

T. J. MACCARTHY.

DOOR MAT.

APPLICATION FILED NOV. 21, 1903.

Fig. 1. 3

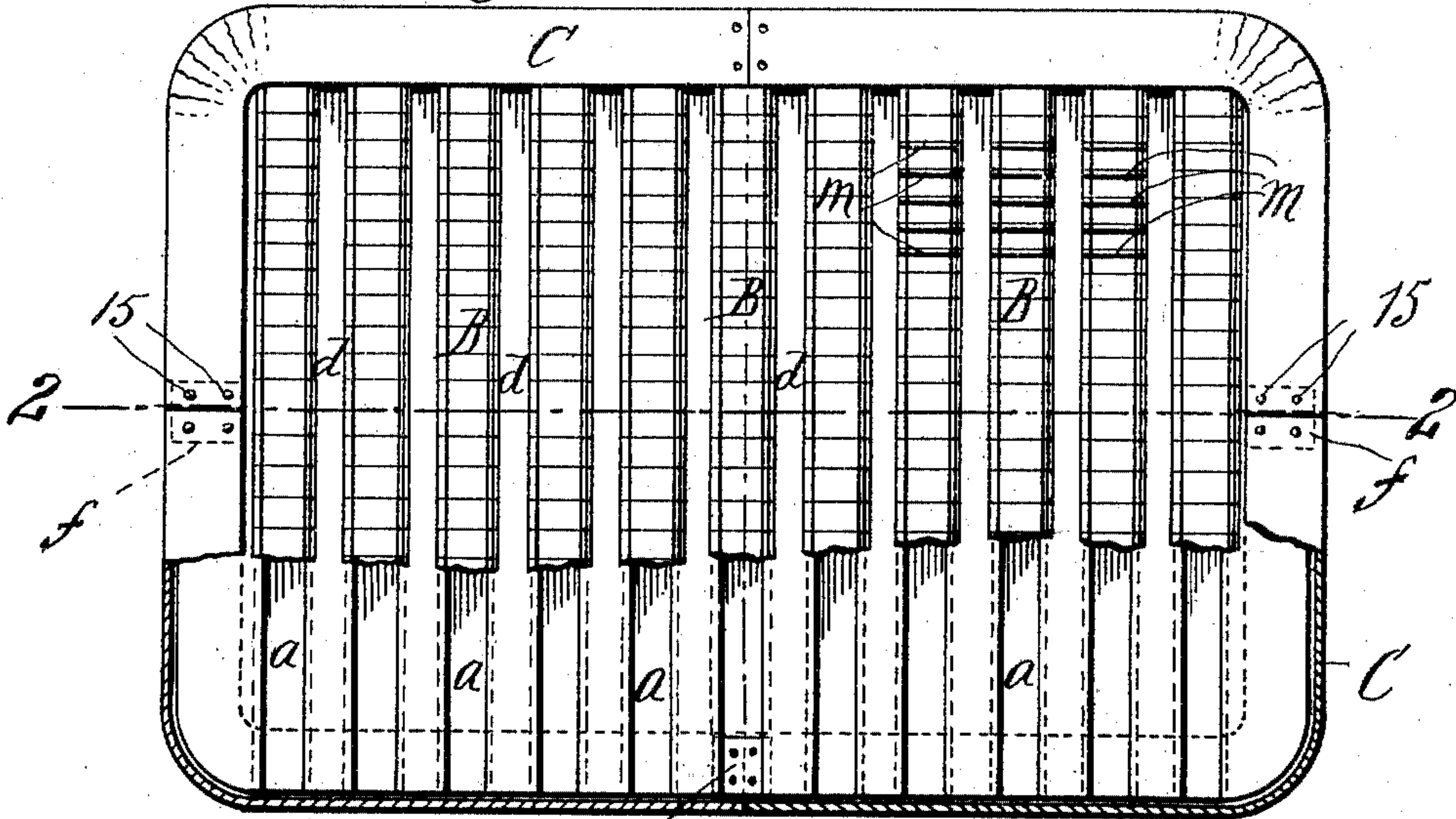


