

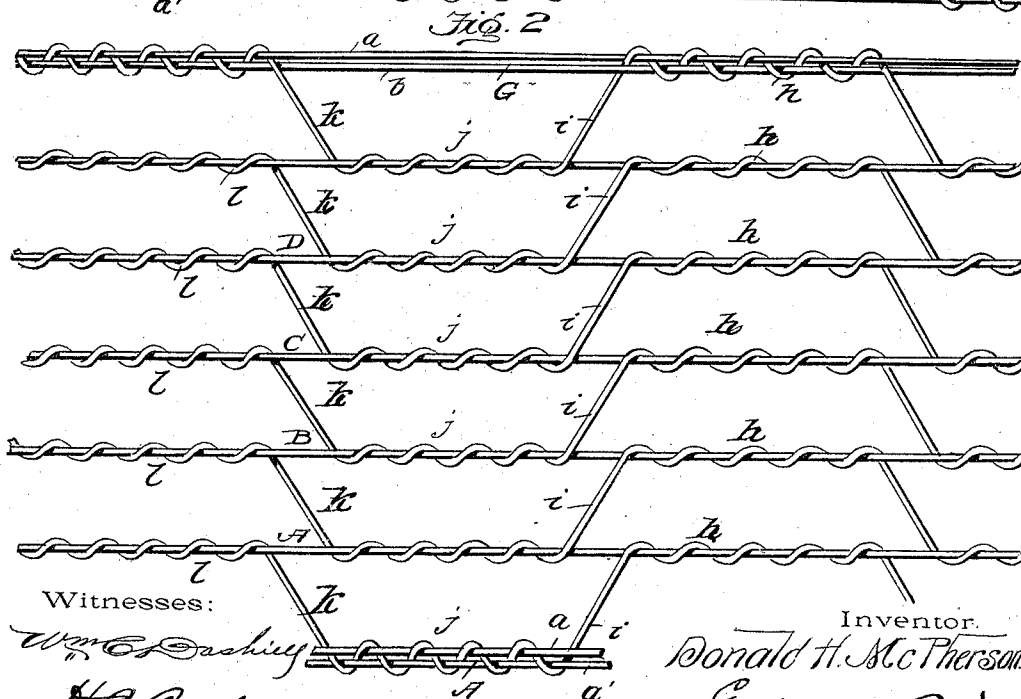
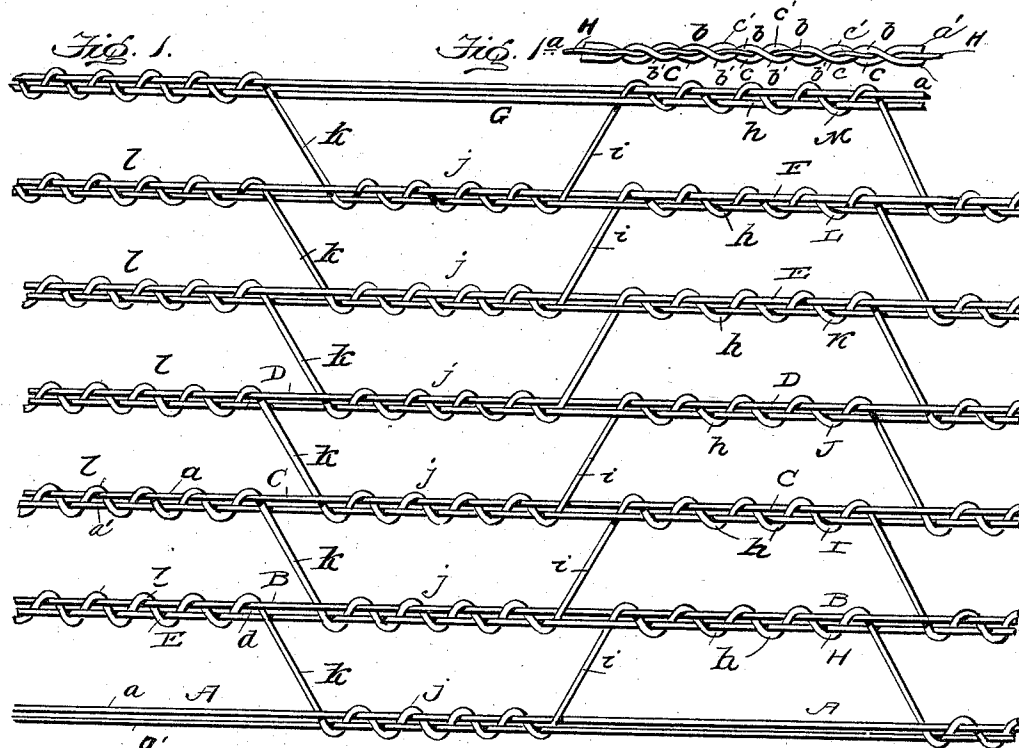
(No Model.)

