

H. E. MARKS.  
EXPANDED METAL.  
APPLICATION FILED APR. 1, 1909.

934,081.

Patented Sept. 14, 1909.

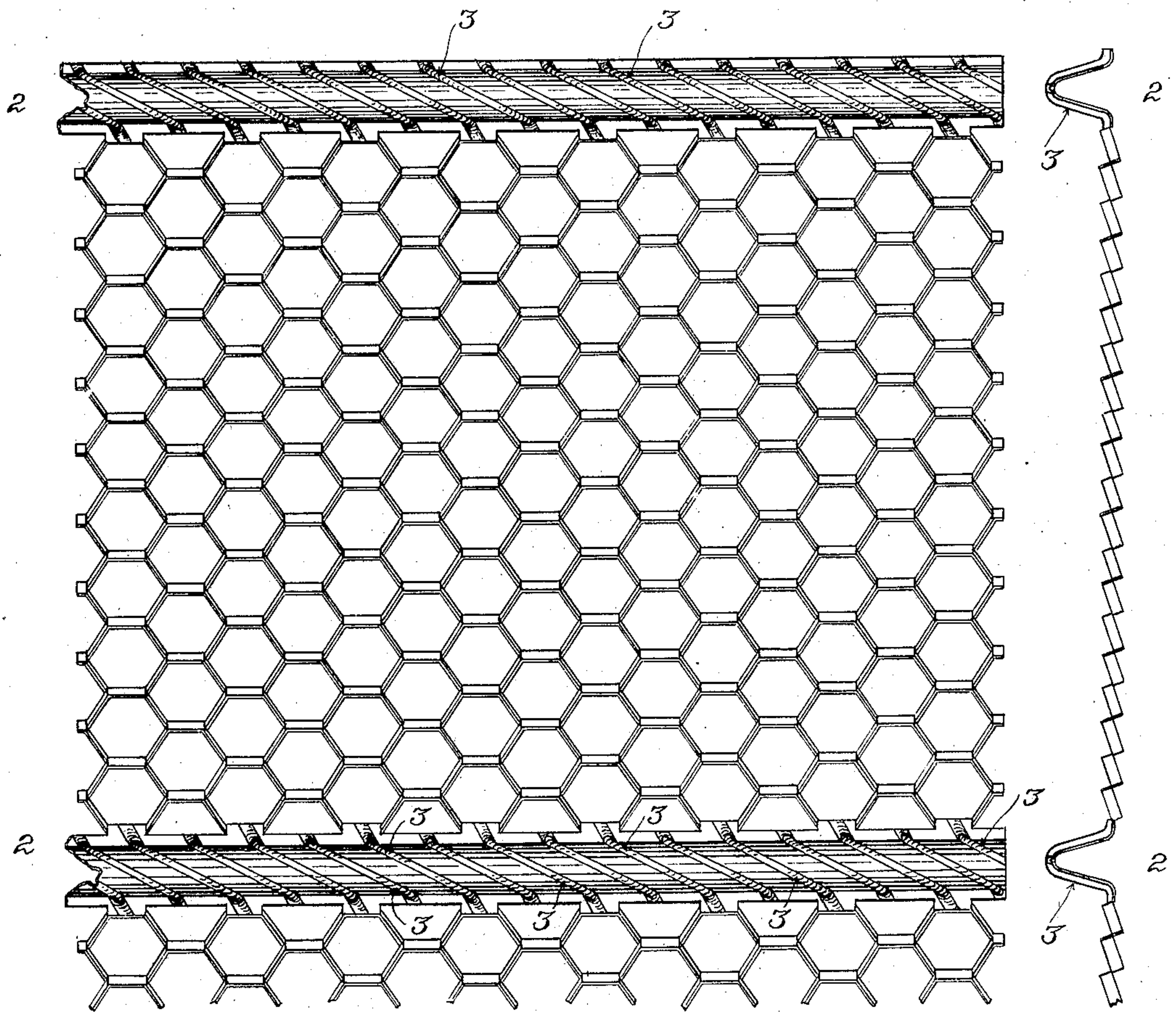


Fig. 1.

Fig. 2.

