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1,749,902

FLOOR GRATING

Filed April 4, 1929

FIG. 1.

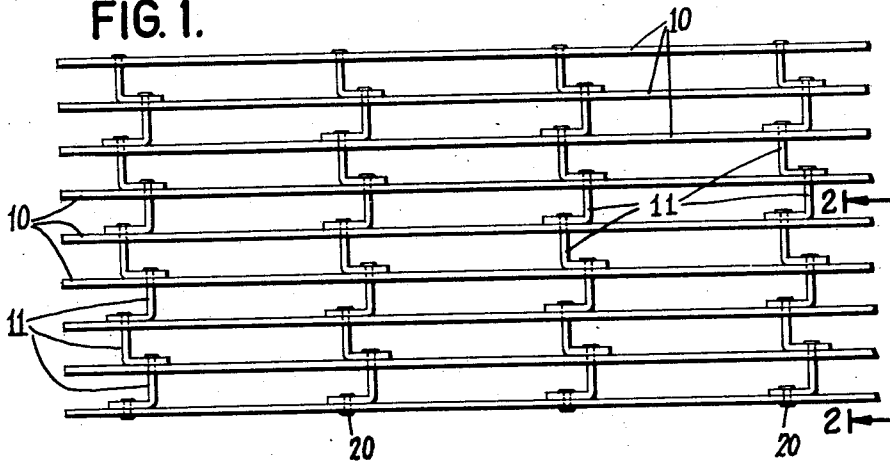


FIG. 2.

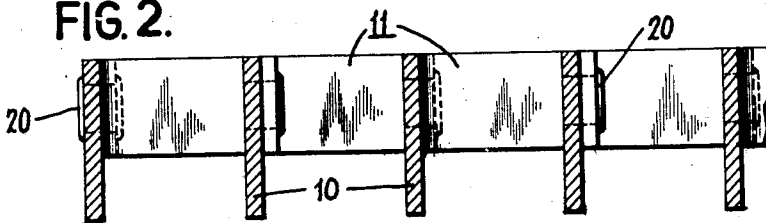


FIG. 3.

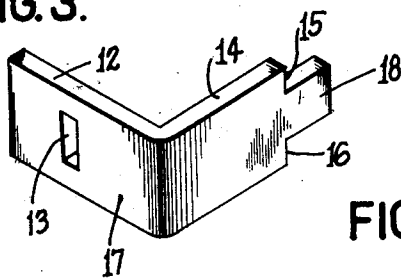
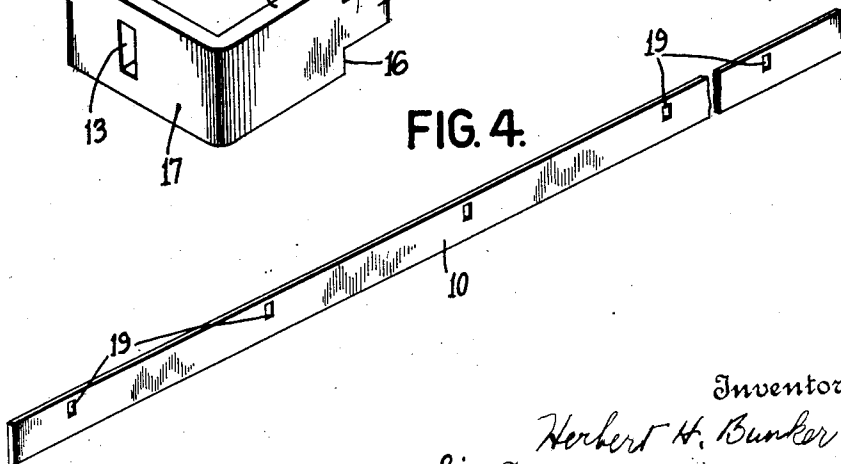


FIG. 4.



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FLOOR GRATING

Application filed April 4, 1929. Serial No. 352,443.

This invention relates to steel floor gratings of the type which is made up in units of longitudinally disposed bars or girders separated and secured together by spacing members.

Among the objects of this invention is to produce a floor grating of a design which will possess the requisite amount of strength and yet be so characterized by its simplicity of construction as to render it capable of being manufactured at low cost.

Another object of the invention is to provide a design of floor grating requiring metallic members of but two shapes and but one working operation to unite one girder or bar with two spacing members.

The principle embodied in my invention includes the use of girders of any usual type, such as straight bars, and spacing members designed so that a spacing member engages the two girders at its ends and also engages the spacing members on the other sides of the two engaged girders. The form of grating herein illustrated includes straight bars and spacing members of angular shape, the end of one leg of the angular spacing member having shoulders and a projection or lug by which it engages a hole in a girder and a hole in a leg of another spacing member on the other side of the girder. When in position the exposed end of the projection may be headed over so as to form a locking connection of two spacing members and a girder. The width of a grating may be added to by the addition of other girders and spacing members, it being necessary to head the projections extending in one direction only. The details of this invention are illustrated in the accompanying sheet of drawings in which:—

Fig. 1 is a plan of a simplified form of a unit of a floor grating.

Fig. 2 is a section on line 2—2 of Fig. 1.

Fig. 3 is a perspective view of a spacing member.

Fig. 4 is a perspective view of a girder.

As is customary in floor gratings a number of girders or bars 10 and spacing members 11 are assembled together in a unit of specified dimensions which depend upon convenience,

intended use and strength of the elements used in the construction.

