(No Model.) 2 Sheets—Sheet 1.

H. BEISHEIM.

MAT.

No. 496,216. Patented Apr. 25, 1893.

Fig. 1.

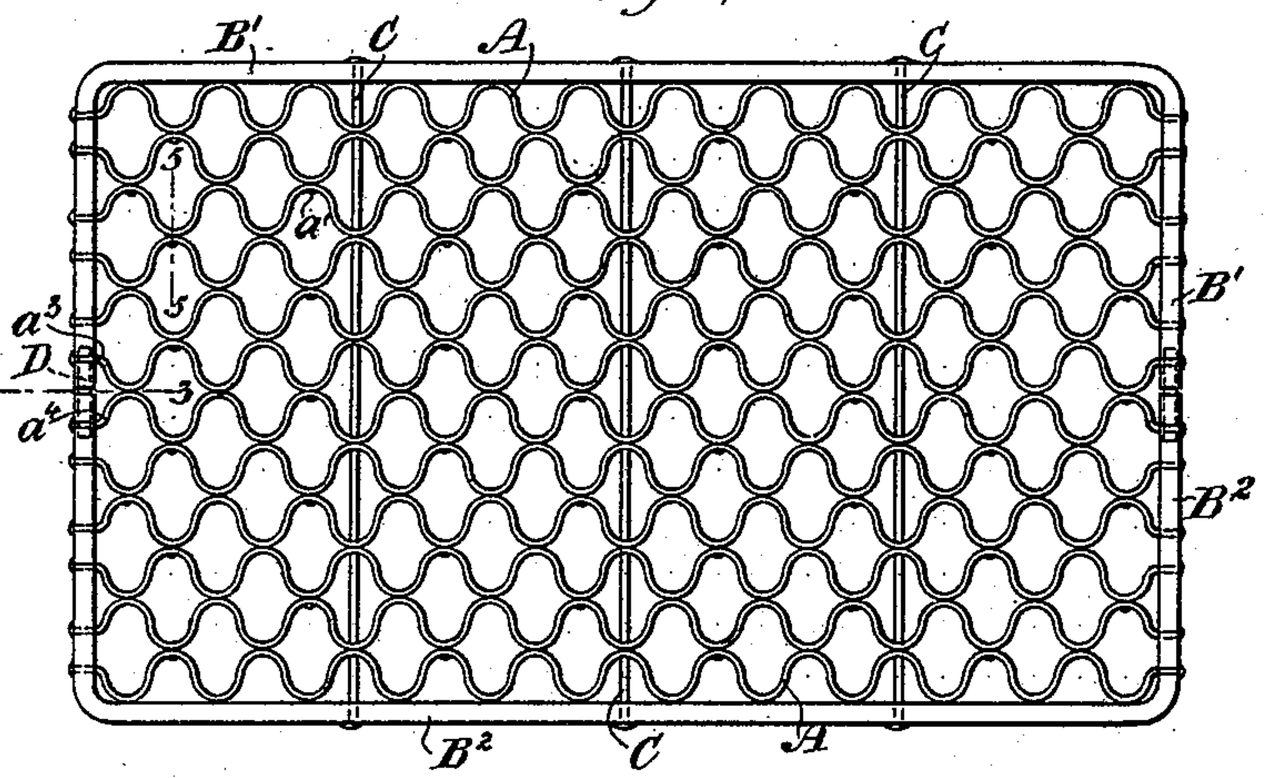

Fig. 2.

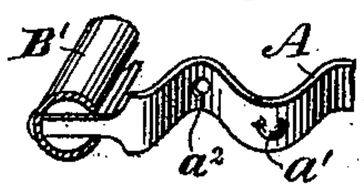

Fig. 3.

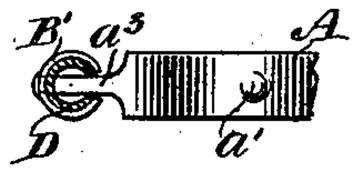

Fig. 4.

