

(No Model.)

J. H. TEMPLIN.  
DIE FOR USE IN MAKING BARBED FENCING.

No. 450,048.

Patented Apr. 7, 1891.

Fig. 1.

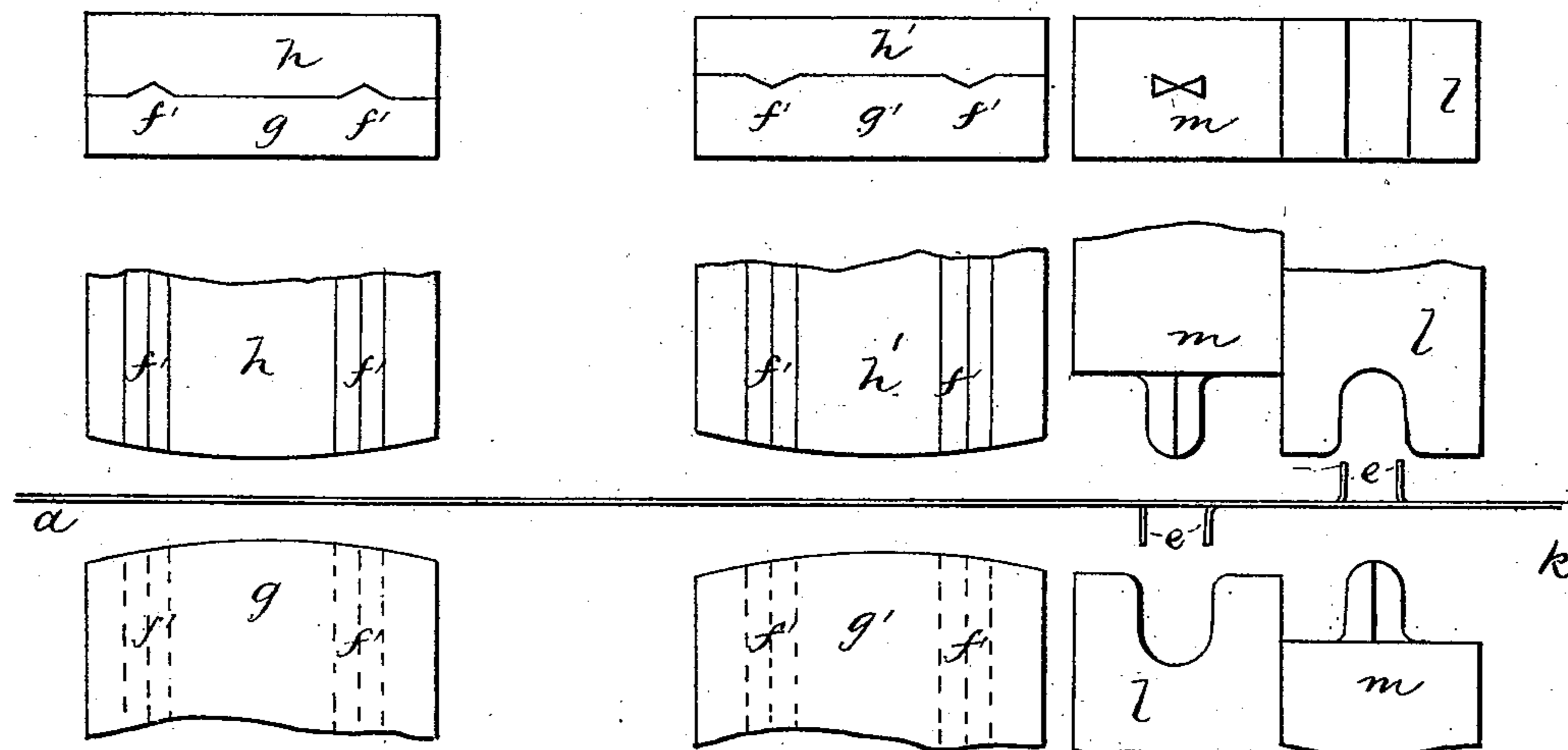


Fig. 2.

