C. WELLEN.

GRATING, LATTICE STRUCTURE, OR THE LIKE.

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1,081,476.

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Fig. 1.

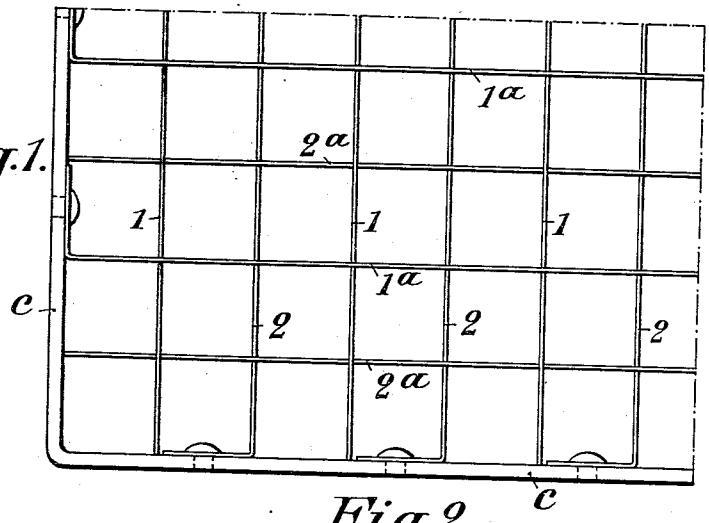


Fig. 2.

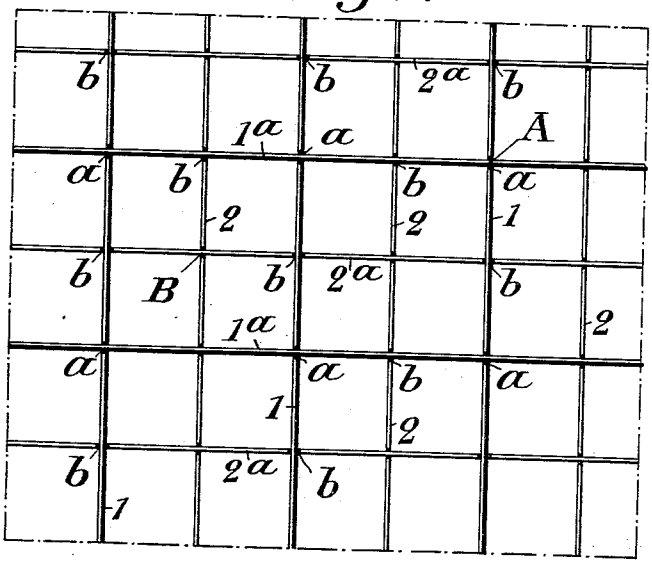
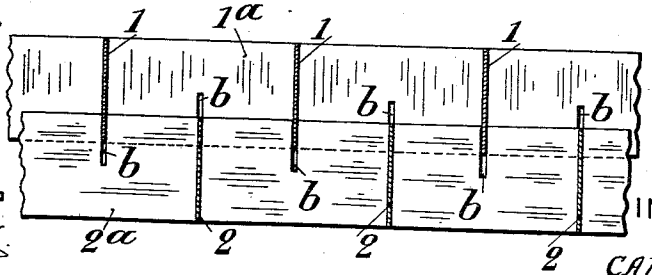


Fig. 3.



WITNESSES

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GRATING, LATTICE STRUCTURE, OR THE LIKE.

1,081,476. Specification of Letters Patent. Patented Dec. 16, 1913.

Application filed December 14, 1912. Serial No. 736,733.

To all whom it may concern:

Be it known that I, CARL WELLEN, engineer, a subject of the German Emperor, residing at 47 Aderstrasse, Düsseldorf, Germany, have invented new and useful Improvements in or Relating to Gratings, Lattice Structures, or the like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a grating suitable for covering all kinds of openings either in the floor or ground or in the walls or like places and particularly for covering the air ports of air heating conduits.

The invention consists in the provision of several groups of sheet metal strips which cross one another and are assembled by interengaging through slots, which groups by means of further slots or notches are so fitted one in the other that the crossing points of each group are staggered with regard to those of another group.

A constructional form of the invention is illustrated in the accompanying drawing, in which:

Figure 1 shows a portion of a finished grating in plan view; Fig. 2 shows a section from such a grating with the different groups of metal strips marked by lines of different representation, and Fig. 3 is a cross sectional view of Fig. 2 illustrating two groups of strips as they cross each other during the assembling operation.

As will be noticed from Figs. 2 and 3, the grating shown consists of a group of metal strips 1 and 1^a which cross one another and by means of notches *a* extending to about half the depth of the strips are fitted one in the other, and, further, of a second group of metal strips 2 and 2^a which are fitted in a similar manner. These two groups of rectangularly arranged strips connected by notches are then assembled by means of further notches *b* (Figs. 2 and 3) so that the crossing points A of the group consisting of the strips 1 and 1^a are staggered with regard to the crossing points B of the group composed of the strips 2 and 2^a. The two groups of strips are then slid one in the other preferably beyond the central position shown in Fig. 3 to such an extent that the upper and lower edges of the strips of the two groups are located in the same plane respectively.

The grating thus formed is secured in a frame *c* (Fig. 1) by a number of the metal strips being riveted to the frame by means of angular lugs. In the place of the angular lugs and special rivets, the metal strips may be provided each with a pivot shaped projection extending through the frame *c* which on the outside of the frame may be divided or not and riveted at one or several points. Obviously of each group only every second strip need thus be riveted since the intermediate strips are carried by the remaining strips. Special connections at the crossing points within the grating are superfluous. In this manner the manufacture is exceedingly simplified, since also the punching of the slots may be effected in a continuous operation.

The grating produced according to this invention offers great stability since the load acting from above is borne by the edges of the metal strips while lateral stresses (due for instance to the warping of the floor) are taken up by all metal strips located in the direction of such stresses, longitudinally in which action they are braced against bending by the metal strips located transversely thereto.

The grating may be fitted on the floor in passages in any desired manner since there is no risk of slipping in any direction. Also, even with gratings of inexact manufacture, the metal strips will never protrude above the plane of the floor only in one direction.

In consequence of the use of metal strips in edgewise position the reduction of the cross sectional passage in the opening to be covered by the grating is confined to a minimum whereby the air outlet openings in the ground for example in air heating conduits, need not materially be increased beyond the sizes obtained by theoretical calculation.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

In the construction of gratings, lattice structures or the like, a plurality of groups

of metal strips arranged in crosswise direction and assembled by interengaging slots, the groups interengaging one with the other by means of further slots, and the crossing points of each group being staggered with regard to the crossing points of another group.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

CARL WELLEN. [L. S.]

Witnesses:

HELEN NUFER,

ALBERT NUFER.