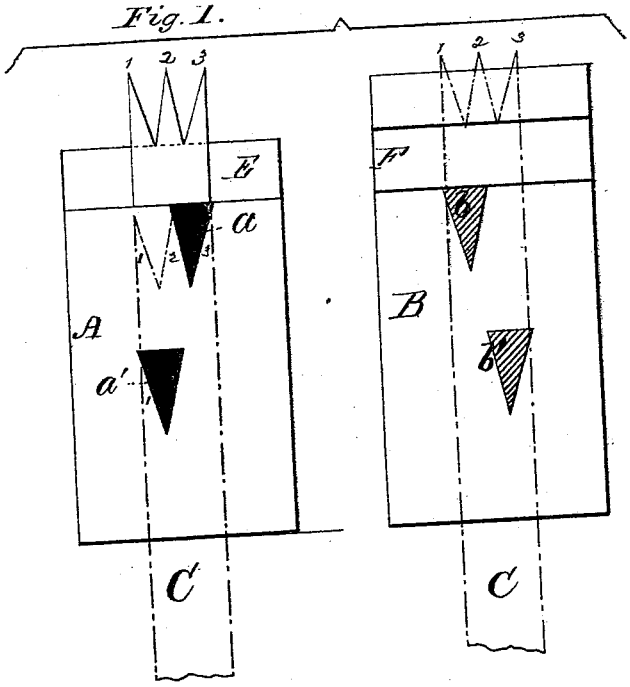
T. B. DOOLITTLE & J. M. ELLIS.

Device for Making Tabs for Wire Fences.

Patented July 20, 1875.

No. 165,661.

*Fig. 1.*

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# UNITED STATES PATENT OFFICE.

THOMAS B. DOOLITTLE AND JAMES M. ELLIS, OF BRIDGEPORT, CONN.

## IMPROVEMENT IN DEVICES FOR MAKING TABS FOR WIRE FENCES.

Specification forming part of Letters Patent No. **165,661**, dated July 20, 1875; application filed March 18, 1875.

*To all whom it may concern:*

Be it known that we, T. B. DOOLITTLE and J. M. ELLIS, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in the Manufacture of Sheet-Metal Barbs for Wire Fences; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this application.

Our invention relates to the manufacture of sheet-metal barbs designed to be applied to wire fences to protect them against the assaults of cattle. It has for its object to produce sharp or needle points; and consists in the construction and arrangement of the punches and dies relative to the strip of sheet metal to be operated upon, so that the heels of the dies and punches will extend beyond the plane in which the extreme points of the blank are formed, as will be hereinafter more fully set forth.

Previous to our invention it has been impossible to form the barbs by a punching-machine, so that their extremities would be sharp or needle like, for the reason that the apex or sharp angle of the punch, being necessarily very fine, they very soon become broken or worn away, so that new dies had to be constantly supplied, and to such an extent as to render their use practically impossible. It has, therefore, only been feasible to form the barbs with a slightly-rounded point, and it has been found from experience that barbs with such points are not efficient, as they do not prick the animals assaulting the fence acutely enough to repulse them. To overcome the objections in this form of barb, as well as the practical objections heretofore existing in the formation of sharp-pointed punches, led us to continued experiments and pecuniary outlay, which has resulted in our present invention.

To enable others to more fully understand our invention, we will proceed to describe the same, referring by letters to the accompanying drawing, in which—

Figure 1 represents a plan view of a punch and die for forming a three pointed barb-blank, and cutting it from the strip, which is represented in dotted lines as lying upon the die in position to have one barb cut off, while the points of the next succeeding one are being completed, with the third barb having one point completed, and the middle one formed on one side, ready to be completed at the next feed of the strip.

Similar letters indicate like parts in the several views.

A represents the die block or bed, and *a a'* the two dies formed therein, one in advance of the other a distance equal to the length of a finished barb-blank, and located each side of the center line so that the inside corner of their heels will pass through said center line to a slight extent. B represents the punch-block, secured to which are two punches, *b b'*, corresponding exactly with the dies *a a'*. C represents a sheet-metal strip of the proper width to form the three points 1 2 3. This strip being fed along intermittently over the dies, and the punches being forced down, a completed barb-blank is formed each time, ready to be cut at its square end, bent ready to be secured around the wire when used.

When the operation of punching is begun, the strip is fed over the die *a'* and up to the line of the base of said die. The punch being brought down, the point 1 is formed, as well as one side of point 2. The strip is now fed the distance equal to the length of a barb, or a distance equal to that from the base-line of die *a'* to the base-line of die *a*, when the punches are again brought down, punch *b* cutting the other side of point 2, and likewise cutting point 3. Another feed of the strip follows, which, while it brings the finished point 1 and partially completed point 2 of the succeeding blank in position to be operated upon, as just explained, also brings the base of the preceding barb in line with the square edge of the die and punch blocks A B, the latter overhanging the former sufficiently to form a cutting-edge, so that it is severed and cut squarely, while, by a suitable extension, E F, of the die and punch blocks, the points 1 2 3 are bent down at right angles to the horizontal plane of the bed. The barbs thus formed are then presented in a proper manner to have their solid ends drawn in the usual manner to adapt them to be placed over the wire and secured.

It will be readily seen that while the inside corners of the heels of the dies *a a'* pass the center line between them, the outside corners of their heels also project the same distance beyond the planes of the outside edges of the sheet-metal strip, the result of which is that the cutting-edges of the dies pass beyond the plane in which the extreme points of the barb lie; or, in other words, the cutting-surfaces of the punches and dies being longer than the oblique sides of the barb-blank, and arranged relatively thereto, as described, the cutting of the blank at the extreme point is in the nature of a shearing cut.

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

The punches and dies for cutting sheet-metal barb-blanks, constructed as described, and so arranged relatively to the sheet-metal strip to be operated upon, as that the points shall be cut and bent, substantially as and for the purposes hereinbefore set forth.

Witness our hands and seals this 15th day day of March, A. D. 1875.

T. B. DOOLITTLE. [L. S.]
JAS. M. ELLIS. [L. S.]

In presence of—
THOS. BARTHOLOMEW,
DAVID T. BEECHER.