SIMONDS & PAGE.

Making Scythes.

No. 2,379. Patented Dec. 10, 1841.

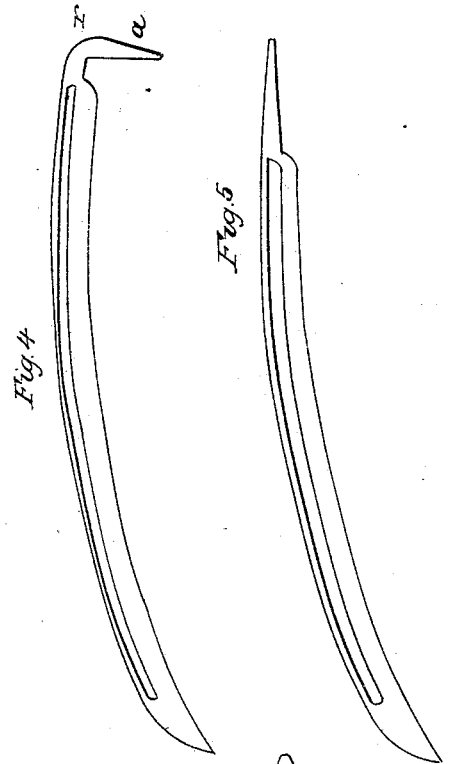

Fig. 4

Fig. 5

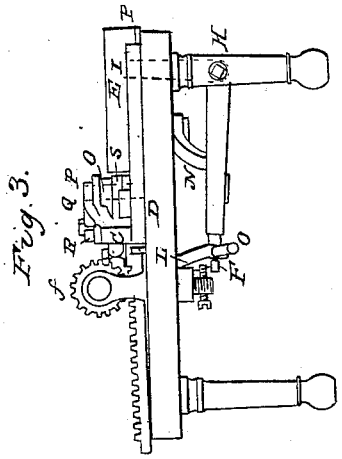

Fig. 3.

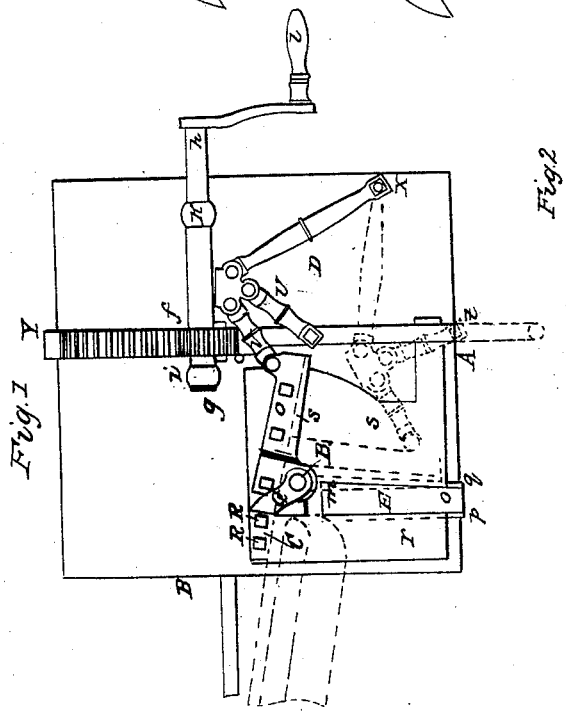

Fig. 1

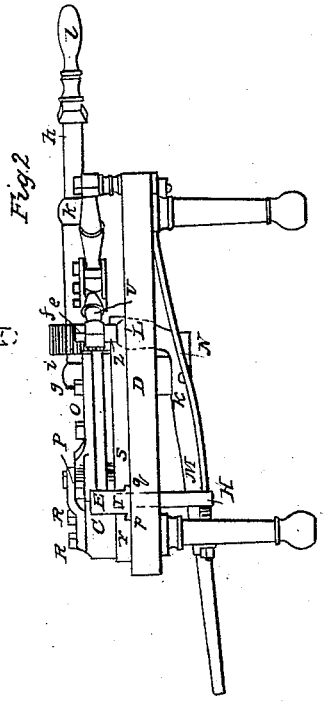

Fig. 2

UNITED STATES PATENT OFFICE.

ABEL SIMONDS AND A. G. PAGE, OF FITCHBURG, MASSACHUSETTS.

MACHINE FOR TURNING OR BENDING THE HEELS OF SCYTHES.

Specification of Letters Patent No. 2,379, dated December 10, 1841.

To all whom it may concern:

Be it known that we, ABEL SIMONDS and ALBERT G. PAGE, of Fitchburg, in the county of Worcester and State of Massachusetts, have invented a new and useful machine for turning the heel of a scythe or bending that part of the scythe which is applied to the snathe to its proper angle with the blade, of which the following is a full and exact description, reference being therein had to the accompanying drawings, which, combined herewith, form our specification, and in the same we have set forth the nature and principles of our invention, by which it may be distinguished from others of a like character, together with such parts or combinations of the same as we claim and for which we solicit an exclusive property for fourteen years to be secured to us by Letters Patent.

