(No Model.)

# M. GILGENBERG.

## APPARATUS FOR CUTTING OFF ANGLE IRON.

No. 475,214. Patented May 17, 1892.

*Fig. 1*

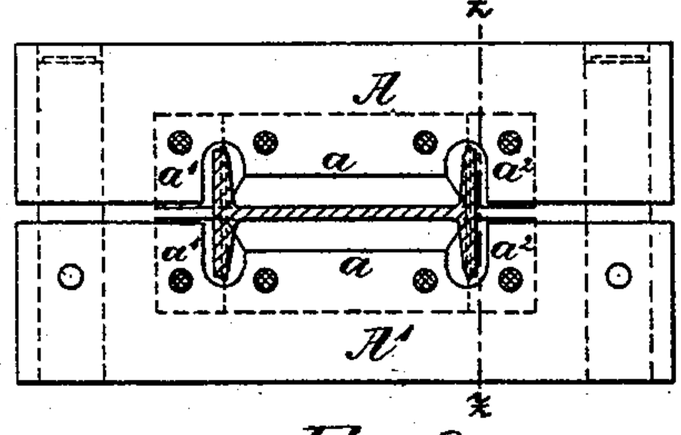


*Fig. 2*

*Fig. 3*

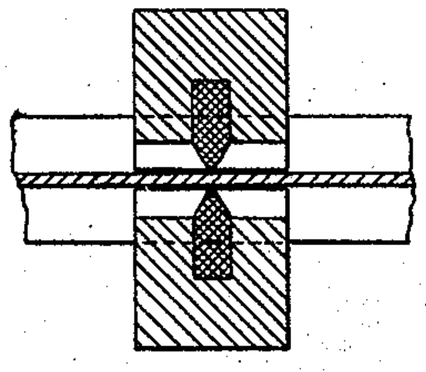

*Fig. 4*

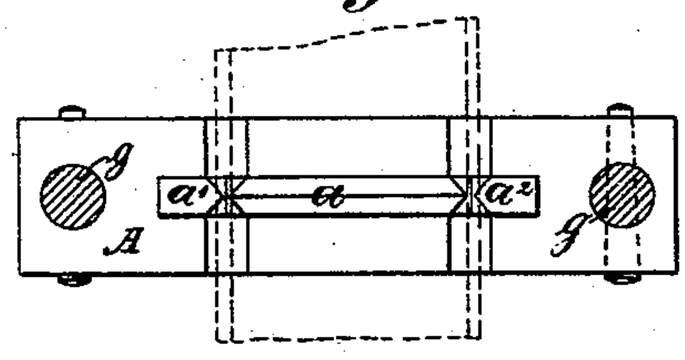


*Fig. 5*

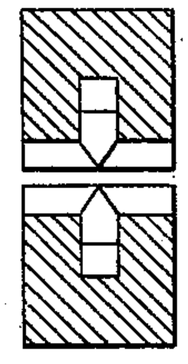

*Fig. 6*

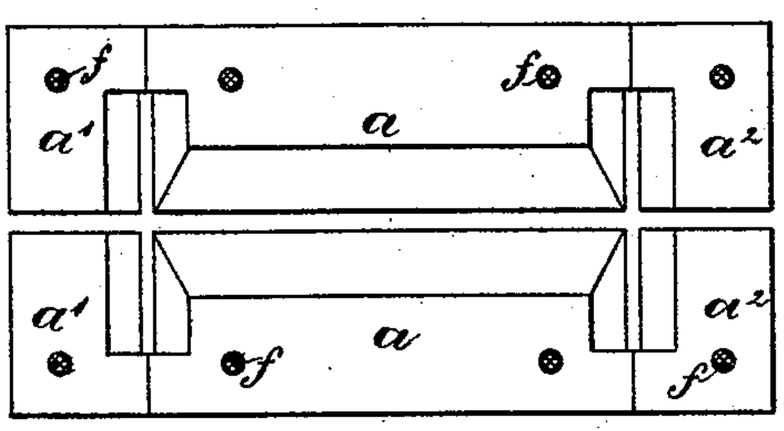


*Fig. 7*


Witnesses:
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# UNITED STATES PATENT OFFICE.

