

(No Model.)

T. V. ALLIS.

DIE FOR USE IN MACHINES FOR MAKING METALLIC FENCING.

No. 481,918.

Patented Aug. 30, 1892.

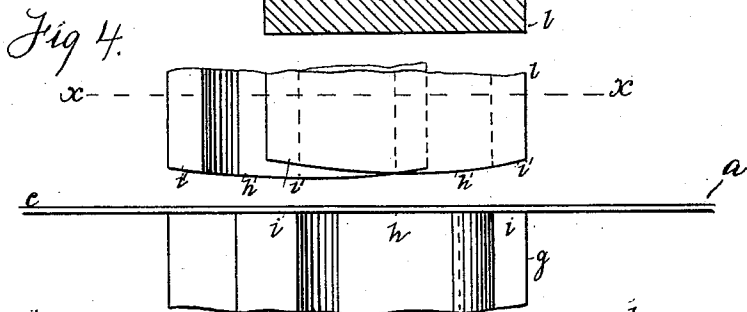
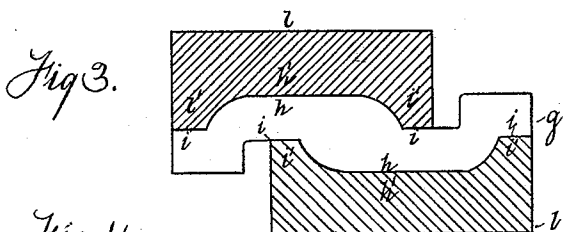
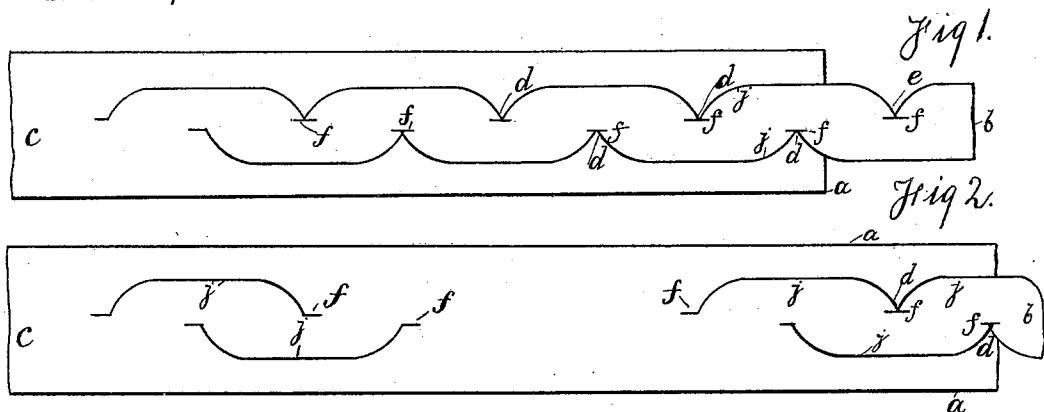


Fig 5.

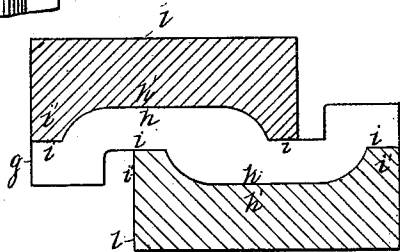
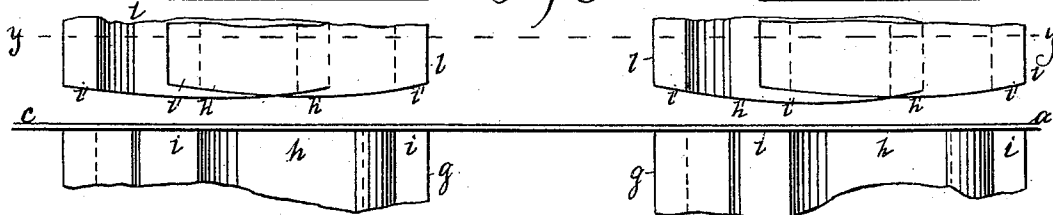


Fig 6.



WITNESSES

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UNITED STATES PATENT OFFICE

THOMAS V. ALLIS, OF NEW YORK, N. Y.

DIE FOR USE IN MACHINES FOR MAKING METALLIC FENCING.

SPECIFICATION forming part of Letters Patent No. 481,918, dated August 30, 1892.

Application filed January 27, 1892. Serial No. 419,377. (No model.)

To all whom it may concern:

Be it known that I, THOMAS V. ALLIS, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented new and useful Improvements in Dies for Use in Machines for Making Metallic Fencing, of which the following is a specification.

My present invention relates to improved contrivances or dies for making metallic fencing-strips, whereby with a blank somewhat wider than that heretofore used in the production of two barbed strips from a double blank strip and with substantially the same amount and character of cutting I produce the like two barbed strips and another plain unbarbed but somewhat ornamental strip in which the surplus metal wasted, as heretofore practiced, is utilized, as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a diagram of the blank strip, illustrating the method of cutting it by the improved dies herein represented for producing the two barbed strips and one unbarbed strip when one pair or set of dies is used. Fig. 2 is another diagram illustrating the method of cutting the blank by the said improved dies when two pairs or sets of dies are used. Fig. 3 represents a face view of the lower die and horizontal section of the upper die of one pair or set. Fig. 4 is a side elevation of the same with the blank strip between them. Fig. 5 represents face views of the lower dies and horizontal sections of the upper dies, as when two pairs or sets are employed, as they may be used for accomplishing twice the amount of work at each operation, the blank strip being fed double the length at each feed movement; and Fig. 6 is a side elevation of the double arrangement of the dies with the blank strip between them.

