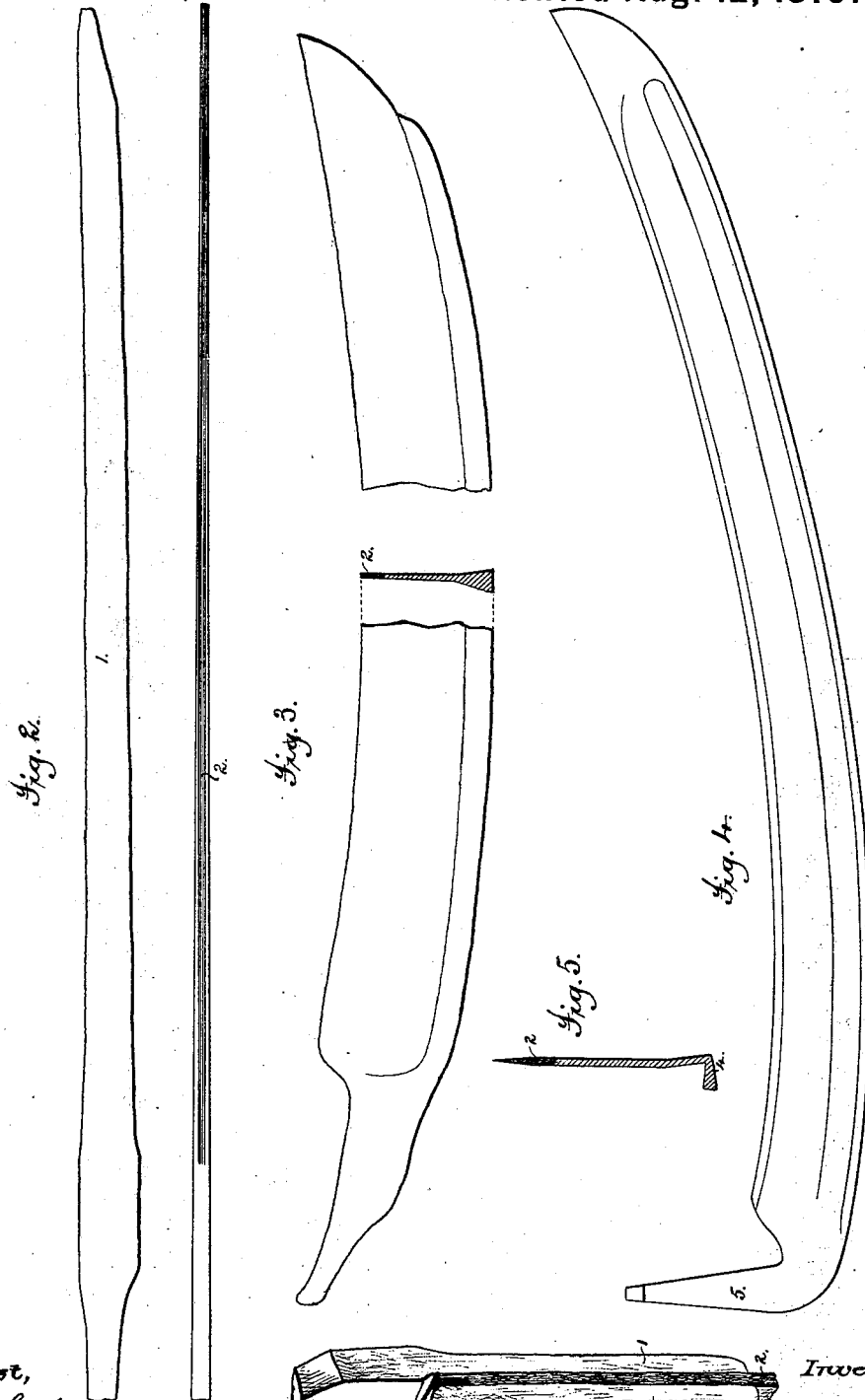


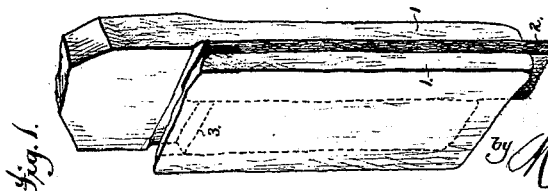
C. ROBY.
Scythe.

No. 218,580.

Patented Aug. 12, 1879.



