

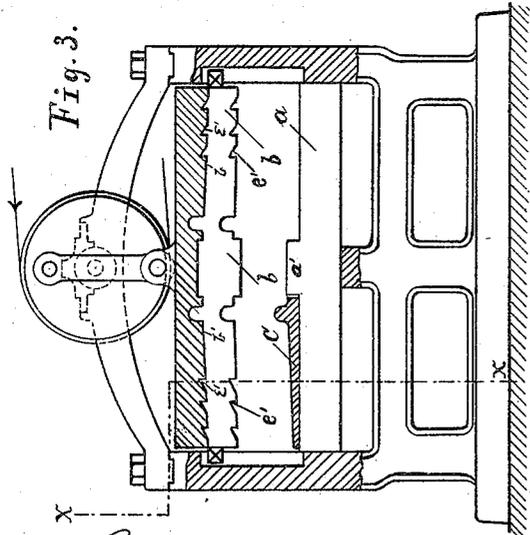
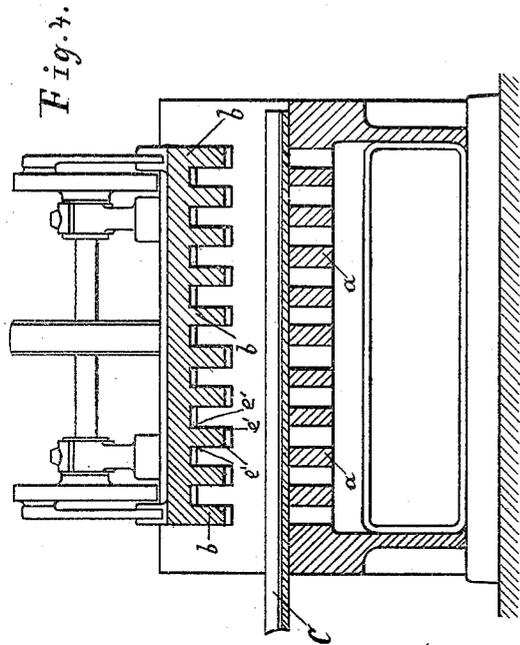
(No Model.)

H. C. RUMPF.

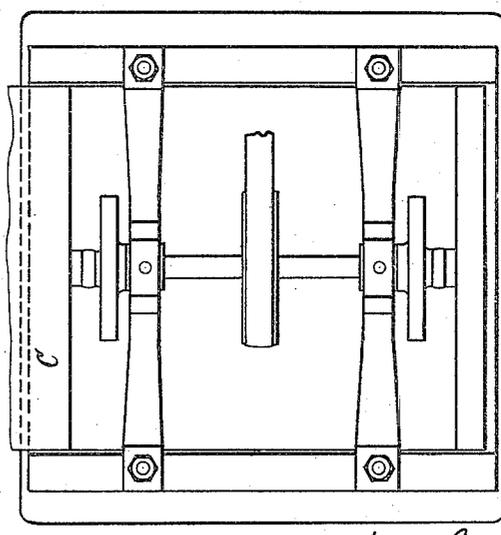
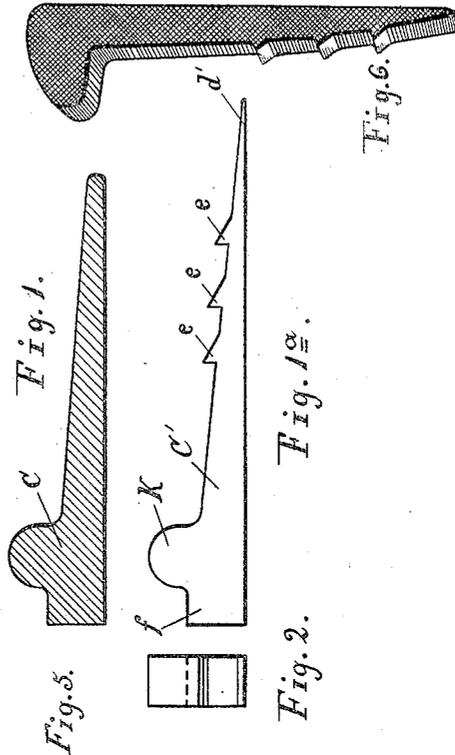
APPARATUS FOR MANUFACTURING RAILROAD SPIKES.

No. 604,591.

Patented May 24, 1898.



Witnesses
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UNITED STATES PATENT OFFICE.

HEINRICH CHRISTIAN RUMPF, OF DAHLHAUSEN, GERMANY.

APPARATUS FOR MANUFACTURING RAILROAD-SPIKES.

SPECIFICATION forming part of Letters Patent No. 604,591, dated May 24, 1898.

