L. SHEARER.

Making Spikes.

No. 19,452. Patented Feb. 23, 1858.

Fig. 1

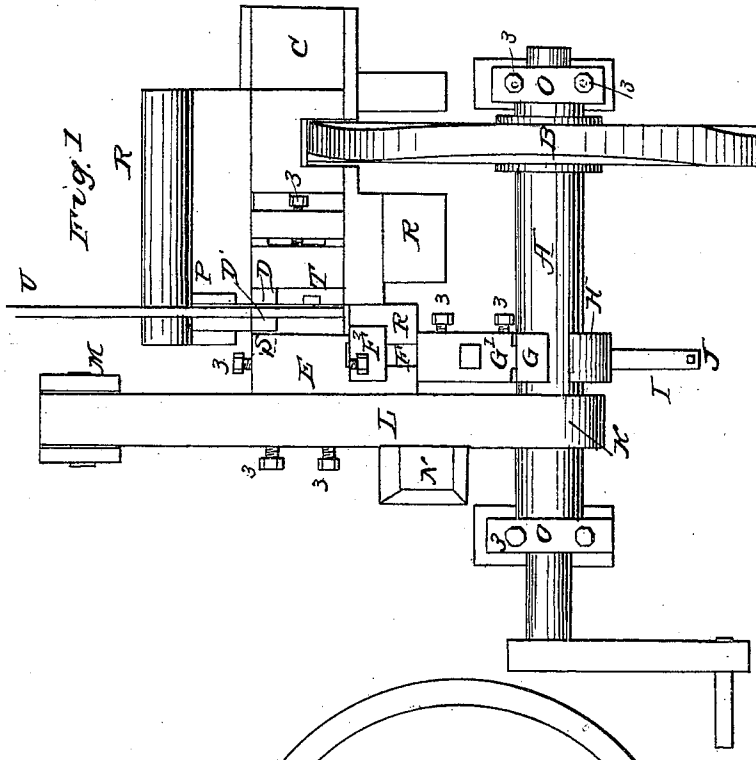


Fig. 2

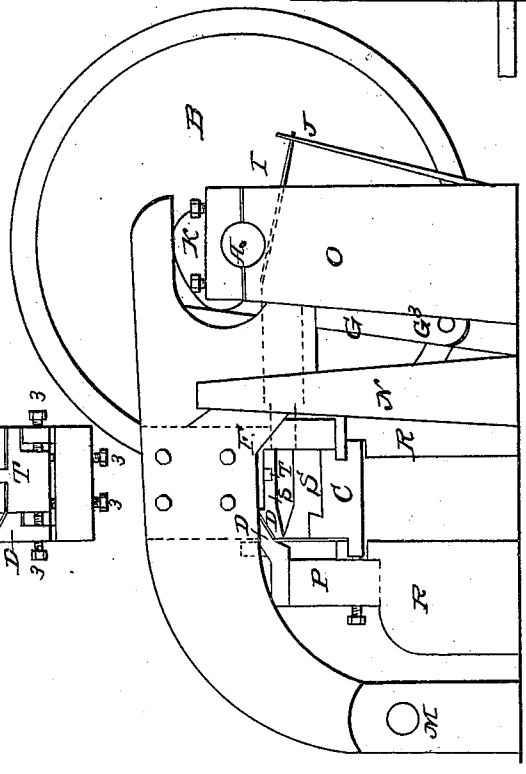
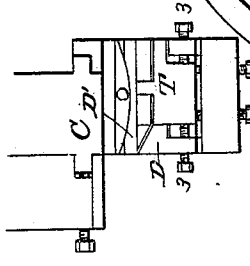


Fig. 3



...ETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

LEANDER SHEARER, OF DUNCANNON, PENNSYLVANIA.

SPIKE-MACHINE.

Specification of Letters Patent No. 19,452, dated February 23, 1858.

To all whom it may concern:

Be it known that I, LEANDER SHEARER, of Duncannon, county of Perry, in the State of Pennsylvania, have invented certain Improvements in Machines for Making Spikes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists of certain improvements in the construction of machines for making spikes.

