(No Model.)

# G. C. BAKER.

## WIRE BARBING MACHINE.

No. 261,123. Patented July 18, 1882.

Fig. 2

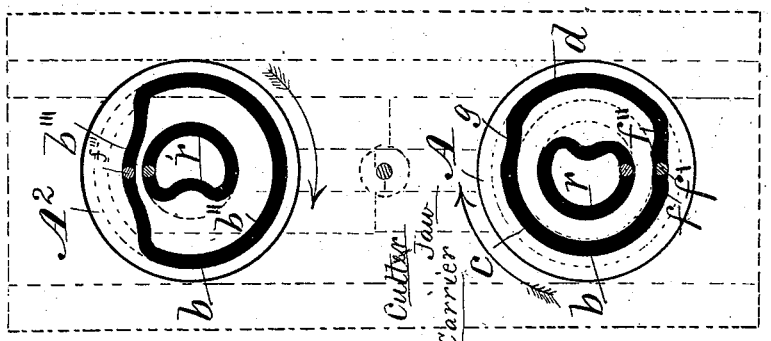
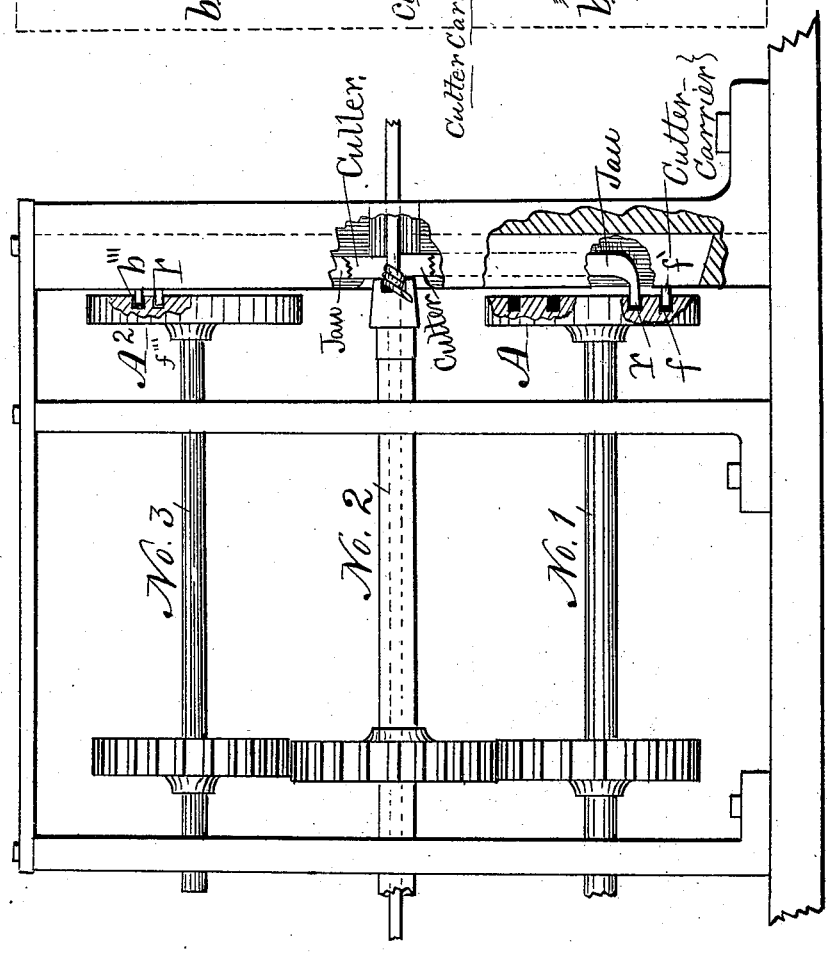



Fig. 1




Witnesses:
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# UNITED STATES PATENT OFFICE.

GEORGE C. BAKER, OF DES MOINES, IOWA.

## WIRE-BARBING MACHINE.

SPECIFICATION forming part of Letters Patent No. 261,123, dated July 18, 1882.

Application filed December 8, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE C. BAKER, of Des Moines, in the county of Polk and State of Iowa, have invented an Improvement in Wire-Barbing Machines, of which the following is a specification.