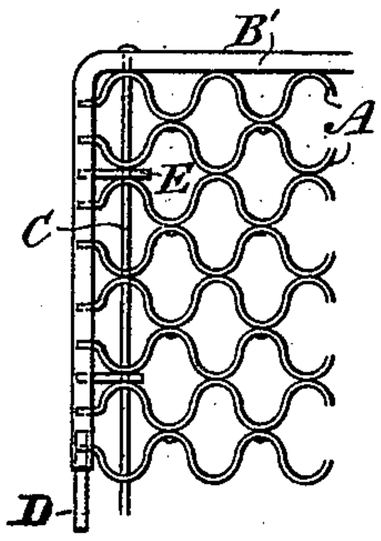

Fig. 5.

Fig. 6.

Witnesses
Edward Thorpe
H J Johnson

Inventor
Henry Beisheim
By his Attorneys
Murphey & Metcalf

(No Model.) 2 Sheets—Sheet 2.

H. BEISHEIM.

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No. 496,216. Patented Apr. 25, 1893.

Fig. 7.

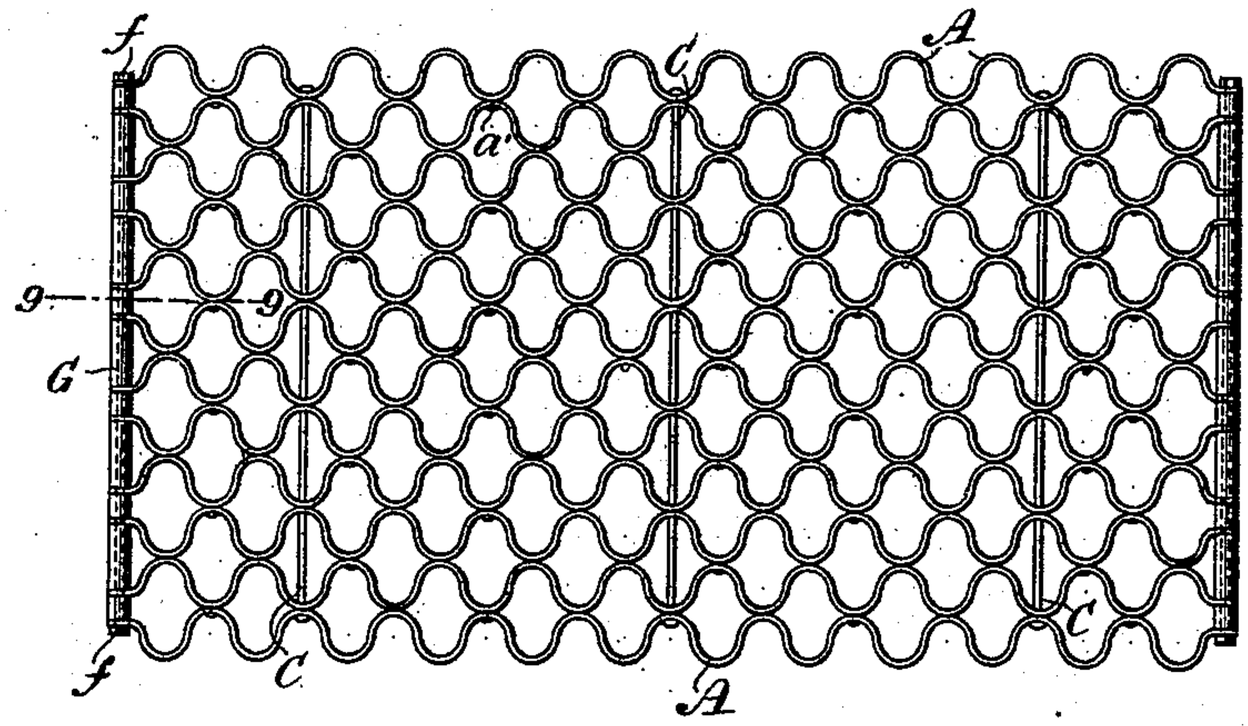


Fig. 8.

