(No Model.)

A. P. THAYER.

DIE FOR MAKING BARBED FENCING.

No. 312,404. Patented Feb. 17, 1885.

Fig 1

Fig 2

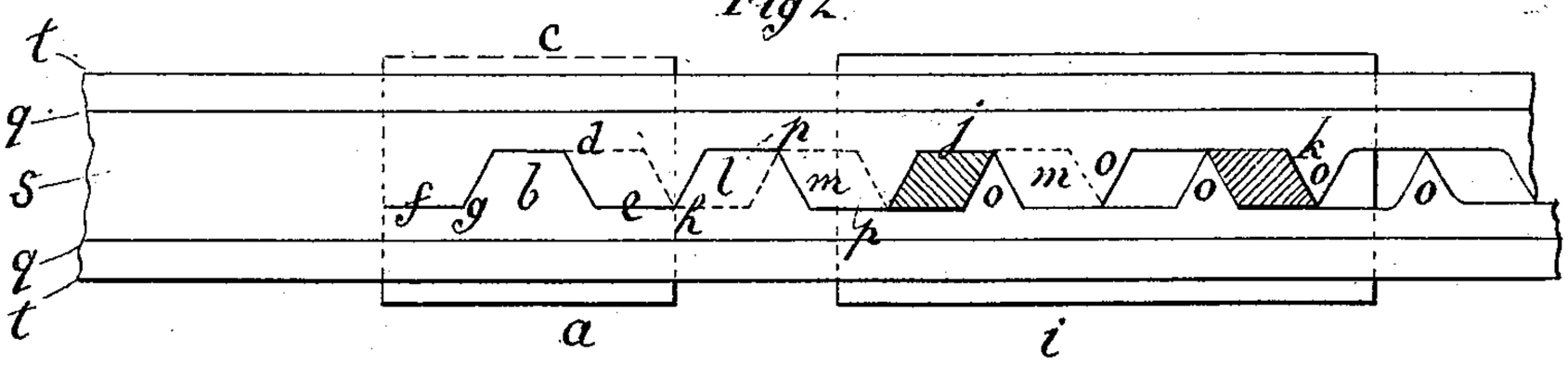


Fig 3

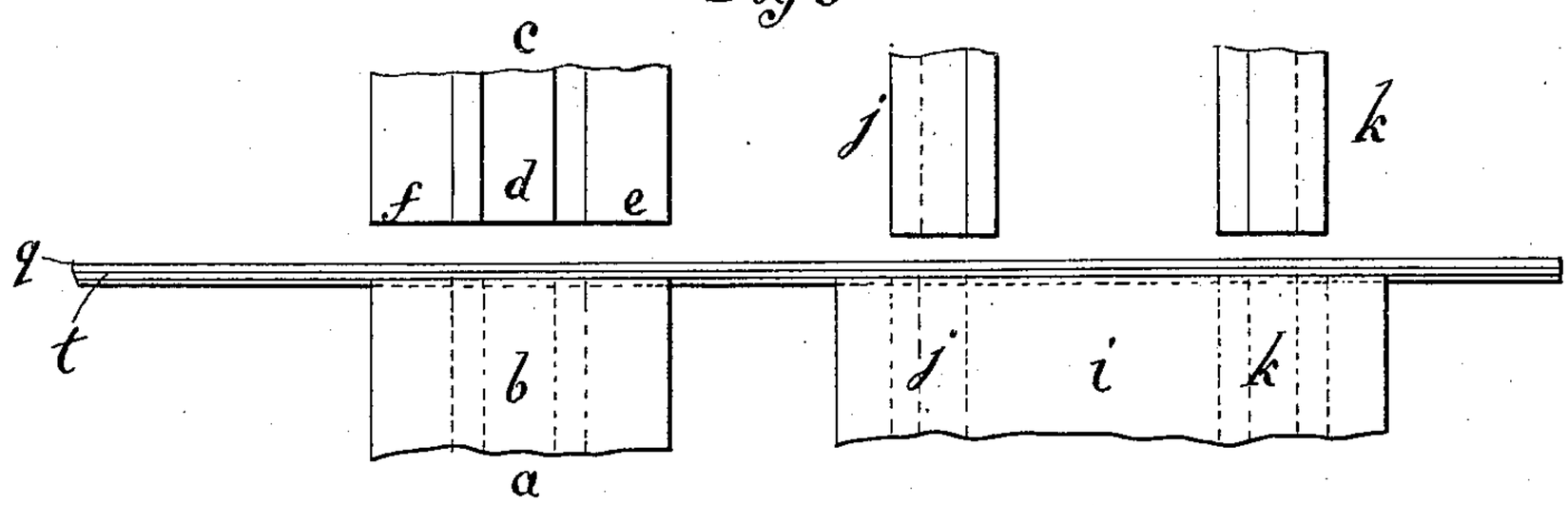