In the accompanying drawing (Figure 1,) represents a plan of my machine, Fig. 2, a side elevation and Fig. 3 a detail view of the carriage and lower die stock;—where, A, represents the main driving shaft supported in suitable bearings, O, O, which shaft may be driven by a suitable driving arrangement actuated by any desirable motor, and has upon it (best seen at Fig. 1,) three cams or cam wheels; the largest one of which B, is a "side cam wheel" and imparts by its rotation a reciprocating motion to the carriage, C, the next in size K, elevates and depresses the vibrating lever L, which carries the upper die, and the third H, imparts the forward or labor motion to the header lever G. The carriage, C, is supported by a suitable frame or bed R, in which it slides or traverses freely in grooves to which its ways are adapted; said carriage has arranged upon one end the lower die, S, which is made adjustable thereon by means of set screws, 3, and has one side extended upward forming a flange, near the middle of which is a cavity, T, suitable to receive a pin or projection from the upper die, for purposes to be described, and one end of which is formed as seen at and constituting the knife or cutter D and which operates against the edge, *a*, of the feed rest, D′, which is made of the shape seen and securely attached to the frame R, and serves the double purpose of a feed rest and stationary knife.

L, is the main or gripping lever one end of which is pivoted at, M, to the post or pillow block, M′, the other end being forked to receive the cam K, which moves it upward and downward as before described;—upon said lever L, is a die stock, E, in which is arranged the upper die, S′, adjustable therein by means of set screws, 3′, 3′.

G, is the header lever, which is moved forward or toward the dies by means of cam H, and is brought back by a spring, J, connected thereto by a strap, I, or by any other convenient arrangement; to said lever, G, is pivoted, a link or stock, G^2, for receiving the heading tool F, which latter is adjusted and secured therein by a screw, 3^2.

The operation of my machine will be readily understood from the foregoing description of its construction in connection with the following explanation, viz: The machine being in motion or driven by any adequate power, a rod of iron is fed in through the rest D′ until its end strikes a stop (placed at a proper distance from said rest) said bar lying in the lower die, *s*, when the carriage *c*, bearing said die, is moved forward by the side cam wheel B, until said die is brought immediately under the die, *s*′, in the main lever, L; by this forward motion of the carriage the bar of iron is cut off by the cutter, D, operating against the edge, *a*, of the feed rest, D′, from the form of the cutter, D, and position of the bar when the said cutter severs it, it will be seen that the said bar will be cut off diagonally, or on a taper from the top to the bottom edges of the same, leaving the piece or blank in the die, *s*, with a point, to one side of said blank. When the die, *s*, (now containing the blank) has arrived immediately under the die, *s*′ the lever L is caused to descend or vibrate downward, by means of the cam, K, and the blank in the lower die is compressed between said die and the upper one, whereby the point, of said blank is made to occupy a central position, and it is firmly held by the said dies while the beading operation is performed, which is done by the cam, H, coming in contact with the lever, G, and forcing the upper end of said lever forward, whereby the beader F, is brought against the end of the blank and causes the same to be upset and fill the dies thus forming a bead such as desired, the spike is now finished and the lever, L, begins to ascend, when the spike is relieved of pressure, the carriage, C, immediately begins to retreat and the spike, being retained at one end by a pin on the lower die, and also by a pin on the upper die near the middle and on the opposite side, is knocked out of the lower die and falls to the ground or floor.

I am aware that machines for making spikes have been so constructed as to cut

and point the spikes simultaneously by the compression of the dies, and also that machines have been so made as to point the spikes by the compression of dies, while the bar was cut by a knife at the beading end, and do not wish to be understood as claiming any such devices, but

What I do claim and desire to secure by Letters Patent is:—

The application of the cutter D, acting against the cutting edge A, of the feed rest, D′, and the dies, S, and S′, operating as set forth, in combination with the reciprocating carriage, C, vibrating lever, L, and header lever G, with its header F, the whole constructed and operating substantially as described.

LEANDER SHEARER.

Witnesses:
WILLIAM HOLLANDS,
HUGH CARROLL.