

*D. Eynon,  
Apparatus for Facilitating the Manufacture of Spikes and Bolts.*

No. 120,254.

Patented Oct. 24, 1871.

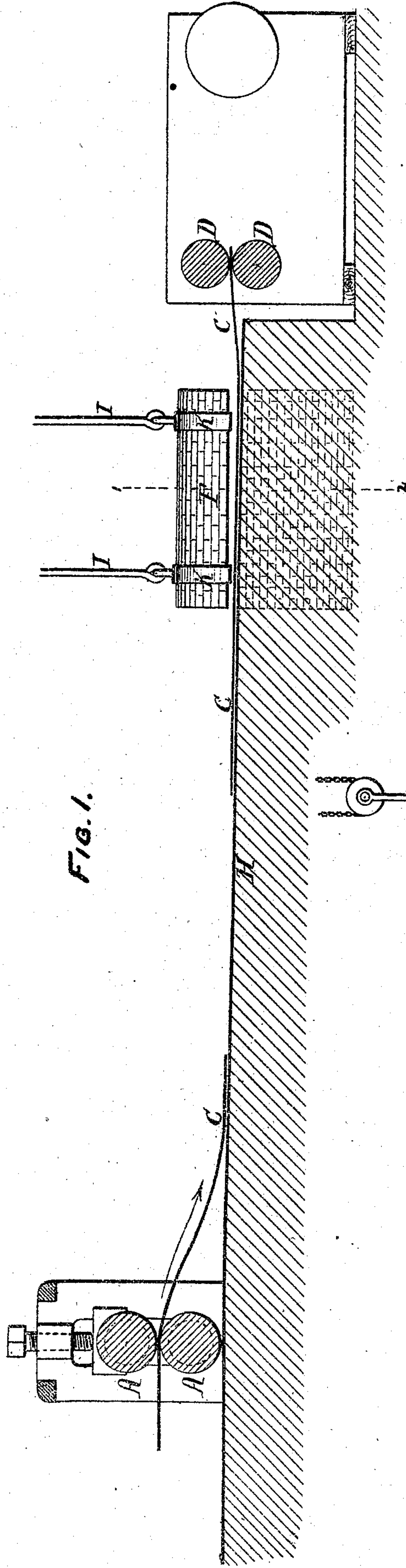


FIG. 1.