Figure 1, of the above mentioned drawings represents a top view of our machine. Fig. 2, is a side view taken on the side A, and Fig. 3, is another side view taken on the side B of Fig. 1. Fig. 4, represents a scythe wherein *a* is the heel, which previous to being bent into the angular position therein represented is forged out straight as seen in Fig. 5.

Heretofore it has been the practice to bend the heel by the hammer in the hand of the smith, but we now accomplish the same by machinery, which is constructed as follows:

The end or heel of the scythe which is exhibited in Fig. 1, by red lines is supported or forced against a rest stud C Figs. 1, 2, 3, (firmly fastened upon the upper surface of a table D), by a sliding gripping bar E, pressed forward by a combination of levers F H I, G K L. The former is a bent lever and turns on a fulcrum or bearing at H Figs. 2, 3. Its upper end I is inserted in a suitable slot or mortise formed in the underside of the sliding gripper E, so that when the end F of the lever is depressed, the bar E will be thrown forward against the heel of the scythe. The end F of the lever F H I, is connected to the treadle or hand lever G K L, at a point M (see Figs. 2, 3), the said end being turned cylindrical and passed through a suitable hole bored through the lever G K L, the latter being placed about at right angles to the lever F H I. A strong spring N, Fig. 2, having one end bolted to the underside of the table, rests in contact with the lower arm F H of the bent lever, its purpose being to raise the said lever and consequently cause the retreat of the sliding gripper E, when the force which depresses the lever is removed from the same.

O is what may be termed the bending lever. It turns on a pivot or bearing at P in the end of an arm Q projecting from and confined by screws R, R, to the top of the rest block C, as seen in Fig. 1, or is otherwise suitably supported so as to turn at this point on a fulcrum. The bending lever has a groove or socket S Fig. 2 plowed out of its side, into which the back of the heel of the scythe is passed and is firmly held during the operation of being turned. When the bending lever is turned about on its bearing toward the slide E, the heel of the scythe is bent round into the position represented by the red dotted lines. The center of the bearing or turning pivot P of the lever O should be so situated, that when the heel is turned, the point P may be nearly vertical over the middle point T of the angle of the heel Fig. 4.

The bending lever is operated by a drawing pitman U which is connected or jointed to the angular intersection of two toggles or progressive levers V, W, the former of which viz V, is jointed to the extremity of the bending lever as seen in Fig. 1, while the latter turns at one end on the top of a standard X Figs. 1, 2, or is otherwise suitably arranged. The end of the pitman U, opposite to that joined with the toggles is connected to a bar Y Z, resting on the upper surface of the table, and secured so as to be moved longitudinally in suitable and substantial guides. The pitman is attached to said bar by means of a pin *e* Fig. 1, on which it turns. The bar Y Z has a toothed rack formed on its upper surface, for about one third of its length from its end Y, into which rack, the teeth of a cogged pinion *f* situated on a horizontal shaft *g h*, engage when the rack is elevated or raised upward. The shaft *g h* revolves in bearings in the tops of two standards *i*, *k*, and has a crank *l* fixed on its end *h*, by which it is turned. The teeth of the rack are thrown into gear with those of the pinion by the lever G K L, whose end L is bent upward, passes through a slot or hole cut through the table, and abuts against the underside of the bar Y Z, the same being represented by dotted lines in Fig. 2. When the crank *l* is turned in the right direction, the bending lever toggles, and other parts

will be brought into the position denoted by the black dotted lines in Fig. 1.

In order to more securely hold the heel of the scythe and prevent it from rising upward the sliding gripper E, may have a triangular lip *m n o* Fig. 1, projecting from the upper part of that side of the same which is next to the bending lever. As the heel of the scythe is brought round toward the side of the gripping slide it shuts under the lips *m n o*. The lower part or bottom of each side of the gripper bar resting on the table is formed with a dovetail or with projecting ledges *p*, *q*, over which the corresponding rabbets of metallic bed plates *r*, *s*, shut, in order to secure the gripping slide in position and permit its longitudinal movement as before mentioned. It will be evident that in some cases the gripping slide may be a stationary die, which may be suitably confined upon the table, in about the position it would take when forced hard up against the heel of the scythe and a machine so constructed may be made to operate, but not so perfectly and satisfactorily as when the gripping slide is made movable.

Having thus described our invention we shall claim—

The combination of the bending lever with the gripping bar and also with the rest block, and operating the said bending lever by the combined arrangement of toggles or progressive levers, rack bar and pinion the whole being arranged substantially as herein above set forth.

In testimony that the foregoing is a true description of our said invention we have hereto set our signatures this fifteenth day of October in the year eighteen hundred and forty one.

ABEL SIMONDS.
ALBERT G. PAGE.

Witnesses:
R. H. EDDY,
EZRA LINCOLN, Jr.