Application filed October 1, 1896. Serial No. 607,541. (No model.) Patented in Hungary August 12, 1896, No. 7,132; in England August 14, 1896, No. 18,004; in France August 14, 1896, No. 258,893; in Belgium August 14, 1896, No. 123,031, and in Austria September 18, 1896, No. 46/3,652.

To all whom it may concern:

Be it known that I, HEINRICH CHRISTIAN RUMPF, manufacturer, of Dahlhausen-on-the-Ruhr, in the German Empire, have invented new and useful Improvements in Apparatus for Manufacturing Rail-Spikes and Similar Headed Nails, (for which I have obtained Letters Patent in Great Britain, No. 18,004, dated August 14, 1896; in Hungary, No. 7,132, dated August 12, 1896; in France, No. 258,893, dated August 14, 1896; in Belgium, No. 123,031, dated August 14, 1896, and in Austria, No. 46/3,652, dated September 18, 1896,) of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to the manufacture of spikes for rails and chairs and other similar headed nails of all sorts; and it consists in improvements in apparatus for said manufacture.

The object of the invention consists in passing two bars of iron or steel having cross-sections like the longitudinal section of the nails to be made and punching or shearing from these bars two separate sets of nails or spikes and at the same time serrating the sides of said nails or spikes all at a single operation of the machine.

The drawings appended hereunto serve to illustrate the invention and show one form of apparatus adapted to carry it out.

Figure 1 shows a section of the profiled bar from which the spikes are punched. Figs. 1^a and 2 show a spike made from this bar in side and end view. Figs. 3, 4, and 5 represent a machine embodying my invention respectively in longitudinal and cross section on line *xx*, Fig. 3, and in plan. Fig. 6 is a perspective view of the finished spike.

In carrying out this invention two bars of iron or steel C are rolled having a profile as shown by Fig. 1—that is to say, corresponding with the longitudinal section of the spike, Fig. 1^a, but without the sharp edge of the finished spike C' at their points *d'* and without the serrations *e*, which are only formed by the punching out of the spike. For producing the sharp edge or pointing the bars are

passed under a rapidly-striking hammer and the edges drawn out while cold, whereby the advantage is gained that each separate spike need not be pointed after being cut off. The bars are then placed upon a die or matrix consisting of two sets of plates or cheeks *a* corresponding in width and length to the spikes to be produced and profiled correspondingly to the back of the bar C, with a distance between the side cheeks *a* of the die equal to the breadth of the spike to be formed, these sets being separated by longitudinal partitions *a'*. The two sets of punches *b*, which move up and down in the interstice between the cheeks *a*, are likewise shaped corresponding to the front of the bar C and formed with recesses *e'* for making the serrations or teeth *e* on the spike C', Fig. 1^a, while the upper portions *b'* of the spaces between said punches *b* are likewise formed with recesses *e'* for the purpose of serrating the left on top of the cheeks *a* during the cutting operation, as shown in Fig. 7. When the bars C have been placed upon the die and the punch is pushed down under strong pressure into the interstice between the cheeks of the die, spikes are punched out of the bars C. By the great pressure under which the punch separates the material serrations or teeth *e* are pressed out into the recesses *e'* of the punch. It is evident that by such means a considerable saving of labor, and consequently of expense, is effected compared with any other method of manufacture, as in this case the spike is finished completely in three stages or operations—viz., the rolling of the profiled bar C, the hammering out of the edge forming the points *d*, and the punching of the spikes C'.

If the spikes C' are to have projections or ears at the side for drawing them out of the sleepers, each bar C, as shown by Fig. 1, is rolled of such a section that after punching there remains a projection *f* on the head K, Fig. 1^a, which in a fourth operation is pressed in a suitable die into lateral ears.

Figs. 3, 4, and 5 represent a machine for manufacturing spikes according to my invention. A multiple die is shown the separate

cheeks or plates *a* of which are each arranged for making two spikes, as shown by Fig. 3. The die is formed with a number of cheeks or plates *a*, and the punch with a number of projections *b*, arranged opposite the interstices between the cheeks *a*. When the profiled bar C has been placed upon the die, the punch is brought down by means of suitable mechanism with great force and punches out a series of spikes. The cheeks or plates *a* are made of the same thickness as the breadth of the spikes, so that there will be no waste, the material remaining on the top of the die being likewise a series of similar spikes to those punched out. The mechanism for actuating the punch may be arranged in any suitable

ordinary way as used for heavy punching-machines or forging-presses.

What I claim, and desire to secure by Letters Patent of the United States, is—

In a machine for severing a blank into nails or spikes, the combination with a fixed and a movable die having alternate projections and depressions adapted to register with each other, the surfaces of the projections and depressions of one of said dies being serrated to impart their contour to the nails or spikes while being severed, substantially as set forth.

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Witnesses:

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