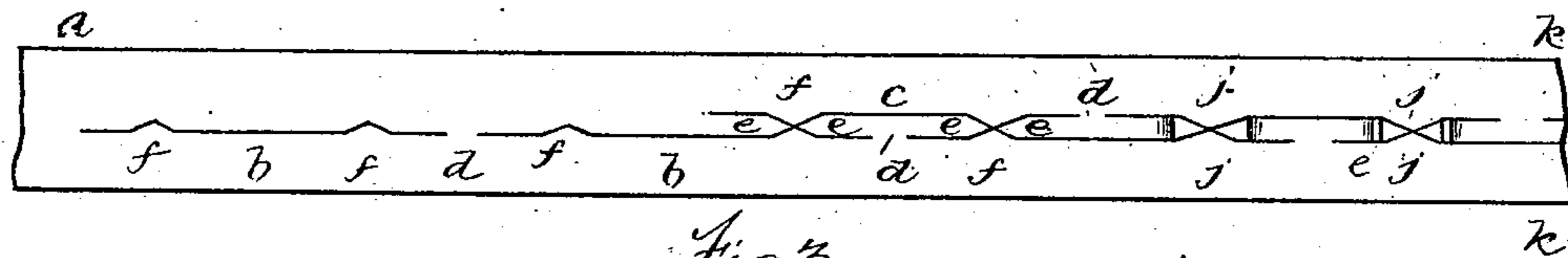


Fig. 3.

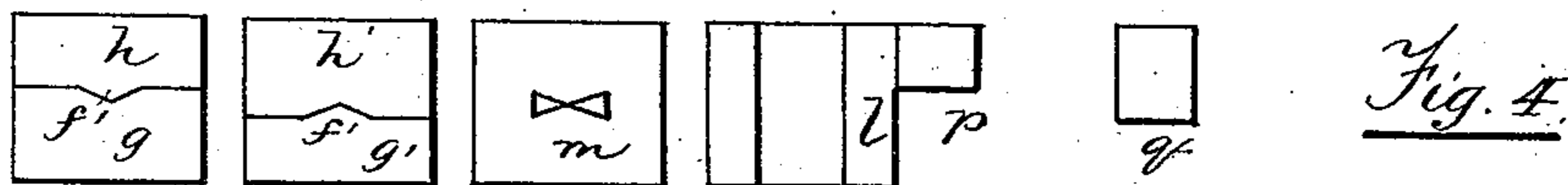


Fig. 4.

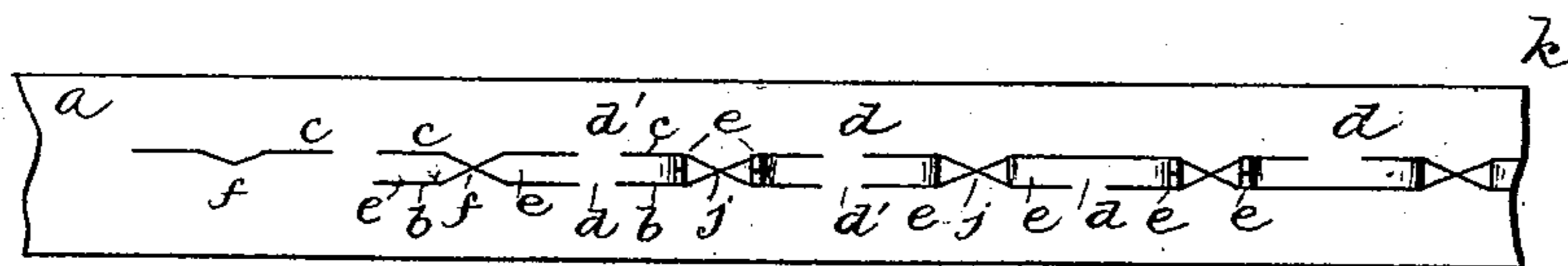


Fig. 5.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## DIE FOR USE IN MAKING BARBED FENCING.

