

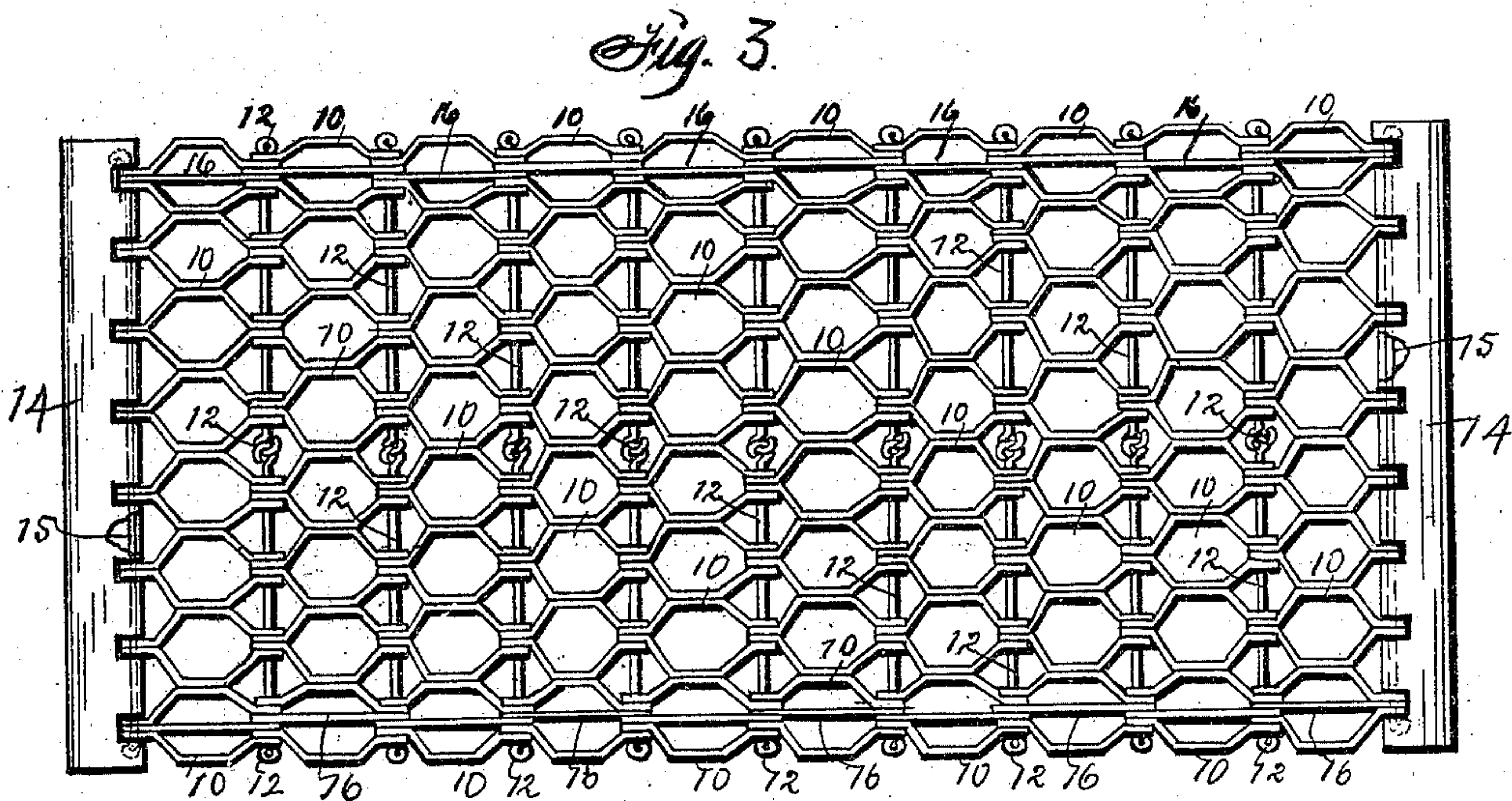