Fig. 2. 3

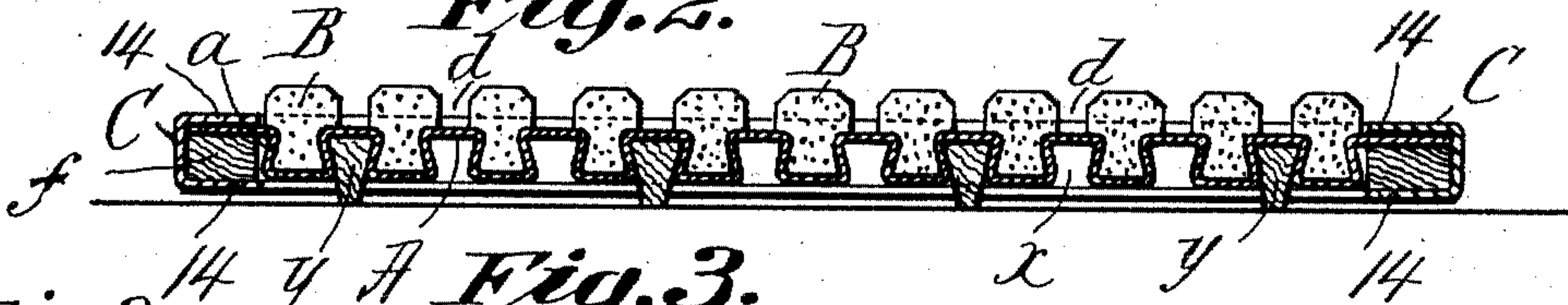


Fig. 3.

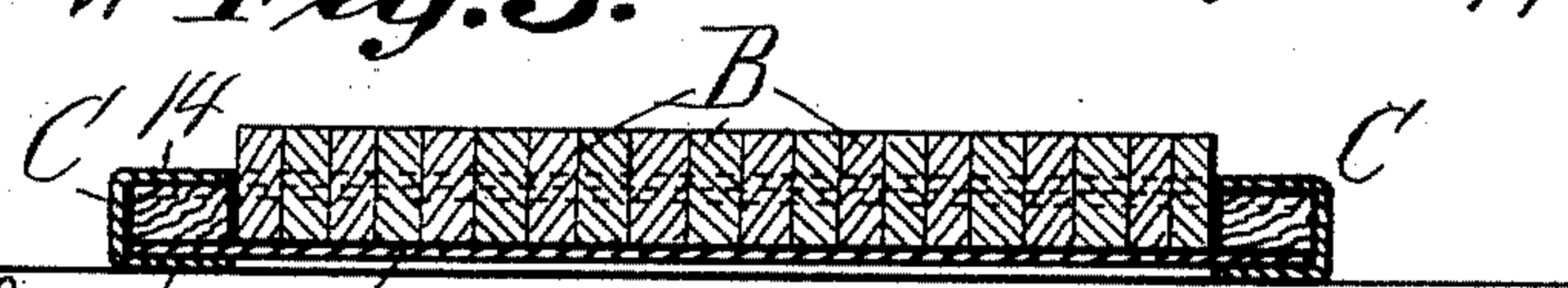


Fig. 9.

