

H. WATERS.
Making Scythes.

No. 19,524.

Patented March 2, 1858.

Fig. 1.

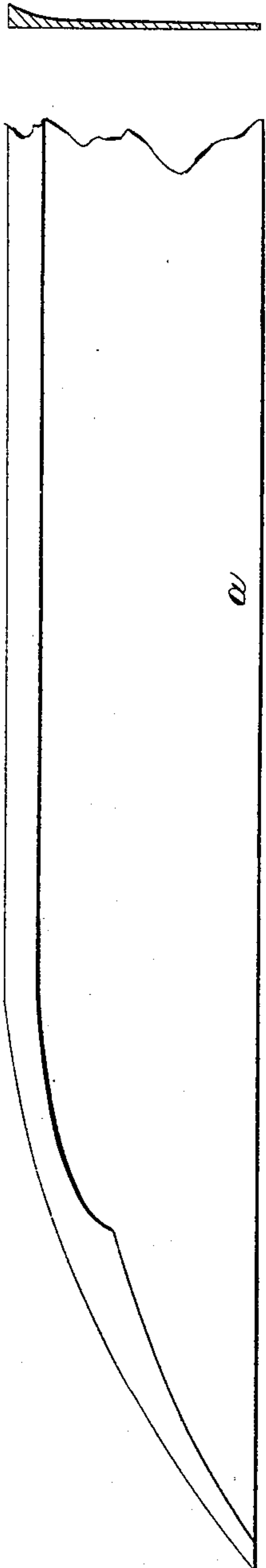


Fig. 2.