D. H. McPHERSON.
WIRE FENCE.

2 Sheets—Sheet 1.

No. 570,290.

Patented Oct. 27, 1896.



Witnesses:

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Inventor.

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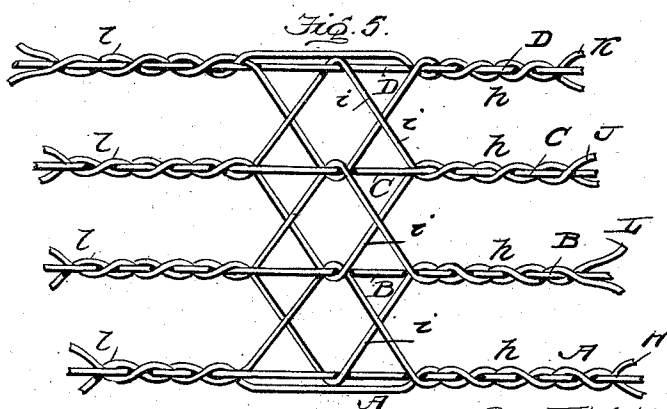
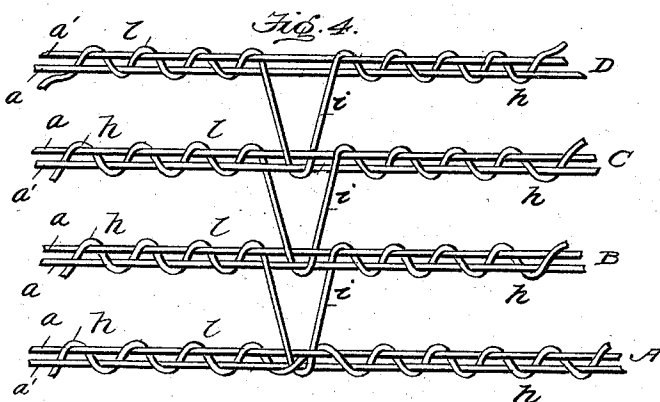
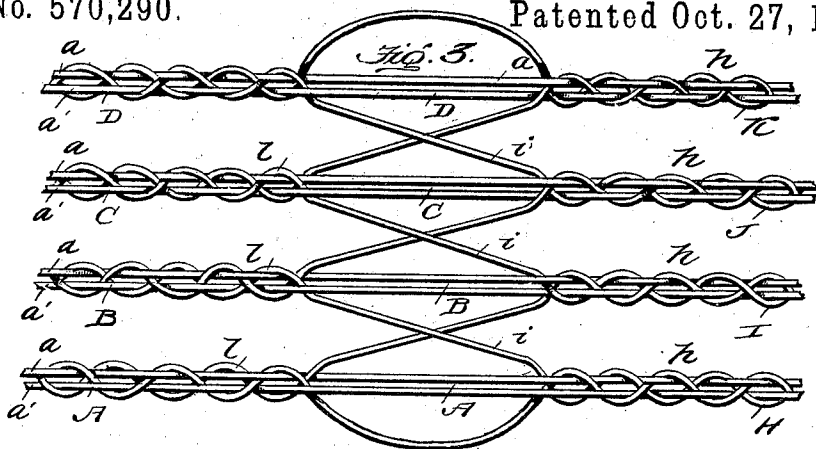
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UNITED STATES PATENT OFFICE.

DONALD H. MCPHERSON, OF LE ROY, NEW YORK.

WIRE FENCE.

SPECIFICATION forming part of Letters Patent No. 570,290, dated October 27, 1896.

Application filed April 14, 1894. Serial No. 507,549. (No model.)

To all whom it may concern:

Be it known that I, DONALD H. MCPHERSON, a citizen of the United States, residing at Le Roy, in the county of Genesee and State of New York, have invented certain new and useful Improvements in Wire Fences; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to wire fabrics for use as wire fencing which presents a substantial, durable, and ornamental construction in which the line-wires or longitudinal strands and the filling-wires are so connected or united as to avoid rupturing the grain of either the line or filling wires, thereby preserving the initial strength of the wire and promoting the durability and life of the fence fabric.

In my improved fence fabric I employ longitudinal strands each consisting of two wires bent and intersecting in a peculiar way across the plane of the fabric or web, combined with filling-wires which are bound or interlaced in the plane of the web with the bends in the wires of the longitudinal strands. The advantages of this construction reside in the fact that each longitudinal strand, being made of two wires, produces a strong strand in which the strain on one wire works against the other wire and the two wires are kept apart by their bent portions being engaged by the filling or tie wire, whereby the bends of the wires forming the longitudinal strand cannot be drawn or straightened out by any strain within the limit of the tensile strength of the wires forming the longitudinal strand or strands.

