G. A. KELLER.

RETICULATED WROUGHT IRON GRATING.

APPLICATION FILED MAR. 27, 1912.

1,045,795. Patented Nov. 26, 1912.

Fig. 1.

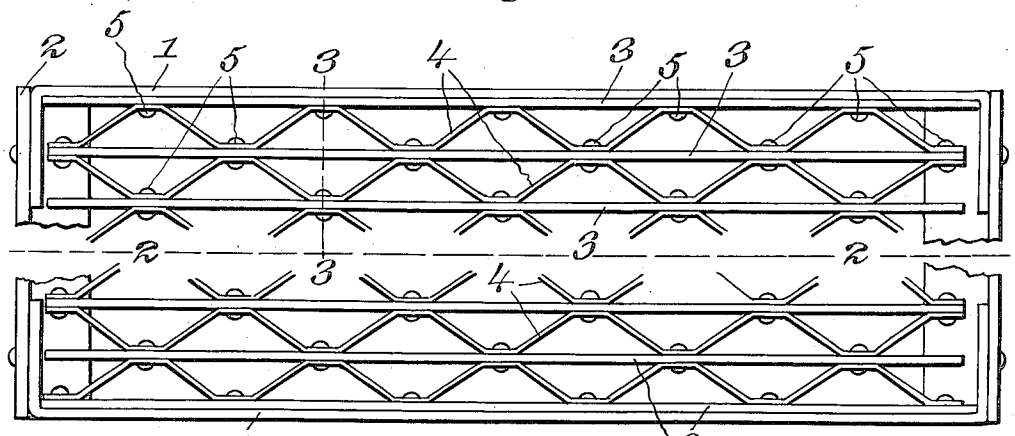


Fig. 2.

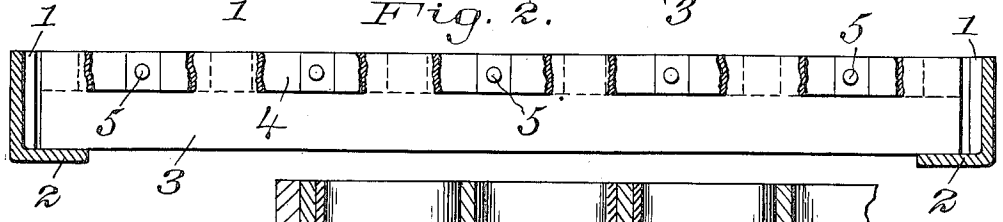
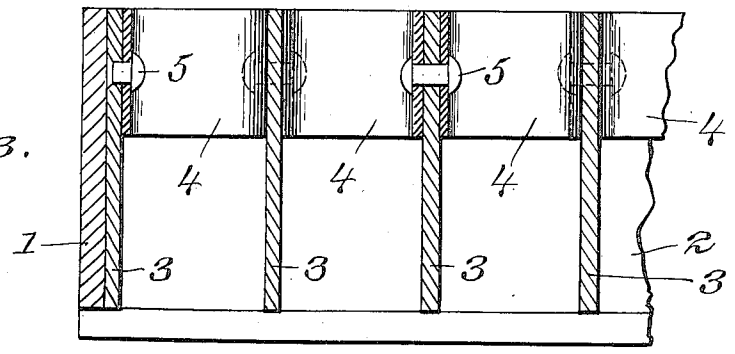


Fig. 3.



Witnesses:
M. G. Crawford
C. F. Jewell

Inventor
Gustav A. Keller
By his Attorney
A. Parker Smith

UNITED STATES PATENT OFFICE.

GUSTAV A. KELLER, OF NEW YORK, N. Y., ASSIGNOR TO IRVING IRON WORKS, A CORPORATION OF NEW YORK.

RETICULATED WROUGHT-IRON GRATING.

1,045,795. Specification of Letters Patent. Patented Nov. 26, 1912.

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To all whom it may concern:

Be it known that I, GUSTAV A. KELLER, a citizen of the United States of America, residing at New York city, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Reticulated Wrought-Iron Gratings, of which the following is a specification.

