March 16, 1926. 1,577,267

J. D. SPAULDING ET AL

GRATING

Filed Jan. 30, 1925

Fig. 1.

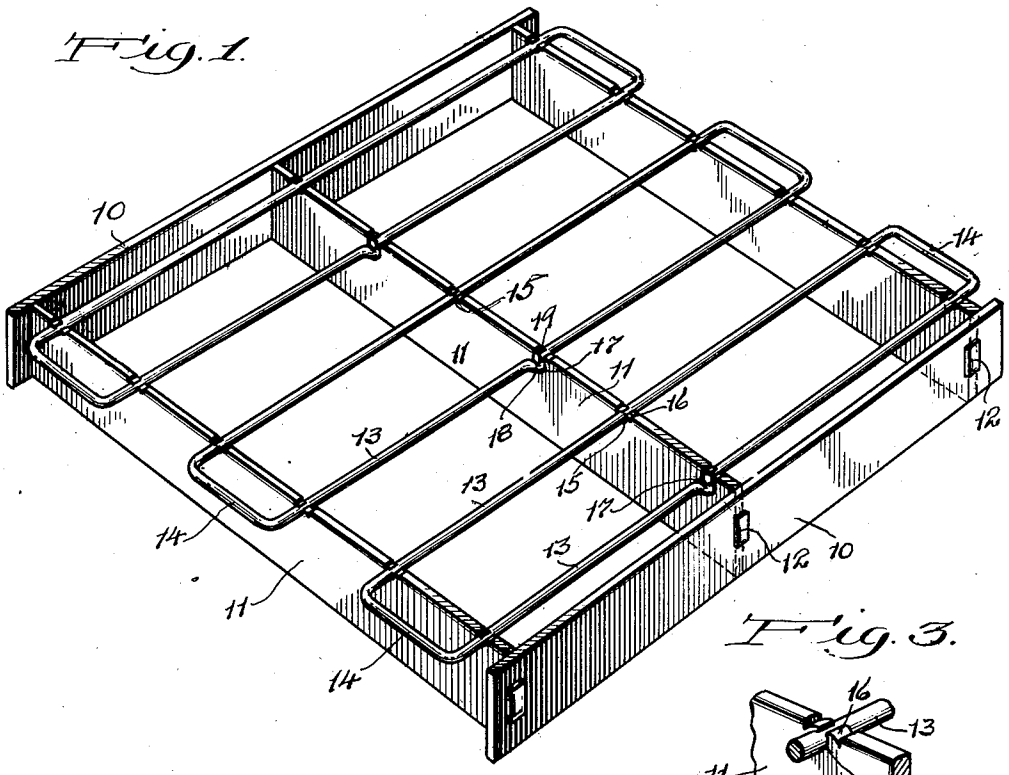


Fig. 3.

Fig. 2.

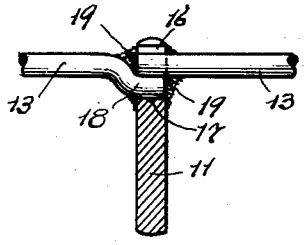


Fig. 4.

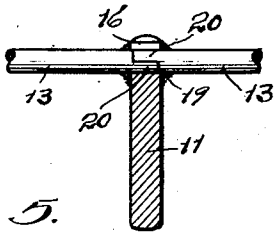
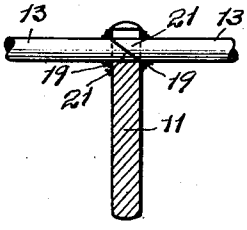


Fig. 5.



Inventor:
John D. Spaulding
Oliver D. Collis.
by Banning & Banning
Atty.

Patented Mar. 16, 1926. 1,577,267

UNITED STATES PATENT OFFICE.

JOHN D. SPAULDING AND OLIVER D. COLLIS, OF CLINTON, IOWA, ASSIGNORS TO THE COLLIS COMPANY, OF CLINTON, IOWA, A CORPORATION OF IOWA.

GRATING.

Application filed January 30, 1925. Serial No. 5,700.

To all whom it may concern:

Be it known that we, JOHN D. SPAULDING and OLIVER D. COLLIS, both citizens of the United States, and residing at Clinton, county of Clinton, and State of Iowa, have invented certain new and useful Improvements in Gratings, of which the following is a specification.

This invention is intended primarily as a grating or shelf for use in connection with bread racks or like structures in which an openwork shelving is desirable, and the object of the present invention is to simplify the construction and cost of manufacture without sacrificing the elements of strength, rigidity, and durability. The grating or shelf consists essentially of a series of cross rails or bars with wire rods running at right angles thereto. In the past it has been customary in the manufacture of such gratings or shelves to form the cross rods of a continuous length of wire bent back and forth upon itself, which method of manufacture has involved difficulties and complications in the handling of such a continuous length of wire, which difficulties are avoided in the case of the present invention.

The employment of a continuous length of wire renders it difficult to repair or renew any of the rod sections in case the same becomes broken. The present invention also obviates this difficulty by arranging the sections in units which, in case of breakage, may be renewed individually without difficulty.

Further objects and details of the invention will appear from the specification wherein—

Figure 1 is a perspective view of a section of the present grating or shelf prior to galvanizing;

Fig. 2 is a detail partly in section showing the method of overlapping the ends of the wire rod after the same has been completed by a galvanizing process;

Fig. 3 is a perspective showing the method of clamping an intermediate section of the wire rod to the rail before galvanizing; and

Figs. 4 and 5 are details partly in section showing modified methods of forming and overlapping the ends of the wire rods, completed by galvanizing.