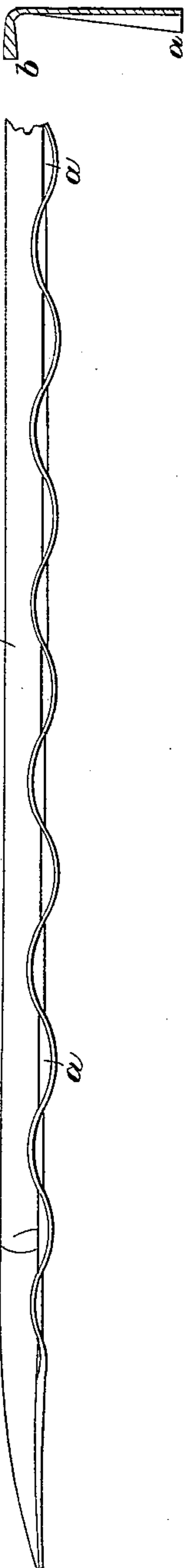
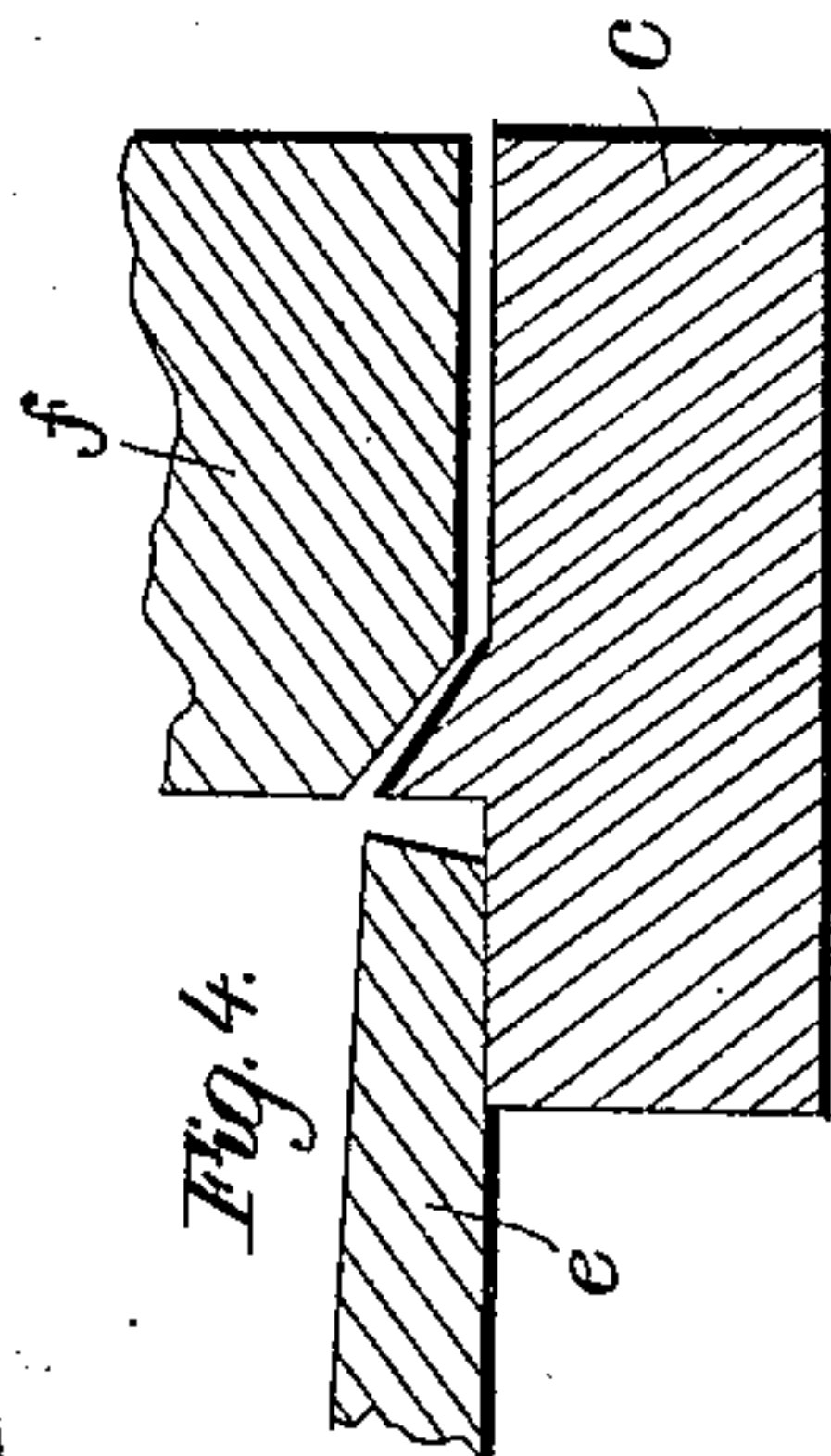
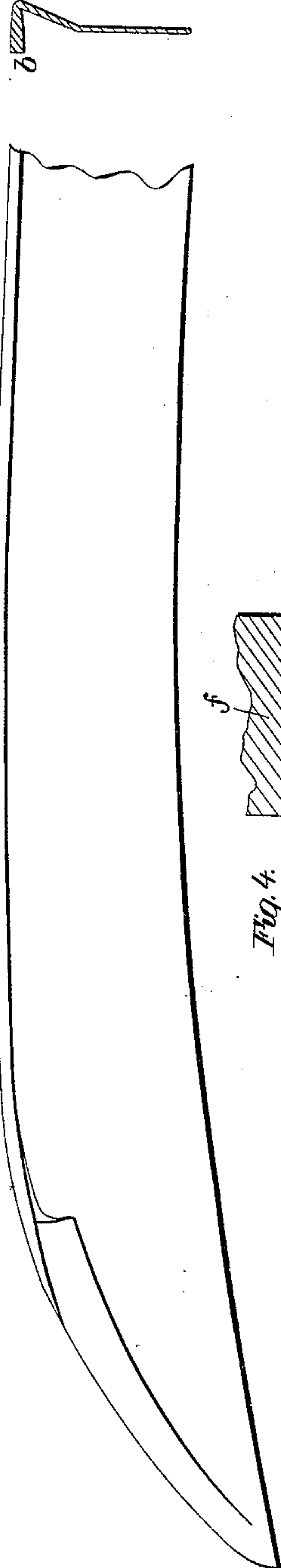


Fig. 3.



