

(No Model.)

2 Sheets—Sheet 1.

B. SCARLES.

WIRE NETTING.

No. 388,001.

Patented Aug. 14, 1888.

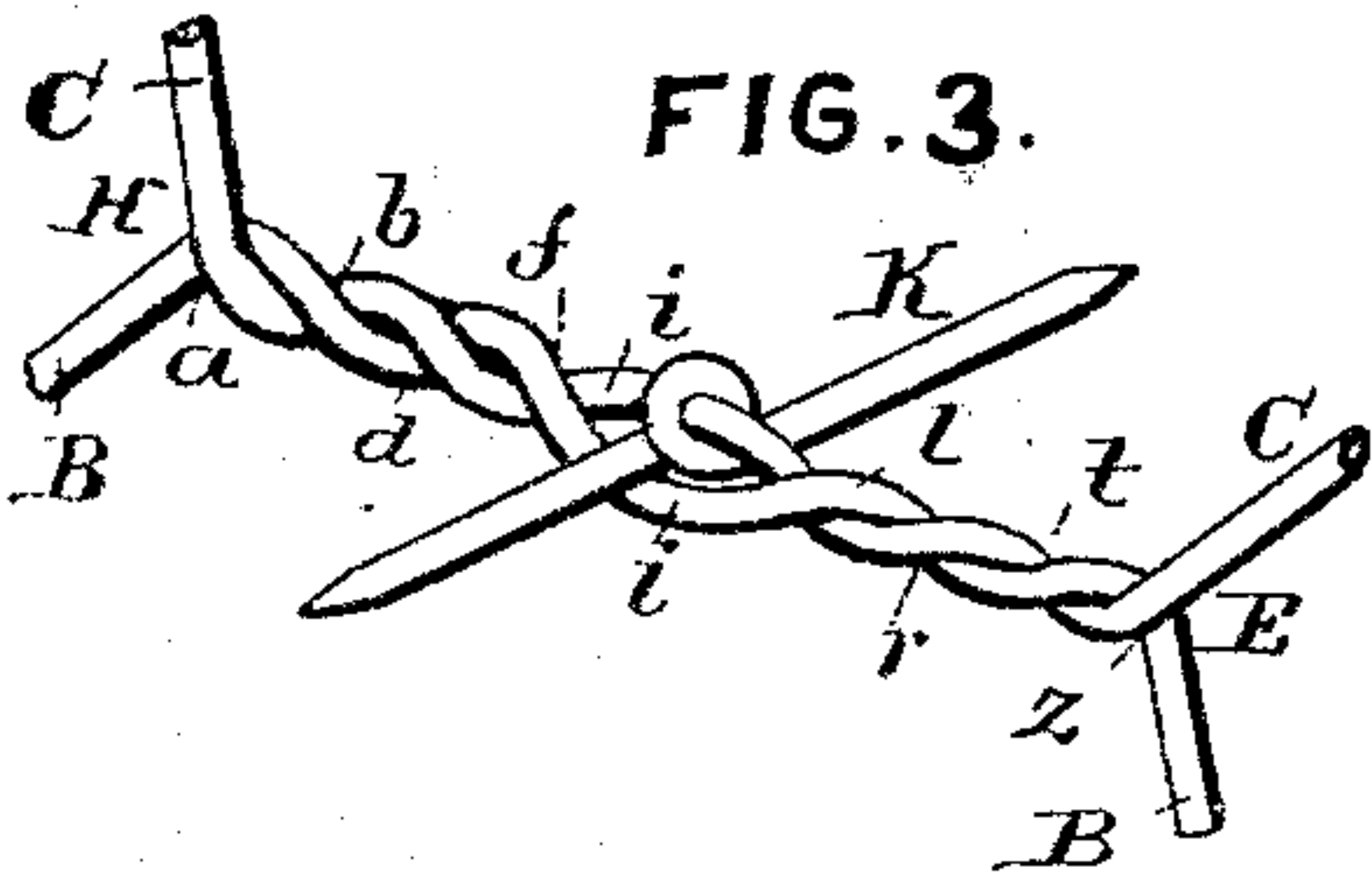