SPECIFICATION forming part of Letters Patent No. 450,048, dated April 7, 1891.

Application filed August 13, 1888. Serial No. 282,555. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH H. TEMPLIN, a citizen of the United States, and a resident of Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in a Combination of Dies for Use in a Machine for Making Barbed Strips, of which the following is a specification.

10 This invention is an improved contrivance of dies for producing two barbed strips from one double blank strip by making two parallel lines of slits at intervals apart along the middle portion of a double blank strip, so that  
15 the intervals of uncut web in one line are opposite the middle of the slits of the other line, which slits are in the main straight, but so diverge at two points toward the other line that the slits of the two lines meet thereat and  
20 cut apart and point the barbs and effect the separation of the two barb-strips. The barbs thus cut are then bent laterally to the strips for effecting the required projection, all in a simple and effective manner, as follows, referring to the drawings, in which—

25 Figure 1 represents face views of the slitting and bending dies employed. Fig. 2 is a side elevation of the same with the blank strip between them; and Fig. 3 is a diagram of the blank strip, showing the action of the dies on it. Fig. 4 is a face view of a modified form of the slitting-dies. Fig. 5 is a diagram of the strip as cut by the dies of Fig. 4.

30 With the following-described improved dies I take a plain flat strip *a* as wide as two barb-strips to be made, besides the width of the barbs to be produced on the strips, and make two lines of slits *b c* in it at intervals along the middle portion, with intervals of uncut webs *d* between the slits of each line, said  
40 lines of slits being apart from each other a distance equal to the width of the barbs *e*, and the slits of each line being advanced relatively to the slits of the other line, so that the uncut webs *d* of each line are alternate with those of the other and midway along the slits thereof. Each slit, which is otherwise straight, is divergent at two points *f* in the direction of the other line of slits and to the extent of half  
50 the distance between them. One line of slits,

as *b*, is cut in advance of the other line by a pair of dies, as *g h*, having corresponding divergent portions *f'* of the cutting-edges, and the other line by similar dies, as *g' h'*, which are located at the distance of about half the length  
55 of a feed movement of the strip apart along the feedway, so that when the slits of the second line are made their divergent points match with one each of the similar points of two slits of the other line, and thus separate  
60 the barbs along the edge from the strips, except where they remain connected by the uncut webs *d* and effect the lateral or transverse cutting by which the barbs are cut and pointed at the ends, and the separation of the barbed  
65 strips *k* is completed, at the same time making center points—that is, beveled alike each way. This leaves slight points *j* on the edges of the barb-strips *k*, that may be trimmed off with suitable dies or not, as preferred. After  
70 being thus formed the barbs are bent laterally for the required projection by suitable bending-dies *l m*, of which it is preferred to employ two pairs to bend the barbs alternately in opposite directions, and so that each  
75 pair bending two barbs at each operation the two will together bend the four which result from each operation of the slitting-dies simultaneously with the cutting of a like number  
80 successively.

These long dies, Figs. 1 and 2, are preferred for the greater amount of work they are capable of in a given time; but dies of a little less than half the length of these may be used, as in Fig. 4, for the same method of  
85 cutting the barbs, together with web-cutters *p q*, to be used with them, as, besides webs *d*, they leave uncut webs *d'*, that have to be subsequently separated and with similar benders; but in this case the benders will  
90 only operate with each alternate operation of the cutters, as only two barbs are cut at each operation. One pair of benders would be sufficient, except that it is desired to bend the barbs alternately in opposite directions. In  
95 this arrangement the two pairs of the slitting-dies will be arranged the distance of one web *d* apart. The uncut webs *d'* between the slits are to be cut apart alternately in the different lines of the slits.  
100

The method is reserved for a separate application for a patent.

