April 16, 1929. S. GURIAN 1,709,128

DEVICE FOR ASSEMBLING METAL GRIDS

Filed Feb. 24, 1928

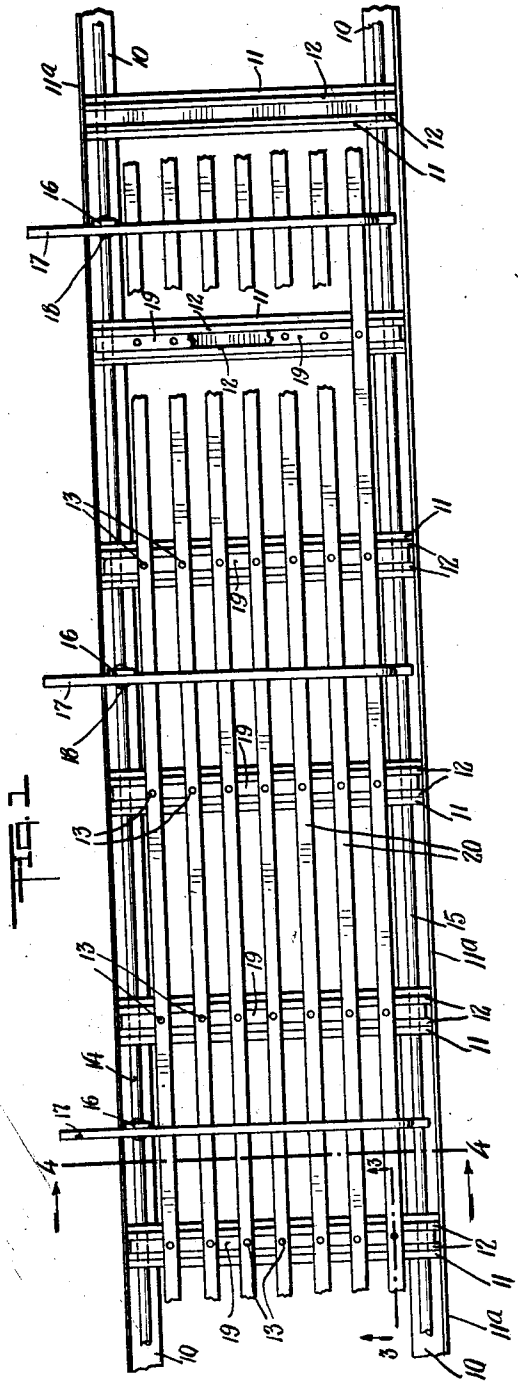


FIG. 1

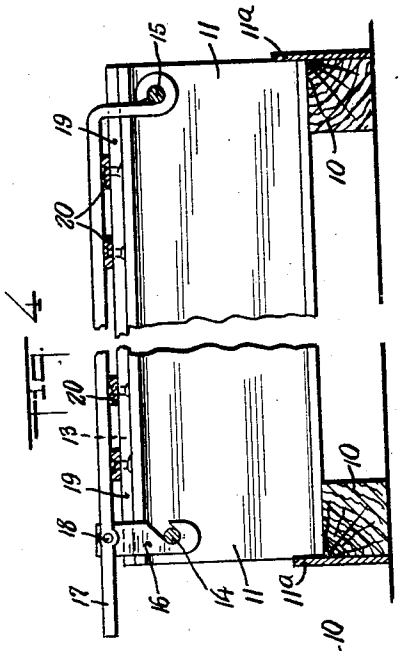


FIG. 4

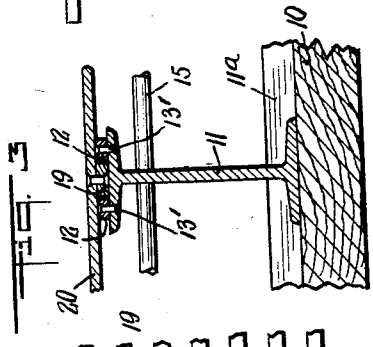


FIG. 3

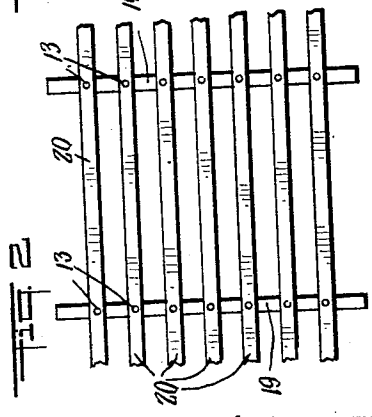


FIG. 2

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UNITED STATES PATENT OFFICE.

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DEVICE FOR ASSEMBLING METAL GRIDS.

Application filed February 24, 1928. Serial No. 256,600.

