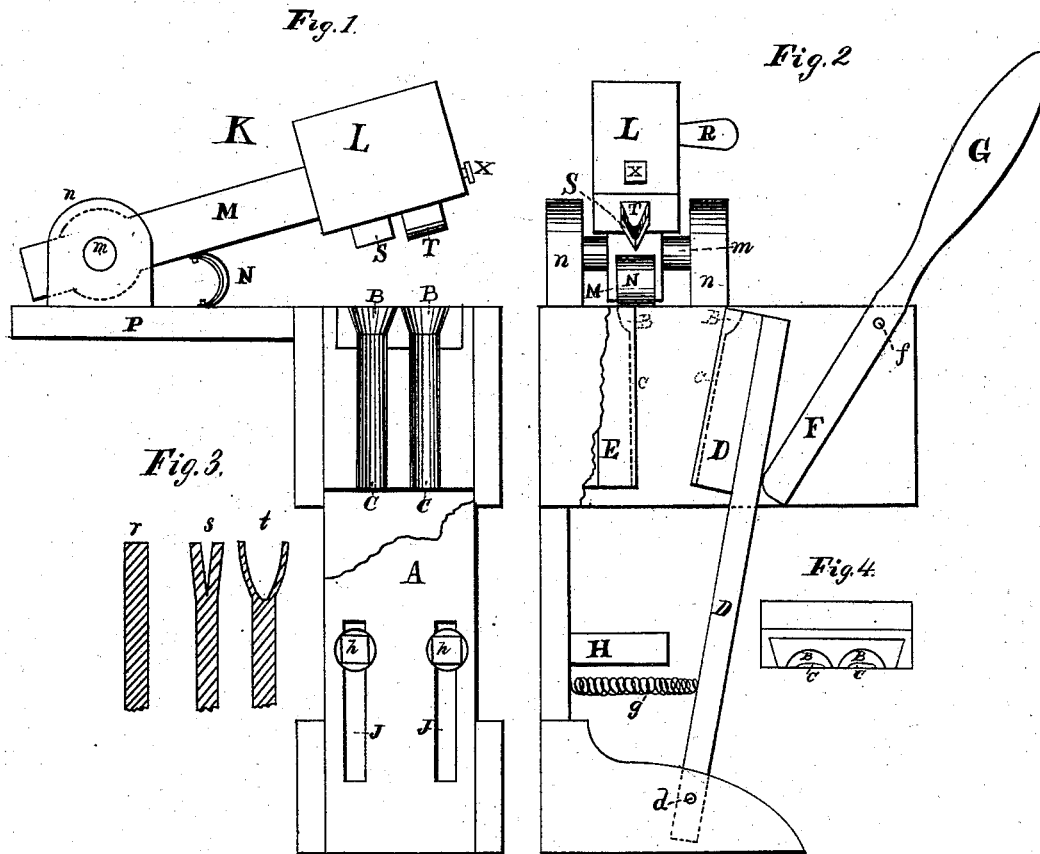


G. M. PETERS.  
Machine for Splitting the Ends of Rods.  
No. 215,539.                      Patented May 20, 1879.



Attest  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR SPLITTING THE ENDS OF RODS.

Specification forming part of Letters Patent No. **215,539**, dated May 20, 1879; application filed December 11, 1877.

*To all whom it may concern:*

Be it known that I, GEORGE M. PETERS, of Columbus, county of Franklin, State of Ohio, have invented certain new and useful Improvements in Machines for Splitting the Ends of Metal Rods or Bars, of which the following is a specification.

My invention provides a machine, more particularly hereinafter described, whereby the end of a rod may be split and peened.

The advantages resulting from the use of my invention over the old method are, first, that much time is saved in the operations of splitting and peening the rods, as these operations are performed in fully one-half of the time necessarily employed in the old method; secondly, a great improvement in results is obtained, as the ends of the rods peened in the method employed by me are of a uniform shape, while the ends of the rods peened by the hand method display a great lack of uniformity as to general shape, thickness, and depth of opening.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my invention, the upper portion of the side being broken away to show the recesses wherein the metal rod is held while its end is split and peened. Fig. 2 is an elevation of that end of the machine which is at the right hand in Fig. 1, a portion of the front being broken away to disclose the arrangement of devices whereby the rod can be introduced into the dies, held therein, and afterward released.