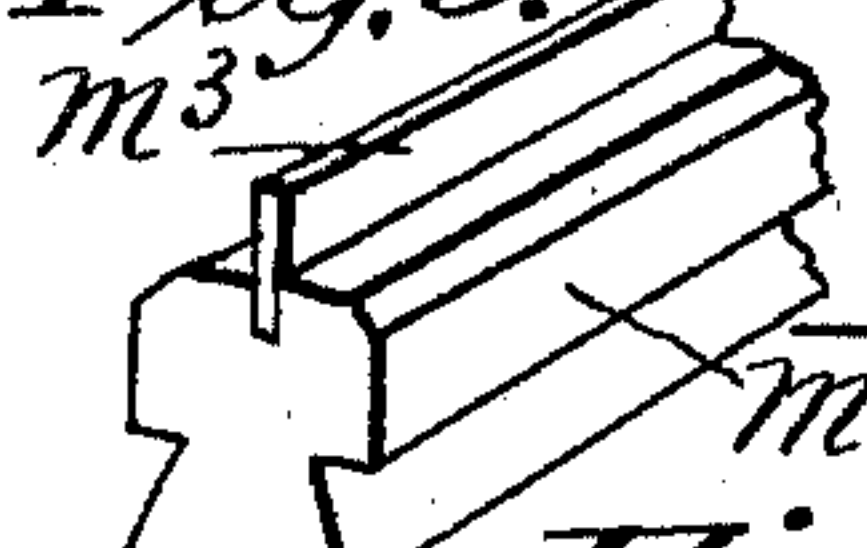


Fig. 8.

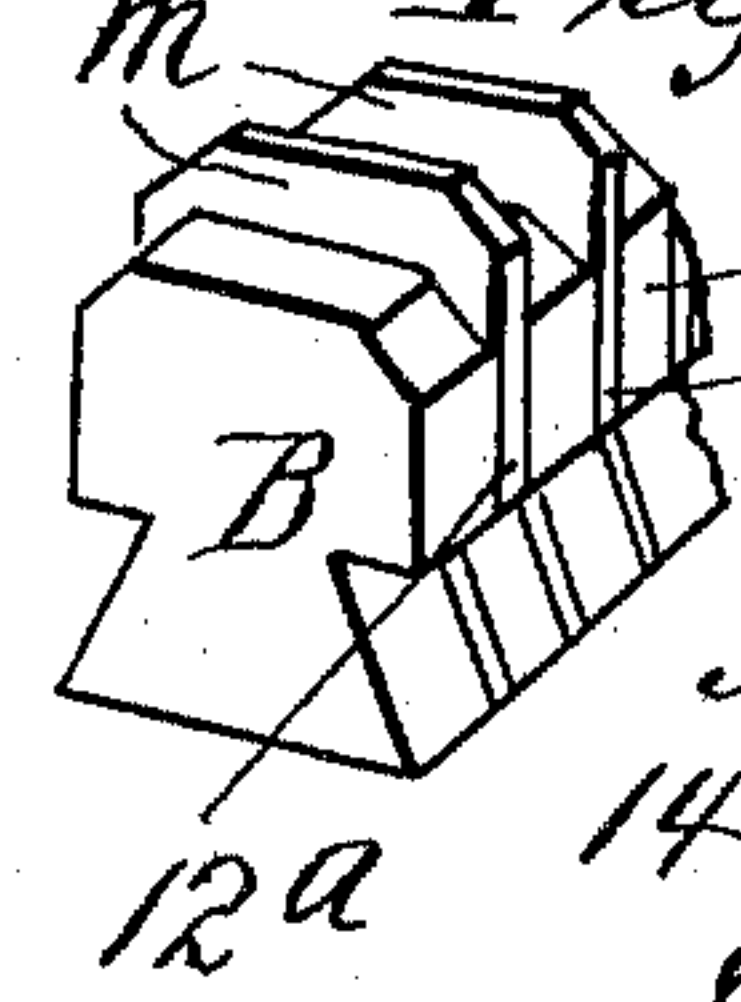


Fig. 4.