My invention relates to metal gratings used to cover openings in floors and street sidewalks and similar surfaces where there is heavy traffic.

A familiar instance of the application of my invention is for covering areaways or vaults in front of buildings under the sidewalks of city streets, or the covering of ventilating openings in sidewalks. The ordinary iron grating composed of straight parallel bars is apt to sag and twist out of shape forming dangerous openings. Even when in first class condition such gratings do not form good footholds for pedestrians. Shoes are liable to jam between the bars or slip lengthwise of the same. If in the effort to avoid these difficulties one inserts intermediate strips between the bars or attempts to combine bent strips of the same width or depth, the connecting rivets are difficult of access by the riveting tool and the deep pockets formed between the bars or strips soon become stopped up with filth scraped off the shoes of pedestrians which interferes with the desired passage of light and air. I have invented a form of grating which avoids all these difficulties and meets all requirements of use in streets and buildings, and the best form of such invention at present known to me is illustrated in the accompanying sheet of drawings in which,

Figure 1 is a plan view of the grating with parts broken away. Fig. 2 is longitudinal section on line 2—2 of Fig. 1, and Fig. 3 is a cross section on line 3—3 of Fig. 1. Throughout the drawings like reference characters refer to like parts.

1, 1, are bent strips forming the sides of a panel of my improved grating and 2, 2, are angle iron end pieces to which side strips 1, 1, are riveted. Within this rectangular frame, and resting on the flanges of the angle irons 2, 2, is the grating proper which consists of a series of straight bars or strips 3, 3, of considerable depth or width and considerable thickness sufficient to fit them to serve as girder members and support all the weight the grating is designed to carry, and a series of reticulated or bent strips 4, 4, of less depth and thickness which are alternated with strips 3, 3, and serve as spacing members for the same. The straight bars are arranged parallel to the side strips 1, 1, and the reticulated strips zig-zag back and forth between the straight bars or strips. The two are fastened together at every point of contact, preferably by rivets 5, 5. The straight bars and reticulated strips are so located that their upper edges are all in the same plane, as shown in Figs. 2 and 3, which plane coincides with the upper surface of the grating.

In operation the girder bars 3, 3, supply the strength to carry the weight. They are braced, spaced and stiffened by the spacing strips 4, 4. The two together form an upper bearing surface on the grating which affords support at every point for the foot of pedestrian, and presents a sharp resistance to slipping in every direction. Further advantages reside in the lightness of the grating combined with its great strength; ease of access to the rivets which are near the surface of the grating which facilitates manufacture and repairs; the self cleaning quality resulting from the fact that dirt accumulating in the pockets between the strips finds little surface to adhere to on strips 4, 4, and is soon pushed through to the larger spaces below said strips where it falls freely; and in the greater freedom of passage to light and air.

Other fastening means could be substituted for the rivets and the particular outline shown in Fig. 1 might be varied, without discarding the underlying principle of my invention, which consists essentially of a reticulated grating built up of a series of wide straight bars with a series of intermediate narrow, zig-zag spacing strips, fastened thereto, the upper edges of both bars and strips being located in the same plane which forms the top surface of the grating when the same is in position for use.

Having, therefore, described my invention, I claim:

1. A grating for sidewalks and floors which comprises in combination a series of straight bars and a series of intermediate reticulated strips of much less depth, riveted at every point of contact to the straight bars,

the upper edges of all the bars and strips being in the same plane, and the space between the straight bars below the reticulated strips being entirely open.

2. A grating for sidewalks and floors which comprises in combination a series of straight bars extending horizontally in vertical planes, said straight bars being of considerable depth to produce a girder-like formation, and a series of intermediate reticulated strips of much less depth lying wholly between, and rigidly fastened at every point of contact to, the straight bars, the upper edges of all the bars and strips being in the same plane, and the space between the straight bars below the reticulated strips being entirely open.

GUSTAV A. KELLER.

Witnesses:
A. PARKER SMITH,
M. G. CRAWFORD.