No. 812,779. PATENTED FEB. 13, 1906.

R. E. ACKLEY.

WIRE BENDING MACHINE.

APPLICATION FILED AUG. 12, 1905.

Fig. 1.

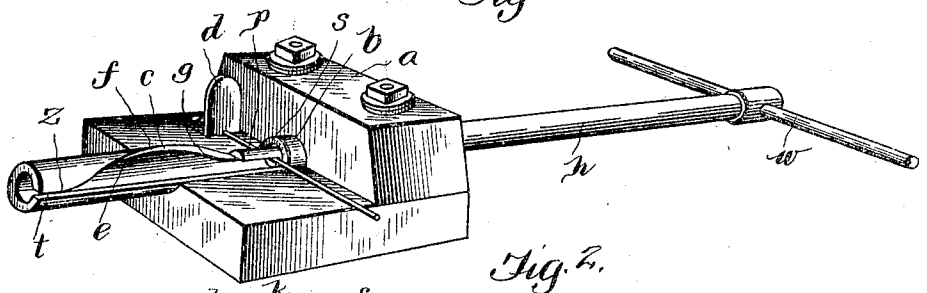


Fig. 2.

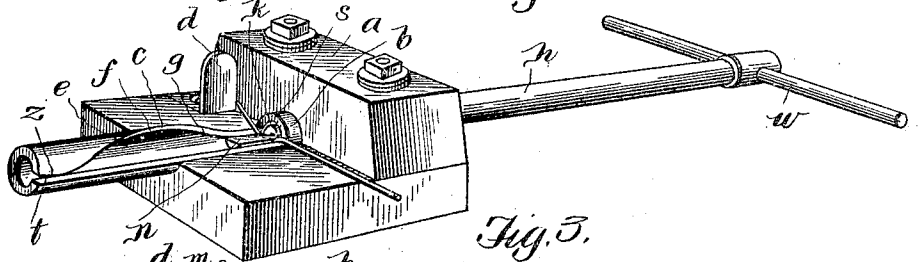


Fig. 3.

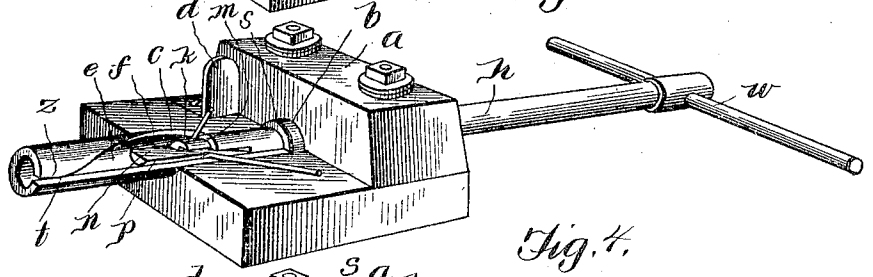


Fig. 4.

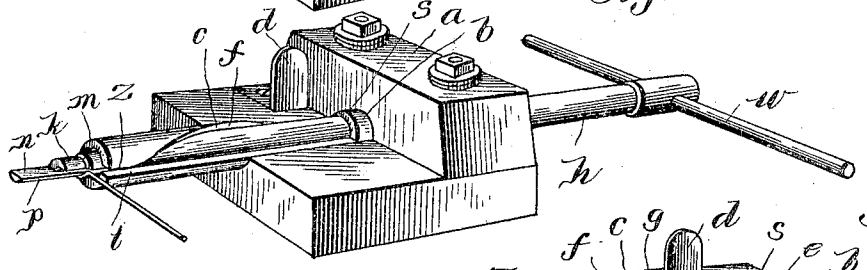


Fig. 5.

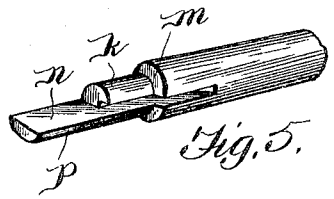
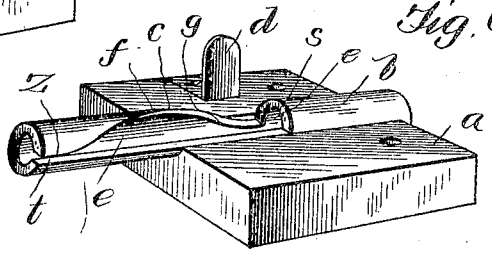


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

RAYMOND E. ACKLEY, OF ROCKFORD, ILLINOIS, ASSIGNOR OF ONE-HALF TO ALBERT E. HIX, OF KINGSTON, ILLINOIS.