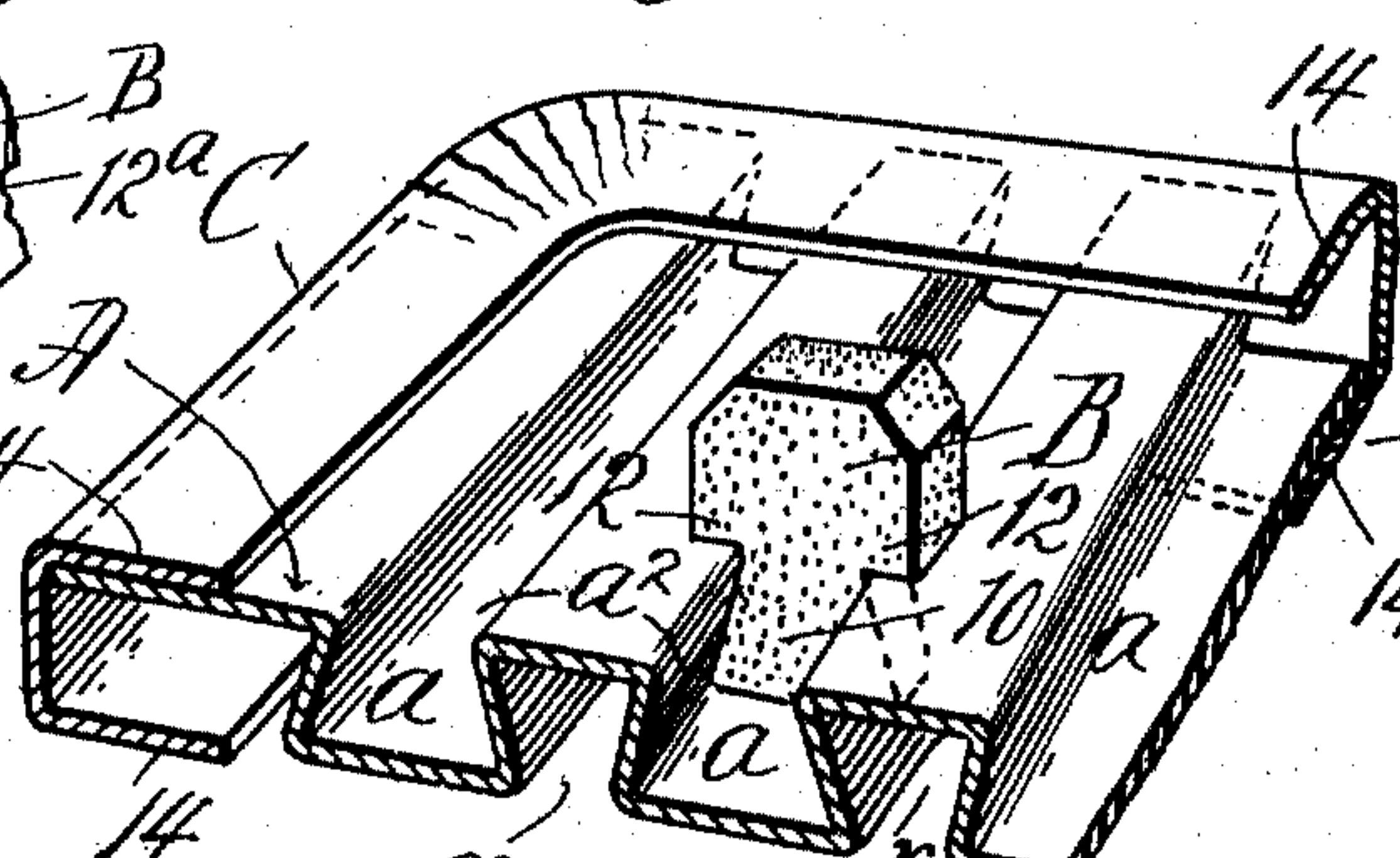


Fig. 6.



Fig. 7.

