

G. EISERLE.

MECHANISM FOR MAKING SCYTHE BLADES.

No. 514,545.

Patented Feb. 13, 1894.

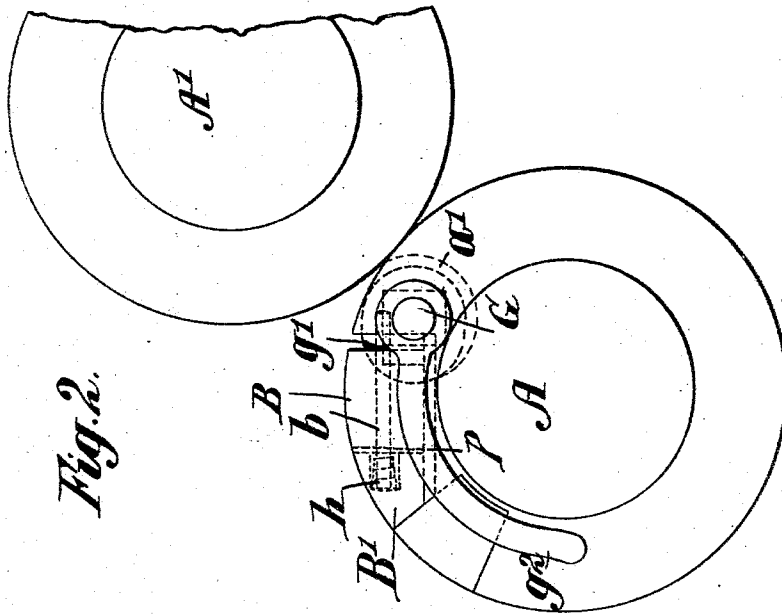


Fig. 2.

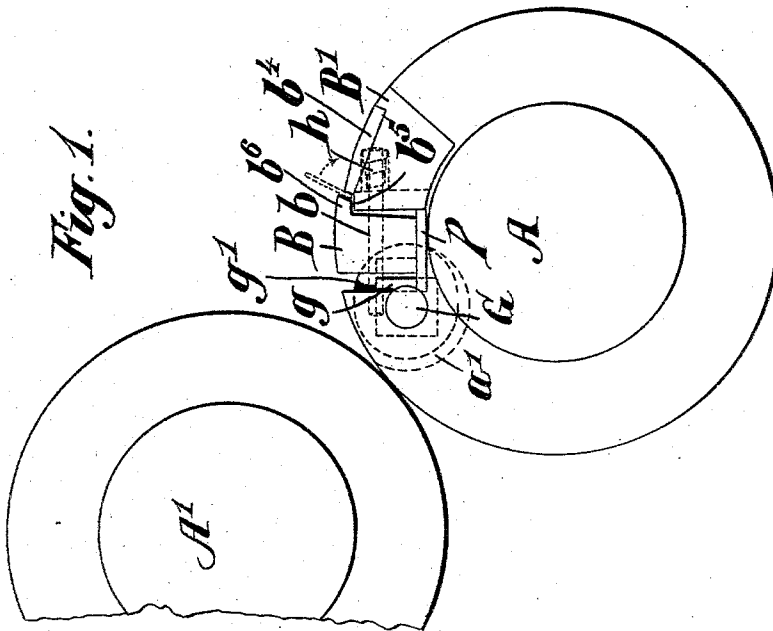


Fig. 1.

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Inventor
Gustav Eiserle.
By Henry Orth
Att'y

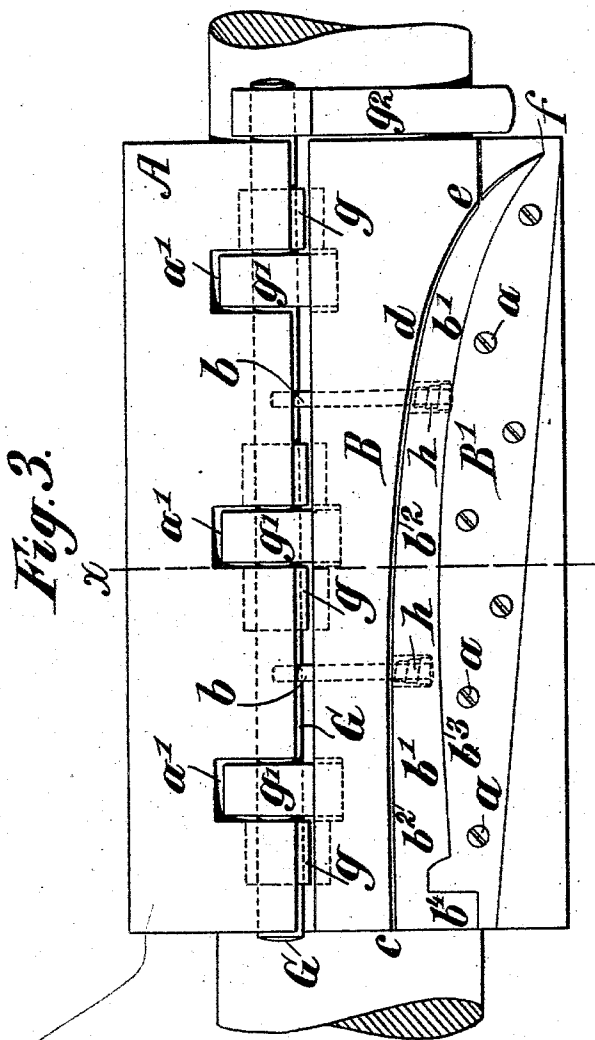
(No Model.)

