

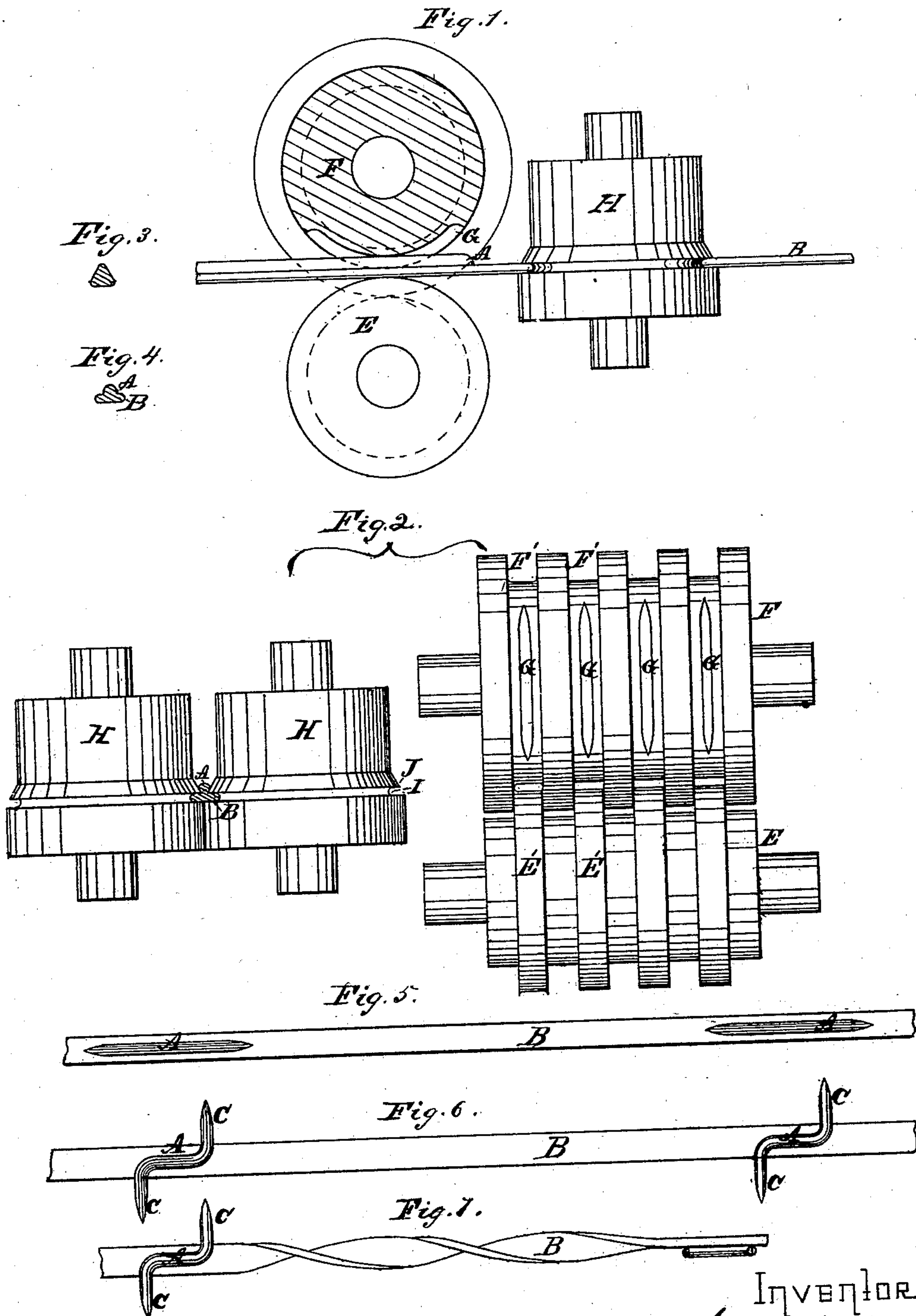
(No Model.)

T. V. ALLIS.

MANUFACTURE OF BARBED METALLIC FENCING.

No. 272,934.

Patented Feb. 27, 1883.



Witnesses:
W. H. Morgan
W. H. Morgan

Inventor.
Thomas V. Allis

UNITED STATES PATENT OFFICE.

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

MANUFACTURE OF BARBED METALLIC FENCING.

SPECIFICATION forming part of Letters Patent No. 272,934, dated February 27, 1883.

Application filed August 23, 1881. Renewed September 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS V. ALLIS, of the city, county, and State of New York, have invented a new and useful Improvement in Manufacture of Barbed Metallic Fencing, of which the following is a specification.