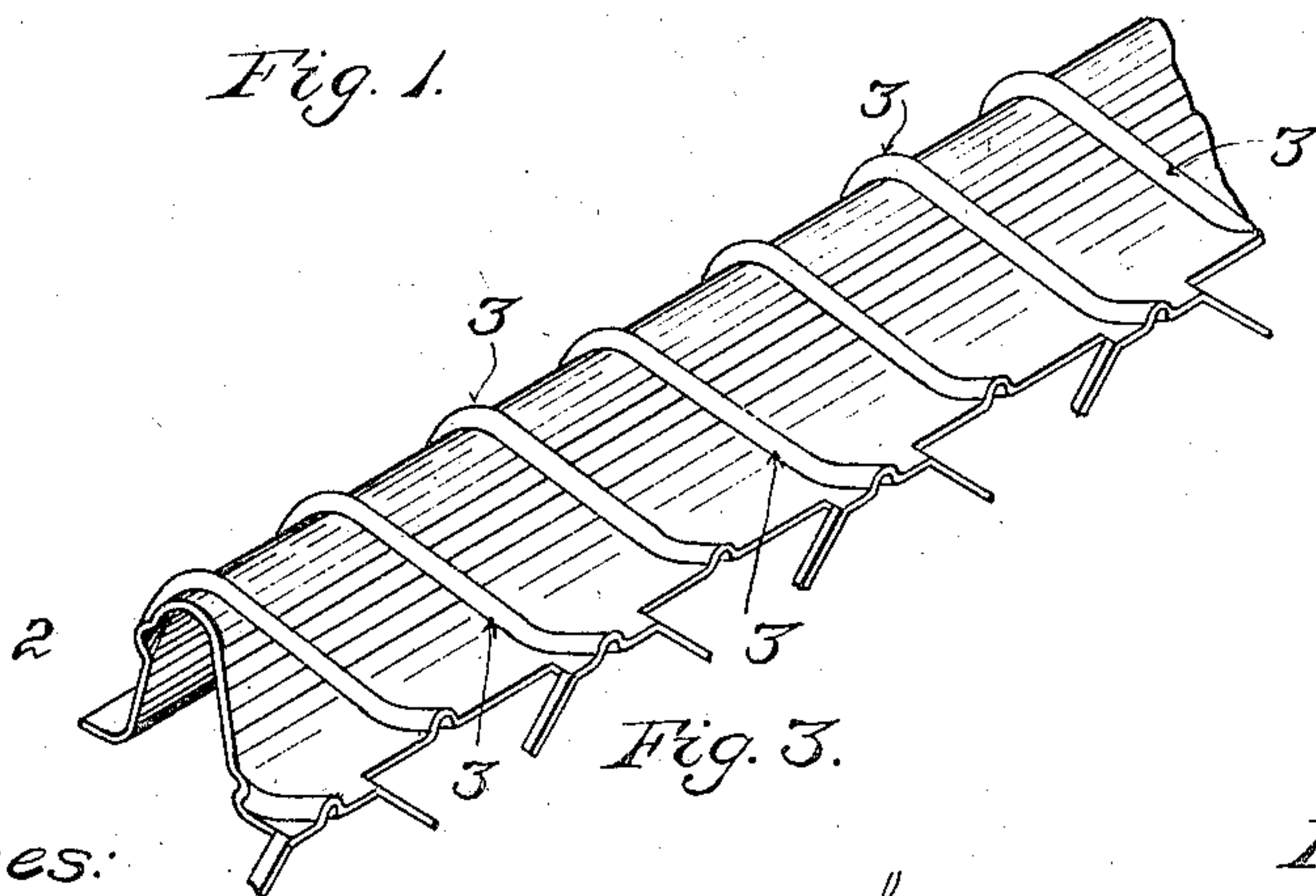


Fig. 3.

Witnesses:

Oscar F. Hill

Edith J. Anderson

Inventor:

Herbert E. Marks  
by Chas. F. Randall  
Attorney.



# UNITED STATES PATENT OFFICE.

HERBERT E. MARKS, OF POUGHKEEPSIE, NEW YORK.

## EXPANDED METAL.

934,081.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed April 1, 1909. Serial No. 487,311.

*To all whom it may concern:*

Be it known that I, HERBERT E. MARKS, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess, State of New York, have invented a certain new and useful Improvement in Expanded Metal, of which the following is a specification, reference being had therein to the accompanying drawings.

In carrying the invention into effect I produce sheet metal having at least one section thereof in the form of expanded meshes, and at least one non-expanded section integral with the first and made with shortenings equalizing its length with that of the expanded section, which is contracted in length by the expansion of its meshes transversely. In the preferred form of embodiment of the invention, the shortenings in the non-expanded section are constituted by transverse corrugations or bends in the metal which take up a portion of the length. The said non-expanded section may be located at the margin of the sheet metal, to constitute a border or selvage therefor, or may be located intermediately. By forming the sheet metal into a series of alternating sections, respectively expanded and non-expanded, with the non-expanded sections bent into trough-shaped ribs, in addition to having the shortenings, as aforesaid, the ribs will act as trusses, to give stiffness, which is useful in the case of metallic lathing, for instance, and important in that it enables the weight of metal necessary to be employed to be materially reduced with corresponding lessening in cost.

