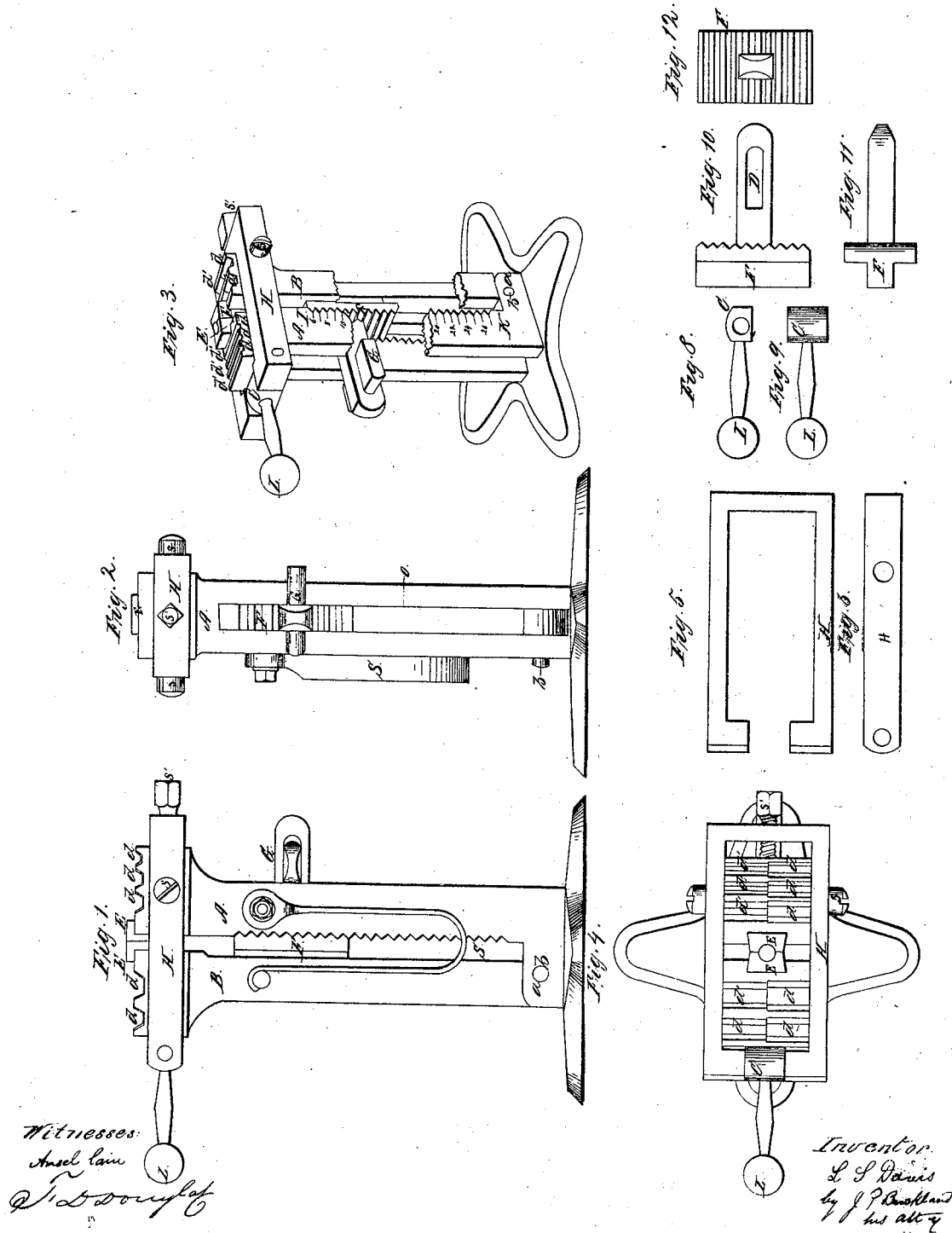


*L. I. Davis.*

*Bolt-Heading Machine*

*N<sup>o</sup> 52,393.*

*Patented Feb. 6, 1866.*



# UNITED STATES PATENT OFFICE.

L. L. DAVIS, OF LACONIA, NEW HAMPSHIRE.

## IMPROVEMENT IN BOLT-HEADING MACHINES.

Specification forming part of Letters Patent No. 52,393, dated February 6, 1866.