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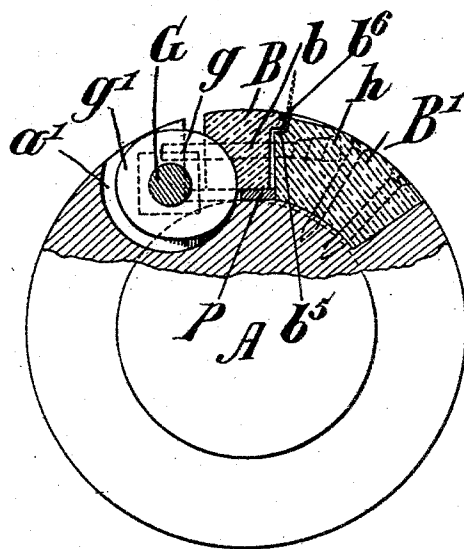
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Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAV EISERLE, OF ARZBERG, AUSTRIA-HUNGARY.

MECHANISM FOR MAKING SCYTHE-BLADES.

SPECIFICATION forming part of Letters Patent No. 514,545, dated February 13, 1894.

Application filed August 26, 1893. Serial No. 484,127. (No model.) Patented in France November 19, 1892, No. 225,767, and in Austria-Hungary April 24, 1893, No. 55,140 and No. 90,591.

To all whom it may concern:

Be it known that I, GUSTAV EISERLE, manager of scythe-works, a subject of the Emperor of Austria-Hungary, residing at Arzberg, in the Province of Styria, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in the Manufacture of Scythe-Blades or the Like and Apparatus Therefor, (for which patents have been obtained in Austria-Hungary, No. 55,140 and No. 90,591, dated April 24, 1893, and in France, No. 225,767, dated November 19, 1892;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has relation to the manufacture of scythe blades, and it has for its object the provision of means whereby the blade may be produced by rolling between surfaces of appropriate form with a view to reducing the labor and expense connected with the usual mode of manufacture, as will now be fully described, reference being had to the accompanying drawings, in which—

Figures 1 and 2 are opposite end views of a pair of rolls constructed for rolling scythe blades in accordance with my invention. Fig. 3 is a plan view of the lower roll, and Fig. 4 is a cross section of said lower roll on or about on line $x-x$ of Fig. 3.

In the above drawings A and A' indicate a pair of rolls, one of which, as, for instance, the lower roll A, has formed therein a longitudinal recess of appropriate form in which are located the scythe forming devices or dies. The said scythe forming devices comprise two dies, namely a fixed die, B' that is removably secured in the aforesaid recess or roll A by means of screws or bolts a , or other suitable means, and a movable die B, that also performs the function of a clamping jaw in conjunction with die B' to hold the scythe blade blank during the process of rolling and form the back of the scythe. The proximate faces of said dies are of the same curvature as that of the finished scythe blade, and said die B'

has its upper face recessed, the recess b' conforming in contour to the scythe blade. As shown in Fig. 4, the depth of the recess b' is gradually reduced from the curved edge b^2 that faces the die B, to the curved line b^3 , Fig. 3 the bottom of the recess gradually rising from said edge b^2 to the outer curved face of the die B' so that a scythe blade of substantially wedge shape in section is obtained with a very thin or practically sharp cutting edge. On the left hand end of the die B' the recess is so shaped as to form the tang, as shown at b^4 in Fig. 3, and said portion b^4 of the recess is of a substantially uniform depth, as shown in Fig. 1, so that there will be little or no reduction in the thickness of the blank at that point, in order to give the shank and the adjacent portion of the blade the necessary strength. The bottom of that portion of the longitudinal recess in which the movable die B is located is a plane surface on which I preferably place a wear plate p , Figs. 1 and 4, on which said die B has motion. There is an offset b^5 , Figs. 1 and 2, formed along the upper edge of the curved face b^2 of the die B' for a rib or tongue formed along the upper edge of the correspondingly curved face of the movable die B, the depth of the recess formed by said offset determining the width or thickness of the back of the scythe blade, and also serving as a gage for the workman when he inserts the blank between the dies, so that scythe blades having a uniformly thick back are produced. The die B has motion on rods or bolts b toward and from the die B', said bolts serving to guide the die and maintain it parallel with the axis of rotation of the roll A during its movements to and from die B', springs, h shown in dotted lines in the drawings, being provided, that exert their pressure to move the die B away from the die B' when the clamping devices that clamp said dies together, are released. These clamping devices consist of a shaft G that is adapted to revolve in bearings g , in the aforesaid longitudinal recess formed in roll A, and said shaft carries a suitable handle g^2 and eccentrics g' that work in suitable recesses formed in the rear face of said die B. Of course it will be understood that the outer faces of the dies B and B' are segments of a circle having