Witnesses.
Eber Bartholm,
Leander Bartholm

Inventor
Henry Waters

UNITED STATES PATENT OFFICE.

HARVEY WATERS, OF NORTHBRIDGE, MASSACHUSETTS.

MANUFACTURE OF SCYTHES.

Specification of Letters Patent No. 19,524, dated March 2, 1858.

To all whom it may concern:

Be it known that I, HARVEY WATERS, of Northbridge, in the State of Massachusetts, have invented a new and useful Manufacture of Scythes and other Cutting Instruments, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a face view and cross section of part of a scythe plate; Fig. 2 an edge view and cross section of a scythe in one stage of preparation; and Fig. 3 is a face view and cross section of the scythe in the last stage of the finished scythe; and Fig. 4 is a cross section of the dies employed in the making of my improved manufacture.

By my invention the particles of steel forming the cutting edge of a scythe or other cutting instrument are arranged in a peculiar manner differing from anything before known, and inducing a greater tenacity of edge than any cutting instrument before produced and made of the same quality of steel. And my said improved manufacture consists in the cutting instrument produced, with the part which is to form the cutting edge having the particles of steel arranged in the relations which they will assume by first crinkling or corrugating or otherwise bending the plate of metal at right angles or nearly so to the intended edge and then bringing it to the required or approximate form by pressure on the crinkled, or corrugated or bent surfaces while restrained so as to prevent the crinkles, corrugations or bends from yielding to the pressure by simply bending. The mode of procedure which I have practiced with success in the manufacture of scythes is first to produce what is technically termed a scythe plate, a section of which is represented in Fig. 1, and then while in a heated state I bend the plate in crinkles or corrugation at right angles to the edge as in Fig. 2, the said corrugations being greatest at the edge *a* and gradually less toward the back *b*, which back *b* is turned up in the usual form as represented in Figs. 2 and 3. And when thus prepared I lay the plate on a bed die *c* Fig. 4 the face of which is of the intended form of one face of the scythe, placing the turned up back *b*, Fig. 2, over the lip of the die *c* and the back is then confined and firmly held against the lip by a forming grip *e* which is there held firmly during the operation. While thus held the upper

die *f*, the face of which is of the intended form of the upper face of the scythe, is brought down with sufficient force to reduce the crinkled or corrugated surfaces to the form required. As the back is of an arched form in the direction of the length and firmly gripped it prevents the plate from being straightened out to its original form by the force of the blow, and in consequence the surplus length of metal contained in the crinkles, corrugations, or bends must move in the direction of the edge and thus assume relations of a different character from what they occupied before, which greatly improves the cutting edge. The dies are in their cross section mainly of the form usually employed in finishing scythes under the hammer but of much greater length, as I usually make them of a little more than one half the length of a scythe, using one set for the half of the scythe from the point to the middle, and the other set from the middle to the heel, working the two sets in succession. And although I have described the mode of procedure by which I produce my improved manufacture when the cutting edge produced is termed a scythe, for which mode of procedure I contemplate making application for Letters Patent under a separate application, nevertheless I wish it to be distinctly understood that I do not make any claim to such mode of procedure or to the arrangement of dies herein specified under the present application, nor do I wish to be understood as limiting my claim of invention to the said new manufacture of cutting instruments known under the term scythes as the peculiar edge thus produced is applicable to other cutting instruments.

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

The new manufacture of cutting instruments, substantially such as herein described, having the metal forming the cutting edge in the condition resulting from the previous crinkling or corrugating of the metal at right angles, or nearly so, with the line of the intended cutting edge and then flattening it by a swaging operation in such manner that the crinkles or corrugation shall not be straightened out by simply bending, as described.

HARVEY WATERS.

Witnesses:

EBER BARTLETT,
LEANDER BARTLETT.