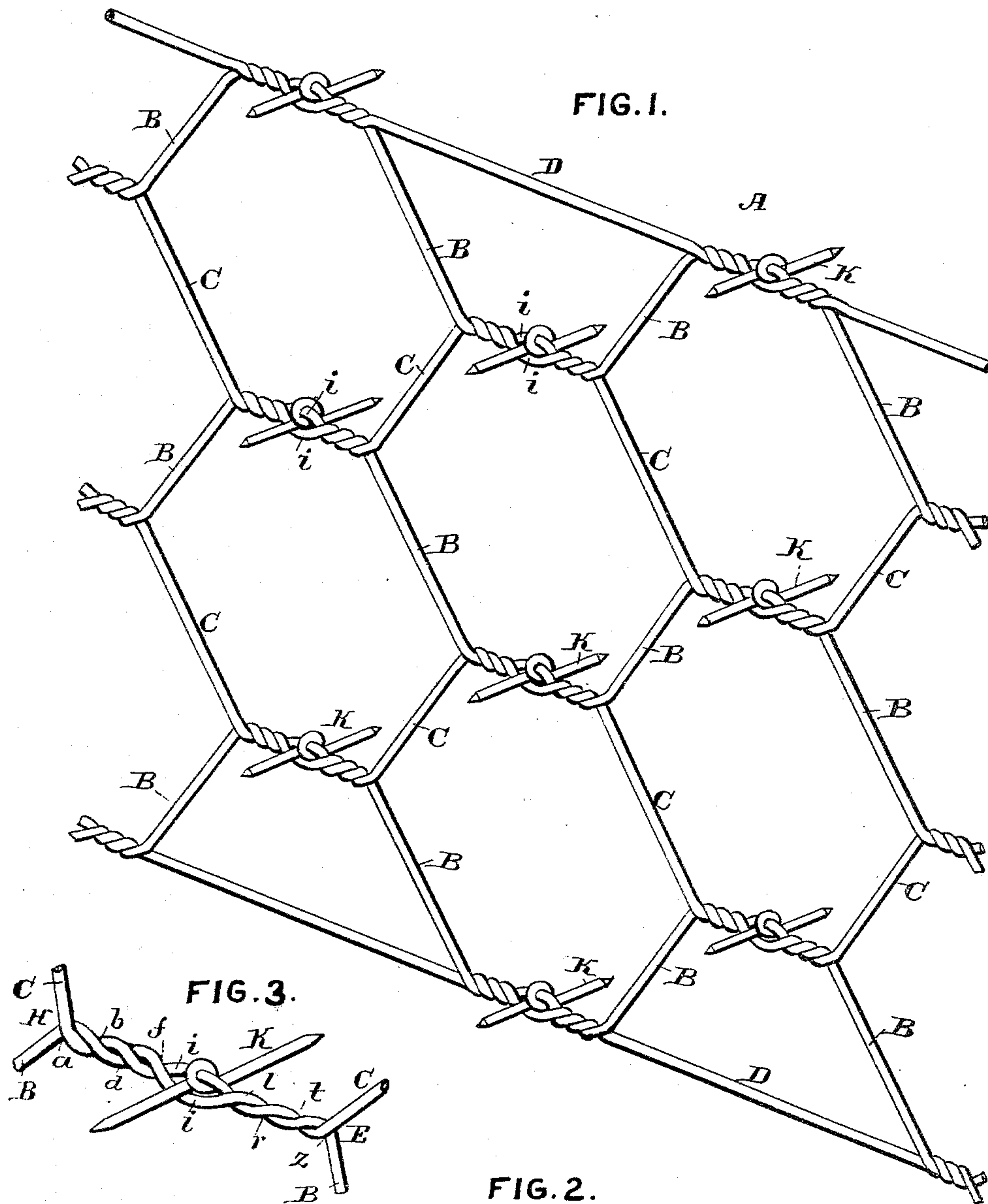
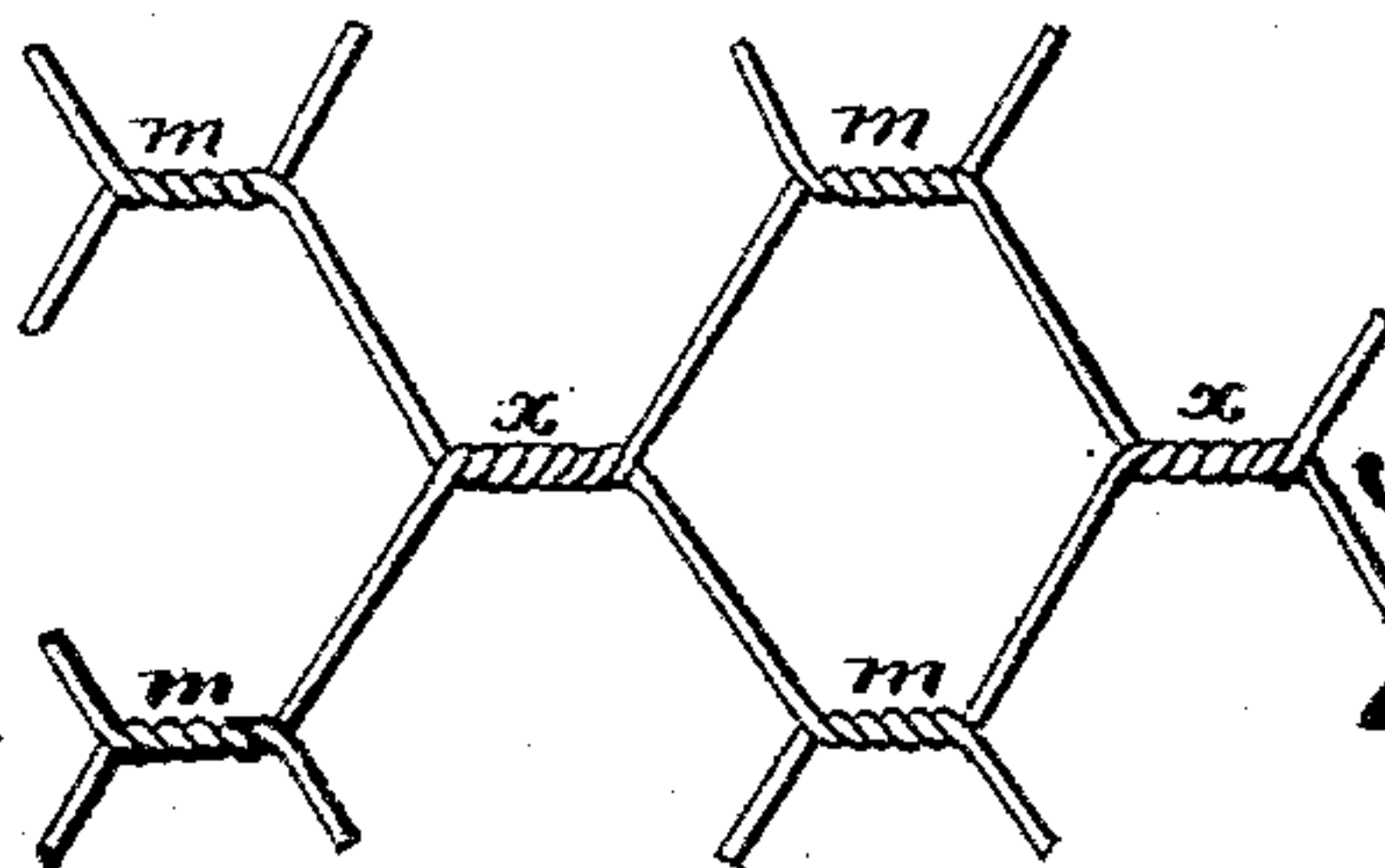


