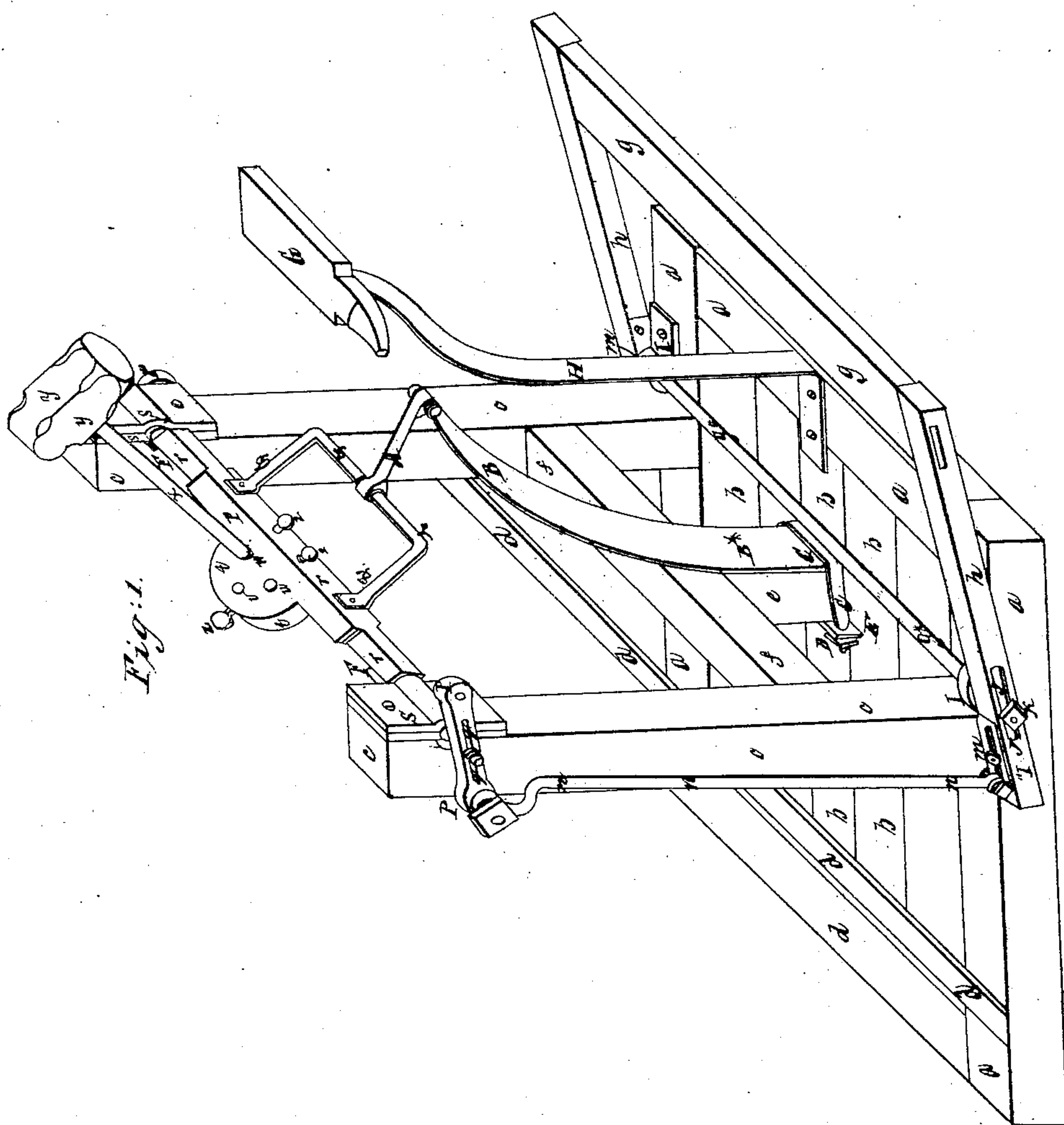


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*N<sup>o</sup> 13,841.*

*Patented Nov. 27, 1855.*





# UNITED STATES PATENT OFFICE.

DENNIS S. BLUE, OF FORT SENECA, OHIO.

## BLACKSMITH'S STRIKER.

Specification of Letters Patent No. 13,841, dated November 27, 1855.

*To all whom it may concern:*

Be it known that I, DENNIS S. BLUE, of Fort Seneca, in the county of Seneca and State of Ohio, have invented and made certain new and useful Improvements in Blacksmiths' Strikers or Hammers; and I do hereby declare that the following is a clear, full, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the striker apparatus complete.

In order to enable others to construct and use my improvement I herewith describe the same as follows. I construct a horizontal framework composed of four side timbers *a, a, a, a, a, a*, of suitable size and weight, to this framing I attach a cross beam or sill in the center from one side to the other as at *b, b, b, b*. This sill is of same dimensions as the timbers of frame. To this framework I attach two studs or uprights of suitable height, and same dimensions of sill timber. These studs *c, c, c, c, c, c*, are mortised into the framing, and in order to stay them there are attached thereto, and also with the framing, bracing rails *d, d, d, d*, inserted by mortise and tenon. To the center or sill timber *b, b, b, b*, is attached vertically, a stud standard *e*; a little less than one third the height of the uprights *c, c, c, c*; across the top of this stud standard *e* is arranged by mortise (and connecting the two uprights,) a transverse crossbeam *f, f*. These several parts of timbers are connected substantially together by pins or bolts as well as by mortise and tenon, and having this framework complete, next is constructed what I term a treadle lever having a longitudinal rail *g, g*, connected with which and mortised and tenoned thereto at right angles, are lengths or arms *h, h, h*. Through the ends *i, i*, are formed open mortises or slots *j, j*, and through these slots passes a rod of iron *g\* g\**. This rod is confined in the slots, by screw taps *k* attached to both ends thereof. It must be observed that this treadle lever, is formed sufficiently wide, between the arms *h, h*, so as to clasp or straddle the uprights *c, c, c, c*. The rod *g\*, g\**, answers as the axle fulcrum, and this axle fulcrum or rod *g\* g\**, is held in boxes or bearings *f, f*, screwed or bolted onto the top of the framing. To the ends *i, i*, on the top surface thereof, are attached, by screw and