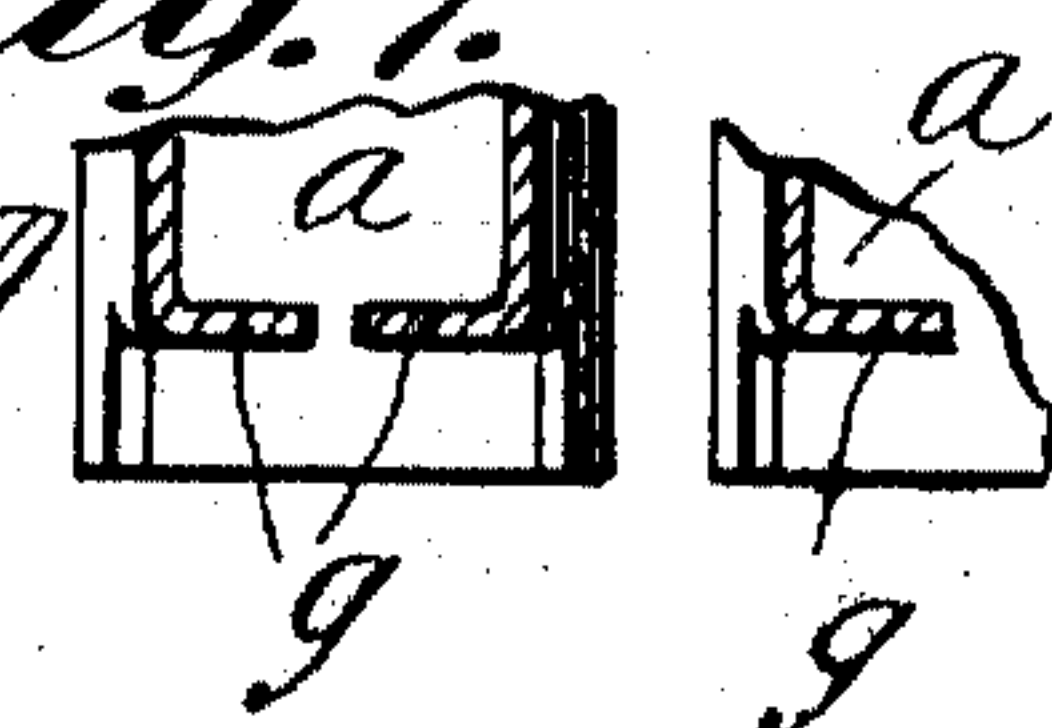
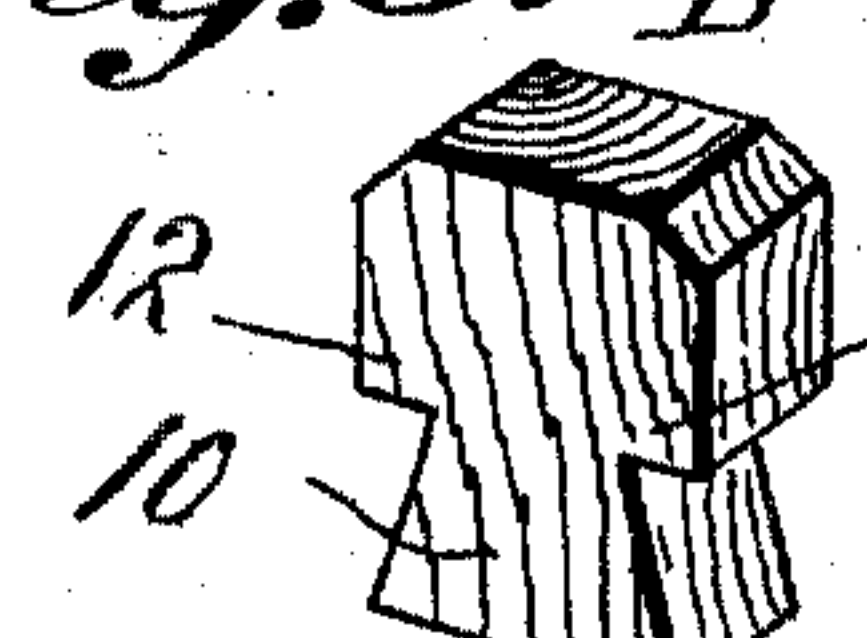


Fig. 5. B



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UNITED STATES PATENT OFFICE.

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DOOR-MAT.

SPECIFICATION forming part of Letters Patent No. 780,298, dated January 17, 1905.

Application filed November 21, 1903. Serial No. 182,059.

To all whom it may concern:

Be it known that I, TIMOTHY J. MACCARTHY, a citizen of the United States of America, and a resident of Holyoke, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Door-Mats, of which the following is a full, clear, and exact description.