for a center that of the roll A, so that said faces form practically part of the periphery of the roll, and that the eccentrics g' are of such diameter as not to project beyond the periphery of the roll when said eccentrics are in their operative position or during the operation of rolling a scythe blade. It will also be observed that the curvature $c d$ of the rib or tongue b^6 of the die B does not extend to the end f of the recess b' in die B' but stops short of that point at e , Fig. 2, so that the narrower outer portion of the scythe blade will not be provided with a back as is usually the case.

The operation of die-forging scythe blades may be briefly described as follows: A suitably heated blank is placed on edge upon the offset b^5 of die B' and through the medium of the shaft G and eccentrics g' the die B is moved toward said die B' so that the curved rib or tongue will not only firmly clamp the blank to die B' but also impart to said blank the general curvature of the finished scythe from the shank thereof to the point e where the back terminates. If roll A is now revolved roll A' will first turn down the shank end of the blank, force it into the recess $b^4 b'$ in die B', and as said rolls revolve that portion of the blank projecting above the dies will be gradually turned down by reason of the direction of curvature of the coacting faces of the dies relatively to the axis of rotation of the roll A, until finally the point end of the blank is turned down into said recess b' .

In the process of rolling there is, comparatively speaking little or no elongation, but chiefly lateral displacement of the metal of the blank, and in view of the cross-sectional form of the recess b' the said blank will be rolled into a wedge-shaped form in section, and when rolled out a scythe is obtained that has substantially a sharp cutting edge, requiring but little grinding or hammering in order to produce a suitable cutting edge after the scythe blade has been finished in the usual manner. Inasmuch as both dies B, B' are removable from roll A, scythes of different dimensions can be rolled, by removal of one set of dies and the substitution of another.

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

1. Means for manufacturing scythe blades comprising revoluble dies whose proximate faces are of proper curvature and adapted to seize and hold one edge of a blank, one of said dies provided with a recess of the gen-

eral shape and cross section of the scythe blade, in combination with a pressure roll, substantially as and for the purpose set forth.

2. Means for manufacturing scythe blades comprising revoluble dies whose proximate faces are of proper curvature, one of said dies provided with an offset along the upper edge of its curved face and with a face recess $b' b^4$ of the general form of the scythe blade and of gradually increasing depth from the curvature b^3 to that b^2 , the other die provided with a rib adapted to project over the aforesaid offset, in combination with means for imparting motion to one of the dies toward and from the other, and a pressure roll adapted to co-operate with said dies, for the purpose set forth.

3. The roll A provided with a longitudinal recess, the dies B, B' located in said recess and constructed substantially as described, said die B having motion toward and from the die B', in combination with a pressure roll, for the purpose set forth.

4. The roll A provided with a longitudinal recess, the dies B, B' located therein and having curvilinear proximate faces shorter than the length of the finished scythe, said die B' provided with a recess $b' b^4$ of the shape of scythe, said recess extending beyond the proximate curved faces of the dies, said die B having motion toward and from die B', in combination with a pressure roll, for the purpose set forth.

5. The roll A provided with a longitudinal recess, a shaft as G having bearing in said recess and carrying a suitable handle and eccentrics g' , in combination with the stationary die B' and the die B between die B' and shaft G, said die B adapted to receive motion from the eccentrics toward die B', said dies constructed substantially as described for the purpose set forth.

6. The roll A provided with a longitudinal recess, a shaft as G having bearing in said recess and carrying a suitable handle and eccentrics g' , in combination with the stationary die B' and the die B between die B' and shaft G, said die B adapted to receive motion from the eccentrics toward die B', said dies constructed substantially as described, and means for imparting motion to die B from die B', for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GUSTAV EISERLE.

Witnesses:

VICTOR MARMIN,
A. SCHLESSING.