(No Model.)

D. C. STOVER.

FLOOR COVERING.

No. 361,194. Patented Apr. 12, 1887.

Fig. 1.

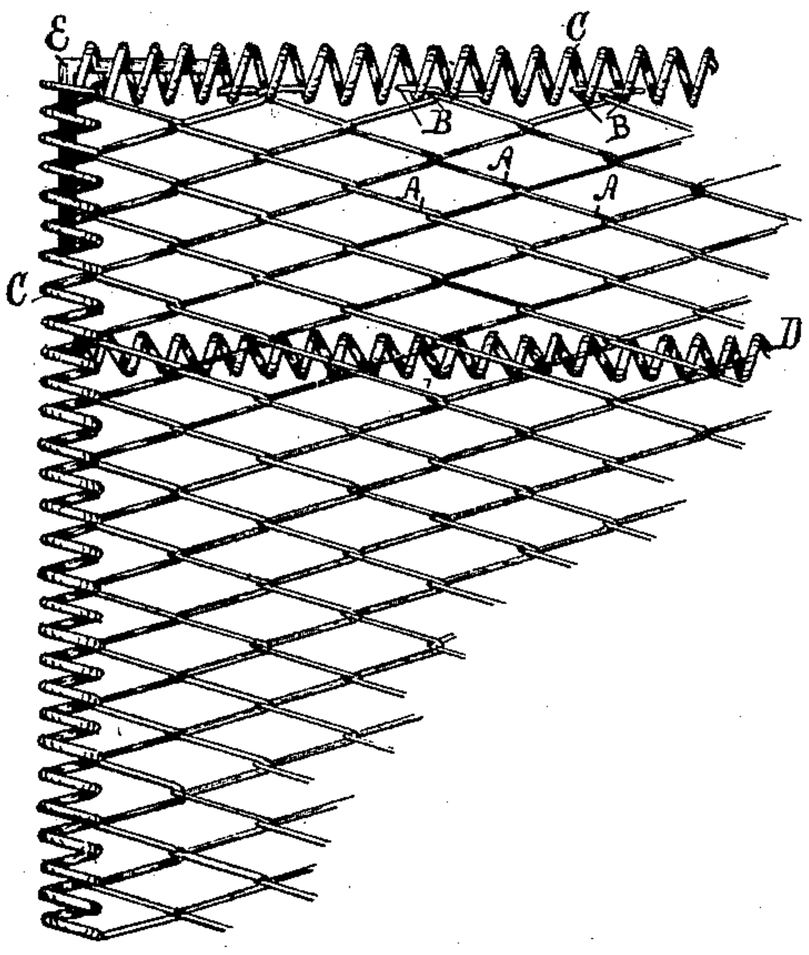

Fig. 3.