In the present form of the invention straight bars constitute the girders and since these are designed so as to be able to carry all of the vertical load they are so positioned that their narrow dimensions may rest upon supporting structure, not shown. The girders run lengthwise of the grating and are generally spaced laterally from each other and parallel to each other.

The spacing members 11 serve primarily to maintain the girders of a unit in definite relation to each other and their upper edges lie in the same plane as the upper edges of the girder 10 so as to define the walking surface of the floor grating and at the same time prevent slipping in a direction lengthwise of the grating. In addition, the present type of spacing members contributes materially to the transverse strength of the floor grating.

As clearly seen in Fig. 3, each spacing member 11 is angularly shaped. One leg 12 has a hole 13 running parallel to the line of fold or the heel and the other leg 14 has shoulders 15, 16 spaced from the surface 17, a distance equal to the intended spaced relation of the girders 10. A projection or lug 18 extends in prolongation of leg 14. As is apparent, these spacing members may be made from sheet material or angle iron properly sheared and punched.

It is clear that in order to assemble a grating in accordance with the principle of my invention it is necessary to have at hand only two kinds of pieces, whatever their forms may be, the girders and the spacing members, and that these pieces may be already punched. The girders have a series of holes 19, Fig. 4, each of which is so dimensioned as to permit projection 18 to enter. If the arrangement of the spacing members 11 is to be otherwise than in rows perpendicular to the girders or similar to that shown in Fig. 1, the positions of the holes in the girders must be chosen to suit the arrangement desired.

In assembling the floor grating illustrated herein a workman would secure spacing members 11 to girder 10 by means of rivets 20, Fig. 1. Having assembled the first girder

and its associated spacing members a second girder may be readily put in position by causing the projections 18 to engage the holes in the second girder. Assuming the specified arrangement to be that the rows of spacing members across the grating be parallel to each other and perpendicular to the girders, the second longitudinal row of spacing members, are placed next to the second girder so that their laterally extending legs be in the same transverse plane as rivets 20. The hole 13 in leg 12 of each spacing member is engaged by the projection 18 of the spacing member already secured in place in the same transverse row of spacing members and the protruding end of the projection is then hammered over so as to firmly secure together the two engaging spacing members and the girders therebetween. After each similar set of spacing members is secured together a third girder is mounted in place and another longitudinal row of spacing members is placed thereagainst and permanently secured in the manner described in connection with the positioning of the second girder and the second longitudinal row of spacing members. By adding more girders and longitudinal rows of spacing members the width of the grating may be increased to any desired dimension.

It is apparent that in building the grating herein illustrated all of the girders may be similarly punched and that it is only necessary to turn every other one end for end when assembling the grating if it is desired that all of the girders finish in one line square to the longitudinal direction of the grating.

I claim:

1. A floor grating comprising a plurality of longitudinal girders and members laterally spacing the girders from each other, there being a plurality of lateral rows of spacing members with the successive spacing members of each lateral row connected together, each of said spacing members having a projection engaging with a contiguous girder and the next succeeding spacing member in the same lateral row.

2. A floor grating comprising longitudinally extending girders and spacing members therebetween, said spacing members being arranged in rows with successive spacing members of each row connected together by a projection extending from one member and passing through an opening in a contiguous girder and engaging with an opening in the next spacing member in the same row on the other side of the contiguous girder.

3. A floor grating comprising longitudinally extending girders and spacing members therebetween, each spacing member being in the form of an angle, one leg of the angle being contiguous a vertical surface of a girder with the other leg of the angle extending toward the next girder, each spacing member having a projection extending

from the laterally disposed leg and an opening in the longitudinally disposed leg whereby to connect together a girder and another spacing member.

4. A floor grating comprising longitudinally extending girders and spacing members therebetween, said spacing members being in rows transverse the girders, each intermediate spacing member of each transverse row serving in the connection of a pair of girders and two other spacing members, said connection comprising a projection of one spacing member in association with a hole in another spacing member and a hole in the girder intermediate said two projection and hole engaged spacing members.

5. A floor grating comprising a plurality of longitudinal girders and spacing members therebetween, there being a plurality of longitudinally spaced spacing members between each pair of longitudinal girders, each spacing member having a leg thereof longitudinally disposed and contiguous one side of a girder and another leg transversely disposed and extending to another girder, the two girders thus spaced from each other being secured in permanent relation by the locking together of the spacing member intermediate the two girders with the spacing members on the other sides of the two girders.

6. A floor grating comprising spaced girders and spacing members therebetween, each spacing member being in the form of an angle with a surface of one leg in contact with a surface of a girder and the other leg extending transversely of the grating, and a projection extending from the transversely disposed leg of the spacing member, said projection being adapted to pass through an opening in a girder and through an opening in the leg of another spacing member disposed on the other side of the spaced girder.

7. A floor grating comprising longitudinal girders and spacing members connecting together the girders, there being a plurality of individual spacing members between each pair of girders forming transverse rows of spacing members of which successive spacing members in a transverse row are connected together, each spacing member having at least one shoulder abutting a girder and a surface contiguous with the surface of another girder whereby the girders are maintained in spaced relation, and each spacing member being provided with a projection passing through a hole in one girder and engaging a hole in a spacing member on the other side of the girder having the hole therein and a hole for receiving and engaging with the projection of the spacing member on the other side of another girder.

In testimony whereof I hereto affix my signature.

HERBERT H. BUNKER. 129