FIG. 2.



ATTEST.

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(No Model.)

2 Sheets—Sheet 2.

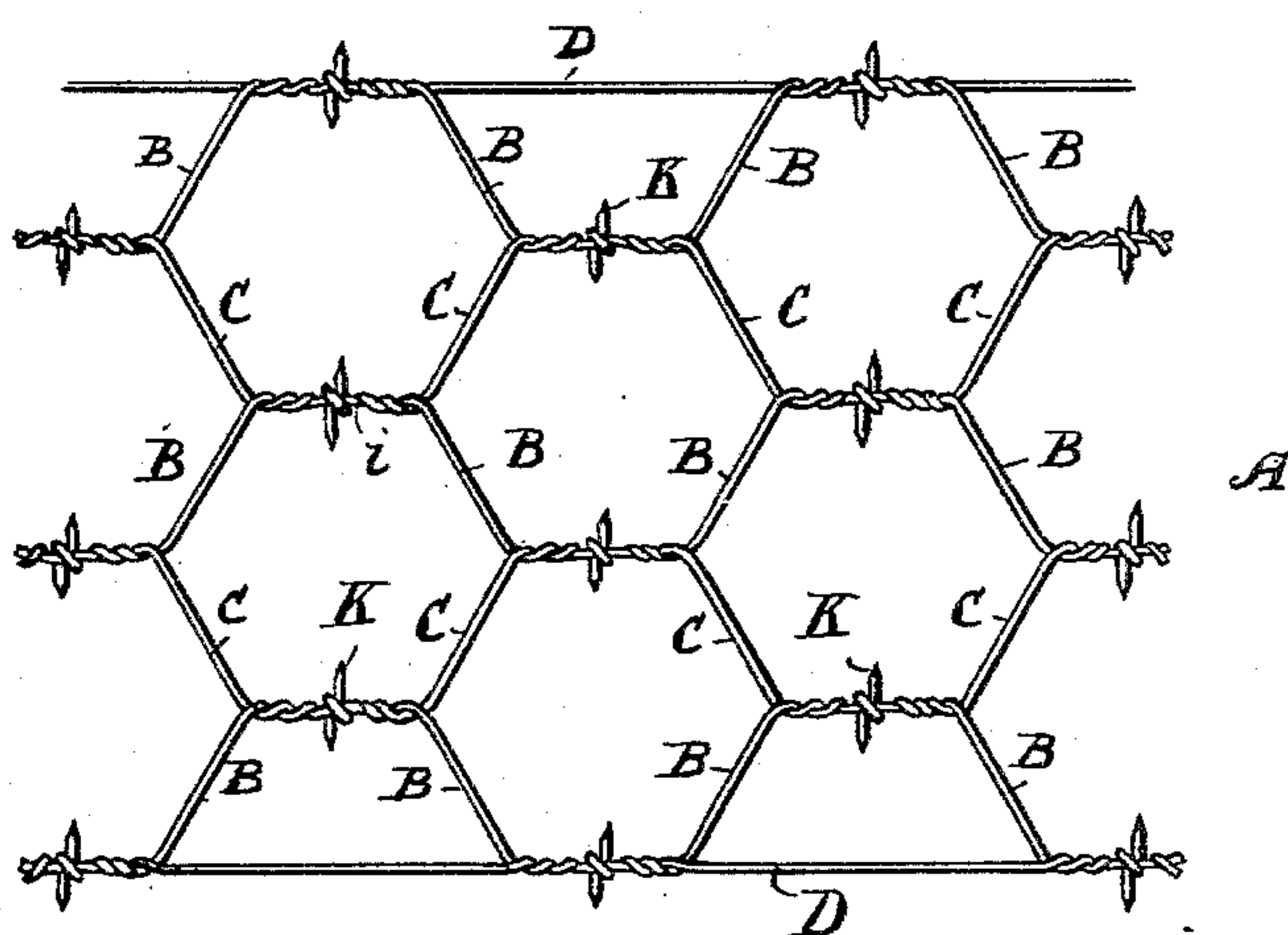
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Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

BENJAMIN SCARLES, OF CLINTON, MASSACHUSETTS, ASSIGNOR TO THE
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WIRE-NETTING.

SPECIFICATION forming part of Letters Patent No. 388,001, dated August 14, 1888.

Application filed August 19, 1886. Serial No. 211,357. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN SCARLES, of Clinton, in the county of Worcester, State of Massachusetts, have invented a certain new and useful Improvement in Wire-Netting, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an isometrical perspective view of a piece or web of my improved wire-netting; Fig. 2, a side elevation of a piece or web of ordinary wire-netting; Fig. 3, an enlarged view of one of the twists and barbs, and Fig. 4 a side elevation showing a modification of the improvement.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

In ordinary wire-netting the wires of which the web is composed are united or interlocked by being twisted together or coiled around each other at regular intervals, the untwisted portions of the wires being separated or opened outwardly to form the meshes, and every alternate row of twists made in an opposite direction—that is to say, the wires are first twisted to the left and then to the right, as shown in Fig. 2, the twists *m* being to the left and the twists *x* to the right. This form of construction is, however, objectionable in some respects, the fabric being too flexible for many purposes and no means being afforded of enlarging the meshes when desired without cutting the wires. It is also unprovided with barbs for effectually stopping cattle, horses, hens, &c., when used for fences.

My invention is designed to obviate these and other objections; and to that end I make use of means which will be readily understood by all conversant with such matters from the following explanation:

In the drawings, A represents the web of netting, considered as a whole; B C, the wires of which the body of the web is composed; D D, the selvage-wires, and K the barbs.

For convenience of reference, I denominate

the interlocked wires between either two of the meshes the "twist," and divide each twist into three sections, the right-hand section, E, left-hand section, H, and center section, J, the wires which form section E being twisted to the right, those forming section H to the left, and those forming section J curved or bent outwardly and left untwisted.

The wires are united or interlocked at intervals by being twisted together first to the right, as shown in section E, and then to the left, as shown in section H, in the same twist—that is to say, in each twist or twisted portion of the wires the two wires of which the twist is composed are first twisted to the right and then to the left, or vice versa, as best seen in Fig. 3, in which the wire B, beginning at the left of said figure, passes to the right beneath C at *a*, then to the left over C at *b*, then to the right under C at *d*, and then to the left over C at *f*, the two wires being properly bent and wound around each other from *a* to *f* to form section H.