This invention relates to the manufacture of barbed metallic fencing by cutting and binding ribs formed on the side of a metallic strip; and it consists of an improved method of, also improved machinery for, forming said ribs preparatory to the cutting and bending thereof to form the barbs, as hereinafter described, reference being had to the accompanying drawings, in which—

Figure 1 is partly a sectional elevation and partly a side elevation of rolls employed in forming the projecting ribs. It also shows a side view of the strip. Fig. 2 represents the rolls in front elevation. It also shows a cross-section of the strip through one of the ribs when complete. Fig. 3 is a transverse section of the strip, showing the form into which it is previously drawn preparatory to subjecting it to the rolls. Fig. 4 is a section of the strip through one of the ribs, after passing through the first rolls and before being creased. Fig. 5 is a top view of a section of the strip as it appears after the ribs are formed on it. Fig. 6 is a top view of the same as it appears after the barbs are formed from the ribs. Fig. 7 is a side view of the barbed and twisted strip as it appears when finished.

Forming the barbs and twisting the barbed strip, as indicated in Figs. 6 and 7, form no part of this invention, these figures being introduced to present more clearly the object of forming the ribs, which is the subject of the invention. Said ribs are represented at A in the form of short and rather thick fin-like projections located at certain predetermined distances apart along a flattened or approximately flattened strip B, preferably on one side only, and suitably for subsequently forming barbs C, by shear-cutting them from the points toward the middle longitudinally, but not quite thereto, and at the surface of the strip; also, at the same time bending the points sidewise at right angles to the strip, as clearly indicated in Figs. 6 and 7. In the first place I reduce the rod to the triangular form

with slightly-rounded corners, represented in Fig. 3, preferably by the drawing process, although it may be done in rolls, if desired, and then pass it through the flattening-collar and groove-rolls E F, of which the roll F has a short recess, G, in a portion of the bottom of the main flattening-groove F', the strip being so guided that one of its angles is presented to the bottom of the groove F' and one of its flat sides to the collar E' of roll E, so that where the groove G passes on the strip a short rib, A, will be formed out of the angular side, while the rest will be flattened down between said ribs to the uniform flat shape with rounded edges, as shown in Figs. 4, 5, and 6. From rolls E F, I pass the strip thus flattened and ribbed between the rolls H, each having a groove, I, for the edges of the strip and a creasing die or collar, J, for making a crease or groove on each side of the ribs close to the surface of the strip, as shown in Fig. 2, to shape the ribs in nearly round form, which is preferred for the barbs, and to partially sever the barbs from the strip to facilitate the subsequent cutting operation by which said barbs are cut a certain portion of their length from the strip and bent out in the projecting form shown in Figs. 6 and 7. The rolls H are to be arranged in suitable relation to rolls E F, as indicated in the drawings, to receive the strip from them, and the latter will be arranged in relation to the furnace to receive the heated strip therefrom, so that both operations will be accomplished with one heat, and also one handling.

It will be readily seen by those skilled in the art, that considerable advantage is obtained in the forming of the ribs in rolls E F by first reducing the rod to triangular form instead of rolling the ribs out of the round shape, because in this case the work of the rolls consists mainly of flattening the angle between the ribs, and simply leaving portions of the angle for them in about the shape of the said angle as produced by the drawing mechanism, so that but very little metal has to be displaced along the sides of the ribs where it is difficult to displace and hard on the rolls, whereas if the ribs were shaped wholly out of the round rod by the rolls the service would be much more wearing on the rolls, also more

expensive, and the ribs would not be as perfectly formed. Likewise, by the subsequent creasing or grooving of the sides of the ribs, it is plain that besides the more oval or round and better form for the barbs thus obtained the operation of shearing the points from the body of the strip is greatly facilitated. If preferred, the creasing of the ribs may be effected by means of squeezing and hammer dies or by milling; but I do not limit myself to the preparatory shaping of the strips in triangular form in cross-section in the making of the projecting ribs.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. Rolls for forming short longitudinal ribs projecting from the sides of metallic strips at intervals along the same, said ribs being of less breadth from side to side than said strips, having die-groove F' with one or more pointed recesses, G , centrally located in the bottom thereof of less breadth in cross-section than the breadth of the groove, substantially as described.

2. The improvement in the manufacture of ribbed metallic strips for barbed fencing, con-

sisting of, first, drawing or otherwise shaping the rods in triangular or approximately triangular form in cross-section, and, second, rolling the same on one flat side and one angle in flattening passes or grooves $E' F'$, wherein is a rib-recess, G , to act on the angular side of said strip and complete the form of the ribs, substantially as described.

3. The improvement in the manufacture of ribbed metallic strips for barbed fencing, consisting of, first, drawing or otherwise shaping the rods in triangular or approximately triangular form in cross-section; second, rolling the same on one flat side and one angle in flattening passes or grooves $E' F'$, wherein is a recess, G , acting on the angular side of the strips and completing the form of the ribs, as described; and, third, creasing or grooving the sides of the ribs, substantially as described.

4. The combination, with collar and groove rolls $E F$, having recess G , of creasing-rolls H , having grooves I , and creasing-dies J , substantially as described.

THOMAS V. ALLIS.

Witnesses:

W. J. MORGAN,
S. H. MORGAN.