My invention relates to a new and improved device for assembling metal grids or gratings, composed of rigid metal members firmly secured to each other.

One of the objects of my invention is to provide a device for assembling such improved grids, which shall be particularly applicable for making the floors of fire escapes.

Another object of my invention is to provide an improved machine for this purpose whereby said grids can be manufactured with a minimum of expense.

Other objects of my invention will be set forth in the following description and drawings which illustrate a preferred embodiment thereof, it being understood that the above general statement of the objects of my invention is intended merely to generally explain the same, and not to limit it in any manner.

Fig. 1 is a top view showing my invention applied to the manufacture of the floor of a fire escape.

Fig. 2 is a detail plan view showing the completed product, illustrated in Fig. 1.

Fig. 3 is a sectional view on the line 3—3 of Fig. 1.

Fig. 4 is a sectional view on the line 4—4 of Fig. 1.

A horizontal table 10 made of any suitable material such as wood, for example, is provided with longitudinal side rails 11^a.

As shown in Figs. 1 and 3, I-beams 11 slidably fit between the rails 11^a. Any suitable number of these I-beams 11 are placed between the rails 11^a, these I-beams 11 being suitably spaced from each other as shown in Fig. 1.

As shown in Fig. 4, one of the heads of each I-beam 11 fits between the rails 11^a and the other head is above the table 10.

The upper heads of the I-beams 11 are provided with spacer elements 12, which are connected thereto by means of rivets 13^1. The cross bars 19 of the grid work which are used to connect the longitudinal bars 20, fit snugly between the spacer elements 12 of the respective I-beams 11.

In order to assemble the parts, I-beams 11 are placed in the position shown in Fig. 1 and they are held in their respective positions by reason of their weight. The cross bars 19 are then placed in the positions shown in Fig. 1. Each of these cross bars 19 is suitably perforated and rivets 13 are mounted in their respective perforations, each of these rivets 13 being upset at the bottom thereof so that it is firmly connected to its cross bar 19. The upper end of each rivet 13 is upset during the finishing operation. The longitudinal bars 20, which are perforated to admit the cylindrical ends of the rivets 13, are now placed in position. These longitudinal bars 20 are maintained in suitable parallel position by the upper ends of the rivets 13, which fit into the perforations provided in said longitudinal bars 20. Likewise the longitudinal bars 20 are locked in position before the final riveting operation which assembles the various parts. These locking means comprise transverse bars 17, which are connected by means of pivoted pins 18 to hooks 16. These bars 17 may be designated as transverse locking means. The other ends of the bars 17 have hook-like extensions which are connected to the I-beams 11 by means of a rod 15 which passes through suitable openings in the I-beams 11. The hooks 16 are caused to firmly engage a second longitudinal rod 14 which passes through suitable openings in the I-beams 11. These locking bars 17 are located between the respective transverse bars 19.

When the parts have thus been assembled and they are thus firmly held in suitable relationship, the projecting ends of the rivets 13 are now enlarged or upset by any suitable riveting machine, so that the various rigid bars 19 and 20 of the grid are firmly connected to each other to provide a firm and secure flooring for a fire escape and the like.

I have shown a preferred embodiment of my invention, but it is clear that numerous changes and omissions could be made without departing from its spirit.

I claim:

1. In a device for assembling the members of a grid, a plurality of spaced supports adapted to support a plurality of parallel grid members located transverse to said supports, a pair of rods passing through said supports, and locking bars adapted to engage said rods to hold said grid members in position, said locking bars being transverse to said grid members.

2. In a device for assembling the members of a grid, a plurality of spaced supports adapted to support a plurality of parallel grid members, a pair of rods passing through said supports, and locking bars transverse to

said grid members and adapted to engage said rods to hold said grid members in position, said transverse locking bars respectively having hook-like extensions adapted to engage one of said rods, and also having hooks pivotally connected thereto to engage the other of said rods.

3. A device for assembling the members of a grid comprising a base, a plurality of spaced supports associated with said base, said supports having retaining means adapted to retain a series of grid members in predetermined position on the respective supports, and clamping means associated with said supports and adapted to clamp into position a second series of grid members located transverse to said supports.

4. In a device for assembling the members of a grid, the subcombination of spaced supporting members adapted to support a first series of grid members thereon, and to also support a second series of grid members located transverse to said supporting means, and clamping means associated with said supporting members and adapted to clamp said second series in position.

5. In a device for assembling the members of a grid, the combination of a base, a plurality of upstanding supports located on said base, said supports being adapted to hold a first series of grid members thereon and to also hold a second series of grid members which intersect said first series, and clamping means located intermediate said supports and adapted to directly clamp said second series of grid members in position.

In testimony whereof I affix my signature.

SAMUEL GURIAN.