As is well known to those skilled in the art, the greatest strain on a wire-fence fabric lies in the direction of length of the fabric, due to the fact that the fabric is stretched longitudinally previous to fastening it to the fence-posts or stringers, so that the fence web or fabric will remain in an upright position and present an attractive appearance. In my improved fabric or web the wires are so arranged as to withstand to the best advantage this longitudinal straining action by so disposing the most wire in the direction of the strain on the fabric

and coupling the wires under such conditions as to obviate all danger of breaking or deflecting the wires under the necessary tensile strain put upon the fabric or web in erecting or placing the fence.

To enable others to understand my invention, I have illustrated the same in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of my wire fabric. Fig. 1^a is a top or bottom view, at right angles to Fig. 1, of one longitudinal strand, showing the method of bending the wires thereof and the way in which the filling-wire is interlaced or bound with the wires of the longitudinal strand. Fig. 2 is a side elevation of a modified form of the fabric in which the selvage is constructed in the manner contemplated by my invention. Fig. 3 is a side elevation of a modified form in which filling-wires are doubled and interlaced or bound with the double longitudinal strands. Figs. 4 and 5 are elevations of other embodiments of my invention in which the filling-wires are slidably or telescopically coupled to the longitudinal strands.

Like letters of reference denote corresponding parts in all the figures of the drawings.

Referring more especially to Figs. 1 and 1^a, A B C D E F G designate the longitudinal strands of the fence fabric or web, and H I J K L M are the filling-wires. Of course the number of longitudinal strands and filling-wires may be varied according to the width desired of the web or fabric, and I have shown the seven strands and six filling-wires as illustrative merely of the parts of which the fabric is composed.

In the construction of the wire fabric or web as contemplated by my invention I make certain or all of the longitudinal strands of duplex or double wires, and construct them in a peculiar way for use in connection with the filling-wires in order to place the greatest strength of the wire in the direction of the greatest strain on the fence fabric. To these ends I make each longitudinal strand of the fabric shown by Figs. 1 and 1^a of two wires a a' , and these wires of each strand are provided with bends b b' and c c' , which lie transversely to or substantially at right an-

gles across the plane of the fabric or web. The wire *a* has the bends *b b'* and the wire *a'* has the bends *c c'*.

By reference to Fig. 1^a, which is a top or 5 bottom view, as distinguished from a side view, which is shown by Fig. 1, it will be seen that the wires with their bends are crossed or zigzagged transversely to the plane of the fence fabric, and that the bends *b c* are op- 10 posed to each other, and that the bends *b' c'* are also opposite to each other, the bends *b c'* lying on one side of an axial line drawn through the strand and the bends *b' c* lying on the opposite side of the axial line drawn 15 through the strand formed by the two wires *a a'*. This arrangement of the zigzagged or crossed bends of the two wires *a a'* forming each strand of the fabric provides loops or eyes, the plane of which is transverse to the 20 plane of the fabric or web, and through these loops or eyes is passed or threaded the filling-wire, which is bent up and down in passing around the loops and through the eyes, the filling-wire being thus bent in the plane of 25 the fence fabric, as clearly shown by Fig. 1. This construction of the strand and the manner of interlacing or threading the filling-wire therein secure great strength to the strand, because the filling-wire serves to tie 30 or lock the wires *a a'* of the strand by being engaged with the crossed or zigzagged loops, and thus the strands *a a'* are caused to pull against each other and against the filling-wire under longitudinal strain on the fabric 35 or web. The parts thus serve to mutually strengthen or reinforce each other, and as the filling-wire is interlaced or threaded with the looped portions of the wires *a a'* forming the strand the bends in said wires *a a'* are pre- 40 vented from straightening out under any longitudinal strain brought on the strand within the tensile strength of the wires *a a'* forming the strand.