Fig 4

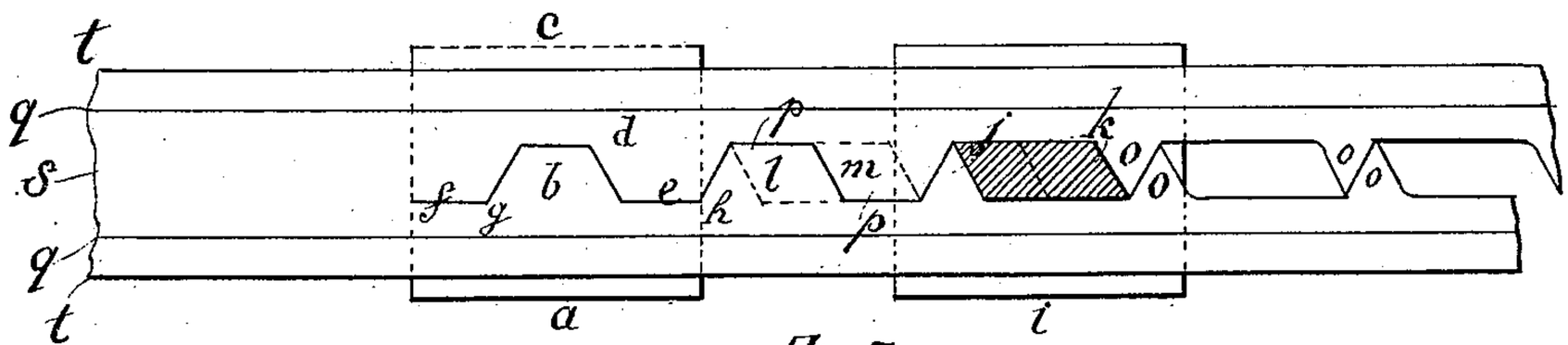
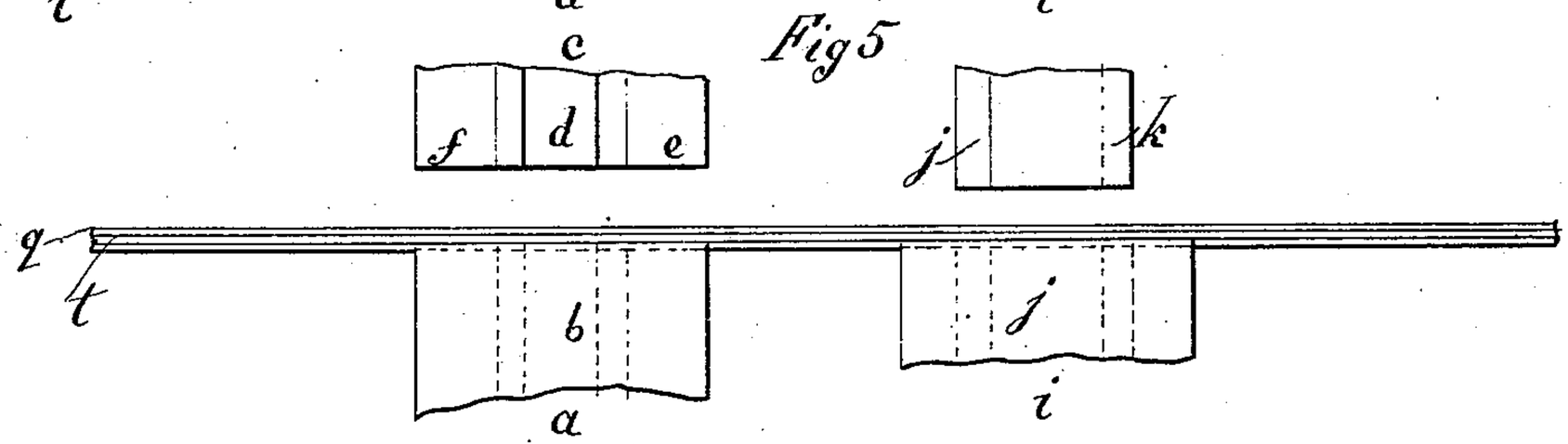


Fig 5



WITNESSES=

S. H. Morgan,

O. J. Morgan.

INVENTOR

Anson P. Thayer

UNITED STATES PATENT OFFICE.