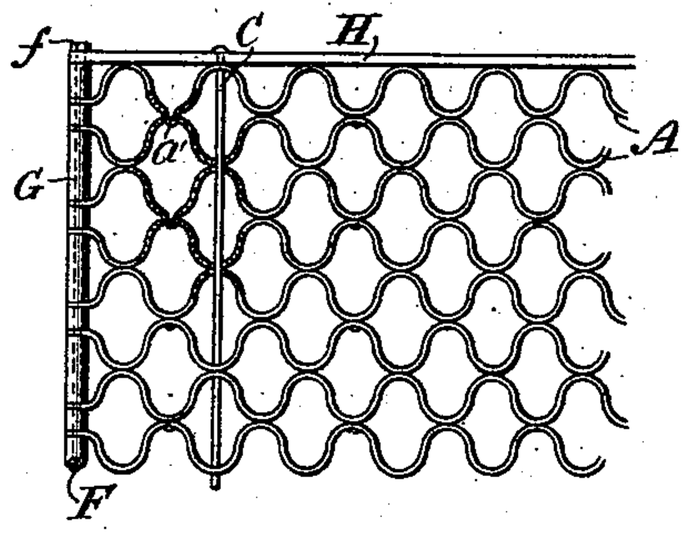
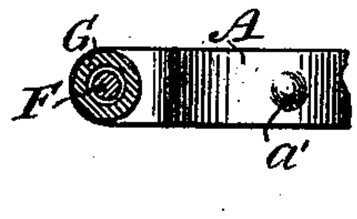


Fig. 9.



Witnesses
Edward Thorpe
N J Johnson

Inventor
Henry Beisheim
By his Attorneys
Murphey & Metcalf

UNITED STATES PATENT OFFICE.

HENRY BEISHEIM, OF JERSEY CITY, NEW JERSEY.

MAT.

SPECIFICATION forming part of Letters Patent No. 496,216, dated April 25, 1893.

Application filed April 16, 1892. Serial No. 429,437. (No model.)

To all whom it may concern:

Be it known that I, HENRY BEISHEIM, a citizen of the United States, residing at Jersey City, New Jersey, have invented certain new and useful Improvements in Mats, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of mats which are composed of a series of strips formed usually and preferably of metal.

The object of my invention is to provide a mat which shall be light, durable, easily constructed and ornamental, and which shall possess the requisite strength of construction without being absolutely rigid and unyielding to the feet.

To this end my invention consists in the novel details of construction and arrangement and combination of parts which are herein shown and described and specifically pointed out in the claims.

In the accompanying drawings Figure 1 is a plan view of a mat embodying my invention. Fig. 2 is a perspective view showing the end of one of the strips and the manner in which it is connected to the frame. Fig. 3 is a sectional view on the line 3—3 (Fig. 1). Fig. 4 is a partial plan view showing a modified construction. Fig. 5 is a detail sectional view on the line 5—5 (Fig. 1). Fig. 6 is a detail view showing one of the clips employed in securing the strips to the ends of the frame in the modified construction shown in Fig. 4. Fig. 7 is a plan view showing a modified construction. Fig. 8 is a partial plan view showing a modified construction. Fig. 9 is a detail sectional view on the line 9—9 (Figs. 7 and 8).

Similar letters are employed to designate corresponding parts in all the views.

In carrying out my invention I employ a series of metal strips A which are suitably corrugated, and are preferably secured in a frame. The frame is usually formed in two sections B′ B^2, and of tubular slotted material bent to the desired shape. The strips A and frame sections B′ B^2 are secured in place by the stay rods C, which pass through all the strips and the side portions of the frame sections, and the ends of which are upset against the sides of the frame. A yielding engagement is formed between the strips A by forming small projections a' on the apices of some of the corrugations, and by punching holes or recesses a^2 in the abutting corrugations of the adjacent strips so as to engage with the projections a'. The ends of the strips A are reduced in width so as to enter the slots in the end portions of the tubular frame sections. These reduced ends (Fig. 1) pass through holes formed in the frame, and are upset against the outside thereof. A short piece of metal D, preferably of tubular form, and of the proper size to enter the tubular frame is placed within the abutting ends of the frame sections. Two holes are punched in the connecting piece or sleeve D, one of which shall register with the last hole formed in one frame section, and the other of which shall register with the corresponding hole on the other frame section when said sections are placed in position. The end a^3 of one of the strips A is passed through one hole in the sleeve, and through the last hole on one frame section and secured in place as above described, and the end a^4 of the next strip passes through the other hole in the sleeve D, and through the last hole on the other frame section and is secured as above described, by which means the two frame sections may be expeditiously secured in place, and the fastening prevents the ends of the frame from spreading or becoming distorted, and this is accomplished without detracting in any manner from the appearance of the mat.

