

(No Model.)

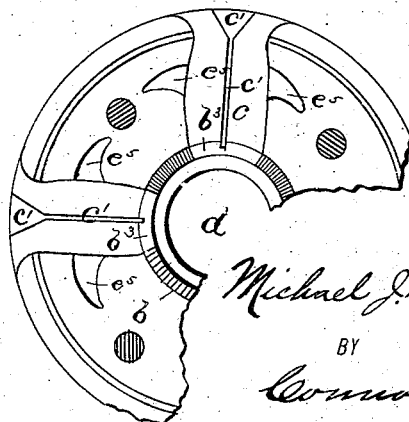
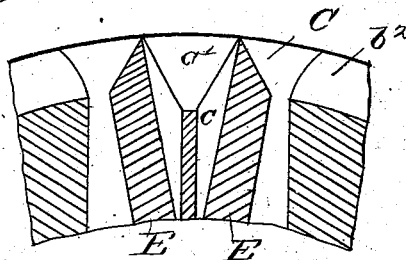
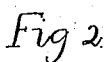
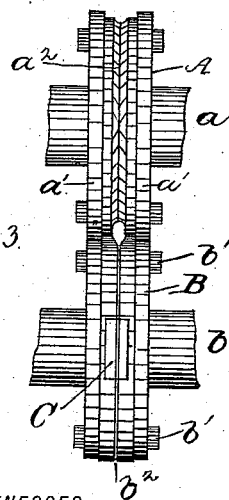
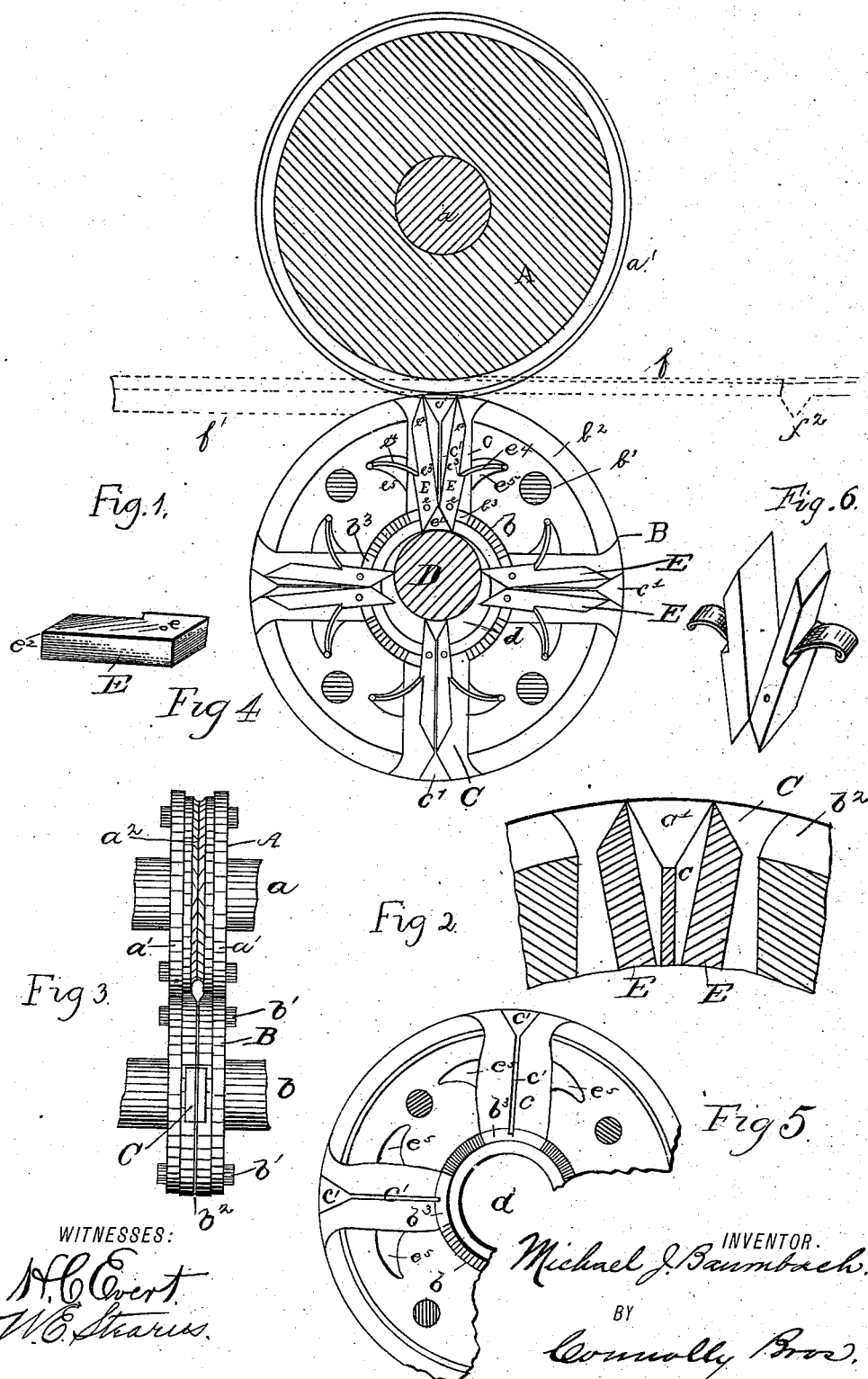
2 Sheets—Sheet 1.

