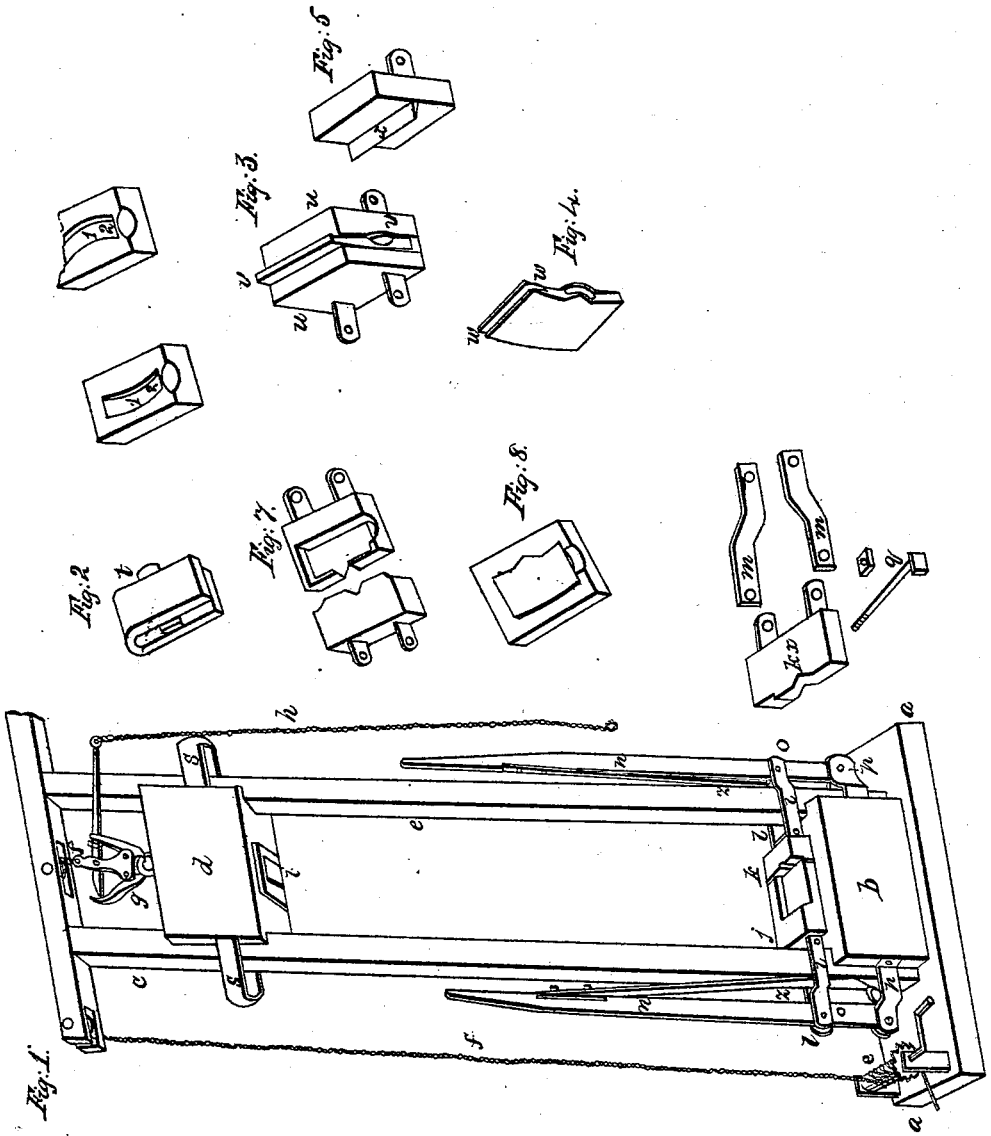
I. W. Turner.

Axe Mach.

No. 2841. Patented Nov. 4, 1842.



UNITED STATES PATENT OFFICE.

ISAAC W. TURNER, OF BALTIMORE, MARYLAND.

MACHINE FOR MAKING AXES.

Specification of Letters Patent No. 2,841, dated November 4, 1842.

