

W. A. D. BOWMAN.
Spike-Machines.

No. 141,754.

Patented August 12, 1873.

Fig 1

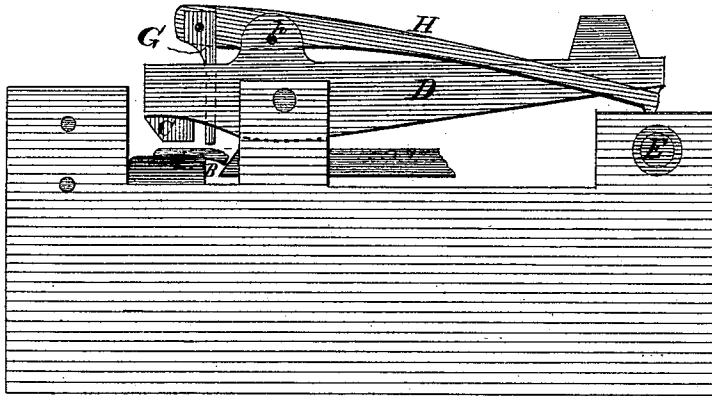


Fig 2

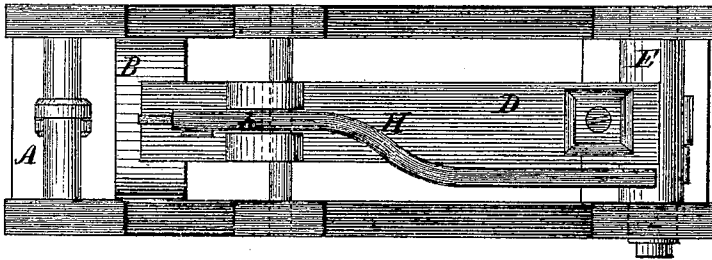


Fig 3

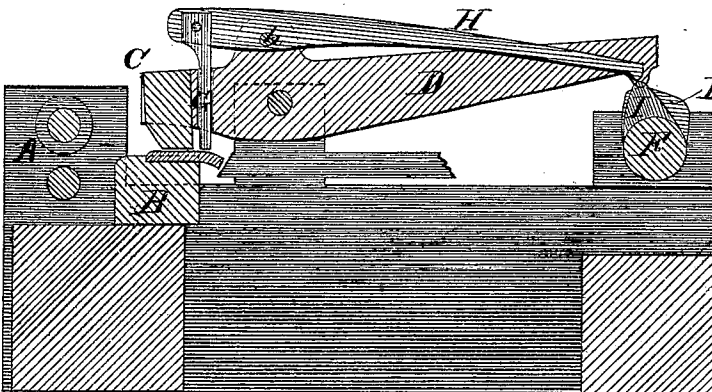
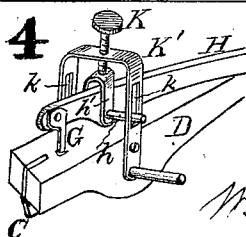


Fig 4



Attest

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WILLIAM A. D. BOWMAN, OF POUGHKEEPSIE, NEW YORK.

IMPROVEMENT IN SPIKE-MACHINES.

Specification forming part of Letters Patent No. **141,754**, dated August 12, 1873; application filed January 29, 1873.

To all whom it may concern:

Be it known that I, WILLIAM A. D. BOWMAN, of Poughkeepsie, in the county of Dutchess and State of New York, have invented certain Improvements in Spike-Machines, of which the following is a specification:

This invention relates to that class of self-feeding machines for making hook-headed spikes well known to the trade as Swett's and Eynon's. In the practical operation of these machines the blank is almost invariably somewhat bent in passing through the feed-rolls. This bend is either in an upward or downward direction, varying in degree in every blank. My improvement consists in the employment of a plunger or bender, which, immediately after the blank has been gripped by the holding-dies, descends upon its protruding end and bends it downward to the required extent, and rises again before the header begins to act upon the blank, the stroke of the bender being regulated by an adjusting-screw, so that the bender may be made to bend the blank to a greater or less degree by a simple and rapid adjustment, not requiring the stoppage of the machine.

Figure 1 is an elevation of so much of a spike-machine as is necessary to illustrate my invention. Fig. 2 is a plan view thereof. Fig. 3 is a vertical longitudinal section. Fig. 4 illustrates in detail the manner of adjusting the stroke of the bender.

The same letters of reference are employed in all the figures in the designation of identical parts.

The blank having been severed from the hot bar and pointed by the feed-rolls A is grasped by nippers and deposited upon the die B in the well-known manner. The gripping-die C is carried as usual upon the end of the short arm of the gravitating lever D, which is operated to press the die C down upon the blank by the cam E upon the revolving shaft F. G refers to the bender, which, in the example illustrated, plays through an aperture in the lever D directly in rear of the gripping-die C. The bender is pivoted at its upper end to the short arm of the lever H, which turns upon the fulcrum *h*, and reaches with its long arm

over the shaft F, to be acted upon by the cam I thereon.

The relative positions of the cams E and I are such that immediately after the former has brought the die C down upon the blank the point of the cam I passes under the lever H and depresses the bender G the proper distance for bending the protruding end of the blank downward to the required extent. The cam I is of such form that it allows the quick rising of the bender after performing its function, and before the header strikes the blank.

The fulcrum *h* may be made adjustable to regulate the action of the bender upon the blank, whereby the shape of the head can be determined. This is accomplished, in the example shown, by attaching the fulcrum-pin *h* to a yoke, *h'*, which is carried at the end of a screw, K, working in a nut in the fixed yoke K', which is firmly secured to the lever D, and has slots *k*, forming bearings for the ends of the fulcrum-pin *h*. By lowering or lifting the fulcrum the bender may be made to bend the protruding end of the blank, more or less. By a proper adjustment it may be made to just straighten this end, so that with a suitable header bolts may be made as well as hook-headed spikes.

In making bolts care should be taken to cause the blank to always bend upward, which is easily accomplished in introducing the hot rod between the feed-rolls.

I do not propose to limit my claim to the particular construction and arrangement of the bending mechanism as herein shown.

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

In a spike-machine of the character specified, a bender, G, which is adjustable vertically with reference to the gripping-die C, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

W. A. D. BOWMAN.

Witnesses:

DAVID EYNON,
JNO. P. W. FALLMAN.