In Fig. 4 is shown a modified construction, in which the ends of the strips A merely enter a slot in the frame sections, being held in place therein by clips E, which are secured to the stay rods C, and which are provided with heads larger than the slot in the frame sections, so that when the heads of the clips are inserted in the tubular frame sections, as shown in Fig. 6, any longitudinal movement of the ends of the strips A will be prevented.

In Fig. 7 I show a construction in which the frame is entirely dispensed with. In this form of mat the ends of the strips are perforated, and a rod F is passed through them, and separators G are inserted between the ends of the strips to hold them in position. The strips and separators are held in position

on the rods by nuts *f*, or other suitable fastening devices.

In Fig. 8 is shown a similar construction, in which the mat is provided with side bars or rods H, through the ends of which the rods F pass, and to which the outside strips of the mat may be secured if desired.

As my improved mat can be made without the employment of the expensive machinery usually required to fasten the strips to each other, and as no labor of any kind is required for the purpose beyond the punching of the projections a' and perforations or recesses a^2 in the strips, I am enabled to produce a mat at the lowest possible cost.

My improved mat is particularly desirable for use in elevators, where it is employed as a floor covering also.

Where the strips forming the body of the mat are fastened together in the manner heretofore in vogue, to wit: by forming tongues on one strip, passing them through perforations on the adjacent strip, and then clinching the tongues, the mat is perfectly rigid and unyielding to the feet, making it uncomfortable to stand on for any length of time. This objection is, however entirely obviated by my improved construction, in which the teat-like projections a' merely enter loosely the recesses a^2, but are not passed through them and clinched as heretofore, so that when any portion of the mat is subjected to pressure, the adjacent projections will yield slightly, first by the movement of the projections in the recesses, and then if the pressure continues, the projections may slip out of the recesses, springing back into place when the pressure is removed. My improvement thus not only renders the mat much more comfortable to the feet and much cheaper to construct, but also preserves the shape of the mat perfectly and obviates any distortion of the corrugations by undue straining at their point of juncture.

It is to be understood that the projections and co-operating perforations or recesses may be placed as frequently as desired. I have usually found that by connecting every third corrugation in this manner, the mat will be sufficiently strong for all ordinary uses, but this arrangement may be varied as required.

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

1. In a metal mat, the combination with a series of corrugated strips, of stay rods for securing said strips together, projections formed at the apices of the corrugations in the said strips, and slots or recesses formed in the abutting corrugations of the adjacent strips into which said projections enter loosely, thereby forming a yielding engagement between the strips, substantially as described.

2. In a metal mat, the combination of a frame, a series of corrugated strips secured therein, stay rods for securing said strips together, projections formed at the apices of the corrugations in said strips and slots or recesses formed in the abutting corrugations of the adjacent strips into which said projections enter loosely, thereby forming a yielding engagement between the strips, substantially as described.

3. In a metal mat, the combination of a tubular slotted frame, a series of corrugated strips having reduced ends passing through and secured to the end portions of said frame, stay rods passing through said strips and secured to the side portions of said frame, projections formed at the apices of the corrugations in said strips, and slots or recesses formed in the abutting corrugations of the adjacent strips into which said projections enter loosely, thereby forming a yielding engagement between the strips, substantially as described.

4. In a metal mat, the combination of a tubular slotted frame, a series of corrugated strips having reduced ends which enter the slots in the end portions of said frame, stay rods passing through said strips and secured to the side portions of the frame and clips secured to the stay rods nearest the ends of the strips, said clips being provided with heads, wider than the slot in the frame, which are confined in the tubular end portions of the frame, substantially as shown and described.

5. In a frame for metal mats, the combination of the tubular frame sections, a connecting strip or sleeve entering the abutting ends of the frame sections, and strips extending from end to end of the mat, and having reduced ends which pass through the connecting strip or sleeve and the frame on both sides of the juncture of the frame sections, substantially as shown and described.

HENRY BEISHEIM.

Witnesses:
S. G. METCALF,
W. W. SHAW.