Attest,
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Inventor;
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UNITED STATES PATENT OFFICE

CHRISTOPHER ROBY, OF CHELMSFORD, MASSACHUSETTS.

IMPROVEMENT IN SCYTHES.

Specification forming part of Letters Patent No. **218,580**, dated August 12, 1879; application filed December 14, 1878.

To all whom it may concern:

Be it known that I, CHRISTOPHER ROBY, of Chelmsford, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Scythes; and I do hereby declare the following specification to be such a full, clear, and exact description of the same, when taken in connection with the accompanying drawings, as will enable others skilled in the art to which my invention pertains to construct and use the same.

In said drawings, Figure 1 represents a mold or pattern, consisting of a bar of soft steel doubled up so as to embrace a narrow bar of tool-steel for the edge of the scythe-blade, and a short-bar of soft steel to compose in part the back of the blade. Fig. 2 represents, in plan and edge views, said mold or pattern after its parts have been welded together and drawn out to constitute a scythe-blank. Fig. 3 represents the said blank after it has been formed into a scythe-plate; and Fig. 4 represents the finished scythe, of which Fig. 5 represents a sectional view.

Scythes as commonly constructed are formed of a body or back portion composed of wrought-iron, which embraces an edge-bar of tool-steel, said parts being welded together, plated out, swaged into shape, and ground by the well-known processes. The product thus obtained requires that its body or back portion shall contain a considerable quantity of the wrought-iron composing it, in order to impart to the scythe-blade the requisite degree of strength and stiffness, and thus necessarily forms a heavy, cumbersome, and unwieldy structure.

The desirability of reducing the weight and size of scythes, and thereby decrease the quantity and cost of the materials composing them, has long been recognized by the manufacturer and trade, and attempts to make such a structure have, prior to my invention, been unsuccessful.

It has been attempted to construct the scythe wholly of hard steel, whereby a lesser quantity of metal could be used, and great strength and stiffness would be attained; but a scythe composed of such metal becoming sprung and twisted in the hardening process would not

endure the straightening process without breaking, and hence the older method of forming the scythe-blade partly of tool-steel and partly of wrought-iron has continued to be practiced to the present time.

I overcome the defects in scythes made by either of these methods, avoid the disadvantages of both, and produce a superior article by my improvement, which consists in forming the scythe-blade wholly of steel by uniting an edge-bar of tool-steel to a body or back composed of soft steel, whereby a light, strong, stiff, and elastic blade is produced, that will sustain the necessary hardening and straightening processes without danger of being ruptured.

In producing my improved scythe-blade, I first prepare the mold or pattern, Fig. 1, by binding a short length, 1 1, of soft steel upon itself in such a manner as to embrace a bar, 2, of tool-steel along one of its edges, in some cases (though not necessarily) also adding a bar, 3, of soft steel to increase the quantity of metal at the back. This mold or pattern is then subjected to the well-known welding process, whereby the several parts are combined to form one homogeneous mass, which is drawn out, by rolling or otherwise, until the blank shown in Fig. 2 is produced. This blank is then plated with dies under a trip-hammer until the scythe-plate is shaped and formed as is shown in Fig. 3. This scythe-plate is then swaged, so as to produce the back flange, 4, and the heel 5. It is then hardened, then straightened, and finally ground and polished to produce a finished scythe-blade.

The product thus constructed may, from the nature of the soft steel composing its back or body, be safely subjected to the straightening process necessary to remove the irregular form produced in the hardening operation without danger of breaking, cracking, or otherwise becoming injured. The great tenacity and strength of the steel entirely composing it enables a scythe to be made of about one-fourth less quantity of metal than is required where iron constitutes the main part of its body.

My improved scythe-blade thus, while possessing great strength, becomes very light,

and possesses to a great degree the qualities of stiffness and elasticity, which are requisite in a perfect scythe-blade. The materials composing it render it very durable and enable it to receive a much higher polish than can be imparted to the scythe-blades now manufactured. A superior article is thus produced without enhancing the cost of its manufacture.

The invention is, of course, applicable to other cutting-blades, as will be readily apparent.

Having thus described my invention and set forth its merits, what I claim is—

As a new article of manufacture, a scythe-blade, the cutting-edge whereof is composed of tool-steel united to a body or back of soft steel, substantially as described.

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

CHRISTOPHER ROBY.

Witnesses:

H. T. MUNSON,
GEO. H. GRAHAM.