

M. Gregg,
Shearing Sheet Metal,
N^o 2,532, *Patented Apr. 1, 1842.*

Fig 1

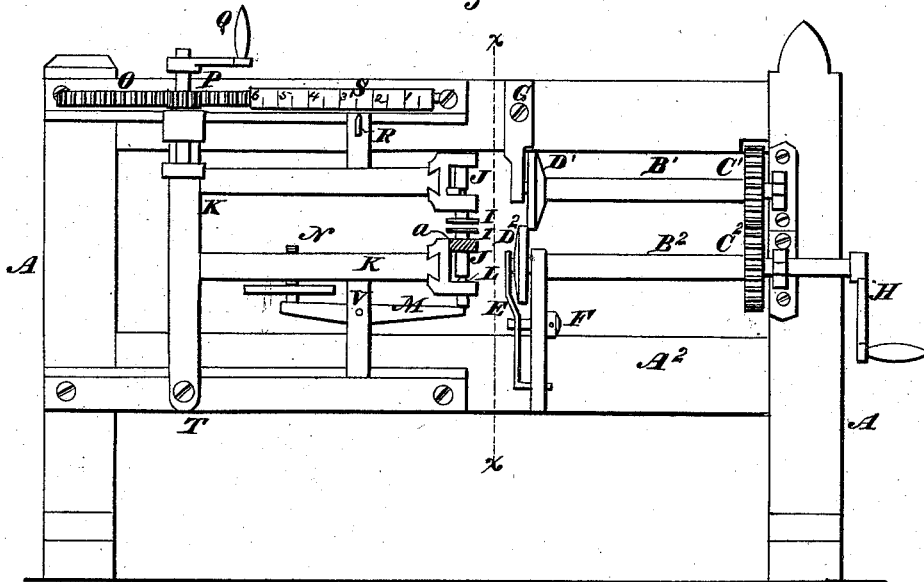


Fig 2

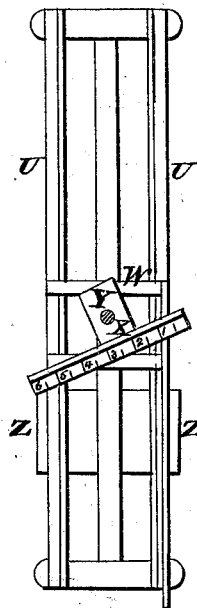
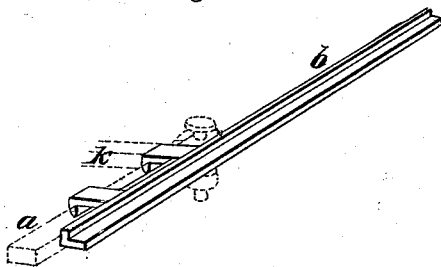


Fig 3.



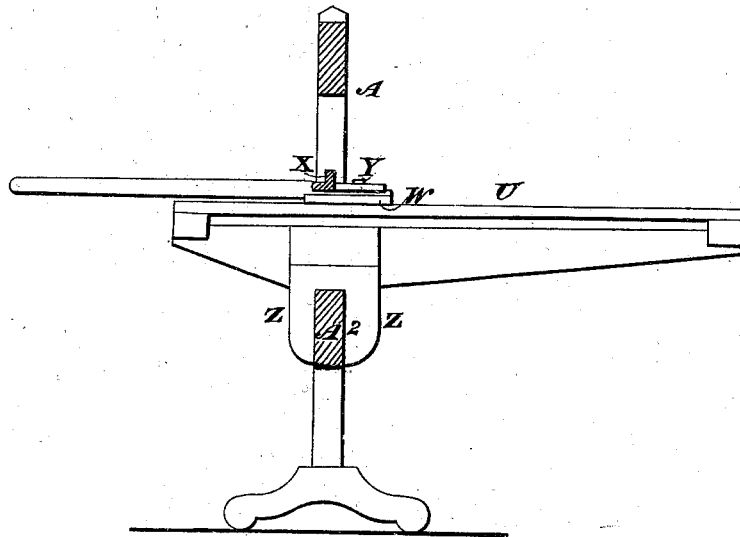
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Fig 4



UNITED STATES PATENT OFFICE.

MAHLON GREGG, OF WILMINGTON, DELAWARE.

MACHINE FOR CUTTING PLATES OR SHEETS OF METAL.

Specification of Letters Patent No. 2,532, dated April 1, 1842.

To all whom it may concern:

Be it known that I, MAHLON GREGG, of Wilmington city, in the county of Newcastle and State of Delaware, have invented a new and Improved Mode of Cutting Plate or Sheet Tin, Copper, Iron, or other Metals, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

10 Figure 1 is a front elevation of the machine. Fig. 2 is a view of the way, carriage and revolving rest detached from the frame A. Fig. 3 is a view of a straight guide detached from the graduated arm *a*. Fig. 4
15 vertical cross section of frame A on the dotted line *x x* of Fig. 1, showing the side of the graduated arm *a* and the way, carriage, and revolving rest shown in Fig. 2, in its working position as connected with
20 the frame A.