nut, a bolt, and head, a knuckle jointed, or hinge like, slotted graduating plates *m, m*, to which are connected by rivet, a pin joint, vertically arranged lever connection rods *n, n*. To the top or upper end of these lever rods, are attached or connected by screw and nuts *o* or pin bolts, short slotted or extension levers *p, p, q, q*. These levers are connected through the slots *q, q*, with a rocking or tilt shaft *r, r, r, r* the ends or journals working in the slots *q, q* of the extension levers *p, p*. The journal ends of this rocking shaft work in boxes *s, s, s, s*, attached in any suitable manner to the front surface, at the upper ends of the upright *c, c*. From the journal ends of this rocking shaft, its length may be formed round or square, and at its center, on the top or upper surface thereof, must be formed a bulge or semi-circular or square projection, *i, i*. Through this bulge three perforations *u, v, w* are made not in direct horizontal, nor in direct vertical range one with the other. Into either of these is fitted when required, the handle of a sledge or striker, or hammer, *x, y, y*. Opposite to each of the perforations are inserted tightening screws, *z, z, z*.

Attached to the underside of the rocking shaft *r, r*, is a yoke &, &, &, &, of rod iron, with ends flattened and screwed onto the rocking shaft. To the center of this yoke works a coupling or grip rod *A* to the other end of which rod or coupling is attached by hinged joint a flexible spring *B, B*, extending down vertically, and its thickest or the butt end thereof *B\** is clamped or connected on to the stud *e*, by a clasp staple *C, C*, having a back cross tie rod *D* and screw nuts *E*.

*F, F*, are stops against which the back of the rocking shaft rests. It must be observed that there are vertical rods *n, n, n*, and extension short levers *P, P*, arranged on both sides of the uprights *c, c, c, c*.

*G, H*, shows the anvil device of the striker, but it is intended that the anvil in ordinary use be used mounted on a block or base work, and the treadle lever, *g, g*, works either outside of the anvil block, or the block can be cut into if very large in order to let the lever treadle work free, up and down.

The operation and application of the striker is as follows, to wit: When a flat piece of metal is to be drawn out or forged, the handle or helve *x* of the hammer *y, y* is inserted in the hole *w*; when a tapering or



wedge like piece of metal is to be formed the handle is inserted in the hole *u*, and when a heavy large mass of metal is to be forged, the handle *x* is to be inserted in the upper hole *v*. The handle is held firmly by the tightening screws *z*, *z*, *z*, and when desired the handle can be inserted so that the edge of the hammer, or a part only of the face thereof can be applied, or the face of the hammer turned obliquely right and left. In the application of my striker, its operation is brought about by applying the foot to the treadle lever part *g*, *g*, which connecting with the rods *n*, *n*, *n*, *n*, and the rods being attached to the ends of the rocking shaft through means of the slots *q*, *q*, actuate the hammer *y*, *y*. Now it must be observed that the slotted parts *J*, *J*, of the treadle *g*, *g*, admit of increasing or diminishing the blow or stroke, in the application of the foot, for the slightest forward pressure or movement will press the leverage forward, or backward through the aid of the slots *J*, *J*, which admit of shortening or lengthening the leverage. Then again if the force or pressure upon the hammer or striker is to be varied, the compensating slotted adjustable plate *m* is extended either forward or backward as desired by loosening the screw nut *t*, and the short slotted levers *p*, *p*, *q*, *q*, are also pushed forward and the nut thereof tightened or loosened as desired. In order to lift the hammer, or striker, and return it to its place, the flexible spring device *B*\* *B*\* and grip rod *A* and yoke, &, &, &, are employed to react the treadle as

well as the hammer. The advantage of this combination spring device over all others is that there is less rigidity, or unequal action, and jerking motion of the spring, for the shock or jerk is overcome by the grip coupling *A*, by breaking off the action direct of the spring, which direct action, would take place were the spring *B*, *B*, to come in direct contact with the rocking shaft *r*, *r*, *r*, *r*. By aid of this combination device of spring, grip, and yoke, the action of the hammer or striker is smooth and uniform, which is not the case in other automatic strikers, as their operation is attended with more or less of a vibratory and jerking action.

The construction of my striker is simple, cheap, and durable and one man can do as much work with it as three men can do by manual or hand power. The whole apparatus is portable, or it can be made permanent.

Having described the nature, construction, and operation in full, of my improvement, what I claim as new, and desire to secure by Letters Patent of the United States, in the construction of a blacksmith striker, is—

The use of slotted lever treadle *g*, *g*, *h*, *h*, *i*, *j*, *j*, the slotted lever *p*, *p*, *q*, *q*, and the rock shaft *r*, *r*, *u*, *v*, *w*, substantially as herein described.

DENNIS S. BLUE. [L. s.]

Witnesses:

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