MARTIN GILGENBERG, OF COLOGNE, GERMANY.

## APPARATUS FOR CUTTING OFF ANGLE-IRON.

SPECIFICATION forming part of Letters Patent No. 475,214, dated May 17, 1892.

Application filed May 29, 1891. Serial No. 394,491. (No model.) Patented in Germany July 31, 1889, No. 51,264, and in Belgium May 19, 1890, No. 90,621.

*To all whom it may concern:*

Be it known that I, MARTIN GILGENBERG, a subject of the Emperor of Germany, residing at Cologne, in the Province of Rhineland, Germany, have invented certain new and useful Improvements in Apparatus for Cutting Off Angle-Iron, (for which I have received Letters Patent in Germany, No. 51,264, dated July 31, 1889, and in Belgium, No. 90,621, dated May 19, 1890,) of which the following is a full and clear specification.

This invention relates to machines for cutting off angle-iron beams and plates of **L**, **U**, **T**, or **H** shape in cross-section; and it consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a view showing the cutting-dies in front elevation with a piece of double-flanged or **H**-shaped iron between them, the dies being shown at nearly the end of a cutting-stroke. Fig. 2 is a top plan view of the lower die, the iron operated upon being shown in dotted lines. Fig. 3 is a vertical cross-section through the central part of Fig. 1. Fig. 4 is a vertical cross-section on the line $z\ z$ of Fig. 1, the bar to be cut being omitted. Fig. 5 is a view on an enlarged scale, similar to Fig. 1, with the angle-iron removed. Fig. 6 is an end elevation of the middle cutting-knives. Fig. 7 is a top plan view of the bottom cutting-knives shown in Fig. 5.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letters, A A′ are two jaws recessed for the reception of knives, the knives of each jaw being made in three parts, (marked, respectively, $a\ a'\ a^2$,) the knives of each jaw being alike in construction with the knives of the other jaw. The middle parts or blades $a$ of these knives are made chisel-shaped, as clearly shown, especially in Figs. 5, 6, and 7, the front and sides being beveled off to an edge. The outer parts or blades $a'\ a^2$ are made, preferably, from sheet-steel and are beveled off to an edge on their inner sides only. They may also be made of square bar-steel, in which case they may be adjusted from time to time, so that all four angles of the bar may be utilized as cutting-edges successively. The knives are fastened to the jaws A A′ by pins $f$, and strong bars or bolts $g$ pass through the two jaws to act as guides for them and cause them to move in the same line. The blades $a$ of the knives are so arranged with relation to the blades $a'$ and $a^2$ that there will be a small space left between their side edges, the utility of which will be explained hereinafter.

The beam or girder is now placed between the dies or cutters, the main body or web thereof lying between the two blades $a$, and the end flanges in line between the spaces left between the side edges of said blades $a$ and the blades $a'\ a^2$. As the dies come together the side edges of blades $a\ a'\ a^2$ cut a groove in each side of each of the end flanges of the beam, leaving the flange uncut of a thickness equal to the space left between the edges of the blades $a'\ a^2$. The further movement of the dies brings the front edges of the blades $a$ together, cut through the web or body of the bar, beam, or girder, after which the beam may be removed from the machine and easily broken off.

Having thus fully described the construction and operation of my machine, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. Dies for cutting off angle-bars, consisting of central knives $a$, having front and side edges, and knives $a'\ a^2$, having side edges and cutting-points, substantially as described.

2. In combination, two dies, each consisting of knives having three blades $a\ a'\ a^2$, arranged side by side, the knives $a$ having front and side cutting-edges, and the knives $a'\ a^2$ having side cutting-edges only, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

MARTIN GILGENBERG.

Witnesses:
FRIEDRICH SASSE,
GUSTAVE OELRICHS.