M. J. BAUMBACH.

ROLLS FOR MAKING BARBED WIRE.

No. 381,320.

Patented Apr. 17, 1888.



WITNESSES:

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W. E. Stearns

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(No Model.)

2 Sheets—Sheet 2.

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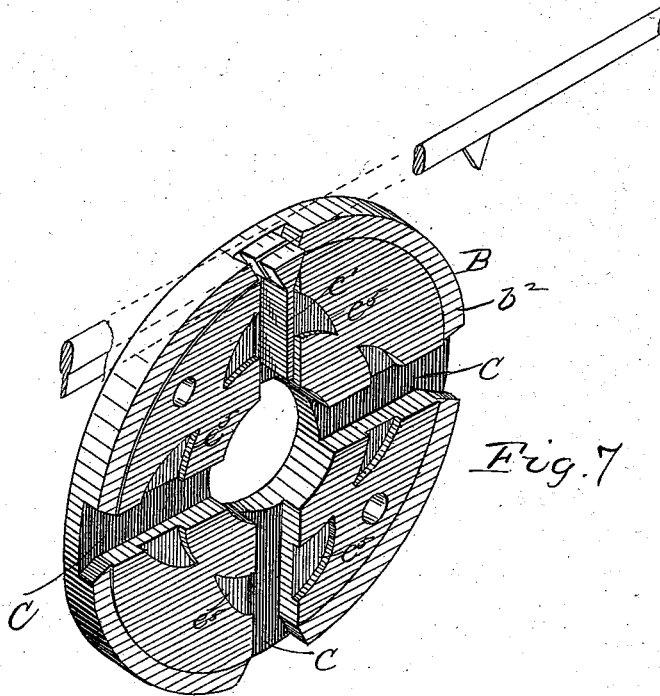


Fig. 7

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UNITED STATES PATENT OFFICE.

MICHAEL J. BAUMBACH, OF PITTSBURG, PENNSYLVANIA.

ROLLS FOR MAKING BARBED WIRE.

SPECIFICATION forming part of Letters Patent No. 381,320, dated April 17, 1888.

Application filed April 5, 1887. Serial No. 233,744. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL J. BAUMBACH, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rolls for Rolling Barbed Wire; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification.

This invention has relation to rolls for rolling barbed wire, and has for its object the provision of means for producing by the operation of rolling a continuous strip or strand of metal having integral teeth or barbs at intervals and without the formation of any waste or scrap whatsoever.

My invention consists in the provision of a pair of rolls adapted to operate upon a previously-prepared flat strip of metal having a bead at one edge, one of said rolls being provided with cutters and means for causing said cutters to advance from the center to the periphery of the roll, and thereby cut away the web of the strip, leaving the barb or tooth, the metal of the web between the teeth being upset or pressed into the body of the strip by the surface of the roll between the cutters.

My invention further consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed.

Referring to the accompanying drawings, Figure 1 is a vertical sectional view of a pair of rolls constructed according to my improvements; Fig. 2, an enlarged section of a portion of the lower roll of Fig. 1; Fig. 3, an elevation looking at the edges of the rolls; Fig. 4, a perspective view of one of the cutters; Fig. 5, a face view of a portion of one of the lower rolls. Fig. 6 is a perspective view of one of the sections of the lower rolls, the cutters and springs being omitted.