In Fig. 3, *r* represents the end of a rod before being introduced into the machine; *s*, the end of a rod as split but not peened; and *t* the end of a rod as split, peened, and finished by my machine.

A represents the frame of the machine. The dies B open down into hollow shanks C, one section of the same being in the frame of the machine, and the other in the oscillating holder D. Each shank is likewise divided in two sections, the section, as in the case of the dies, being a central vertical section in the plane of the length of the machine. The bottom of each die is a little below the lower termination of the bowl of the die. These dies are kept in place by being set into dovetail grooves in their respective holders, as shown in Fig. 4, and may be

taken out for repair, &c., or so that others of a different size or shape may be substituted.

The holder D is capable of oscillation on a pivot, *d*, in the lower portion of the frame, and is so arranged that its face can be brought against the opposing part E by means of lever F, the lower end of which impinges against said holder.

When the lever F is elevated it operates to close the holder D against portion E and to retain it there. This lever is fulcrumed on a pivot, *f*, on which it oscillates, and is worked by its handle G, which extends on the other side of pivot *f*.

A spring, *g*, compressed between the lower portion of the shank of the holder and the opposite side of the frame, tends to cause the holder to open away from part E whenever the pressure of lever F is removed.

One-half of each die and shank is in the part E, and the other half of each is in the holder D, so that when the holder D is brought against part E each die and shank is rendered complete.

A rest, H, extends laterally out from the side of the frame and underneath the dies, so as to form a support for the rod during the operation of splitting and peening it, and also, where rods of equal length are being worked, to bring the end of the rod into position to be operated on. The height of this rest is regulated by the two adjusting-screws *h*, each passing through a washer and a vertical slot, J, and screwing into the end of the rest, the washer of each screw being considerably larger than the slot, so that when the screw is tightened the frame is pinched between the head of the screw and the rest, and the rest thus secured at the desired point.

On top of the machine is a weighted hammer, K, having a head, L, and a shank, M, the rear end of which is pivoted at *m* in and between a pair of journal-blocks, *n*, supported on a platform, P, attached to and forming a part of the frame of the machine. A spring, N, interposed between the handle and the platform, serves to keep the head of the hammer elevated when the pressure of the hand of the operator is removed.

A handle, R, in the side of the hammer-head L enables the operator to depress the same at

will. In the bottom or face of the hammer is a splitting-chisel, S, and a peening-tool, T, both of which are secured in position by the set-screw X.

In operating the machine, the rest H is first adjusted, so that when the lower end of the rod or bar to be worked sits upon the rest the upper end is about flush with the top of the dies. The heated rod is then placed upright upon the rest in the half of the die in part E which is beneath the splitting-chisel, and, the handle of the lever being depressed, the holder D is brought up against E and wedged in position. The hammer is then quickly depressed, and the blow splits the end of the rod. The lever F is depressed, and the holder, being pressed by the spring, flies back from part E, and the rod is moved forward, so that, while resting on rest H, it shall fit in the half of the hollow shank and die under the peening hammer or tool T. The lever F is again raised and the rod held firmly in position. The head of hammer K, which, being released from the pressure of the hand of the operator, has, through the agency of spring N, been raised to its first position, is again brought down, preferably twice. The peening-tool will thuspeen the end of the rod, and the operation is completed. The lever F being depressed, the holder is retracted and the rod is removed to make place for another rod, which is split and peened in like manner.

If desired, the splitting-chisel and its ac-

companying die and shank may be dispensed with, as the peening-tool will split the rod and peen it also; but, as the work is not usually as perfectly done in this way, I prefer to employ both a chisel and peening-tool.

The shanks C are to steady the rod while its end is split and peened; but they may be omitted without rendering the machine inoperative.

In working short straight rods, the holder D will not be needed, and the dies need not be split, but may be of one piece, and the rods to be worked could be introduced and withdrawn through the top of the die; but the holder D is necessary where the rods or bars to be split and peened are of such a shape as to prevent their introduction or withdrawal through the drop of the dies.

What I claim as new and useful, and desire to secure by Letters Patent, is—

1. The combination of the hammer K, provided with peening-tool T, die B, portion E, and holder D, spring g, lever F, and rest H, substantially as and for the purposes specified.

2. The combination of hammer K, provided with the peening-tool T, chisel S, dies B, portion E, and holder D, spring g, lever F, and rest H, substantially as and for the purposes specified.

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Attest:

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