My invention is an improvement of my machine patented November 22, 1881, No. 249,735; and it consists in forming duplex cam-wheels and arranging and combining them with the driving mechanism, the cutter-carriers, and reciprocating wire-holding jaws, as hereinafter set forth, for the purpose of operating the cutters and jaws in concert with each other and imparting independent intermittent rectilinear motions to the cutters and jaws at regular intervals by means of the continuous rotary motions of the driving-shafts to cut off one barb-piece at a time. In the machine referred to the upper carrier and its cutters are adjustably fixed to the post, and the lower carrier and cutters are jointly operated by means of a rock-shaft, and the reciprocating wire-holding jaws are operated by means of rotating cams; and by the use of my improvement I dispense with said rock-shaft and impart intermittent reciprocating motions to both the upper and lower cutter-carriers and their cutters to cut off the barb-pieces in succession.

Figure 1 of my accompanying drawings is a side view of a section of my improved machine. Fig. 2 is a face view of the duplex cam-wheels, in which their positions relative to each other and the post that supports the cutter-carriers, cutters, and jaws are indicated by dotted lines. Together these figures clearly illustrate the construction and operation of my complete improvement.

Nos. 1 and 3 (shown in Fig. 1) are the driving-shafts, to the ends of which my duplex cam-wheels are rigidly fixed. No. 2 is the tubular shaft, through which the fence wire or cable is advanced, and upon the end of which is fixed the head or barb twister *s*.

A is one of my duplex cam-wheels fixed to the end of the shaft No. 1. It has a groove, *r*, in the central portion of its side face that is adapted to perform the same function that the jaw-operating cam on the same shaft performs in my automatic machine above referred to.

*b* is an irregular groove surrounding the groove *r*. It consists of two semicircles, *c* and *d*, that are concentric with the wheel, but at different distances from its center, and connected by short eccentric bends in the continuous groove.

*f* is a short inward bend, by means of which the lower cutter-carrier is pushed upward through the medium of the stud *f'*, projecting from the cutter-carrier, at the precise point of time that the wire barb-pieces are to be cut off.

*f''* is an outward bend that connects the semicircle *c* and bend *f* with the semicircle *d*, and serves to depress the cutter-carrier by conducting the stud *f'* into the semicircle *d*, to remain therein while the wheel makes about one-third of a revolution, and by means of the groove *d* and stud *f'* keeps the cutter-carrier and cutters depressed long enough to allow the barbed wire or cable to be advanced and brought into proper position to receive another barb.

*g* is a short eccentric bend in the continuous groove that connects the semicircular and concentric sections *c* and *d*, and serves to elevate the cutter-carrier at the proper time to be retained in an elevated position by the section *c* until the wheel makes about half a revolution and the ends of the barb-wires are again coiled upon the fence-wire and in proper position to be cut off by the upward pressure occasioned by the short bend *f*.

$A^2$ is my duplex cam-wheel fixed to the end of the shaft No. 3. It also has a continuous and irregular groove, *r'*, corresponding in form and function with the groove *r* in the wheel A, for the purpose of operating the upper reciprocating jaw.

*b'* is a continuous groove in the side face of the wheel, and consists of a concentric section, *b''*, and an eccentric section, *b'''*, and serves, in combination with a stud, *f'''*, projecting from the cutter-carrier, to actuate the upper cutter-carrier in concert with the lower cutter-carrier, as required to cut off the barb-pieces at regular intervals of time.

From the foregoing detailed description of my improvement and the functions of the various parts thereof the unitary action of the duplex cam-wheels, the rotating driving-shafts, the reciprocating cutter-carriers and jaws is obvious, and a repetition of the practical op-

erations of the complete machine is deemed unnecessary.

I claim as my invention—

In a wire-barbing machine, the combination of the cam-wheel A, having continuous grooves *r* and *b c d f g*, the cam-wheel $A^2$, having continuous grooves *r* and *b' b'' b'''*, the rotating driving-shafts Nos. 1 and 3, and reciprocating cutter-carriers and jaws sliding in a fixed post, and provided with studs to engage the grooves in the cam-wheels, substantially as shown and described, to operate in the manner set forth, for the purposes specified.

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