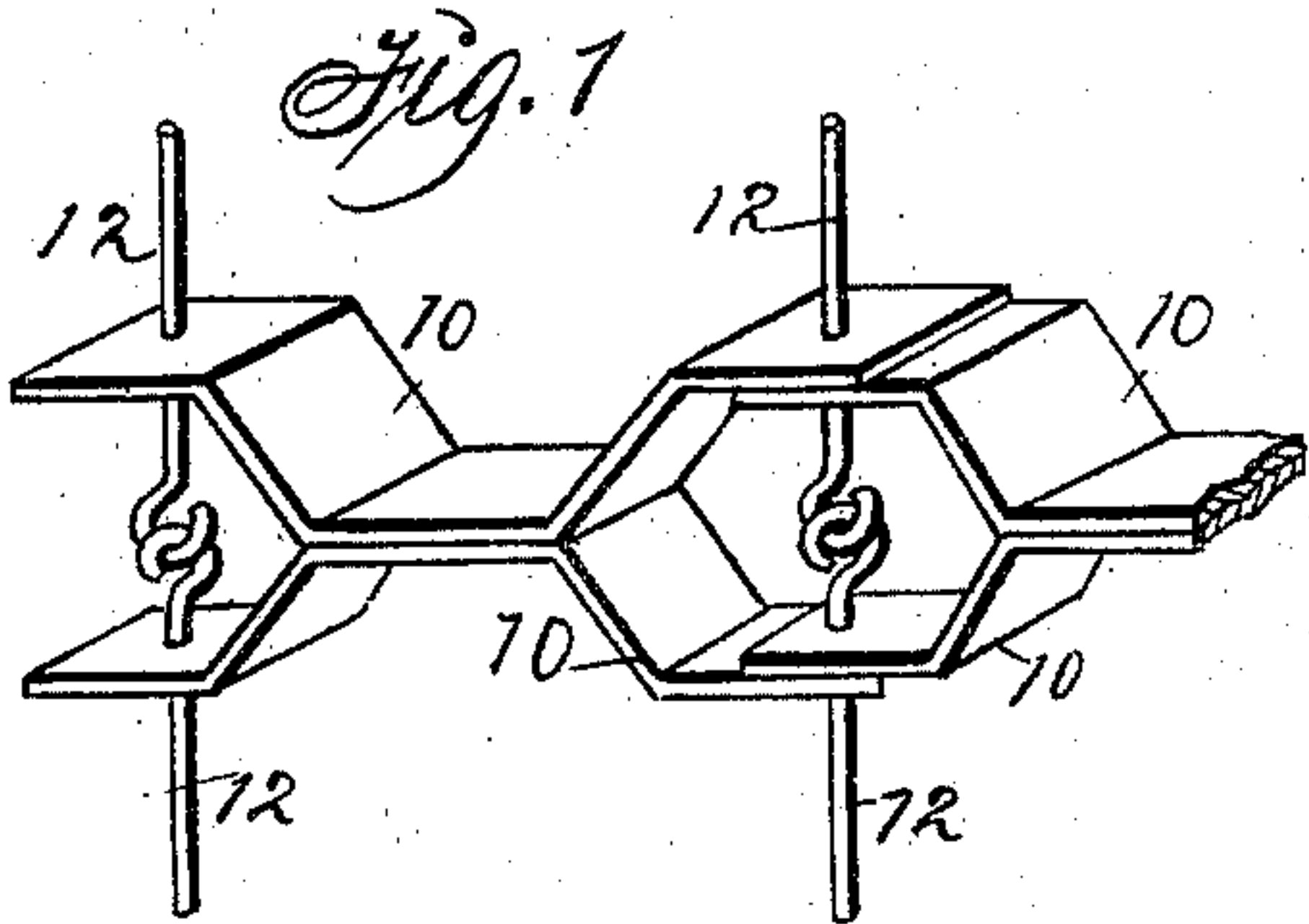
No. 705,601.