To all whom it may concern:

Be it known that I, ISAAC W. TURNER, of the city of Baltimore and State of Maryland, have invented a new and useful Improvement in Machinery for Making Axes and other Edge-Tools; and I do hereby declare that the following, the accompanying drawing making part of the same, is a full and exact description.

The principle consists in the employment of dies or swages. The metal being prepared and placed in said dies, is subjected to a condensing and welding pressure, either by a drop, as shown in the drawing, a screw, a roller or a wedge pressure.

In the drawing *a*, *a*, Figure 1, represents the base or platform; *b*, the foundation hammer or anvil, being a piece of heavy metal that may weigh 500 lbs., or more.

c, *c*, are wood uprights say 20 feet or more high, faced with iron next to the drop hammer, *d*, this hammer may have the same form and weight as the anvil. The hammer *d*, is raised by the windlass *e*, and the rope *f*, *f*, and the attaching and detaching apparatus *g*, *h*. As apparatus for this purpose is variously constructed, and as I claim nothing of the kind I need not particularize it. It will be seen that the hammer *d*, is for the purpose of compressing and welding.

The metal being subjected to its drop or fall, and there being a suitable die, as *i*, attached to the face of the drop hammer, *j* and *k*, are two other pieces of a die placed on the anvil. At the outsides as *l l* and *l l*, there are straps connected by a hinge bolt to the pieces of dies; these straps pass around the uprights *c*, *c*, and are bolted to the levers *n*, *n*, as at *o*, *o*. The stationary pieces or straps *p*, *p*, are the fulcrums of the levers *n*, *n*, *q*. is a bolt that connects the piece of die *k* or $k^{\times}$ and the straps *m*, *m*, together; this die $k^{\times}$ and strap *m*, explain the corresponding ones, on the left.

Between the uprights *c*, *c*, and the levers *n*, *n*, are placed springs *v*, *v*, to throw the dies *j* and *k*, apart for the introduction of a piece of metal to be operated upon. It will be seen that when the drop hammer is up and the apparatus *q*, lets go the hammer *d*, the straps *s*, *s*, pass over the upper ends of the levers *n*, *n*, and bring the dies together and hold them firmly, the levers being wedged downward so as to suffer the straps *s*, *s*, to increase their pressure.

Fig. 2 represents a bent piece of iron, prepared by hand or otherwise, for the pole and body of an ax, with a steel eye pin, as *t*. In this form it is heated and placed on the die *j*, Fig. 1, which die is constructed in form of an ax. The hammer *d*, with the face die *i*, is now let fall and by one operation the piece Fig. 2, is shaped, and welded into the pole and body of an ax with the eye. This pole and body, is next placed between two dies as seen at Fig. 3, where *u*, *u*, are similar pieces, and *v*, *v*, is the pole and body of the ax placed in a position to receive this opening or cut for the blade or bit. This cut is made by the blade *x* Fig. 5, of the piece which is attached under the drop *d* for that purpose.

The bit or blade is made by the die Fig. 6, which consists of 2 pieces, one placed on the anvil, as the other dies are, and the other to the drop *d;* this die is sunk as at 1, 1, to receive a piece of steel, previously prepared of proper size and curve and placed in, and when the drop comes down the raised edge as at 2, 2, cuts the surplus end off. This bit is now put into the cut of Fig. 4, and the ax is heated and taken to die Fig. 7, which being placed under the drop with its corresponding part, Fig. 8, attached to the drop *d*, the ax is formed and completed except edging with the hand hammer and grinding.

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

The method of forcing or hugging the pieces of dies as for instance *j* and *k*, up together horizontally on the anvil *b*, by the levers *n*, *n*, and straps *l*, *l*, &c., and the fulcrums, *p*, *p*, while the top piece of the die *i*, attached under the drop or pressing hammer *d*, is forcing downward, as before described and represented in Fig. 1, for the purpose of constructing axes and other tools.

ISAAC W. TURNER.

Witnesses:

WM. RABORG,

CHRISTOPHER H. RABORG.