Similar letters refer to corresponding parts.

I provide a strong frame, such as that represented in the annexed drawing marked
25 A in which frame I place two parallel shafts B' B² each with a spur wheel C' C² of the same dimensions at one end and geared into each other as represented in the drawings, and at the other ends of said shafts I attach
30 or fix two circular steel plates D' D² or cutters, each of the same diameter their peripheries passing by each other. The upper shaft I secure from any motion endwise. To the lower shaft I apply a spring E and
35 set screw F with the spring pressing against the center of the shafts to keep the lower cutter against the side of the upper cutter. I also apply a screw G to the block containing the box of the upper shaft for the pur-
40 pose of raising and lowering the upper cutter when necessary. The cutters I put in motion with a crank H on the lower shaft.

The clamps for holding the sheets to be cut are made as follows: Two plates I I be-
45 tween which the sheets are clamped are secured to the ends of the two vertical revolving spindles J J arranged in a sliding frame K, the lower spindle turning on a steel point L resting upon the long end of a lever
50 M turning on a horizontal pin V as its fulcrum whose short end is raised or lowered by a milled screw N attached to and turning in said sliding frame K for the purpose of raising or lowering the under clamp plate,
55 the upper plate having no vertical movement but turning horizontally in the man-

ner of the lower plate when the sheet is turned. This sliding frame K containing the revolving clamp plates I I is provided with a pinion P which works into a station-
60 ary rack O on the head of the main frame A, said pinion being turned by a crank Q for the purpose of bringing the sheet to be cut nearer to, or removing it farther from the cutters D at pleasure, in changing the
65 radius of the curve, when circles are cut the length of which being determined by a scale S on the top of the main frame A and an index or finger R on the sliding frame, and a scale of parts on the horizontal arm *a*
70 standing at right angles to the frame K.

A set screw T passes through a part of the sliding frame being screwed against the main frame A for holding the sliding frame
75 to any required position and preventing its moving to the right or left.

In cutting a sheet of metal to a circle of any given radius determined by the scales before mentioned the sheet must first be clamped between the plates I I by the lever
80 M and milled screw N. Then with the hand the operator brings the sheet around horizontally between the cutters D' D² which cut off the edges and corners at the same time drawing the sheet around on its center
85 without the aid of the operator and cutting the sheet in the form of a circle.

For cutting sheets of metal to any required angle a way U is formed of two horizontal rails framed together of suitable size
90 and strength is attached to the frame by hooks Z or other suitable fastenings at right angles thereto, on which way a carriage W composed of parallel ribs framed together grooved on the ends to correspond with the
95 shape of the rails of the way over which they slide said carriage W being moved back and forth on the way and on which carriage a horizontally turning rest X is arranged, turning on a vertical center pin Y inserted
100 into said carriage in the center thereof and upon which rests the sheets to be cut are placed having a horizontal circular movement while the carriage has a longitudinal movement back and forth by which facility
105 of movement the sheet may be brought to the cutters at any angle required. The said revolving rest is provided with a scale of inches and parts of inches to determine the lengths and widths to be cut, thus doing
110 away with the use of the common tinner's square scribe and shears. When these parts

are used the carriage K may be removed from the frame A, the ways U being hooked to the connecting piece of the frame A² Fig. 4 by hooks Z of the ways U.

5 In the use of the horizontally revolving graduated or turning table, represented at X in Figs. 2, and 4, the ways U must be hooked or otherwise secured to the lower connecting timber A² of the frame A as
10 represented in Fig. 4 the carriage W brought opposite the cutters D' D² the rest X turned to the required angle. The sheet of metal placed upon the rest X with one edge against the ledge *x* of the rest and another
15 edge against the cutters, the carriage is then moved by the operator over the ways U, the cutters at the same time taking off a portion of the sheet leaving the edge of the remainder cut to the required angle. The carriage is then drawn back the sheet turned
20 and its other edges cut in the same way.

A horizontal graduated arm *a* extends at

right angles from the sliding frame K for the purpose of receiving a straight stationary guide *b* hooked, or otherwise secured thereto as seen in Fig. 3 on which the sheets are placed required to be cut in straight lines or parallel pieces.

For straight cutting it is only necessary to place the sheet of metal upon the said straight guide *b* and pass it in a straight line between the cutters which will draw it forward without the aid of the operator.

What I claim as my invention and which I desire to secure by Letters Patent is—

The combination of the carriage and turning rest with the circular revolving cutters for cutting sheets of metal to any required angle as described.

MAHLON GREGG.

Witnesses:

SAM. M'CAULLEY,

W. M'CAULLEY.