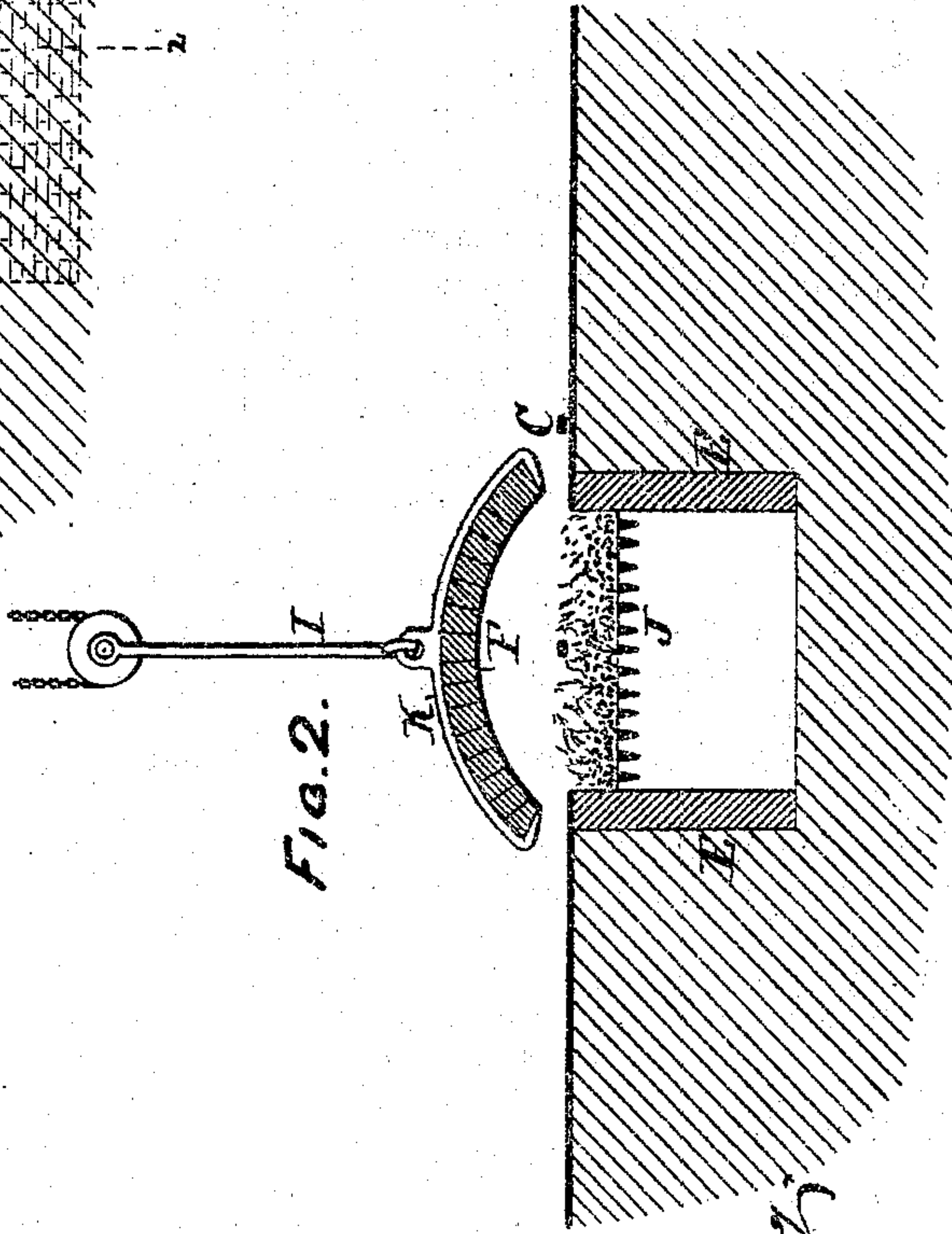


FIG. 2.

Witnesses { *Geo. B. Harding*  
*Harry Smith*

*D. Eynon*  
*By his Atty*  
*Harmon and*



# UNITED STATES PATENT OFFICE.

DAVID EYNON, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN THE COMBINATION OF DEVICES AND IN FURNACES FOR THE MANUFACTURE OF SPIKES.

Specification forming part of Letters Patent No. 120,254, dated October 24, 1871.

*To all whom it may concern:*

Be it known that I, DAVID EYNON, of St. Louis, county of St. Louis and State of Missouri, have invented an Improved Apparatus for Facilitating the Manufacture of Spikes and Bolts, of which the following is a specification:

My invention consists of the peculiar combination, described hereafter, of a heating-furnace, reducing-rolls, and a spike or bolt-machine, whereby a saving both of time and material is effected in the manufacture of spikes or bolt-blanks.

Figure 1 is a vertical section of the apparatus for facilitating the manufacture of spikes and bolts, and Fig. 2 a transverse section on the line 1 2, Fig. 1.

A A represent ordinary rolls for reducing a billet or fagot to a bar of proper form for conversion into the desired spikes or bolt-blanks. D D are the feed-rolls of a spike or bolt-machine, which is situated at an appropriate distance from the rolls, and H is the floor on which the bars are discharged from the rolls. Beneath this floor and near the spike or bolt-machine is built a furnace, E E, of which J is the grate, and on the latter is deposited a body of fuel, the upper surface of which should be level, or nearly so, with the surface of the floor. The roof of the furnace consists of arched brick-work F, held together by clamping-bars K connected to hooked rods I, suspended to any suitable tackle, by which the roof may be raised and lowered or swung to one side at pleasure. The bar C, which has been discharged onto the floor at one side of the furnace, as shown in Fig. 2, is at once fed to the machine, by which it is gradually converted into spikes or bolt-blanks. This operation, however, is comparatively slow, and the rear portion of

the bar would consequently become too cool to be operated on by the machine; hence, during the operation of converting the front end of the bar into spikes or bolts, I push the rear portion laterally into the furnace, where it is maintained at a proper degree of heat. By adopting this plan the entire bar can be converted into spikes or bolt-blanks without any more waste than one crop end; whereas, by the usual plan of cutting a bar into lengths and reheating these lengths prior to their conversion into spikes or bolts, not only is much time lost, but a number of crop ends, and consequently the amount of waste is increased. It will be understood that the bar is never long enough in the furnace to be overheated.

The movable roof of the furnace, independently of permitting the introduction of the bars, is the means of saving much time and fuel when the furnace is cleaned, for a fixed roof would involve the necessity of cleaning the grate from the opposite ends of the furnace, or of taking out the grate-bars and dropping the fire into the ash-pit.

I claim—

1. The combination, substantially as described, of a furnace, reducing-rolls, and a spike or bolt-machine.
2. The combination of the furnace with its movable roof.

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

DAVID EYNON.

Witnesses:

R. F. BARRY,  
C. MINNIGERODE, Jr.

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