This invention relates to improvements in a door-mat or flooring, and has for its object to provide a structure having good capabilities as a mat or flooring, affording a good and satisfactory tread, being very durable in protracted use, susceptible of having the portions or sections thereof which constitute the tread replaced or renewed after they have become too much worn down, cheap and practicable of construction, and permitting in a convenient manner the sweeping away from the mat or flooring or removal otherwise of the accumulated dirt.

The invention consists in a structure of the character and for the purpose set forth of a holder, preferably of thin sheet metal, formed with a plurality of channels having the upwardly-opening mouths thereof contracted, and a plurality of tread-constituting members having lower portions thereof engaged in said contracted-mouthed channels and protruding above the top of the holder and constituting the tread of the mat or flooring.

The invention, furthermore, comprises further structural features and arrangements or combinations of parts, all substantially as hereinafter fully described, and set forth in the claims.

The present invention is exemplified as embodied in a door-mat.

In the drawings, Figure 1 is a plan view with one side portion in horizontal section and the tread-constituting members at such portion understood as omitted. Fig. 2 is a sectional view on a plane from end to end of the mat and transversely of the channels of the holder as taken on the line 2 2, Fig. 1. Fig. 3 is a section as taken on the line 3 3, Fig. 1, at right angles to the view, Fig. 2. Fig. 4 is a perspective representation of portions of the mat for increased clearness of

illustration. Fig. 5 is a perspective view of one of the tread-constituting sections of which in a completed mat there are multiplied series. Fig. 6 is an elevation at one edge portion of the holder, showing features of construction hereinafter referred to. Fig. 7 is a horizontal sectional view of the construction shown in Fig. 6 and as taken on the line 7 7. Figs. 8 and 9 are perspective views of details of construction hereinafter referred to.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents the holder of the mat, the same being constructed with a plurality of parallel channels *a*, the mouths *a*² of which are upwardly opening and contracted.

B represents the tread-constituting members, the lower portions of which are of proper shape to be disposed and engaged within the upwardly-opening contracted-mouthed channels, and the height of these members is such that they protrude above the top surface of the holder.

In the construction of the mat as particularly represented the holder is constituted by a sufficiently-long strip of sheet iron, steel, or other suitable metal having uniform width and corrugated so as to form double series of parallel channels having in cross-section dovetail contour, one set thereof having their contracted mouths upwardly opening, while the other set thereof have their contracted mouths opening downwardly at the bottom of the holder.

As shown, the tread-constituting members comprise series of narrow blocks or sections B, sufficient numbers thereof being inserted in the several channels with their vertical side faces adjoining, and fill up the channels in their entire lengths crosswise of the mat, excepting at the marginal portions of the holder, at which border strip or strips C are provided. The said sections or members engaged in the channels and protruding above the top of the corrugated metallic holder are to be composed of any material, substance, or composition having fitness for the purpose. In some cases the sections may be of leather, which is con-

sidered a very satisfactory tread-constituting material. In place of leather, however, rubber in any of its compositions or semi-elastic compounds, wood, cork, or compositions thereof, "linoleum" substance, paper, felt, or fiber, or any combinations of these or other materials which are non-metallic and selected with reference to capability of compression or some degree of elasticity, may be utilized.

The sections have dovetailed base portions 10 and wings 12 12 projecting at opposite edge portions thereof to overlie and rest upon the top of the holder at the portions which constitute the margins to the upwardly-opening channels. The widths of the wing-provided tops of the tread-constituting portions are not so great, however, that those of one series reach to and contact with those of the next series, so that, therefore, grooves or furrows, as represented at d d , extend in parallelism crosswise of the mat, the bases thereof being constituted by the top portions of the metallic holder intermediate of the upwardly-opening channels a , and hence the accumulations of dirt may be easily swept out from the mat, or by turning the mat edgewise upward the dirt may be shaken out.

In some or all of the downwardly-opening channels x of the holder blocks, strips, or sections y of any desired length and of suitable height may be engaged, these strips being composed of wood or any other suitable sound-deadening material, the lower downwardly-protruding portions thereof resting on the floor and supporting the mat very slightly thereabove.