At *f* the direction of the wire B is changed and it is turned to the right back over the wire C at *l*, then to the left under C at *v*, then to the right again over C at *t*, and finally under C at *z*, the two wires being properly bent and wound around each other from *l* to *z* to form the right-hand section E.

At the center of the twist between *l* and *f* the wires are curved outwardly in opposite directions, as shown at *i i*, the oppositely-twisted sections E H and curved portions *i i* rendering the twists much firmer and more rigid than in the ordinary fabric.

The barb K consists, preferably, of a piece of wire pointed at either end and secured in position by being coiled at its center around one of the curved portions *i* of the twist in such a manner as to leave its ends projecting on opposite sides of the fabric and standing at right angles to the plane thereof.

Instead of coiling the barb around the curved portion *i* of one of the wires composing the twist, it may be secured in position between said curved portions in any other suitable manner to cause its ends to project laterally, as shown in Fig. 1. This, for instance, may be accomplished readily by bend-

ing or corrugating the body of the barb near its center, inserting it between the curved portions *ii* of the twist, and then bending said curved portions down upon each other in such a manner as to firmly grasp the corrugated portion of the barb.

The barbs may also be arranged to project vertically, if desired, or on the same plane with the body of the fabric, as shown in Fig. 4, when the netting is made with coarse meshes and used for fences to stop hens and other fowls, in which case a quarter-turn more or a quarter-turn less should be taken in the twist than when the barbs project laterally. The wires from *a* to *f* in section H being twisted to the left and from *l* to *z* in section-E to the right, it will be obvious that any tendency of either section or half of the twist to uncoil or untwist will be counteracted by the other half or section, thus keeping all the parts in proper position, including the barb K. When the netting is constructed in the ordinary manner, or as shown in Fig. 2, each of the wires composing the twist may be readily turned on or around its companion wire, like the two members of a hinge, thus rendering the fabric more flexible than is desirable when used in a fence, and also making it difficult to so attach barbs to the twists that they will be kept in proper position; but in my improved netting the wires composing the twists are prevented from turning on or around each other by twisting the sections E H in opposite directions and by section J, consisting of the outwardly-curved portions *ii* at the center of the twist, which overlap and cannot be readily revolved or turned around each other, thus rendering the twist or joint very rigid, the rigidity being imparted to the entire fabric, and also keeping the barbs K in proper position.

In making the netting the wires composing the left-hand section H may be twisted together from *a* to *f*, and those composing the right-hand section from *z* to *l*, or vice versa, as preferred, provided the twist when formed is as shown and described.

It is sometimes necessary in the use of ordinary wire-netting to enlarge one or more of the meshes in order to adapt it to receive a post, pin, or rail which is larger than the mesh, and to do this the wires of which the web is composed have to be cut, thereby greatly weakening the fabric and rendering it liable to unravel unless great care is used in securing the cut wires; but in my improved netting the meshes may be readily enlarged at

any point by inserting a proper implement between the curved portions *ii* of the section J, and untwisting the wires in a manner that will be readily obvious without a more explicit description.

The selvage-wires D are straight, being interlocked with the outer wires composing the body of the web in substantially the same manner as the wires B C, and provided with barbs K at the twists, as shown in Fig. 1.

It is preferable to take three turns in the wires composing each of the sections E H, as shown in Figs. 1 and 3; but I do not confine myself to making any special number of turns or twists in the wires, as one or more may be taken, as desired. Neither do I confine myself to bending the wires composing section J in the elliptical form shown, as they may be bent in any other suitable shape to receive the barb K and properly form the section J; nor to providing each of the twists with a barb; nor to constructing the barbs with two projecting arms or points.

As I have made a netting constructed as shown in Figs. 1, 3, and 4, with the exception of the barbs K, the subject-matter of another application for Letters Patent, I do not herein claim the same, broadly.

Having thus described my invention, what I claim is—

1. A wire-netting the wires of which are interlocked between the meshes by twists, severally comprising a right-hand turn, a left-hand turn, and an intermediate eye, in combination with a wire barb composed of a separate piece of wire provided with pointed ends, said wire barb being passed through said eye and turned around one of the wires thereof, substantially as described.

2. A barbed-wire netting composed of straight selvage-wires and intermediate warp-wires, the warp-wires being united at intervals by twists which severally comprise a right-hand turn, a left-hand turn, and an intermediate eye, one of said warp-wires at each side of the netting being united at intervals with the adjacent selvage-wire by twists which severally comprise a right-hand turn, a left-hand turn, and an intermediate eye, said netting being provided with wire barbs which are passed through said eyes and twisted around one of the wires thereof, substantially as described.

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Witnesses:

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