as narrow as can be made with a cold-chisel or other similar implement. Web B is now bent without being heated, which bending operation causes the two sides of the cove D to come in contact with each other and form a close miter-joint, E, as seen in Figs. 4, 5, 6, and 7. While these sides of the notch are thus approaching each other, it is evident, that portion of the web A in close proximity to the slot G must be gradually forced outwardly through the other slot, H, and emerge beyond the rounded corner of web B, as shown at *g g'* in Figs. 4, 5, and 6. During this operation the slot H is gradually lengthened, which elongation is in exact proportion to the degree of curvature imparted to the corner of the bar.

In some cases the angular projections *g g'* may be left intact for the purpose of entering suitable sockets or pits in the plates attached to the angle-iron; or said projections may be bent or upset against the rounded corner of the web B. I prefer, however, to grind these projections down until they are flush with the outer surface of the web B, as seen in Fig. 7. A reference to this illustration will show that said corner is rounded very accurately, is free from projections of any kind, while the slots E G H are closed up so tightly as to produce very secure joints.

As the above-described method of bending angle-irons can be carried into operation without heating or welding the bar, considerable saving in time and labor is effected, and there is no danger of the metal being injured by reheating the same. Finally, the miter-joint E can be very greatly strengthened by riveting one or more lap-plates onto the web A.

I claim as my invention—

1. An angle-iron having one web, B, slotted longitudinally at H, while the other web, A, is notched at D, slotted transversely at G,

and said iron then bent in the manner herein described.

2. An angle-iron having one web, B, slotted longitudinally at H, while the other web, A, is notched at D, slotted transversely at G, and said iron then bent in the manner herein described, the projections *g g'* being subsequently removed, for the purpose stated.

In testimony of which invention I hereunto set my hand.

GEORGE J. H. GOEHLER.

Witnesses:
JAMES H. LAYMAN,
J. C. HINTZ.