

*J. Mc. Crone,*  
*Making Spikes,*  
*No. 1,497,* *Patented Feb. 21, 1840.*

Fig. 2.

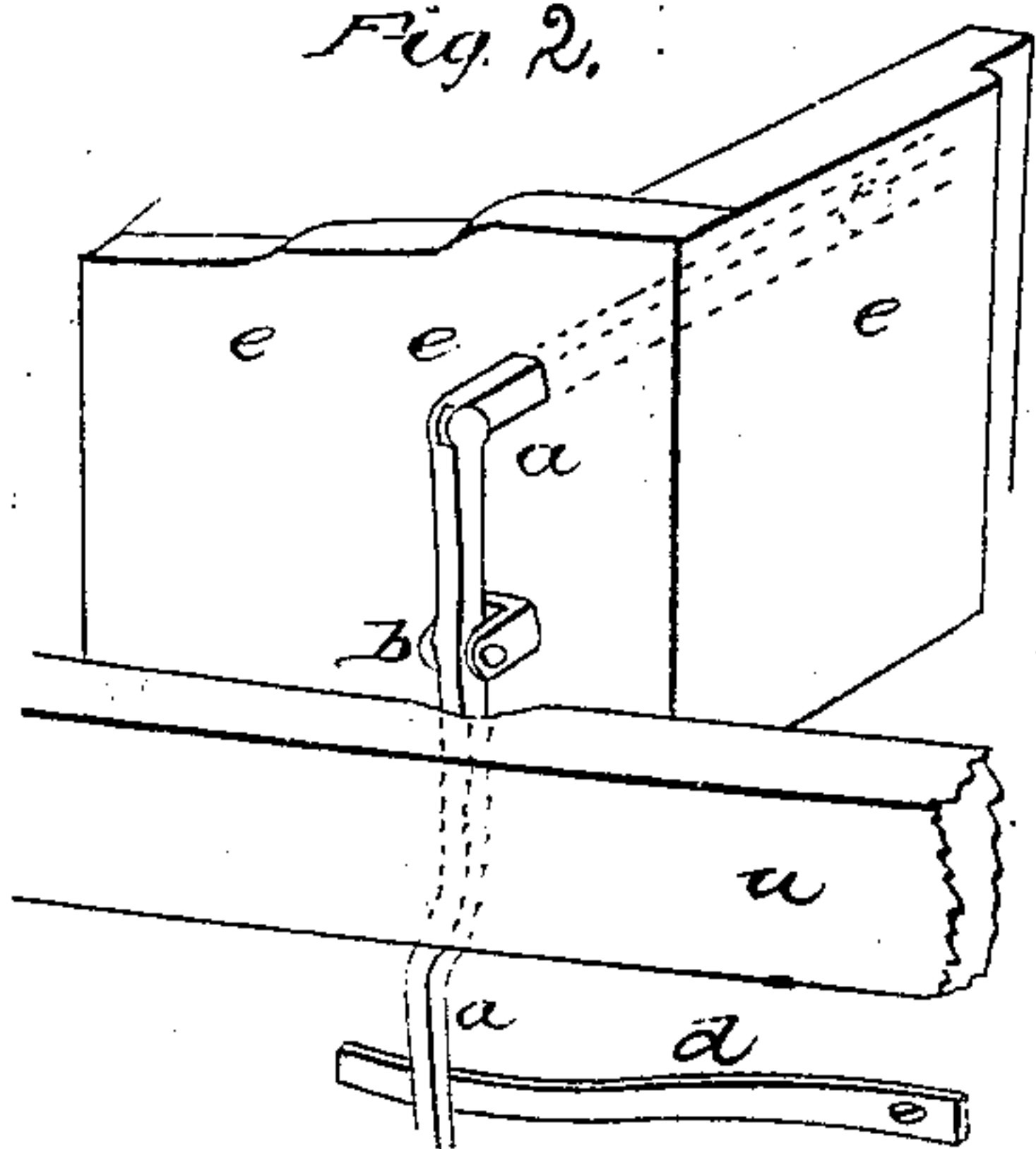
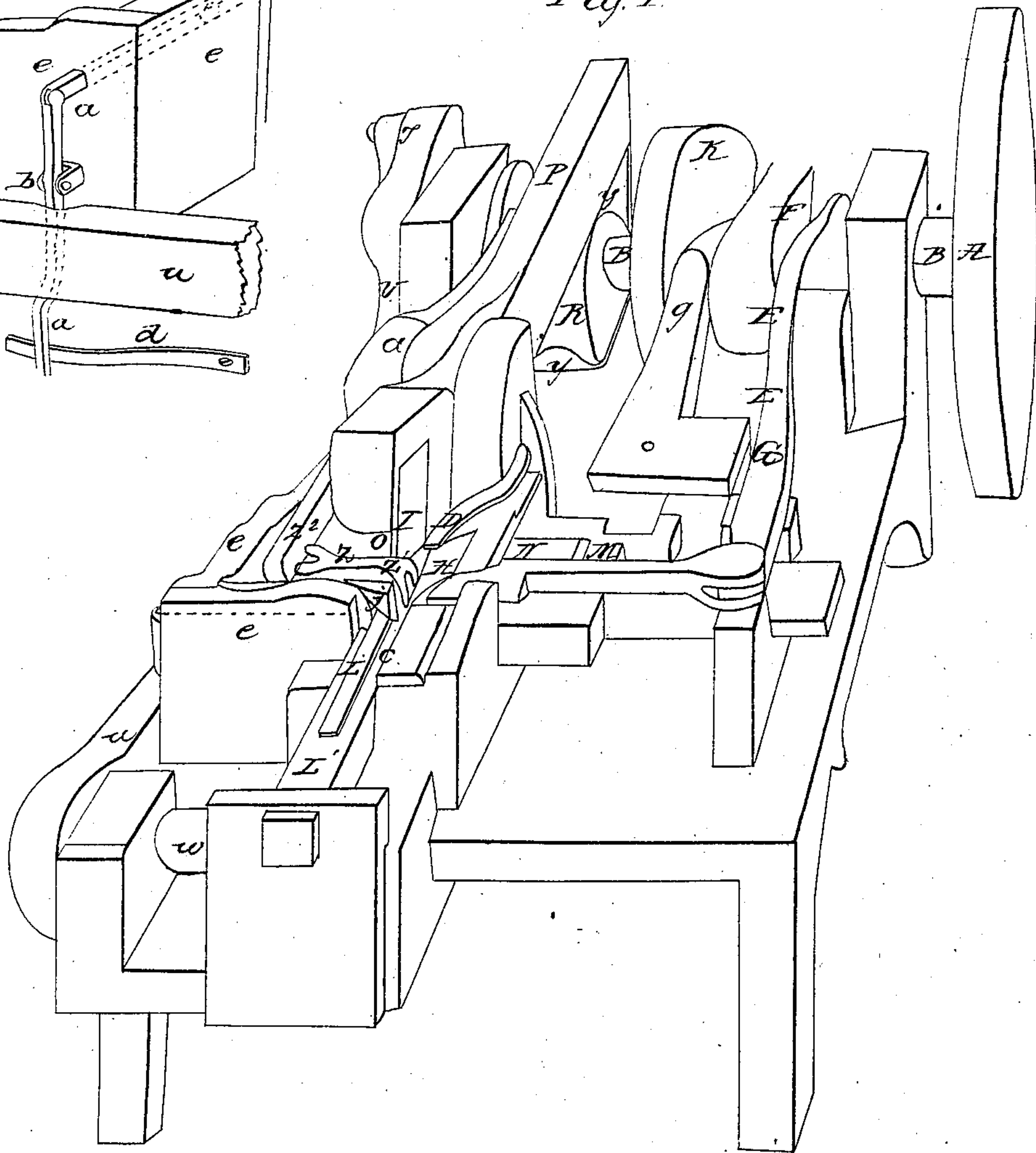


