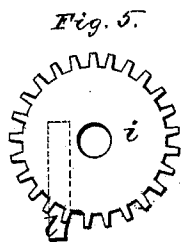
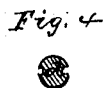
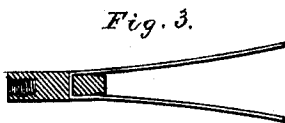
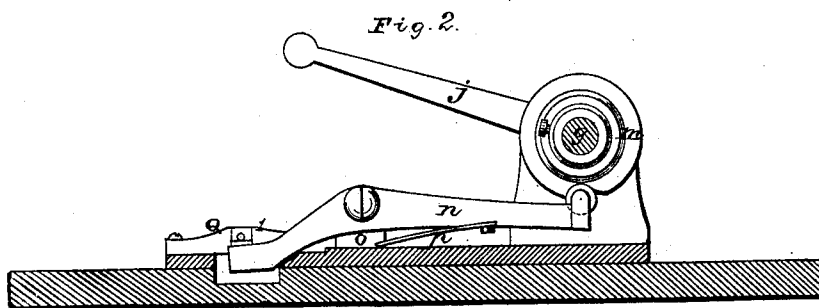
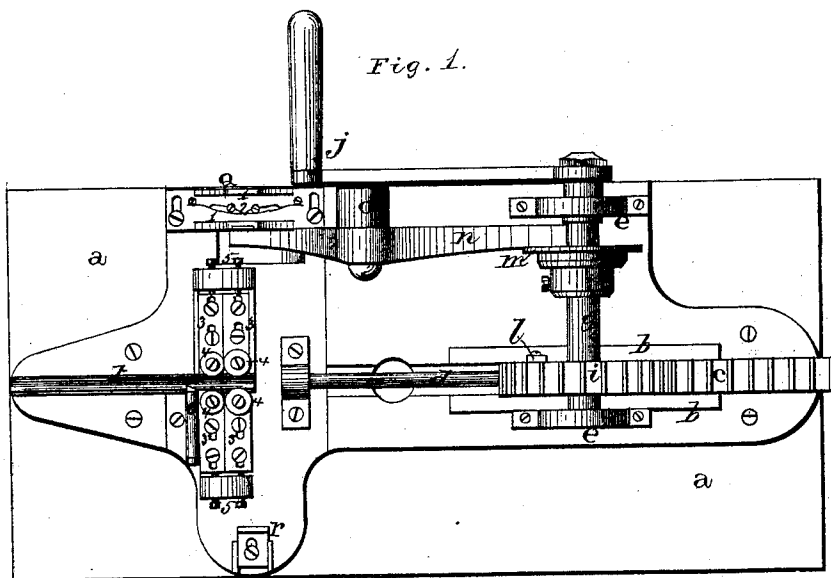


A. G. RISLEY.

WIRE CUTTING AND BENDING MACHINE.

No. 175,302.

Patented March 28, 1876.



WITNESSES.

Wm. Garner,
F. M. Burnham.

INVENTOR.

A. G. Risley
per
F. W. Lehmann, Atty.

UNITED STATES PATENT OFFICE

ARTHUR G. RISLEY, OF ILION, NEW YORK.

IMPROVEMENT IN WIRE CUTTING AND BENDING MACHINES.

Specification forming part of Letters Patent No. **175,302**, dated March 28, 1876; application filed January 13, 1876.

To all whom it may concern:

Be it known that I, ARTHUR G. RISLEY, of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Machines for Cutting and Bending Wire; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in machines for cutting and bending wire, for making gun-wipers, chimney-cleaners, &c.; and it consists in the arrangement and combination of parts, that will be more fully described hereinafter, whereby the wire is cut the proper length, and then, after being passed through the butt, is bent and straightened, ready to have the hair inserted, and then twisted.

The accompanying drawings represent my invention.

a represents the bed-plate of the machine, which may be of any suitable form and construction. Upon this plate are formed the two guides, *b*, between which moves the rack-bar *c*, that is secured to the rear end of the plunger *d*. Near the rear end of the bed-plate are the standards *e*, which form the bearings for the shaft *g*, to which is secured the operating-handle *j*. On this shaft are placed the cog-wheel *i*, which operates the rack-bar and plunger, and is provided with a suitable stop, *l*, and the cam *m*, that bears down upon the end of the cutting-lever *n*. This lever *n* is pivoted to the side of the bearing *o*, and is provided with a flat spring, *p*, on its under side, for forcing down the cutting-end below the point where the wire passes through the inner side of the plate *q*. This plate is slotted at each end, so that it can be adjusted back and forth, and has the flanges *1* raised upon its top edges, through which flanges are made the holes through which the wire is fed, and straightened as it is passed through. Between these flanges are the dogs *2*, made as here shown or in any other manner, so as to

let the wire be freely fed forward, but will not let it slip backward. Upon the opposite side of the bed-plate is the sliding adjustable stop *r*, for regulating the length of the wire to be cut off.

Upon the top of the bed-plate, on each side of the long grooved guide *l*, are placed two or more slotted plates, *3*, each one of which carries a roller, *4*, having either a grooved or a straight side. By means of the set-screws *5* these rollers can be adjusted to suit different-sized butts.

Outside of the rollers is placed a spring-catch, *6*, which catches behind the wire after it has been forced in between the rollers, and prevents it from being drawn back with the plunger as it is being withdrawn.

The wire is passed through to the proper length, cut off, passed through a butt, and the long end of the butt pushed back between the two first rollers, when the plunger *d* is forced forward, which drives the butt on through between all the rollers. The wire, in being forced through with the butt, is bent, as shown, and compressed tightly down into the grooves in the side of the butt and in the plunger, the grooves in the side of the plunger serving to straighten the wire out. After the wire has thus been put in the butt it is ready to be taken to the twisting-machine, where the bristles are inserted and the wires twisted, so as to hold them in position, when it is ready for the trimming-machine, where it is finished. By screwing a handle into the hollow end of the butt it is ready for use.

Having thus described my invention, I claim—

1. The combination of the wheel, rack-bar, plunger, and one or more sets of rollers, whereby the wires are bent in the butts, substantially as shown.

2. In combination with the rollers and plunger, the spring-catch *6*, substantially as described.

3. The combination of the slotted slides, carrying the rollers, with the adjusting set-screws, substantially as set forth.

4. The combination of the plunger, rollers, and grooved guide, substantially as specified.

5. The combination of the cutting-lever with the plate *g*, having the flanges 1, substantially as shown and described.

6. The combination of the plunger and operating-wheel with the cam *m*, cutting-lever *n*, rollers 4, and guide *l*, whereby the wire is measured, cut, and bent at the same motion, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of December, 1875.

ARTHUR G. RISLEY.

Witnesses:

GEO. H. MCCRAITH,
PETER MARHAVER.