(No Model.)

M. M. SHELLABERGER.

WIRE STRIP FOR FENCING.

No. 564,541. Patented July 21, 1896.

Fig. 1.

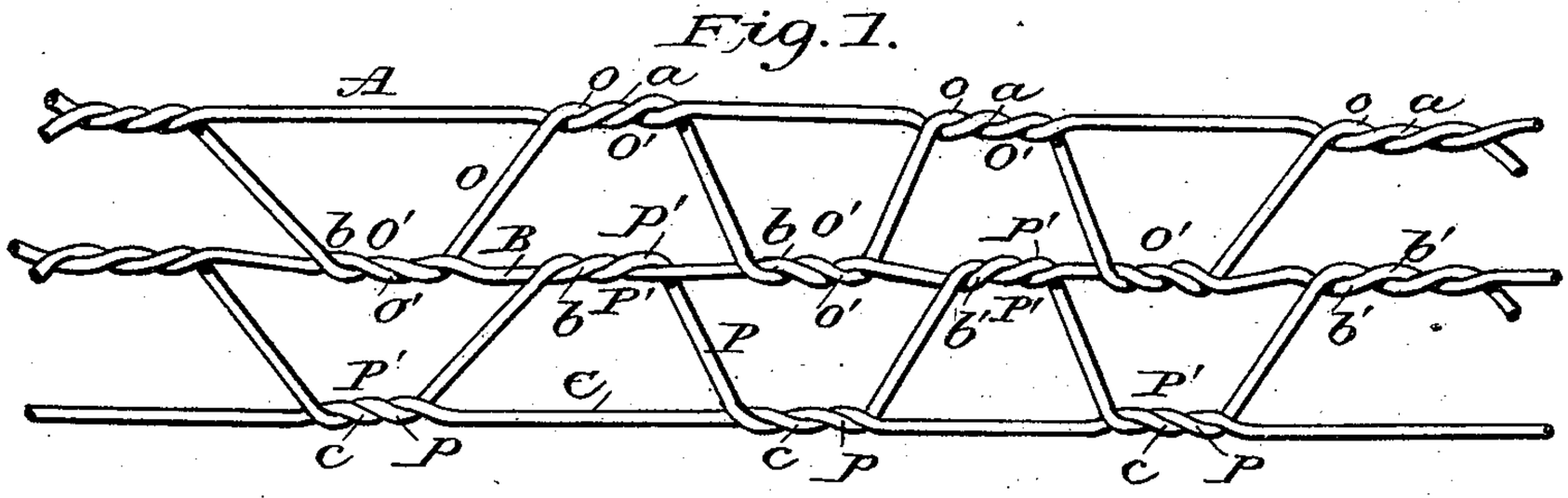
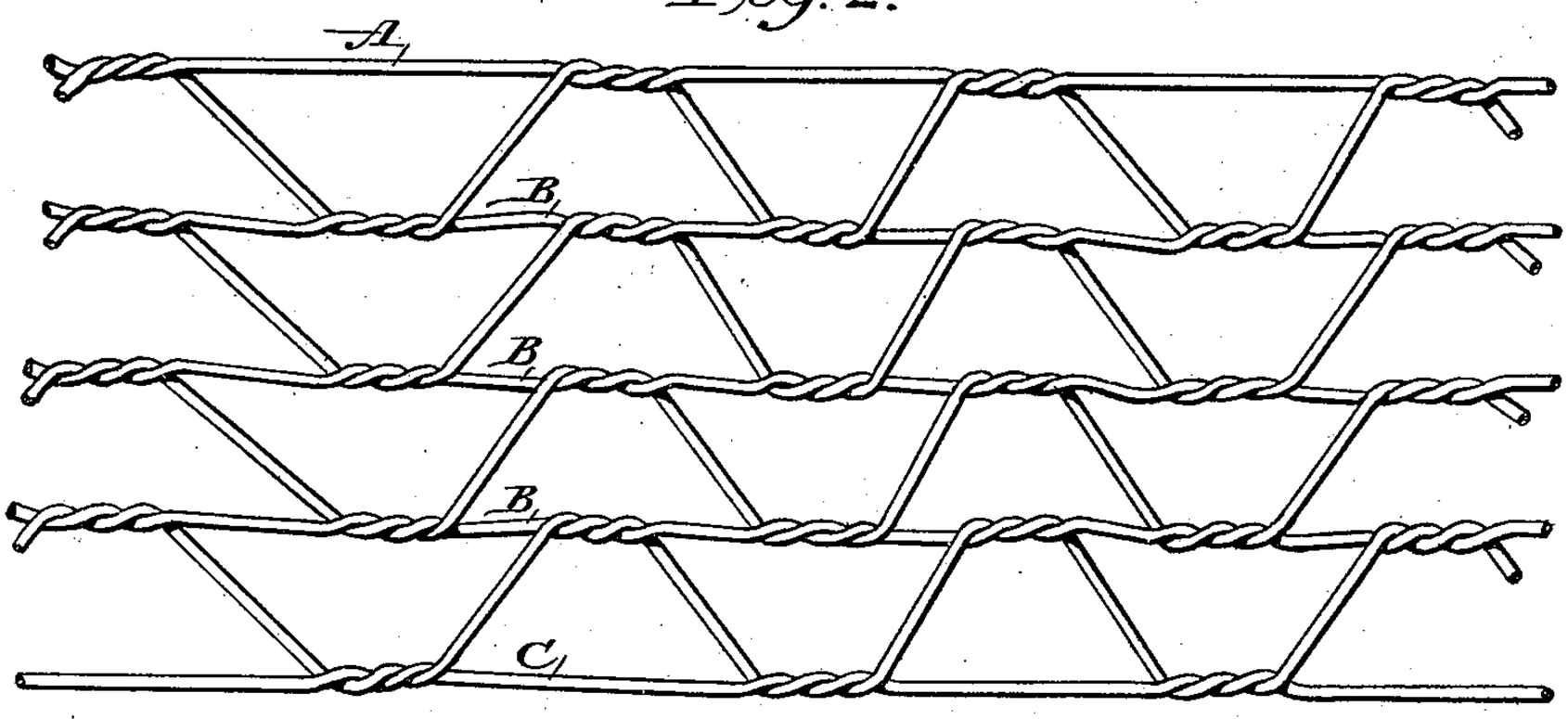