*To all whom it may concern:*

Be it known that I, L. L. DAVIS, of Laconia, in the county of Belknap and State of New Hampshire, have invented a new and useful Improvement in Bolt-Heading Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side elevation, Fig. 2 is an end elevation, and Fig. 3 is a perspective view, of said improved bolt-heading machine. Fig. 4 is a plan of the same. Figs. 5 and 6 are, respectively, a plan and side view of the "band," so called. Figs. 8 and 9 are, respectively, a plan and side view of the cam and weighted lever which control the jaws of the machine. Figs. 10, 11, and 12 represent the foot or hub on which rests the end of the bar of iron which is to be headed down in the machine.

Similar letters refer to like parts in all the drawings.

The drawings represent a bolt-heading machine of the following construction: The upright pieces A and B constitute the jaws of the machine, the upright B being movable, and turning upon the pin *b* in the shoulder *a* of the standard A. The band H supports the cam C, which is actuated by the weighted handle L, and is used for closing the jaws. The powerful spring S opens the jaws when the position of the cam allows such opening. The screws *s s* hold the band H in place, and the set-screw *s'* can be used to counteract any wearing of the cam and consequent loosening of the jaws.

The inner face of the upright standard A is serrated, all the teeth being made uniform. A slot, O, extends nearly from the upper to the lower end of the standard A, and receives the shank of the sliding foot or hub F.

The foot or hub F is T-shaped, having the top, however, wider as well as longer than the shank. The under face of this top is serrated to match the serrated face of A, and an aperture, D, in the shank receives the wedge-shaped pin G, which holds the foot in any desired position.

The construction above described is substantially the same as that set forth in an application for Letters Patent filed in the United States Patent Office by Alvah Tucker of Gildford, in said county of Belknap, and now pending, and I expressly disclaim the invention of any part of said machine as hereinbefore described.

My improvement consists in forming dies *d d d'* in the upper faces of A and B, and in forming upon or in or in attaching to the side of the upright standard A an adjusting scale, I K.

The form of the dies shown in the drawings is that of a semi-hexagon for fabricating that form of bolt-head generally denominated "six-square;" but the dies may be made of any shape desired. Each size of die extends to the center line of the face of the standards, two sizes being placed in the same right line for economy of space.

Sets of polygonal or other dies, called "sows," are in common use in blacksmith shops as separate tools, and no novelty is claimed in the mere use of such dies or sets of dies.

The scale I K is designed for setting the sliding foot F at any point desired for forming bolts of a given length. It may be cast in or upon the side of the standard, or be made separate and attached thereto, or formed by engraving or painting the same thereon.

The construction of the dies is by casting the uprights with the depressions and finishing up the depressions into exact dies, or by casting the standards with a plane face and cutting out the dies by suitable means; also, by forming the dies of cast-steel, and by flanges upon this plate of dies, or by other means, casting the standards upon and adherent to said plates of dies. I prefer, for ordinary purposes, the first-described method of construction.

The advantages of constructing the dies upon the upper faces of the uprights A and B are the convenience and economy of time resulting from combining in one machine all (or as many as possible) of the tools used in forming any article; also, in the better quality

of bolts produced by having the dies in connection with the heading-machine; also, in cheapness and simplicity of construction.

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

1. Constructing one or more grooves, channels, or dies in the upper faces of the standards A and B, herein described, or either of

them, for the purposes and in the manner substantially as set forth.

2. The combination, with the bolt-heading machine herein described, of an adjusting-scale, substantially as set forth.

Witnesses:

J. P. BUCKLAND,  
ALLEN FAIRFIELD.

L. L. DAVIS.