

(Model.)

I. KINNEY.
WIRE MATTING.

No. 404,417.

Patented June 4, 1889.

Fig. 1.

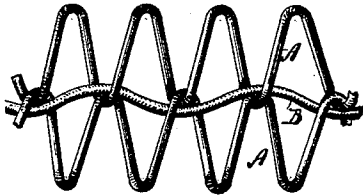


Fig. 3.

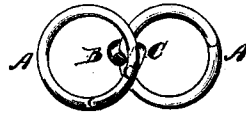
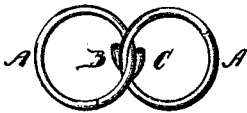
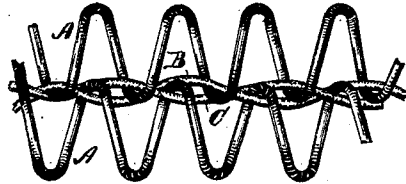


Fig. 2.

Fig. 8.



Fig. 4.

Fig. 5.

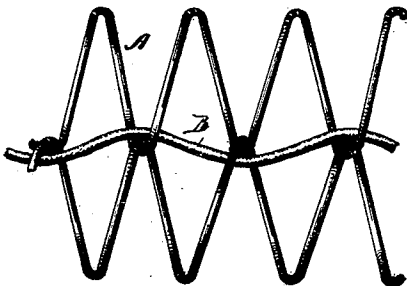


Fig. 7.

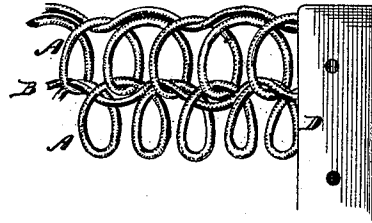


Fig. 6.



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UNITED STATES PATENT OFFICE.

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WIRE MATTING.

SPECIFICATION forming part of Letters Patent No. 404,417, dated June 4, 1889.

Application filed February 28, 1887. Serial No. 228,601. (Model.)

To all whom it may concern:

Be it known that I, ISRAEL KINNEY, of Windsor, county of Essex, Province of Ontario, Canada, have invented a new and useful Improvement in Wire Matting; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of a section of matting or woven fabric embodying my invention. Fig. 2 is an end elevation of the same. Fig. 3 is a modification. Fig. 4 is an end elevation of the same. Fig. 5 is a plan view representing the fabric pressed down flat by a pressure normal to the faces. Fig. 6 is an end view of the same. Fig. 7 represents the fabric when pressed down flat by the action of two surfaces, one of which has a shifting motion past the other, so that the convolutions are tilted over and pressed down. Fig. 8 is a cross-section of Fig. 7.

Heretofore with woven-wire fabrics it has been customary to interweave each strand of spirally-wound wire with an adjacent strand; but such construction has enabled the strands to shift together. To overcome this, strands wound into a reverse spiral have been interwoven with the first-mentioned strands at right angles thereto; but this must necessarily be done after the entire fabric has been woven in one direction. I propose, first, to accomplish the same object by combining with a series of wires spirally wound and interlocking intermediate strands of wire running in the same direction and through the alternate coils of the adjacent spirals, and to produce from such a fabric mats and other articles; second, my invention contemplates the engagement with spiral wires of the locking-strands, whether said spiral wires are themselves interwoven or lie adjacent to each other; third, to employ also one or more said locking-strands, either to prevent the spiral

wires from shifting together or to prevent their convolutions from stretching apart.

In carrying out my invention A represents successive strands of right-hand spirally-wound wire, which may be interwoven with each other, as shown in Fig. 1, or which may lie adjacent to each other, as shown in Fig. 3. Now to prevent these strands from shifting together, and also to prevent their convolutions from stretching apart, I engage each strand with its adjacent strand A by a left-hand spirally-wound wire B, as shown, the said left-hand spirals lying in the same direction as the right-hand spirals. This binds the whole mass firmly together, so that it cannot be contracted in a direction at right angles to the spirally-wound wire, and also prevents the convolutions from being stretched apart. The right-hand spirals may be thus bound together by the left-hand spirals. There may be, if desired, right-hand spirals C, corresponding with the left-hand spirals B and interwoven adjacent to the latter, as shown in the drawings in Figs. 3 and 4. This might be employed at the edges or at different points, either to afford additional security or for the purpose of varying the appearance of the fabric itself at these points.

When woven-wire fabric is employed for door-mats, and in some localities where it is desirable that they shall present as solid and compact surface as practicable, I propose to press the mat and so flatten down the different convolutions of the spirals. This may be accomplished, as shown in Figs. 5 and 6, by vertical pressure, or the said convolutions may be simultaneously tilted over and pressed down, as shown in Figs. 7, 8, and 9. This I would accomplish by causing the surfaces between which the fabric is pressed to have a motion past each other in the direction of the length of the helical wires, so that the loops or convolutions are simultaneously tipped over and flattened down. When this fabric is formed into a mat, it may be provided at two or more of its edges with a metallic binding D of any suitable character in the usual way.

I make no claim to a woven-wire fabric consisting of spirally-wound weft-wires, the warp-

wires being bent to form projections or corrugations at intervals, this being no part of my invention.

What I claim is—

5 1. A wire fabric consisting of flattened spiral coils A, interlocking with each other and lying in the same direction, and intermediate wires B, carried substantially parallel to said spirals and through the alternating coils of
10 the adjacent spirals, substantially as described.

2. A wire fabric consisting of a series of spiral wires, as A, having the spirals interlocked, and wires B, running substantially in the direction of the spiral wires, each of said wires
15 B passing through or interlocking with the alternate spirals or coils of the adjacent wires A, substantially as described.

3. In a wire fabric, the combination, with

spirally-wound wires, of locking-wires engaging therewith and running in substantially the same direction as the spiral coils and crossing each other between the points where they engage with said coils, each locking-wire passing alternately over the wire of one coil
20 25 and then under the wire of the adjacent coil, substantially as described.

4. The fabric shown, consisting of the spiral coils A, connected by wires B and C, running in substantially the same direction as
30 the coils and each engaging the adjacent coils alternately, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ISRAEL KINNEY.

Witnesses:

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M. B. O'DOHERTY.