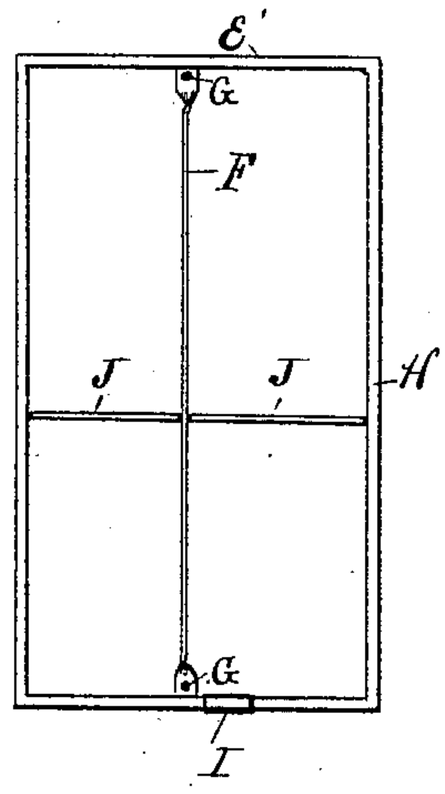

Fig. 2

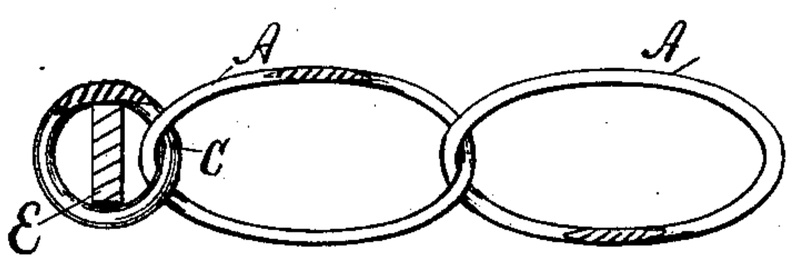

Fig. 4.

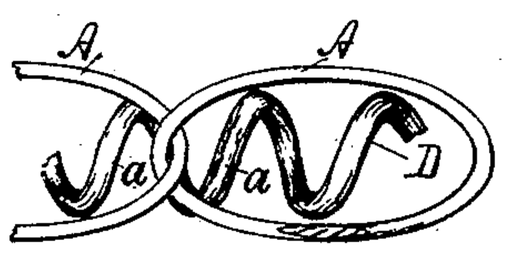

Fig. 5.

Witnesses.
C. H. Graham.
J. Horain

Inventor.
Daniel C. Stover
By Wilcox & Greene
Attorneys.

UNITED STATES PATENT OFFICE.

DANIEL C. STOVER, OF FREEPORT, ILLINOIS.

FLOOR-COVERING.

SPECIFICATION forming part of Letters Patent No. 361,194, dated April 12, 1887.

Application filed December 10, 1886. Serial No. 221,241. (No model.)

To all whom it may concern:

Be it known that I, DANIEL C. STOVER, a resident of Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Floor-Coverings; 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 pertains to make and use the same.

This invention is in floor-coverings formed partially or wholly from coils of wire, its object being to diminish cost while improving the appearance of the fabric and to secure permanence of form, combined with a certain degree of flexibility. Coils, preferably of wire larger than that forming the body of the fabric and of a diameter less than its thickness, pass through the fabric from edge to edge midway between its surfaces, and fix the position of each of the main coils composing the body of the net-work. Coils of similar construction engage the marginal coils of the net-work and form a lateral border, and other like coils engage the interlocked ends of the main coils, covering and securing them in position.

Figure 1 of the drawings, to which this specification refers, shows a portion of my floor-covering, seen from above. Fig. 2 is an enlarged view of the edge of the fabric, showing the ends of two main coils and an interlocking border-coil. Fig. 3 is a frame that may lie within the border-coils, crossed by ties and braces. Fig. 4 illustrates the spacing and holding of the main coils by the smaller transverse coils. Fig. 5 shows the position of the braces J with reference to the main coils.

In Fig. 1, A A are non-cylindrical coils, mutually interlocking to form the body of the floor-covering. They are parallel in the same plane, and their upper and lower surfaces present approximately horizontal segments of wire. Their ends B interlock, and are bent into hooks in the plane of the coils and nearly at right angles to their axes.

C are marginal coils of less diameter than the coils A A, and of larger wire. After the completion of the body of a piece of my fabric, these coils are rotated into position from one edge of the net-work, advancing after the manner of a screw, and in their advance they engage each turn of the marginal coil A when upon the side of the fabric, and each pair of interlocked ends B when upon the ends of the net-work. When coils of proper length have been thus secured upon the four edges, we have a uniform border of heavy wire, strengthening the fabric and improving its appearance. The ends B are practically protected and concealed. Within these border-coils, at each angle of the piece, are angle-irons. (Shown as flat strips of metal, Fig. 2.) They strengthen and prevent displacement of the coils at the corners. Their form is unimportant, so long as they are of a thickness less than the distance between two consecutive turns of the border-coils, so that their presence may offer no obstacle to screwing those coils into position, while their vertical diameter is equal to the internal diameter of said coils, which they thus support.