The longitudinal strands A to G, inclusive, 45 are continuous throughout the length of the web or fabric, and the filling-wires H to M, inclusive, are also continuous throughout the length of the fabric or web; but these filling-wires are arranged in zigzag order trans- 50 versely across and between the longitudinal strands, so as to partially fill in the spaces or intervals between the longitudinal strands. The filling-wires are arranged in the following order: For example, beginning with the 55 filling-wire H at the strand B and near the lower right-hand corner of Fig. 1, the filling-wire H is interlaced or threaded a suitable distance with the wires of the strand B, as at *h*, then carried across at *i* to the strand A, 60 interlaced or threaded therewith a suitable distance at *j*, then carried across at *k* back to the strand B, then interlaced with the strand B for a suitable distance, as at *l*, and so on throughout the length of the strands A 65 B. The other filling-wires are similarly arranged with reference to the appropriate strands of the fabric or web, the same letters

of reference being used to designate the crossing and interlacing portions of all the filling-wires in Fig. 1 of the drawings. It will be 70 noted that each filling-wire is devoted to or combined with two adjacent longitudinal strands of the fabric or web and that each filling-wire is continuous and takes a zigzag course relative to the longitudinal strands, 75 inasmuch as each filling-wire is interlaced at alternate intervals to the two longitudinal strands to which the filling-wire is devoted or with which it is combined.

In Fig. 2 of the drawings I have shown a 80 fabric in which the selvage is made up of longitudinal strands combined with filling-wires, as contemplated by my invention. The top and bottom strands A G of the fabric shown by Fig. 2 are each composed of two wires *a a'*, 85 which have the bends arranged transversely across the plane of the web or fabric, and these bends are disposed relative to each other, as shown by Fig. 1^a, to form the loops and eyes which receive the filling-wires that 90 are interlaced or threaded through the eyes around the bends in the wires of the strands and in the plane of the fabric in the manner heretofore described. This style of fence 95 fabric secures the necessary strength at the selvage to withstand the longitudinal strain put on the fabric in stretching it during the erection of the fence. The longitudinal strands between the top and bottom strands or selvage strands are single wires, and the 100 filling-wires are single continuous wires simply bent around the strands in zigzag order to produce a comparatively light fabric or web, which may sometimes be desired.

Fig. 3 of the drawings shows my improve- 105 ments embodied in a fence fabric in which the longitudinal strands are each made of two wires and the filling-wires are doubled or duplicated. Each longitudinal strand of this type of fabric is made or composed of 110 two wires which have the bends arranged to cross each other in the manner hereinbefore described. The double filling-wires are arranged in the same general way as in Fig. 1; but the double filling-wires are threaded 115 through the loops or eyes in reverse order to each other and in the plane of the web or fabric. At the places where the double filling-wires cross from one strand to the other in their zigzag course lengthwise of the longi- 120 tudinal strands the crossing lengths of the filling-wires pass each other, producing the approximately X-shaped figures.

Figs. 4 and 5 of the drawings show a gen- 125 eral arrangement of longitudinal strands and filling-wires in which the continuous zigzag filling-wires are interlaced or joined at suitable intervals to one strand and at other intervals are extended across to adjacent strands, forming filling-loops, which are slid- 130 ably or telescopically connected to such adjacent strands; but as the subject-matter of this part of my invention is embraced in a separate and divisional application filed by

me on the 8th day of November, 1894, Serial No. 528,249, I do not deem it necessary to herein describe more particularly this style of fence fabric.

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

1. A wire fabric or web comprising longitudinal strands having pairs of wires provided
10 with bends arranged to cross each other in a plane transversely to the plane of the fabric or web and forming loops or eyes, and filling-wires threaded or interlaced in the plane of the fabric or web through such loops or eyes of
15 the wires forming the strands and serving to bind or lock the wires of the strands against straightening under longitudinal strain on the fabric or web, as and for the purposes described.

20 2. A wire fabric or web comprising longitudinal strands made up of pairs of wires which are provided with bends that cross each other in zigzag order transversely to the plane of the fabric and form the eyes or loops,
25 and continuous zigzag filling-wires, each of which is devoted to two adjacent longitudinal strands, said filling-wires being interlaced at certain intervals and in the plane of the fence fabric with the bends and loops of the wires
30 forming the strand in a manner to bind and lock the strand against straightening of its

bends under longitudinal strain on the fabric, substantially as and for the purposes described.

3. In a wire-fence fabric or web, the longitudinal strands composed of pairs of wires
35 having bends that cross each other and form loops which lie transversely to the plane of the fabric or web, combined with filling-wires which are interlaced, in the plane of the fabric or web, with the loops formed by the bends
40 in the wires of a longitudinal strand and serving to bind or lock said strand-wires against tension or strain longitudinally on said longitudinal strands, as and for the purposes described.

4. A wire fabric or web comprising longitudinal strands each made up of a pair of wires which have the bends arranged to cross
45 each other and form loops which lie transversely across the plane of the web or fabric, and double filling-wires which are interlaced or threaded in reverse order and in the plane of the fabric or web with the loops of the wires forming the longitudinal strands, as
50 and for the purposes described.

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

DONALD H. MCPHERSON.

Witnesses:

WM. C. DORMAN,
F. A. MCPHERSON.