Patented July 29, 1902.

G. W. & H. McNEELY.
FLEXIBLE METAL FLOOR MAT.

(Application filed Dec. 13, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

GEORGE W. MCNEELY AND HENRY MCNEELY, OF MARSHALLTOWN, IOWA.

FLEXIBLE METAL FLOOR-MAT.

SPECIFICATION forming part of Letters Patent No. 705,601, dated July 29, 1902.

Application filed December 13, 1901. Serial No. 85,785. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. MCNEELY and HENRY MCNEELY, citizens of the United States, residing at Marshalltown, in the county of Marshall and State of Iowa, have invented a new and useful Flexible Metal Floor-Mat, of which the following is a specification.

Heretofore a flexible mat has been made of short flat metal pieces bent laterally at their centers and perforated at their ends and pivotally connected by means of wires extended through the perforations. The ends of mats have also been bound by means of flat lengths of sheet metal bent double from end to end along their central lines and hinged to the end rows of the short pieces by means of straight wires extended from one edge of the mat to the other; but wires thus applied are subject to be bent and bowed and will not resume straight parallel positions relative to each other because there are no longitudinal lines of flexure in the mat.

Our object is to provide flexure in such mats to allow the side portions of a mat to bend upward and downward a limited degree along longitudinal lines extending at right angles to the wires without bending the wires that extend transversely through the mat for pivotally connecting contiguous transverse rows of the short pieces by short straight pieces of wires flexibly connected at their ends, so that they will allow flexure of the mat along a longitudinal line, as required to retain the transverse rows of the short pieces of flat metal in straight lines when the mat is resting upon a flat surface.

A further object is to construct the sheet-metal binding-plates in such a manner that they will be uniform in thickness with the width of the short metal pieces, and consequently level with the top surface of a mat when it is flat on a floor, as required for practical use.

Our invention consists in the construction, arrangement, and combination of parts, as hereinafter set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view that shows how contiguous rows of short laterally-bent pieces are connected by pieces of wire that are linked together to produce flexure along

a longitudinal line in a mat. Fig. 2 is a transverse sectional view of a sheet-metal binding-strip that corresponds in thickness with the width of the short laterally-bent pieces, as required to keep the surfaces of the binding level with the surfaces of the mat. Fig. 3 is a top view of a complete mat and shows the relative positions of the different parts as required to produce flexure along longitudinal lines and also along transverse lines.

The numerals 10 designate short and flat metal pieces bent laterally at their central portions and perforated at their ends. Contiguous rows of the short pieces 10 are pivotally connected by short and straight wires 12, and the contiguous ends of the short wires are hinged together, as shown in Fig. 1, or in any suitable way that will allow flexure between them without bending them and also flexure along a longitudinal line in a complete mat, as required to prevent the wires from becoming bent to such a degree as to interfere with the mat being placed flat upon a floor without first straightening the wires.

A rigid metal binding-plate 14 to stiffen and strengthen the ends of a mat and to aid in keeping the mat square is made of a straight piece of sheet metal by doubling the parallel edges inward and toward each other twice to produce three overlying parts in each edge and then upon each other by doubling the plate at its central line to produce six overlying portions at that outer edge, as shown in Fig. 3. The binding-plate will thus be of uniform thickness and correspond with the width of the small pieces 10, that constitute the body portion of the mat.

To connect the binding-plates 14 with the ends of the mat, their inner edges are provided with transverse slots to admit overlying perforated ends of the short laterally-bent pieces 10, and by extending a wire 15 through the doubled inner edge portion of the binding-plate and the coinciding perforations in the ends of the short pieces 10 the binding-plates are securely hinged to the ends of the mat. To prevent longitudinal movement of the wires 15, their ends are bent backward, as shown, or otherwise fastened.

It is obvious the rigid binding at the ends of the mat may be omitted without affecting the operation of the short wires linked to-

gether at their inner ends to produce a sub-combination that is essential in providing flexure in longitudinal lines, as described.

5 Having thus described the purpose and construction of our invention, its practical utility will be readily understood by persons familiar with the art to which it pertains.

What we claim as new, and desire to secure by Letters Patent, is—

10 1. In a flexible metal mat a plurality of transverse rows of short pieces of flat metal bent laterally at their central portions and perforated at their ends and the contiguous rows pivotally connected by a plurality of
15 short wires linked together to produce flexure along lines extending at right angles to the wires for the purposes stated.

2. In a flexible metal mat, a binding-plate made of sheet metal and the parallel edges
20 doubled inward twice to produce three overlying portions at each edge of the plate and then doubled along a longitudinal central line to produce six overlying portions at the outer edge of the finished binding-plate and pro-
25 vided with a plurality of transverse slots in the inner edge of the plate and adapted to be

pivotally connected with the ends of an end row of short pieces of flat metal bent laterally at their centers and perforated at their ends in the manner set forth for the purposes 30 stated.

3. An improved flexible metal floor-mat comprising parallel transverse rows of short pieces of flat metal bent laterally at their center portions and perforated at their ends, a 35 plurality of straight pieces of wire extended through the overlying perforated ends of the short metal pieces bent laterally at their central portions and the contiguous ends of the wires linked together and binding-plates 40 made of sheet metal having six overlying parts at their outer edges and transverse slots at their inner edges pivotally connected with the ends of the mat, arranged and combined to operate in the manner set forth for the pur- 45 poses stated.

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