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E. G. ANDERSON

2,019,379

METAL CURTAIN SLAT JOINT

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Fig. 1.

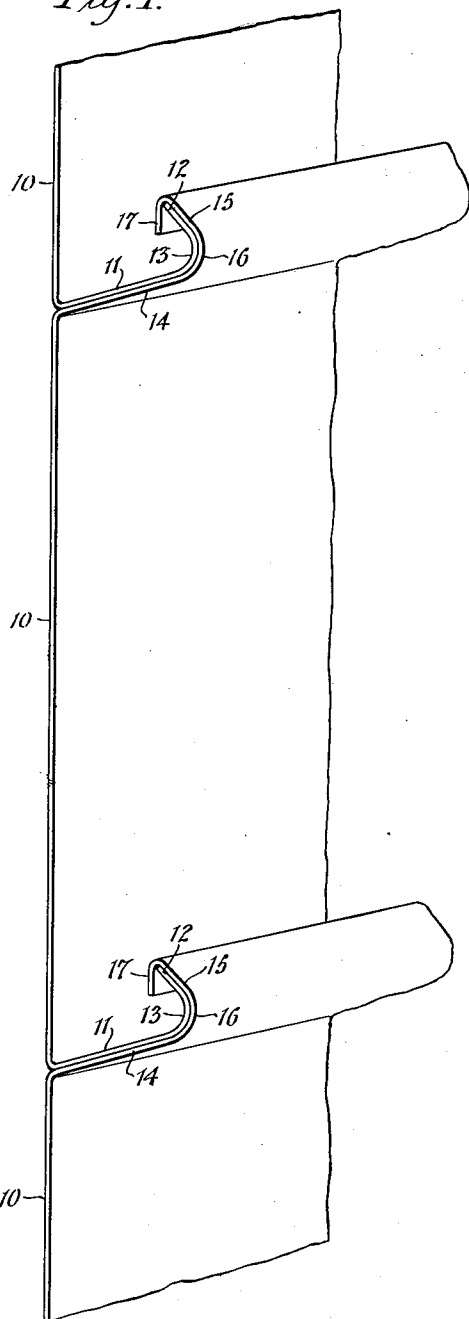


Fig. 2.

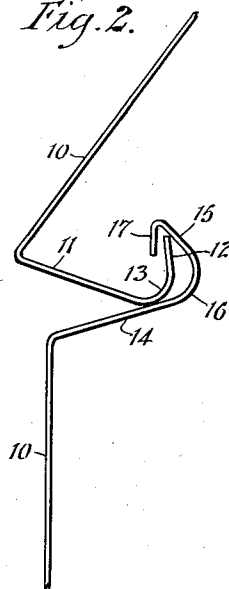


Fig. 3.

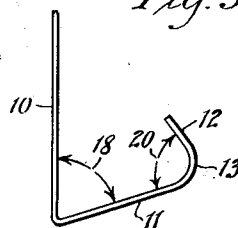
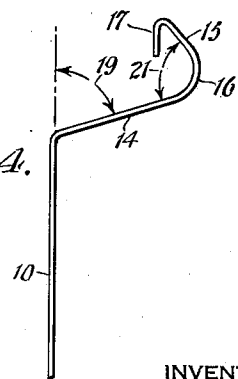


Fig. 4.



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METAL CURTAIN SLAT JOINT

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4 Claims. (Cl. 189—56)

This invention relates to improvements in structural units in the form of panels and slats having interlocking or inter-engaging means for joining the adjacent longitudinal edges thereof to be suitable for use in the construction of rolling action curtains and doors; and for the construction of walls and roof decks of various types of farm buildings, commercial buildings, and other structures where economy of construction and maintenance are essential.

The principal object of the invention is the provision of a structural unit of the indicated character embodying improvements in the construction thereof so as to set up sufficient friction between adjoining units, to prevent spreading movement of the units with reference to each other, and to avoid the use of end locks on the units to hold them in line against relative end-wise movement.

The invention consists in the improved features hereinafter described and claimed and illustrated in the accompanying drawing in which

Fig. 1 is a fragmentary perspective view of structural units constructed and joined in accordance with the invention.

Fig. 2 is a fragmentary end view illustrating the hinging or pivoting movement of the units joined in accordance with the invention.

Fig. 3 is an end view of a portion of a unit showing the shoulder and joint-forming means on one of its longitudinal edges.

Fig. 4 is an end view of a portion of a unit showing the shoulder and joint-forming means on the other longitudinal edge.