WIRE-BENDING MACHINE.

No. 812,779. Specification of Letters Patent. Patented Feb. 13, 1906.

Application filed August 12, 1905. Serial No. 273,894.

To all whom it may concern:

Be it known that I, RAYMOND E. ACKLEY, a citizen of the United States, and a resident of Rockford, in the county of Winnebago and State of Illinois, have made a certain new and useful Invention in Wire-Bending Machines; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of my invention with parts in position occupied at the start. Fig. 2 is a similar view with parts in position occupied for the initial bend. Fig. 3 is a similar view with rod *h* moved slightly forward to start the closing of the eye in the wire. Fig. 4 is a similar view with rod *h* moved forward to complete the closing of the eye in the wire. Fig. 5 is a detail perspective view of the rod *h* and its mandrel extension partly broken away. Fig. 6 is a detail perspective view of the guide *b* and its cam extension.

The invention relates to wire-bending mechanism; and it consists in the novel construction and combinations of parts as hereinafter set forth.

The object of the invention is to provide simple and practical mechanism for bending wire or strips of metal in loop form and discharging the product in a continuous manner.

In the accompanying drawings, illustrating the invention, the letter *a* designates framework to which is connected a tubular guide *b*, having a longitudinally-open cam extension *c*. Opposite the commencement of this extension at the semicircular shoulder *s* of the guide is located an adjustable stop or gage *d*. The axial extension *c* is tubular, and its longitudinal opening *e* is provided with a spirally-extending margin *f*, which is connected to the interior tubular surface of the extension by a rounded surface, as at *g*. The other margin *z* of the opening *e* is usually straight, and the opening gradually decreases from half the circumference of the tube at the shoulder *s* to a narrow lateral slot *t* at the end of the tubular extension. In power-machines both margins of the opening *e* may be made in cam form.

Engaging the tubular guide *e* is the rod *h*, which is designed to have motion of reciprocation through said tubular guide and its extension. This rod has a continuation or mandrel *k* of smaller diameter, such mandrel joining the rod at its shoulder *m*, which is annular. The mandrel *k* is provided with a cam end *p*, having a flattened guide-face *n*, whereby the wire or strip to be bent is guided transversely to the gage. The flattened cam end *p* joins the mandrel at a terminal shoulder *s*, and while its guide-face *n* is plane its opposite surface is similar to that of the mandrel portion of which it is a continuation.

In operation the rod *h* is by means of its lever *w* pushed through the tubular guide *e* sufficiently to bring the guide-face *n* of the cam end *p* opposite to the gage when the end of a pliable wire or strip is fed transversely under the plane face of said cam end until it touches said gage. The rod being then turned half around is given motion of reciprocation, and its annular shoulder *m* engages the bent portion of the wire or strip which is carried by the rod along the interior of the tubular forming or bending extension *c* in such wise that the bend of the wire or strip is by means of the spiral margin or cam edge of the opening *e* completed around the mandrel *k* of the rod. The wire or strip with the bend duly formed is then discharged through the end slot *t*.

In the operation above described it is apparent that the initial bend of the wire or strip is made by the partial rotation of the cam end of the mandrel and that such initial bend is required in order to enable the wire or strip to engage the mandrel *k* and the annular shoulder *m* of the rod. Thereafter the work is performed by reciprocation of the rod through the action of the mandrel, the rod-shoulder, and the cam extension of the tubular guide.

Having described the invention, what I claim, and desire to secure by Letters Patent, is—

1. In mechanism for bending wire, the combination with a rod having a mandrel extension from an annular shoulder, of a gage, and a tubular guide having an axial extension provided with a longitudinal opening having a cam-margin and terminating in a discharge-slot, substantially as specified.

2. In mechanism for bending wire, the combination with a rod having a mandrel extension from a shoulder, and means for making

an initial bend in the wire, of a gage or stop, and a tubular guide having a cam extension terminating in a discharge-slot, substantially as specified.

3. In mechanism for bending wire, the combination with a rod having a mandrel extension and means for making an initial bend in the wire, of a gage or stop, a tubular guide having a cam extension terminating in a discharge-slot, and means for giving motion of reciprocation, substantially as specified.

4. In mechanism for bending wire, the combination with a rod having a mandrel extension provided with a flattened cam extension, of a gage or stop, and a tubular guide having a longitudinal opening provided with a cam-margin and terminating in a discharge-slot, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

RAYMOND E. ACKLEY.

Witnesses:

A. E. FISHER,

BLANCHE PARDRIDGE.