A portion of sheet metal embodying the features of the invention is shown in the drawings, in which latter,—

Figure 1 is a face view thereof. Fig. 2 is an edge view thereof. Fig. 3 is an isometric view of a portion of a non-expanded section, showing the trough-shaped rib-like form thereof, and the corrugations.

In the drawings,—a plurality of sections of each character is shown. The expanded sections are designated 1, 1. The non-expanded sections are designated 2, 2. The former sections are represented as expanded into open meshes, alternating in the successive rows, the expansion being effected in practice by forming successive lines of short slits in the sheet metal, the slits of each of such lines breaking joint with those of the preceding line, and pressing the strips or

bars thereby produced out of the plane of the sheet metal, all substantially as heretofore. As the expanded metal is shorter in the direction of the length of the slits and meshes than the metal prior to being expanded, it has not been found practicable heretofore to manufacture commercially metal in which a section expanded into meshes such as those herein shown is succeeded immediately by a non-expanded section remaining of the full original length. In conformity with the first portion of the present invention, the difficulty just mentioned is overcome by making shortenings in the non-expanded sections whereby the non-expanded sections 2, 2, are shortened or contracted in length in the same proportion as the expanded sections 1, 1, are shortened by the expanding operation. To this end, in the illustrated embodiment of the invention the corrugations 3, 3, etc., are made in the said non-expanded sections, transversely with respect to the length of the latter. These transverse corrugations of the non-expanded sections take up the excess of length of such sections. The number and extent of the said transverse corrugations are proportioned suitably to equalize the length of the non-expanded sections with that of the expanded sections.

As previously indicated herein, one feature of the invention consists in forming the non-expanded sections into trough-shaped ribs, the latter having formed therein the shortenings. One shape which the trough-shaped ribs may be given is shown clearly in edge-view in Fig. 2. To most fully retain the stiffness of the non-expanded sections, whether formed into trough-shaped ribs or not, the transverse corrugations preferably are extended obliquely as shown, although the invention is not in all cases restricted to obliquely-disposed corrugations.

When metal embodying the invention in its more complete form is used as metallic lathing, the ribs may serve as furring strips, and the attaching nails or staples may be driven through holes in the bottoms of the said ribs.

The invention is not restricted with respect to the character, form, and arrangement of the shortenings in the case of all embodiments of the invention. These may be varied.

The metal may be so applied for use that the trough-shaped ribs will project away from the wall or other support or supports,



in which case when the metal is caused to occupy an upright or substantially upright position with the ribs extending horizontally each rib will serve to support the body of plaster or the like which is applied above the same, between it and the next rib above. For use thus applied, the ribs may be formed to project less in proportion from the general plane of the metal than in the drawings. When the trough-shaped ribs are formed along the margins of the metal, a marginal rib of one sheet may be fitted over the adjacent marginal rib of another sheet so as to doubly stiffen and reinforce the metal at such place, in addition to locking the margins together in proper relative position.

What I claim as my invention is:—

1. The improved expanded metal having one or more sections thereof in the form of expanded meshes, and one or more non-expanded sections integral with the first and made with shortenings by which its length is equalized with that of the expanded section.
2. The improved expanded metal having one or more sections thereof in the form of expanded meshes, and one or more non-expanded sections integral with the expanded section and corrugated at an angle to the length thereof whereby such length is equalized with that of the expanded section.
3. The improved sheet metal formed into

a series of sections, alternately expanded and non-expanded, the non-expanded sections ribbed and having shortenings by which their length is equalized with that of the expanded sections.

4. The improved sheet metal formed into a series of sections, alternately expanded and non-expanded, the non-expanded sections ribbed and being corrugated transversely of the length thereof whereby such length is reduced.

5. The improved expanded metal having one or more sections thereof in the form of expanded meshes, and one or more non-expanded sections integral with the first and formed with transverse corrugations extending obliquely with respect to the length of such sections whereby such length is shortened.

6. The improved expanded metal formed into a series of sections, alternately expanded and non-expanded, the non-expanded sections bent into trough-shaped ribs and corrugated transversely on lines oblique to the length of such sections.

In testimony whereof I affix my signature in presence of two witnesses.

HERBERT E. MARKS.

Witnesses:

CHAS. F. RANDALL,  
EDITH J. ANDERSON.