In Figs. 1 and 2, *a* represents the two barbed strips, and *b* the unbarbed strip, that are to be produced from the blank strip *c*, said barbed strips having A-shaped barbs *d* at intervals along one edge, and the unbarbed strip having notches *e* at intervals along its edges alternately, also a longitudinal slit *f* at the bottom or inner terminal of each notch. To produce these three strips by means of slitting or shearing dies operating by successive cuts on

the blank strips to be fed intermittently to them, I now make a bed-die *g*, having two cutting-edges *h* *i*, one on each side and each overlapping the other in the lengthwise direction of the die-face, so that the parts *h* each terminate opposite the center of the other, said parts *h* being on the plan of the die-face, the shape and dimensions of the notches to be made in the edges of the barbed strips to produce the barbs also being in suitable converse relation to and apart from each other laterally to the strip for so doing their part of slitting the barbed strips from the opposite edges of the intermediate strip by cutting the barbed strips and the intermediate strip apart on the curved lines *j*, forming the notches in the barbed strips between the barbs and also the notches *e* in the edges of the intermediate strip, and the parts *i* of said edges are extensions each way from the ends of the parts *h*, respectively, in a right line parallel with the longitudinal axis of the die-face for cutting the longitudinal slits *f* at the bottom of the notches *e* in the unbarbed strips, and, together with the said bed-die, I provide a punch or movable die in two parts *l*, which will preferably be mounted on one stock, each having its cutting-edge formed in counterparts *h'* and *i'* of the edges of the bed-die and respectively arranged for co-operation with said edges of the bed-die, all practically making two pairs of dies, whereof one pair cuts one barbed strip from one edge of the intermediate strip and the other cuts the other barbed strip from the other edge of the said intermediate strip, substantially the same as is done by the arrangement of two separate pairs of dies which I have represented and claimed in my pending application, filed September 20, 1888, Serial No. 285,919, but differing therefrom in the overlapping contrivance of the two pairs, which I now effect by the employment of the duplex bed-die, with which the movable dies are brought partly opposite to each other and in much shorter space, which enables the cutting to be more in alignment with the strips, said strips being often curved laterally as they come from the rolls. It also facilitates the employment of another similar set of dies in the same range as I have represented them in Fig. 5, wherein it will be seen that by placing the two sets the distance of three notches

of a barbed strip apart and by feeding the strip the length of two notches at each feed movement such two sets may be utilized at the same time to accomplish twice the amount of work in a given time than when only one set is used, the strip being then fed only the length of one notch at each feed movement. The extensions of the cutting-edges at $i i'$ to produce the slits f also serve to allow the convex dies, as seen in Figs. 4 and 6, to shear into the solid metal gradually at the ends of the cuts, so as to avoid distorting the metal. The slits f at the bottoms of the notches on the unbarbed strip are to counteract the tendency of the strip to crack thereat through the concentration of the longitudinal stresses in the bottoms of the notches by opposing a solid or intact edge of the metal at the junction of the sides of the notches.

It is to be understood that the parts h of the cutting-edges are not necessarily formed on the curved lines represented on the face of the bed-die, but may be made in right lines and angles, according as it may be preferred to produce the barbs with straight or curved edges, both forms being common and either alike satisfactory, and I also desire it to be understood that the slits f may be made by other dies in advance of the cutters $h h'$, in which case the extensions $i i'$ may be dispensed with.

I claim—

1. The combination of the duplex bed-die consisting of two notch-cutting edges h , one at each side at a predetermined distance apart laterally and each overlapping the other in the lengthwise direction of the die-face, so that each of said edges terminates opposite the center of the other and being converse to

each other suitably for notching the opposite edges of the intermediate plain strip, and the punches or movable dies having the counterpart edges h' and respectively arranged for co-operation with said edges of the bed-die, substantially as described.

2. The combination of the duplex bed-die consisting of two notch-cutting edges h and slit-cutting edges i , one on each side at a predetermined distance apart laterally and each overlapping the other in the lengthwise direction of the die-face, so that parts h each terminate opposite the center of the other and being converse to each other suitably for notching the opposite edges of the intermediate plain strip, and the punches or movable dies having the counterpart edges $h' i'$ and respectively arranged for co-operation with said edges of the bed-die, substantially as described.

3. The combination of dies for producing two barbed strips and one notched strip from one blank, consisting of two sets of duplex bed and movable dies having notch-and-slit-cutting edges $h i$ and $h' i'$ to cut the strip in two slits, making points on the barbed strips and notches on the other, said two sets of dies being located apart the length of three notches of the barbed strips in the line of the feed movements of the strip, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 26th day of January, 1892.

THOMAS V. ALLIS.

Witnesses:

W. J. MORGAN,
W. B. EARLL.