A designates the upper, and B the lower, roll of a pair of rolls mounted on shafts journaled in suitable housings and driven by the usual gearing. (Not shown.) The upper roll, A, is mounted upon a shaft, *a*, and is formed with peripheral flanges *a'* *a'* and a V-shaped groove, *a''*, and said roll may consist either of a single piece of metal or it may consist of

two sections suitably secured together. B designates the lower roll, which consists of two disk-like sections fixed upon a hollow shaft, *b*, and secured together by bolts *b'* *b'*. The two sections of which the roll is composed have each of their adjoining faces slightly cut away for a short distance in from the edge, so that when joined together a slit or slot, *b''*, is left. Each of the sections of the roll B is formed with a series of radial wide grooves, C C C, which spread out at their outer ends, and in each such groove is a tongue, *c*, and a head, *c'*, the said tongues and heads being made integral with the sections of the roll, or attached thereto, as desired. The heads *c'* are cut away on their adjoining faces, so that the slit *b''* is continued through the heads *c'* *c'*. The hollow shaft *b*, upon which the lower roll is mounted, surrounds a stationary shaft, D, which has a cam-groove, *d*, cut in it, and the hollow shaft *b* has holes *b''* *b''* coinciding with the grooves C C of the roll, and through these holes project the ends of the cutters which operate to form the barb upon the strip of metal, as will be presently described. The cutters fit in the cam-groove *d* and rest upon the bottom of said groove, and as the roll revolves are in succession forced out toward the periphery of the roll. The said cutters consist each of a pair of similar jaws, E E, pivoted to a tongue, *e'*, at *e e*, and having wedge-shaped cutting ends *e''* *e''*. Each of the jaws E E is formed with a shoulder, *e''*, upon which bears the end of a spring, *e'*, seated in a cavity, *e''*. The jaws E E embrace the tongue *e*, and when the cutters are forced out by the action of the cam-groove *d* the said jaws are spread apart by the triangular head *e'*.

In Fig. 1 of the drawings the jaws at the top of the lower roll are shown in their projected position, while the jaws at the bottom are in their retracted position, the springs *e'* *e'* always tending to press the jaws into contact with the bottom of the cam-groove *d*.

Operation: The strip of metal, which has been previously rolled to the appropriate form and size, and is shown in Figs. 1 and 2 as passing through the roll, consists of a strip having a bead, *f*, at one edge and a web, *f'*. This strip being presented to the rolls, the web *f'* fits into the slot or slit *b*. As the rolls revolve, and when one of the removable cut-

ters comes to the top of the roll, the web of the strip passes in between the heads *c'*, and the cutting-jaws *E E*, rising up on each side, cut into the web, leaving a triangular tooth or barb, *f*². As the rolls continue to revolve, and the substance of the web back of the tooth having been upset, the web will not enter the slit *b*, and hence it is upset or forced into the bead *f* until such time as it meets the grooves *C C*, when it again enters between heads *c'*, and another tooth is cut by the next cutter.

The operation is continuous and rapid, and there being no scrap formed there is a consequent saving of metal.

15 Having described my invention, I claim—

1. In rolls for rolling barbed or toothed rods, the combination, with a roll having a slit or slot in the periphery, of movable cutters fitted in radial grooves in said roll, and means
20 for automatically projecting said cutters while the roll is in operation, substantially as described.

2. In rolls for rolling barbed or toothed rods,

the combination, with a roll having a peripheral slit or slot and radial holes, with triangular heads or blocks set in said holes and divided to form a continuation of said slit or slot, of movable cutters and means for projecting said cutters and retracting the same, whereby a strip of metal passing through said
30 slit will have teeth formed upon it by said cutters, substantially as described.

3. In combination with the roll *B*, having radial grooves *C C*, tongue *c*, and head *c'*, and the hollow shaft upon which said roll is
35 mounted, the stationary shaft *D*, having the cam-groove *d*, and the movable cutting-jaws, constructed and arranged substantially as described.

In testimony that I claim the foregoing I have
40 hereunto set my hand this 25th day of March, 1887.

MICHAEL J. BAUMBACH.

Witnesses:

H. C. EVERT,

JOHN F. ATCHESON.