No. 690,551. Patented Jan. 7, 1902.

A. BAUMGARTEN.

MAT.

(Application filed Jan. 11, 1900.)

(No Model.)

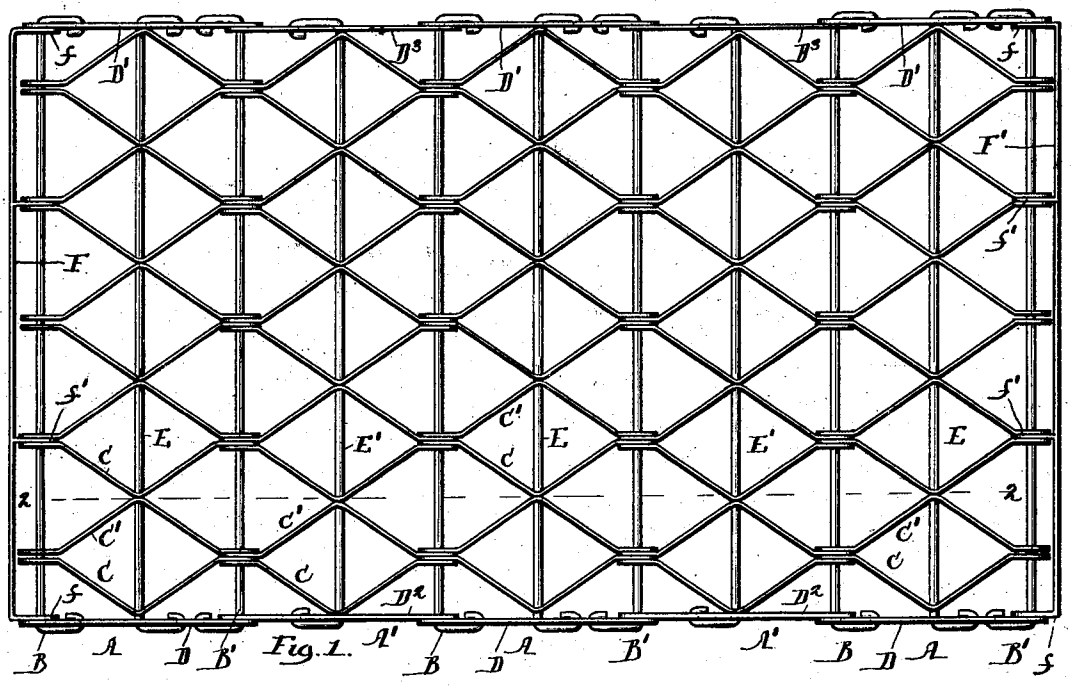


Fig. 1.

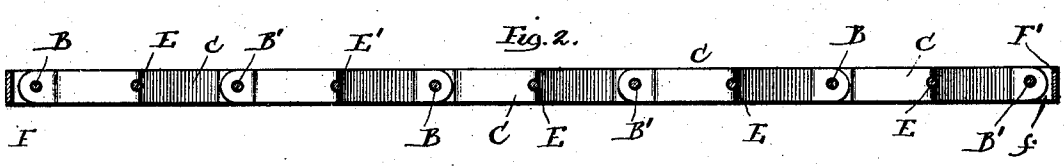


Fig. 2.

Fig. 3.

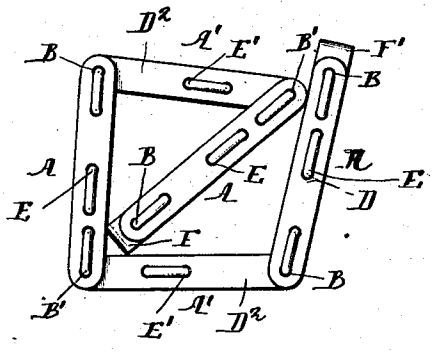
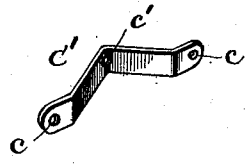


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT BAUMGARTEN, OF FREEPORT, ILLINOIS, ASSIGNOR TO McNEELY BROS., OF MARSHALLTOWN, IOWA, A FIRM COMPOSED OF GEO. W. McNEELY AND HENRY McNEELY.

MAT.

SPECIFICATION forming part of Letters Patent No. 690,551, dated January 7, 1902.

Application filed January 11, 1900. Serial No. 1,052. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BAUMGARTEN, a resident of Freeport, county of Stephenson, State of Illinois, have invented certain new and useful Improvements in Mats, of which the following is a full, clear, and exact description.

The invention relates to mats commonly used in doorways, halls, and like places for scraping and removing mud and other substances from boots and shoes. It has heretofore been customary to construct such mats of a series of strips or sections transversely arranged and hinged together to permit the mat to be rolled or folded for convenience in storing or transportation, and inasmuch as it frequently becomes necessary to remove the mat to enable the floor whereon it rests to be swept and also to move the mat to dislodge the mud and dirt accumulated in the meshes thereof. In such mats it has been common practice to employ flat strips of sheet metal bent into various shapes and extended transversely across the mat to form sections which could be rolled or folded—*i. e.*, a single strip of metal extended across the entire width of the mat. When, however, such mats were used upon a floor which had become unevenly worn, only parts of the mat would rest upon the floor, causing the thin metal strips to become warped and uneven, and, most likely, to be bent.

The present invention designs to provide a mat composed of metal strips which will to a considerable extent adjust itself to an unevenly-worn floor to avoid uneven strains upon the mat. The invention further designs to employ a series of short metal strips, which can be stamped or cut from waste material or material too short for ordinary purposes, and provide a simple inexpensive and effective construction of mat.