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

1. The combination of two pairs of shearing-dies, as  $g h$  and  $g' h'$ , arranged to cut slits in two parallel right lines and at intervals in each line, and each pair having a portion, as  $f'$ , of the cutting-edges divergent toward the line of slits cut by the other pair, and being so located one in advance of the other along the range of the blank strip to be cut that the slits of the two lines, elsewhere separating the edges of the barbs from the strips, but leaving them united for their base connection with the strips at the intervals of uncut webs between the slits, meet at the divergent points, and the barbs are thereat cut apart and pointed and the barb-strips are partly or completely separated from each other, substantially as described.

2. The combination of two pairs of shearing-dies, as  $g h$  and  $g' h'$ , arranged to cut slits in two parallel right lines and at intervals in each line, and each pair having two portions, as  $f'$ , of the cutting-edges divergent toward the line of the slits cut by the other pair, and being so located one in advance of the other along the range of the blank strip to be cut that the slits of the two lines overlap, with the uncut webs of one line midway along the slits of the other line, and that the slits of the two lines, elsewhere separating the edges of the barbs from the strips, but leaving them united for the base connections with the strips at the intervals of uncut webs between the slits, meet at the divergent points, and the barbs are thereat cut apart and pointed and the barb-strips are completely separated from each other, substantially as described.

3. The combination of bending-dies, as  $l m$  and  $l' m'$ , adapted for bending the barbs laterally to the strip, with two pairs of shearing-dies, as  $g h$  and  $g' h'$ , arranged to cut slits in two parallel right lines and at intervals in each line, and each pair having a portion, as  $f'$ , of the cutting-edges divergent toward the line of the slits cut by the other pair, and being so located one in advance of the other along the range of the blank strip to be cut that the slits of the two lines, elsewhere separating the edges of the barbs from the strips, but leaving them united for their base connection with the strips at the intervals of uncut webs between the slits, meet at the di-

vergent points, and the barbs are thereat cut apart and pointed and the barb-strips are completely separated from each other, substantially as described.

4. The combination of web-cutters, as  $q r$ , with two pairs of shearing-dies, as  $g h$  and  $g' h'$ , arranged to cut slits in two parallel right lines and at coincident intervals in each line, and each pair having a portion, as  $f'$ , of the cutting-edges divergent toward the line of the slits cut by the other pair, and being so located one in advance of the other along the range of the blank strip to be cut that the slits of the two lines, elsewhere separating the edges of the barbs from the strips, but leaving them united for the base connection with the strips at the intervals of uncut webs between the slits, meet at the divergent points, and the barbs are thereat cut apart and pointed and the barb-strips nearly separated from each other, said web-cutters effecting the complete separation by separating the uncut webs alternately in the different lines of the slits, substantially as described.

5. The combination of bending-dies, as  $m l$  and  $m' l'$ , adapted for bending the barbs laterally to the strip, and web-cutting dies, as  $q r$ , adapted for separating uncut webs of metal left between the slits, with two pairs of shearing-dies, as  $g h$  and  $g' h'$ , arranged to cut slits in two parallel right lines and at coincident intervals in each line, and each pair having a portion of the cutting-edges divergent toward the line of the slits cut by the other pair, and being so located one in advance of the other along the range of the blank strip to be cut that the slits of the two lines, elsewhere separating the edges of the barbs from the strips, but leaving them united for their base connection with the strips at the intervals of uncut webs between the slits, meet at the divergent points, and the barbs are thereat cut apart and pointed and the barb-strips mainly separated from each other, said web-cutters effecting the complete separation by separating the uncut webs alternately in the different lines of slits, substantially as described.

Signed at New York city, in the county and State of New York, this 2d day of May, A. D. 1888.

JOSEPH H. TEMPLIN.

Witnesses:

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GEO. T. JANORIN,