Fig. 2.



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UNITED STATES PATENT OFFICE.

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WIRE STRIP FOR FENCING.

SPECIFICATION forming part of Letters Patent No. 564,541, dated July 21, 1896.

Application filed August 14, 1891. Serial No. 402,669. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL M. SHELLABERGER, a citizen of the United States, residing at Beaver Falls, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Wire Strips or Boards for Fencing; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a fence-strip or fence-board, formed of wire and designed to be used in connection with, or as a substitute for, the ordinary wire fences.

I am aware of the existence of various woven or mesh fences, consisting of wires woven together or connected to form meshes of various sizes and shapes. In many fences of this kind the mesh-wires, or connecting-wires, are merely looped around the strands or tension-wires, and are capable of sliding longitudinally thereon, the objectionable feature of this construction being that when the strands or tension-wires are strained, or put under tension, as when the fence is erected, (or by the natural contraction due to change of temperature,) the fence is drawn unequally and becomes distorted, in some cases the strands being drawn toward each other or bunched. In other fences of this character the strands, as independent elements of the construction, are omitted, the fence being composed, essentially, of meshes arranged in series and connected together by means of the continuous mesh-wires. Fences of this kind are known as mesh-fences, and when strained longitudinally the meshes are liable to be stretched or lengthened, and consequently reduced in width or height, thereby reducing the height of the fence. To construct a fence or a strip without these objectionable features, which can be strained as desired without the risk of distortion or other serious consequences, is the object of my invention, and in order to attain this object it is necessary to provide longitudinal strands or tension-wires, which bear the strain and which are at the same time so connected to the mesh-wires as to distribute the strain evenly over all the wires, thereby insuring an equal tension upon all parts of the fence or strip and preventing distortion or "warping."

