W. H. McCUNE.

ROLLS FOR BEVELING AGRICULTURAL IRONS.

No. 188,394. Patented March 13, 1877.

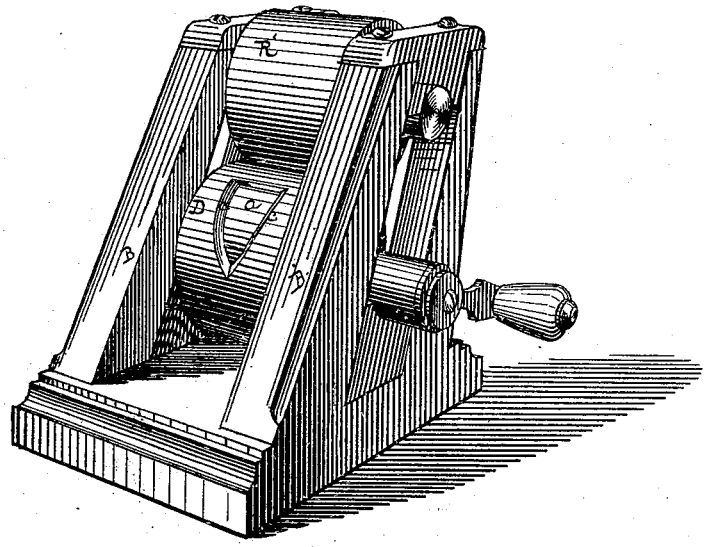

Fig. 1.

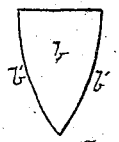

Fig. 3.

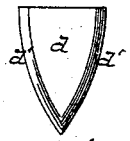

Fig. 4.

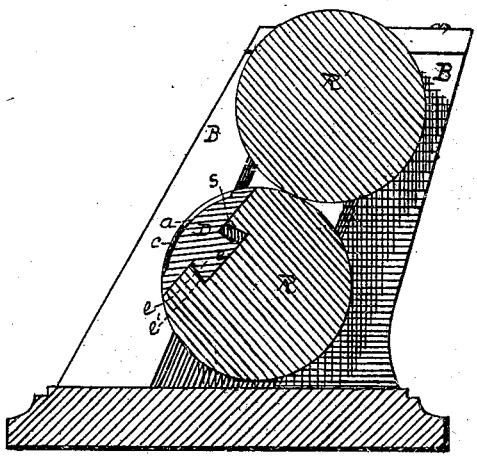

Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM H. McCUNE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO THE PITTSBURG STEEL CASTING COMPANY, OF SAME PLACE.

IMPROVEMENT IN ROLLS FOR BEVELING AGRICULTURAL IRONS.

Specification forming part of Letters Patent No. **188,391**, dated March 13, 1877; application filed December 28, 1876.

To all whom it may concern:

Be it known that I, WILLIAM H. McCUNE, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Rolls for Beveling Agricultural Irons; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of a pair of rolls embodying my improvement. Fig. 2 is a transverse vertical sectional elevation thereof. Fig. 3 is a plan view of the form of blank operated on, and Fig. 4 shows the product.

In the manufacture of agricultural irons and steels requiring a chisel-edge it has been usual to plate out or bevel the back edge by the use of a trip or steam hammer, or other like forging operation. Such operation is slow and expensive, and to avoid such difficulties I have devised a roll having a recess or cavity of suitable form to receive the blank, and, in connection with a counter-roll, to roll the desired bevel along the rear or back of two converging edges at a single pass.

The roll R′ is a plain cylindrical roll. The roll R is of like form and construction, except that a portion of its body is made up of a removable die, D, and in the face of such die is a recess, *a*, having, in general terms, the form or contour of the blank to be operated on, but sloping or beveled, as at *c*, along those converging sides or edges which correspond to the edges of the blank to be beveled.

The particular form of recess shown is such as is adapted for beveling the form of blank *b*, shown in Fig. 3. This blank is made of steel by casting, or of steel or iron, or steel and iron, by rolling and shearing, and *b′ b′* are the edges to be beveled. Such blanks being properly heated, the workman takes one in his tongs, and as the recess *a* approaches the line of bite, he inserts the base of the blank against the base of the recess, and so that the edges *b′ b′* will come against the side bevels *c c* of the recess. As the rolls run in close contact, or nearly so, the effect on the blank as it passes through is to bevel the edges, as shown at *d′*, Fig. 4, and the blank *d* is then ready for the further operations required to put it in condition for use.

The face shown in Fig. 4 is the rear face, the other being plain, so that the edges *d′ d′* in sectional view are chisel-shaped.

As these irons and steels vary considerably in form and size, I provide for beveling the different forms and sizes by making the die D removable, so that other dies having recesses or cavities of other shapes may be substituted therefor. Various means of attaching such dies to the roll so that, while being readily removable, they shall be, when in use, held firmly in place, may be employed, one such being shown, where *e* is the male part of a dovetail, *e′* the female part, and *s* is a removable key. Bolts or clamps may, however, be employed as an equivalent means for this purpose.

For greater facility in feeding I prefer to make the housings B inclined back somewhat from the feeding side, as shown in Fig. 1. The line of bite is then thrown back somewhat, and the blanks *b* can be placed in the recess *a* when the latter is at, near, or approaching to a horizontal tangent-line, as a result of which the feeding can be done more easily and accurately.

The rolls are to be provided, when fitted up for use, with the proper bearing-blocks, pressure-screws, driving-gear, &c. The rolls may, instead of being full cylinders, consist of segments of rolls, having working-faces curved to the proper radius with the recess described in one, and geared to work with an oscillatory instead of a continuously rotary motion; and the rolls R R′ may be geared to oscillate in like manner, if so preferred.

In the term "agricultural irons," as herein used, I include not only articles of the class referred to when made of iron, but also (using the term generically) when made of steel or other compound or alloy of iron.

In addition to the functions already described, I may here state that each beveled edge of the die acts as a guide to hold the opposite edge of the blank over on the opposite

bevel, and the third or unbeveled side of the die holds the blank forward, so as to be engaged by both beveled edges.

It will be observed that the die described differs from other roll-dies previously used in having a flat, even bottom (except as it conforms to the curvature of the roll) over almost its entire area, so that while the edges are being beveled, as described, the body of the blank shall not be materially drawn or reduced.

The operation described involves not the formation of a blank, but the finishing of a previously-formed blank.

I claim herein as my invention—

1. The flat-bottomed recess *a*, beveled, as at *c*, on two converging sides, in one of a pair of rolls, R R′, or equivalent roll-segments, as a device for making a bevel on the rear edges of agricultural irons and steels, substantially as hereinbefore set forth.

2. The roll R, having the removable recessed die D, in combination with the roll R′, arranged with its axis back of a vertical line passing through the axis of the lower roll, substantially as set forth.

In testimony whereof I have hereunto set my hand.

WILLIAM H. McCUNE.

Witnesses:
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