Each structural unit is made preferably of sheet metal of the desired thickness. The unit consists of a long narrow body 10 so as to take the form of a panel or slat. A shoulder 11 extends at an acute angle or is inclined with respect to the general plane of the body 10 in continuation thereof entirely along one of its longitudinal sides. The shoulder 11 has an extension 12 joined thereto at an acute angle with respect to the shoulder 11, the juncture 13 between the shoulder 11 and the extension 12 being well rounded as shown. The extension 12 is co-extensive with the shoulder 11. A shoulder 14 extends at an obtuse angle or is inclined with respect to the plane of the body 10 in continuation thereof entirely along the other longitudinal side of the body. The shoulder 14 has an extension 15 joined thereto and is disposed at an acute angle with respect to the shoulder 14. The juncture 16 between the shoulder 14 and the extension 15 is well rounded so as to be concentric

to the juncture 13 and to receive the latter therein. The extension 15 is co-extensive with the shoulder 14. The extension 15 has a flange 17 disposed at an acute angle with respect thereto and co-extensive with it and constituting a hook.

In accordance with an improved feature of the invention, the interior angle between the body 10 and the shoulder 11 indicated by the curved arrows 18 is slightly greater than the exterior angle between the shoulder 14 and the plane of the body 10 indicated by the curved arrows 19. The interior angle between the shoulder 11 and the extension 12 indicated by the curved arrows 20 is slightly greater than the interior angle between the shoulder 14 and the extension 15 indicated by the curved arrows 21. In assembling the structural units having the features mentioned, the shoulder 11 and extension 12 on one unit will be opposite the shoulder 14 and extension 15 on an adjoining unit. By bringing one unit at an angle with respect to another unit, the extension 12 may be disposed within the extension 15 to form a joint which permits hinging or pivoting movement between the joined units as indicated in Fig. 2. The hook 17 prevents unintentional separation of the units, which can only be accomplished by moving the one unit almost to a position at right angles to the adjoining unit. The shoulders 11 and 14 constitute means to limit the relative movement of adjoining units about the joint formed therebetween in one direction. In fact, these shoulders 11 and 14 limit said movement in one direction to a point in which the bodies 10 of assembled units will be disposed in a single plane as shown most clearly in Fig. 1.

By reason of the differences in the angularity of the shoulders 11 and 14 with respect to the body 10, and the difference in angularity of the shoulder 11 and extension 12 compared with the shoulder 14 and extension 15, sufficient friction is set up between these portions of the units when joined in the manner hereinabove described, to prevent spreading movement of adjoining units, and also to hold the units in alignment without the use of end locks on the units.

From the foregoing it will be obvious that the desired number of units having the features mentioned may be inter-engaged or interlocked with each other to constitute a rolling curtain or door for warehouses, garages, and the like, and also for constructing walls and roof decks for various buildings.

I claim:

1. A rolling curtain comprising metal units

having on their longitudinal edges inter-engaged extensions consisting of angularly disposed portions, one extension of each unit being disposed within one extension on the adjacent unit so as to provide a joint between adjoining units permitting hinging or pivoting movement of adjoining units, the normal angularity of the portions of the extensions forming each joint being of different degrees whereby sufficient friction is set up between the portions thereof, to prevent relative spreading movement of the units, and also to hold the units in line.

2. A structural unit constructed of sheet material and consisting of a body, shoulders on opposite sides of the body respectively and extending entirely along the same, one of said shoulders being disposed at an obtuse angle with respect to the body, the other shoulder being disposed at an acute angle with respect to the body and the normal degree of its interior angle being greater than the normal degree of the exterior angle of the first mentioned shoulder, each of said shoulders having an extension, and one of said extensions having an inturned flange constituting a hook.

3. A structure comprising slats having shoulders

inclined to the general plane of the slats, inter-engaged angular extensions on said shoulders forming a joint allowing hinging or pivoting movement of adjoining slats with respect to each other, the normal inclination of one shoulder of each slat being slightly greater than that of the other shoulder and the angularity of the extension of one of said shoulders being slightly greater than that of the related extension, so as to set up sufficient friction between portions of the slats to prevent relative spreading movement of the slats, and also to hold the slats in line, said shoulders limiting the movement of adjoining slats about the joints therebetween in one direction.

4. A structure comprising units having on their adjacent sides inter-engaged extensions consisting of angularly disposed portions, one of said extensions being disposed within the other and the normal angularity of the portions of the former being slightly greater than that of the latter, so as to set up sufficient friction between the portions of the units, to prevent relative spreading movement of the units, and also to hold the units in line.

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