The details of my invention are fully described in connection with the drawings, which show a preferred manner of connecting the strands and mesh-wires, the views in said drawings being—

Figure 1, a strip or board provided with three strands or tension-wires and having the mesh-wires passed over and under the strands alternately, and Fig. 2 a strip or board provided with five strands or tension-wires and having the mesh-wires passed around the strands or twisted in the same direction throughout.

Referring to Fig. 1, the letters A B C designate the strands or tension-wires, and the letters O P designate the mesh-wires. The mesh-wire O is carried back and forth between the strands A and B in a zigzag direction, the angles or the extremities of the loops O′ O′ in said mesh-wires intersecting the strands at intervals. These loops O′ are provided at their extremities or angles with coils *o* and *o′*, which engage similar coils *a* and *b*, respectively, in the strands A and B, the intertwisting or coiling of the mesh wires or strands thus forming connections which cannot slip or become displaced by a longitudinal strain upon the strands.

The mesh-wire P is carried back and forth between the strands C and B, as above described in connection with mesh-wire O, and the angles or loops P′ thereof are provided with coils *p* and *p′*, which engage or interlock with similar coils *c* and *b′*, respectively, in the strands C and B.

The upper or upwardly-extending loops or angles of the mesh-wire P intersect the strand B midway between the intersections of the lower loops or angles of the mesh-wire O with said strand, each of the coils *b′* being midway between two coils *b b*, as shown.

The inclined position of the intermediate portions of the mesh-wires or the sides of the loops has the effect of bracing the strands relatively and preventing distortion; also, the manner of connecting the mesh-wires and

strands by means of intermeshing coils in both members insures the rigidity of the joints and prevents sliding of the mesh-wires upon the strands. Thus, a strain upon one of the strands is communicated, by means of the connecting mesh-wires, to all of the other strands, and hence distortion is prevented and the fence or strip maintains its strength and shape.

It will be seen that two mesh-wires are employed, Fig. 1, to connect three strands, the intermediate strand B being engaged by both mesh-wires, and the points of intersection of the mesh-wires with said intermediate strand are arranged alternately, thereby bracing the intermediate portion of the said strand and connecting this intermediate point of one strand with two remote points of an adjoining parallel strand.

It will be seen, further, that meshes (such as are usually found in mesh-fences) are not formed by this arrangement of the mesh-wires. The corresponding sides of the loops of all the mesh-wires are parallel, and the corresponding loops of the lower mesh-wire are directly under those of the upper mesh-wire. The irregular shaped meshes thus formed are therefore held firmly in shape by the strands, and a greater or less strain upon any of the strands is equalized by the strain upon the inclined portions of the mesh-wires.

If it is desired to use a greater number of strands, in order to increase the width of the strip or board, as shown in Fig. 2, a corresponding number of mesh-wires must be employed.

A detailed description of Fig. 2 will not be necessary, for the reason that the construction is similar to Fig. 1, with the exception that the number of intermediate wires is multiplied, as shown at B B B, Fig. 2. The border-strands A C, as in Fig. 1, are engaged each by only one mesh-wire, and the intermediate strands are engaged each by two mesh-wires, the points of intersection of one mesh-wire being intermediate between the points of intersection of the other.

The mesh-wires may be passed over and around one strand and under and around the adjacent parallel strand alternately, as shown in Fig. 1, and they may also be passed over and around both strands and then under and around both strands, as shown in Fig. 2. In the former case the twists or coils are alternately in opposite directions, one twist or coil being in the direction of a right-hand screw and the succeeding twist or coil in the direction of a left-hand screw, while in the latter case the twist or coils are all either right hand or left hand.

The strip or board which I have described may be used in the ordinary way, as a visible strip, or it may be used to form the complete fence, in which case it would be made of any desired width, from four to six feet, and applied to the posts in the same way as ordinary boards or flat rails.

My improved wire strips or boards may be manufactured very cheaply and sold at a lower figure than the usual lumber fencing-boards.

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

A wire strip consisting of border-strands, and a parallel intermediate strand or strands, which are connected by interposed zigzag mesh-wires, at their angles, by coils engaging corresponding coils in the strands, the intersections of two mesh-wires with the intermediate strand being arranged alternately at regular intervals, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MICHAEL M. SHELLABERGER.

Witnesses:
J. F. MERRIMAN,
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