With these objects in view the invention consists, primarily, in constructing a mat of sections hinged together, so they can be rolled or folded, and forming the sections of a series of short strips connected by cross bars or rods, and in the several features of construction hereinafter described, illustrated in the accompanying drawings, and more particularly defined in the claims at the conclusion hereof.

In the drawings, Figure 1 is a plan view of a mat embodying the preferred form of the invention. Fig. 2 is a longitudinal vertical section taken on line 2 2 of Fig. 1. Fig. 3 is a view in side elevation of the mat when rolled or folded. Fig. 4 is a detail perspective view of one of the short strips of which the sections are formed.

A denotes a series of sections of the mat, and A′ denotes a series of sections of the mat intermediate the sections A, these sections being alternately arranged in longitudinal series. Each of the sections A comprises transverse bars or rods B and B′, a series of V-shaped strips C and C′, formed of flat sheet metal provided with perforations *c*, adjacent each terminal, through which the transverse bars B and B′ are extended, and side strips D and D′, wherein said bars are secured. The strips C and C′ are preferably V-shaped or expanded adjacent their central portions and extend longitudinally between the bars B and B′, are reversely arranged, and provided with central perforations *c*′, through which cross-rods E are passed. These cross-rods are also secured in side strips D and D′. Intermediate the sections A are arranged the sections A′, comprising side bars D^2 and D^3, pivoted on the transverse bars B and B′ of the contiguous sections, a series of V-shaped or expanded strips C and C′ extending longitudinally between the transverse bars B′ and B, which are extended through perforations *c*, adjacent the terminals thereof, and cross-rods E′, extending centrally through perforations *c* of the strips, and which are secured in the side strips D^2 and D^3. The transverse bars B and B′ serve as pivots or hinged connections between the several sections of the mat, which permit the sections to be rolled or folded. The strips C and C′ being cut from thin sheet metal leave the perforations *c* therethrough of insufficient width to retain these strips against vertical movement about the transverse bars; but the cross-rods E and E′ being extended through perforations *c*′ in the expanded portion or apex thereof retain the strips against much vertical play. It will

be understood, however, that the perforations *c* and *c'* are of sufficient size to allow the transverse pivot-bars and cross-rods to pass freely therethrough. A slight play of the strips C and C' is thus obtained, which permits all these strips to rest directly on an uneven floor to relieve the mat of undue strains to which it would be subjected if only certain portions of the mat were resting on a floor, and such play also permits the terminals of the expanded strips to yield laterally along the transverse bars. As seen in Fig. 1, the strips C and C' are reversely arranged, with the expanded portions or apices of the strips abutting against each other at the points where the cross-bars pass therethrough, and by such arrangement the strips are positioned laterally. The slight lateral play permits the terminals of the strips to spring or yield slightly when severe scraping is done, thus avoiding the breakage or bending which would result if the strips were rigidly secured. The transverse bars and cross-rods are preferably secured in the side strips by reverting the terminals through perforations in the side strips and also providing a hook-like terminal engaging the inner sides of the side strips. Such construction affords a simple and inexpensive manner of securing the side strips against transverse play on the transverse bars and cross-rods. End bars F and F', provided with inwardly-bent ends *f* and ears or lugs *f'*, each of which is provided with perforations through which the transverse bars of the end sections are extended, serve to give the mat a finished appearance.

Any desired number of sections may be provided, according to the length desired. The sections may be folded or rolled about the transverse pivot-bars, as clearly seen in Fig. 3 of the drawings, when the mat is to be transported or removed. The exact shape of the strips C and C' is not essential, but may be varied according to the appearance or effect desired.

A mat thus constructed possesses several important advantages. All the strips being short and of uniform shape may be cut or stamped from a single die and out of small pieces of sheet metal, known to the trade as "waste"—*i. e.*, pieces too small for ordinary uses. A further advantage is that the short strips, which are longitudinally disposed and arranged laterally, having a slight play upon the cross-connectors will always rest upon the floor when in use, even though it be uneven, thus avoiding the warping or contorting which usually occurs when long transverse strips are employed in the sections thereof. A further important resultant advantage in employing short strips having expanded or V-shaped central portions is that these possess a degree of elasticity, and when subjected to severe lateral strains the perforated terminals, being loose about the transverse bars, can yield slightly, which will prevent the strips from becoming bent or broken.

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

1. A mat comprising a series of sections pivotally connected together, said sections being formed of a plurality of longitudinally-disposed strips bent laterally at their central portions, transverse rods extending through said strips and forming pivots to permit the sections to be folded, and cross-stays extending through said strips intermediate the transverse rods.

2. A mat comprising a series of sections pivotally connected together, said sections being formed of a plurality of longitudinally-disposed strips bent laterally at their central portions, transverse rods extending through perforations adjacent the terminals of said strips and forming pivots to permit the sections to be folded, cross-stays extending through said strips intermediate the transverse rods, and side bars wherein the transverse rods and cross-stays are retained.

3. A mat comprising a series of sections pivotally connected together, said sections being formed of a plurality of longitudinally-disposed strips bent laterally at their central portions, side bars and transverse rods extending through said strips and bars forming pivots to permit the sections to be folded, the terminals of said rods being bent inwardly and extended through perforations in said bars to retain the bars against lateral play on the rods.

4. In a metal door-mat the combination of a plurality of short flat pieces of metal bent laterally at their central portions and their straight end portions perforated and straight wires extended through the mating perforated ends to pivotally connect the flat end portions for the purposes stated.

5. A flexible metal door-mat consisting of short pieces of flat metal, each bent laterally into angular form at its center and perforated at their ends, straight round wires extended through its mating parallel and overlying perforated ends and provided with heads at their ends to operate in the manner set forth for the purposes stated.

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