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DIE FOR MAKING BARBED FENCING.

SPECIFICATION forming part of Letters Patent No. 312,404, dated February 17, 1885.

Application filed November 30, 1883. Renewed January 2, 1885. (No model.)

To all whom it may concern:

Be it known that I, ANSON P. THAYER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Dies for Making Barbed Metallic Fencing, of which the following is a specification.

This invention consists of dies adapted to shear apart a double blank strip in a zigzag line and form therefrom two rods having notches and projections containing the material for the barbs and the waste material to be cut away from the barbs; also, dies adapted for punching away said waste material, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a transverse section of the blank strip to be sheared apart and barbed. Fig. 2 is a plan of the shearing-dies and of the bed-die of the punch, also a portion of the fencing-strip partly cut, and a horizontal section of the movable dies of the punch. Fig. 3 is a side elevation of the devices represented in Fig. 2. Fig. 4 is a plan and horizontal section of the dies, also a plan of the fencing-strip, showing a modified form of the punching-dies; and Fig. 5 is a side elevation of the devices represented in Fig. 4.

To shear the strip apart I use one die, *a*, having a rib, *b*, and another die, *c*, having a corresponding groove, *d*, and both dies having the plain faces *e* and *f*, working together, to separate the blank and form the projections *p* alternately on each part for the barbs. The rib and groove *b d* and the projections formed thereby are as wide as one barb to be made and one blank space to be cut away between the barbs when the waste is cut equally from both sides of the barbs; but I propose in some cases to cut the waste alternately with two barbs which are cut together, in which cases the waste is double the length of the portion to be cut from the projections formed by the rib and groove *b d*—that is to say, two portions of waste are cut together and two barbs are also cut together. The faces *e* are equal in width to half the spaces between the barbs, and the width of faces *f* may be the same or less; or faces *e* may be less and faces *f* equal to half of said spaces. The blank strips being fed to the dies *a c* from *g* to *h*, which is a distance equal to the length apart the barbs are to be, will be sheared apart in the zigzag line represented along the dies *a c*. From said dies *a c*, I propose to cause the strip to pass between the punching-dies, consisting of the bed-die *i* and the two punches *j k*, by which the waste pieces *l* and *m* are to be punched out, said punches being arranged separately with separate die-sockets *j'* and *k'* in the die *i*, as in Fig. 3, or together with one die-socket, *j'*, as in Fig. 4. In the first arrangement, the angles of the punches *j k* are converse to each other and punch away the waste equally on both sides of the barbs *o;* but in the other arrangement said punches are parallel and punch away the waste between two alternate barbs formed side by side, said punches being, if preferred, formed together in one device and cutting two measures of waste together. The devices, mode of operation, and results are substantially the same whether punches *j k* are arranged separately or together. The punches *j k* might be placed close together—that is, with their converging angles touching; but the bed-die would have an angle-web between the die-sockets that would not be durable, which makes it better to place them the distance of one feed-movement of the strip farther apart. Punch *j* in Fig. 2 is located the distance of two feed-movements from dies *b d*, and both punches *j* and *k* are the same in Fig. 4; but the punches may be placed farther away from said dies *b d*, if preferred.

The dies *a c* may be made double or treble by increasing them in width and number of ribs and grooves, and the punching-dies may be correspondingly doubled or trebled to increase their capacity, in which case the feed of the blank strips will be accordingly increased in the length of the movements.

The blank strip consists of two parallel cores, *q*, connected by a thin web, *s*, and having outer ribs, *t*.

What I claim, and desire to secure by Letters Patent, is—

The combination, with shearing-dies *a c*,

having rib *b*, groove *d*, and plain faces *e f*, for shearing the blank strip and forming rods therefrom, having alternate projections and notches, as described, of punching-die *i* and punches *j* and *k*, for cutting away the waste portions of said projections and completing the barbs.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ANSON P. THAYER.

Witnesses:
F. A. THAYER,
S. H. MORGAN.