The coils A are non-cylindrical, as indicated in Fig. 4, and their interlocked ends are held against lateral as well as longitudinal motion by the coils C, for the pitch of the latter coils is such that two consecutive turns fall upon opposite sides of and in contact with each pair of interlocked ends B.

A coil, D, similar to the coils C, is inserted in a similar manner between the surfaces of the fabric, which it crosses from side to side transversely to the main coils. Each interlocking point of the main coils upon each side of the coil D is held thereby, Fig. 4, in the same manner as the interlocked ends B by the border-coil, and evidently the coils D may be inserted at intervals as frequent as may be deemed necessary. The ends of the coils D pass within the coils C, and are bent in such manner as not to be readily withdrawn, and the ends of the coils C are themselves bent about the angle-irons E, for the same purpose.

The transverse coil D, by embracing between its spirals the interlocking points of the parallel coils A A, effectually regulates and preserves the spacing of said coils, and at the same time, without reference to its engagement with the separate coils of the fabric, it adds materially to the transverse strength of the entire structure. The fabrics heretofore constructed of interlocking parallel coils have been intended for use as mattresses, and have

been subjected to longitudinal strain only, while the present fabric, being intended for a floor-covering, requires the transverse strength which may be added by the use of a suitable number of transverse coils.

The irons E may be of any length when great flexibility is not desired, or may be of one piece, as indicated in Fig. 3, the two meeting ends being inserted in a sleeve, I. This form offers no difficulty in putting the complete fabric into form with a border, for the frame may be laid over the body of the fabric and the coils C be screwed into place, binding all the parts together, as set forth above. When greater rigidity is desired, a tie or ties, F, Fig. 3, of a length equal to the inside length of the frame, and of the greatest size or width that can be passed readily between the upper and lower horizontal parts of the coils may be inserted. Perforations G serve for the passage of the border-coil C. For strengthening the fabric in the other direction, plain rods J, Figs. 3 and 5, are inserted, so as to be engaged by each of two adjacent interlocking coils, as shown in the latter figure, which is an end view of both coil and rod. This rod J does not pass through or into either the frame-bar H or the bar F; but it simply lies between them and prevents compression of the fabric. When the angle-irons E form a continuous frame or extend entirely through the coils C, it is not important that the wire from which the latter are formed shall be larger than the main-coil wire, except for the sake of appearance, since the frame prevents the crushing of the coils.

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

1. The combination, in a floor-covering, of a series of parallel wire coils forming the body of the fabric and a transverse wire coil forming a margin at the end of the fabric, the free ends of the wires of said parallel coils being interlocked with the spirals of said transverse coil, substantially as and for the purpose set forth.

2. In a floor-covering, the combination of a series of interlocking parallel wire coils having their interlocking ends bent approximately at right angles to the axes of the coils and transverse wire coils interlocking with and securing said bent ends, substantially as and for the purpose set forth.

3. In a floor-covering, the combination of a series of interlocking parallel coils of wire and a transverse coil of wire passing through the body of the fabric and embracing between its contiguous spirals the interlocking points of said parallel coils, whereby the proper space between the axes of said parallel coils is preserved, substantially as set forth.

4. In a floor-covering, the combination of a series of interlocking parallel wire coils, a transverse wire coil interlocking with the ends of said parallel coils, and a rigid angle-iron, one of whose members lies within said transverse coil, while its other member lies within the outermost of said parallel coils.

5. In a floor-covering, the combination of a series of interlocking parallel wire coils, transverse coils interlocking with the ends of said parallel coils, and angle-irons inclosed by said transverse coils and the outermost of said parallel coils and rigidly connected to form a frame, substantially as and for the purpose set forth.

6. In a floor-covering, the combination of a series of interlocking parallel coils of wire, transverse coils interlocking with the ends of said parallel coils, angle-irons inclosed by said transverse coils and the outermost of said parallel coils and rigidly joined to form a frame, and brace-rods joining the opposite members of said frame, substantially as and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

DANIEL C. STOVER.

Witnesses:
C. W. GRAHAM,
J. A. CRAIN.