Suitable means are to be employed for the retention of the strips or sections B in the channels a and against displacement at the ends of the channels, and the mat is also equipped with a bordering strip, in the present instance indicated as of a cross-sectional U form and understood as being made of thin sheet metal, the upper and lower leaves 14 14 thereof embracing the marginal portions of the holder overlapping thereon, as shown, and secured in any suitable manner as by riveting, as indicated at 15. At the places where the riveting is done, and more especially at the ends of the mat, reinforcing-blocks f are provided, substantially as shown. The U-shaped metallic border-strips may, as shown in Fig. 1, be constituted by four sections of right-angular shape or may be made in two sections each of the form of half a parallelogram. The border-strip may be applied and secured at and about the rear marginal portion of the holder, the tread-constituting sections or strips may be filled into all of the channels and crowded against the rear edge border, and then the front edge border may be brought to place and there permanently secured. Other form of border than that specifically shown might be provided, and either in substitution thereof or in addition thereto,

as the means for limiting or retaining the tread-constituting portions in place, lips or ears, as represented at g in Figs. 6 and 7, might be angularly formed by slitting the portions of the sheet-metal holder which constitute the walls of the channels a at the ends of the latter and bending the portions between the slits crosswise of the channel.

The individual sections B, whether of leather, wood, or other material, each having in itself small bulk, may be economically worked up from waste products, and while the sectional formation of the portions which constitute the tread-ribs in parallel series is practical and desirable nevertheless mats or flooring structures may be produced in which in the place of a multiplicity of thin sections comparatively long strips having proper cross-sectional shape and dimensions may be used.

Within a given area on the mat, which may be as slight or extended as desirable, a plurality of metallic sections m m may be interposed and held confined between the tread-constituting sections B B to provide a scraping portion of and for the mat, said sections having the same shape at the base as the sections B to fit in the dovetail channels and also having portions 12^a, corresponding to wings 12, to rest on the top of the metallic holder; but these metallic plates m are, as shown in Fig. 8, somewhat higher than the sections B. In Fig. 9 the scraper appliance is indicated as constituted by a base and wing provided bar-like body m^2 , arranged to engage in and with the dovetail channeled holder and having a suitably-lengthwise-extended upstanding scraper-blade m^3 , the body m^2 being engaged and retained in place, as manifest, in one of the dovetail channels of the holder.

Various changes from the forms as specifically shown may be made without departing from this invention, and more or less range of variation in structure and substitution of material may be permitted within the scope and spirit of this patent.

The mats may be made in any dimensions and proportions and with reference to their use, whether indoors or outside, and are especially available in cars, church-aisles, corridors, and many other places.

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

1. A structure of the character set forth, consisting of a holder constructed of sheet metal bent on parallel lines to provide a plurality of dovetail upwardly-opening channels, and a plurality of tread-constituting members having lower portions thereof of dovetail shape engaged in said channels and protruding above the top of the holder.

2. A structure of the character set forth, consisting of a holder constructed of sheet metal bent on parallel lines to provide a plurality of dovetail upwardly-opening channels,

the metal between the channels constituting substantially flat bearing-surfaces that are elevated above the base of the channels, and a plurality of tread-constituting members having lower portions thereof engaged in said dovetail channels and upper portions protruding above the flat bearing-surfaces, said tread members having wings projecting at opposite edge portions thereof that overlies and rest upon the flat bearing-surfaces.

3. A structure of the character described, comprising a holder consisting of a strip or plate of sheet metal bent on parallel lines to provide a plurality of upwardly and downwardly opening channels having the mouths thereof contracted, and a plurality of tread members having lower portions thereof engaged in said upwardly-opening channels, said tread members projecting above the top of the holder and separated from each other along their longitudinal edges to provide a channel between each pair of such members.