The grating as a whole comprises a plurality of spaced parallel side rails 10 each formed from a bar of metal set in edgewise relation, which side rails are connected by means of a plurality of parallel cross rails 11 each terminating in a dowel 12 of reduced dimension which is entered through the side rails and upset to rivet the parts together. The structure comprises a frame for the support of a plurality of cross rods 13 which are arranged in pairs forming closed units of elongated rectangular formation being connected by end sections 14—14 which have turns lying outside of the marginal cross rails 11. It will be understood that the number of cross rails may be multiplied indefinitely, and in the present instance three only of said cross rails are shown simply by way of illustration.

At the points where the rods 13 intersect the cross rails, the latter are provided with recesses 15 into which the rods are laid after which the edges of said recesses are struck or swedged down to form overlapping lips 16 which serve to tightly embrace and hold the rods in place. The arrangement is one which brings the ends of the cross rods into overlapping relation with respect to one of the cross bars which, in the present instance, is shown to be the intermediate cross bar. In Figs. 1 and 2, the recesses 17 which receive the overlapped ends of the rods are of double depth, but are otherwise similar in formation to the recesses 15 already described.

In providing the overlap for the ends of the wire rods, the preferred method is that shown in Fig. 2, in which one of the ends 18 is given an abrupt offset to bring it underneath the end of the companion rod, which arrangement limits the bent or offset to a point closely adjacent the cross bar, so that after the entire grating has been dipped into a galvanizing bath, a deposit 19 of zinc or like galvanizing metal will fill into the interstices and corners adjacent to the overlapped ends of the rods, so that the joint at this point will be practically sealed and difficult of detection and the entire grating or shelf will be protected by the galvanizing coat.

In Fig. 4 the ends 20—20 of the rods are half cut in each instance, so that a similar result is attained, while in Fig. 5 the ends 21—21 are each beveled to provide for an overlap, although the construction of Fig. 2 is preferred, since it does not weaken the structure by cutting away the stock. Of

course, in the case of Figs. 4 and 5, it is unnecessary to provide a recess of double depth to receive the overlapped ends of the wire.

The arrangement is one which permits the cross rods to be made in units and inserted into place by easy manipulation, or by mechanical means, and avoids the difficulty attendant the employment of a continuous length of wire running back and forth throughout the entire series of rods. At the same time the arrangement is one which is to all intents and purposes as strong and rigid as though a continuous wire were employed.

We claim:

1. In a grating, the combination of a plurality of cross bars, each provided in its supporting edge with a plurality of recesses, and a plurality of cross rods bridging the space between the bars, said cross rods being arranged in units of two rods bent to closed formation and having their ends overlapped within one of the recesses, substantially as described.

2. In a grating, the combination of a plurality of cross bars, each provided in its supporting edge with a plurality of recesses, and a plurality of cross rods bridging the space between the bars, said cross rods being arranged in units of two rods bent to closed rectangular formation and having their ends overlapped within one of the recesses, the margins of all of the recesses being swedged down to embrace the adjacent cross rod, substantially as described.

3. In a grating, the combination of a plurality of cross bars, each provided in its supporting edge with a plurality of recesses, a plurality of cross rods bridging the space between the bars, said cross rods being arranged in units of two rods bent to closed rectangular formation and having their ends overlapped within one of the recesses, and a galvanizing coating serving to fill in the spaces adjacent the overlapped ends of the rod sections, substantially as described.

4. In a grating, the combination of a plurality of cross bars, each provided in its supporting edge with a plurality of recesses, a plurality of cross rods bridging the space between the bars, said cross rods being arranged in units of two rods bent to closed rectangular formation and having their ends overlapped within one of the recesses, the margins of all of the recesses being swedged down to embrace the adjacent cross rods, and a galvanizing coating serving to fill in the spaces adjacent the overlapped ends of the rod sections, substantially as described.

5. In a grating, the combination of a plurality of spaced side bars, a plurality of spaced cross bars having their ends secured to the side bars, and each having in its supporting edge a plurality of recesses, certain of the recesses being of double depth, a plurality of parallel cross rods bridging the space between the cross bars, said rods being arranged in units and having the ends of the cross rods overlapped within the recesses of double depth, all of the recesses having their margins swedged down to embrace a portion of the adjacent rod, substantially as described.

6. In a grating, the combination of a plurality of cross bars provided in their supporting edges with a plurality of recesses, a plurality of cross rods bridging the space between the cross bars and laid within said recesses, said bars being arranged in units and the free ends of certain of said bars being overlapped within the proximate recess, the margins of all of the recesses being swedged down to embrace the portions of the adjacent bars, substantially as described.

7. In a grating, the combination of a plurality of cross bars each provided in its supporting edge with a plurality of recesses, certain of the recesses being of increased depth and all of the supporting edges lying in the same plane, a plurality of parallel cross rods bridging the space between the bars, said cross rods being arranged in units of two rods bent to closed substantially rectangular formation and having their ends overlapped within one of the deeper recesses, one of the said overlapping ends being sharply offset to afford the lap and maintain the supporting surfaces of the rods within a uniform plane, and the margins of all the recesses being swedged down to embrace the adjacent portions of the cross rods, substantially as described.

8. In a grating, the combination of a plurality of cross bars each provided in its supporting edge with a plurality of recesses, certain of the recesses being of increased depth and all of the supporting edges lying in the same plane, a plurality of parallel cross rods bridging the space between the bars, said cross rods being arranged in units of two rods bent to closed substantially rectangular formation and having their ends overlapped within one of the deeper recesses, one of the said overlapping ends being sharply offset to afford the lap and maintain the supporting surfaces of the rods within a uniform plane, the margins of all the recesses being swedged down to embrace the adjacent portions of the cross rods, and a galvanizing coating serving to fill in the spaces adjacent the overlapped ends of the rod sections, substantially as described.

OLIVER D. COLLIS.
JOHN D. SPAULDING.