Fig. 1.





# UNITED STATES PATENT OFFICE.

JOHN McCRONE, OF ELLICOTT'S MILLS, MARYLAND.

MACHINE FOR MAKING WROUGHT NAILS AND SPIKES.

Specification of Letters Patent No. 1,497, dated February 21, 1840.

*To all whom it may concern:*

Be it known that I, JOHN McCRONE, of Ellicott's Mills, in the county of Baltimore and State of Maryland, have invented certain Improvements in Machines for Making Wrought-Iron Spikes; and I hereby declare that the following is a full and exact description thereof.

In the accompanying drawing, Figure 1 is a perspective view of the machine, and Fig. 2, a side view.

A, is a pulley whirl on the main shaft B, from which the movements of the operating parts of the machine are derived. The spikes are to be made from heated rods, which are fed in at the front of the machine, where the piece necessary for one spike is cut off, gripped in dies so as to form the point, and headed by a sliding punch. The rod is passed along over the part marked C, until its end is received against the strip D, when it is cut off, and received by the gripping dies.

E, is a lever which is moved laterally by the cam F, the fulcrum of which is at G. This lever advances the cutter H, which operating against cutter I cuts the rod, and pushes the piece forward to be operated on by the gripping dies. J, is a lever acted upon laterally by the cam K. This lever carries the slide M, having on it the lateral gripping die N, which grips the piece against the stationary, lateral die at O. The lever P, which has its fulcrum in the standards Q, Q, is moved vertically by a cam. This lever carries the gripping die S, which grips the piece against a stationary die below it, and, by a concurrent action with the lateral dies, give the taper and point to the spike. While thus gripped, the heading die is slid up by the following means: T, is a crank on the end of the shaft B connected to the lever U, by the shackle V. This lever, as it rises and falls, works the rocking shaft W, a driver X, attached to which moves the slide L', of the heading die L. This arrangement is most distinctly shown in Fig. 2.

When the forming and heading of the spike has been effected in the manner described, the respective cams, operating upon the levers of the gripping dies, cause them to recede; this being, in the laterally worked

levers, effected by the form of the eccentric grooves, or cams, but in the vertical lever P, it is effected by the iron strap Y, Y, surrounding the cam below the lever. When the spike is thus relieved from the pressure of the dies, it lies upon the lower, and against the side, stationary dies, from which it is to be removed, which is effected by what I denominate fingers, or clearers. This apparatus is shown at Z, Z; it consists of a double forked, or otherwise conveniently formed, piece of iron, attached at one end to the lever Z<sup>2</sup>, which is worked laterally by a cam on the shaft B, in the same way as the levers E, and J, are worked. The ends of the fingers are bent down at right angles at Z<sup>1</sup>, the two descending ends being received into recesses made for the purpose in the stationary, lateral die. At the instant when the spike is relieved, the lever Z<sup>2</sup> moves forward, and the fingers push it off from the lower stationary die, causing it to fall under the machine. Fig. 3, shows the fingers separate from the machine. Fig. 4 the main, or cam shaft.

When it is desired to make brad headed spikes, it is necessary to bend the top of the piece to be headed over on one side before the heading die is brought down upon it, as without doing this a good brad head cannot be formed; and this I effect by the action of the lever U, as shown in Fig. 5, which represents such a part of the side of the machine as is necessary for the purpose. *a, a*, is a lever working on a fulcrum at *b*, and carrying a bolt, or set, *c*, at its upper end, which is forced forward by the spring *d*, and passing through the headblock *e*, bends the upper end of the spike rod as required. The set rod *c*, is withdrawn by the descending of the lever U, before the heading die descends, which die, of course, is so formed as to produce a good brad head. The spring *d*, may be omitted, and the forcing forward of the set *c*, may be effected by the raising of the lever U, the lever *a, a*, being so formed as to adapt it to that purpose, as will be apparent to every machinist.

The general arrangement of this spike machine does not differ, materially, from some others, and I, therefore, do not claim it as of my invention; but what I do claim is—



1. The gripping the spike upon the two stationary, by the two movable, dies, with the arrangement for removing it when completed, by the action of the fingers, constructed, combined, and operating in the manner set forth.

2. I also claim the particular arrangement and combination of the heading apparatus,

consisting of the lever, working shaft and slide, operated by a crank on the end of the main shaft, combined substantially as set forth.

JOHN McCRONE.

Witnesses:

H. HAZEL,

THOMAS M. McCORKILL.