4. A structure of the character set forth, consisting of a holder constructed with a plurality of upwardly and downwardly opening channels having the mouths thereof contracted, and a plurality of tread-constituting members, having lower portions thereof engaged in said contracted-mouthed upwardly-opening channels, and protruding above the top of the holder, and a plurality of sound-deadening pieces engaged in the downwardly-opening channels, and projected below the bottom of the holder.

5. A structure of the character set forth, consisting of a holder constructed with a plurality of parallel channels extending from side to side thereof having the upwardly-opening mouths thereof contracted, and a plurality of tread-constituting blocks of compressible material having lower portions thereof engaged in said contracted-mouthed channels, and protruding above the top of the holder, and lips or ears at the ends of the channels for retaining said blocks against displacement from the channels.

6. A structure of the character set forth, consisting of a holder constructed of sheet metal bent to form a plurality of dovetail upwardly-opening channels, and a plurality of tread-constituting members, having lower portions thereof of dovetail shape engaged in said channels, and protruding above the top of the holder, and having wings resting on the top of the holder adjacent the mouths of the channels.

7. A structure of the character set forth, consisting of a holder constructed of sheet metal bent to form a plurality of dovetail upwardly-opening channels, and a plurality of relatively intermediate dovetail downwardly-opening channels, a plurality of tread-constituting members, having lower portions thereof of dovetail shape engaged in said upwardly-opening channels, and protruding above the

top of the holder, sound-deadening sections engaged in the downwardly-opening channels, and protruding below the bottom of the holder, and means for retaining said members and sound-deadening sections against displacement from the respective channels.

8. A structure of the character set forth, consisting of a holder constructed of sheet metal bent to form a plurality of dovetail upwardly-opening channels, and a plurality of tread-constituting members, having lower portions thereof of dovetail shape engaged in said channels, and protruding above the top of the holder, and strips cross-sectionally of U shape embracing marginal portions of the holder, for the purpose set forth.

9. In a mat, a holder, constructed of sheet metal and bent along parallel lines forming downwardly-opening dovetailed channels, and having at its top, sections of non-metallic material constituting the tread, and sections of sound-deadening material engaged in said downwardly-opening channels, and protruding below the bottom of the holder.

10. A structure of the character set forth, consisting of a holder of sheet metal bent to form a plurality of dovetailed upwardly-opening channels, a plurality of tread-constituting members having lower portions thereof of dovetail shape engaging in said channels, and protruding above the top of the holder, strips cross-sectionally of U shape embracing marginal portions of the holder, reinforcing-blocks inclosed by the U-shaped strips, and overlapped by the holder, and rivets fastening said adjoined portions of the holder, strips, and blocks.

11. In a structure of the character described, a sheet-metal holder corrugated and comprising upwardly-contracted channels, tread-constituting sections engaged in said channels and protruding above the top of the holder, and said holder having portions of the metal thereof displaced across the channels at the ends thereof for the retention of the sections.

12. A structure of the character set forth, consisting of a holder constructed with a plurality of channels having the upwardly-opening mouths thereof contracted, and a plurality of tread-constituting members, having lower portions thereof engaged in said contracted-mouthed channels, and having portions thereof protruding above the top of the holder wider than the channel-mouths, and in bearings on the top of the holder adjacent the channels, the edges of the upwardly-protruding portions of one series of sections being separated from the corresponding edge portions of the next series, whereby parallel grooves are produced, the bases of which are formed by the top of the holder, for the purposes set forth.

13. A structure of the character set forth, consisting of a holder constructed with a plurality of dovetail channels, a plurality of tread-constituting members having base portions en-

gaged in said channels and protruding there-
above and a scraper appliance comprising a
base portion having a shape to engage in one
of the channels, and having its edge portion
5 protruding upwardly higher than the tops of
the tread-constituting members.

14. A structure of the character set forth,
consisting of a holder, a plurality of tread-
constituting members carried by said holder

and protruding above the same, and scrapers 10
projecting above said tread members.

Signed by me at Springfield, Massachusetts,
in presence of two subscribing witnesses.

TIMOTHY J. MacCARTHY.

Witnesses:

WM. S. BELLOWS,
A. V. LEAHY.