July 5, 1949. E. A. WILLIAMS 2,475,416

PORTABLE SECTIONAL ENCLOSURE

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Fig. 1.

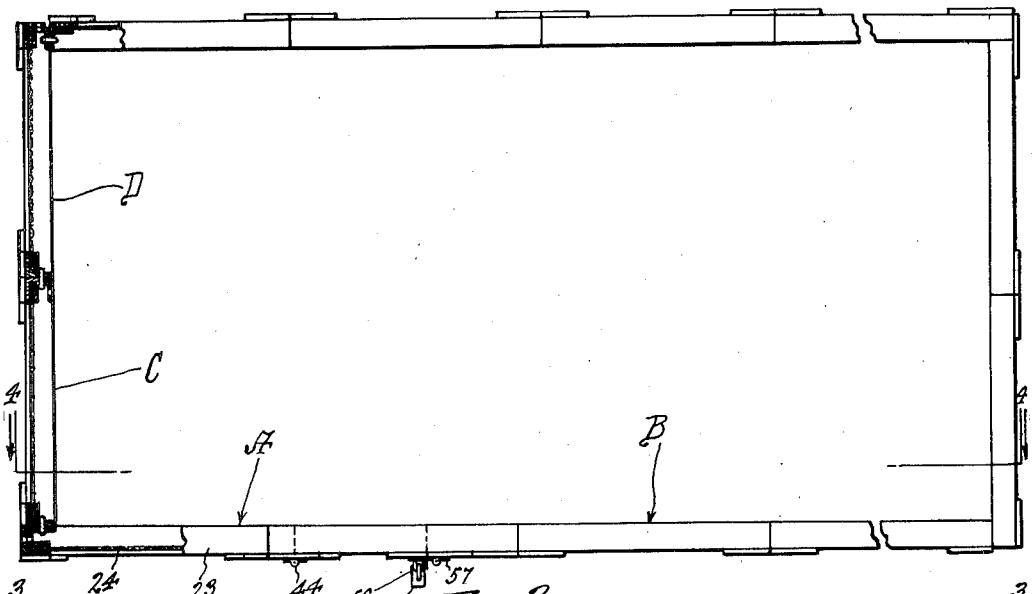
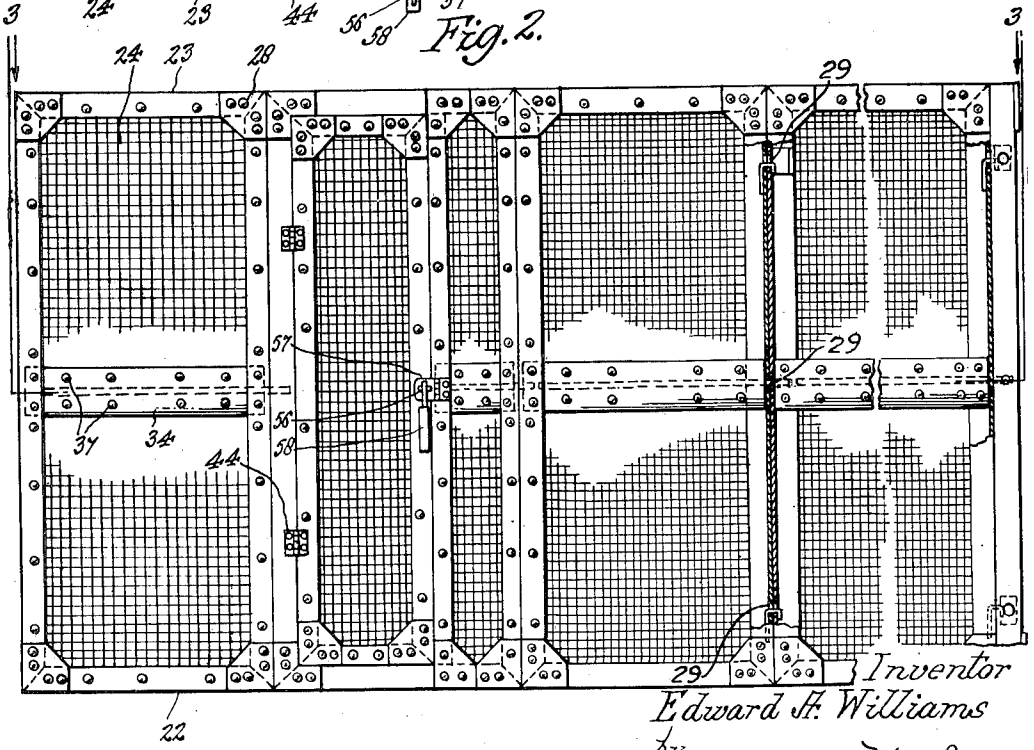


Fig. 2.



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Fig. 3.

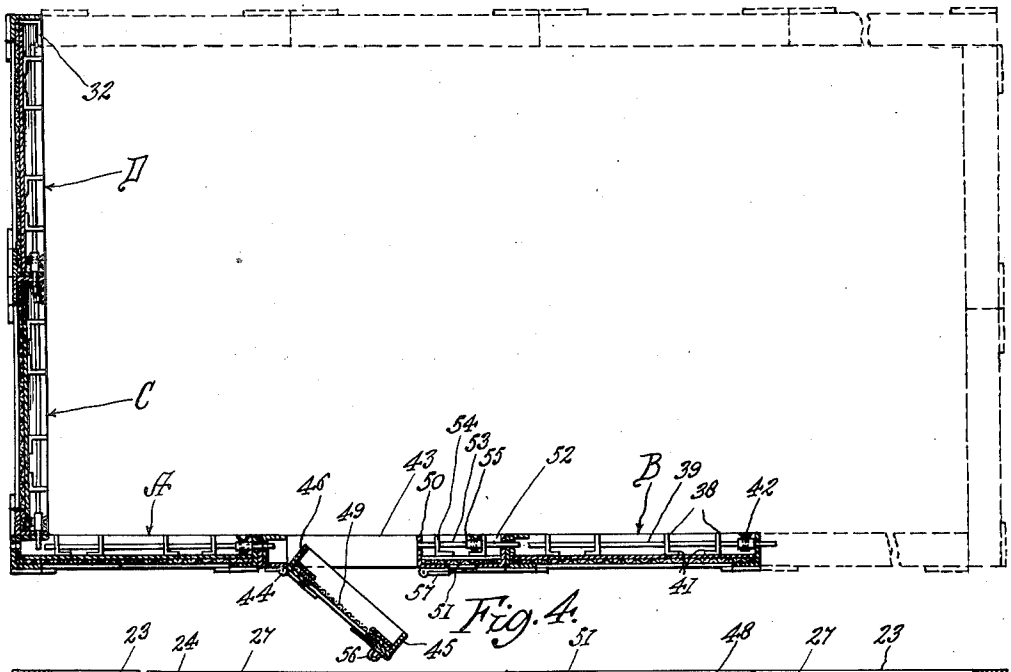
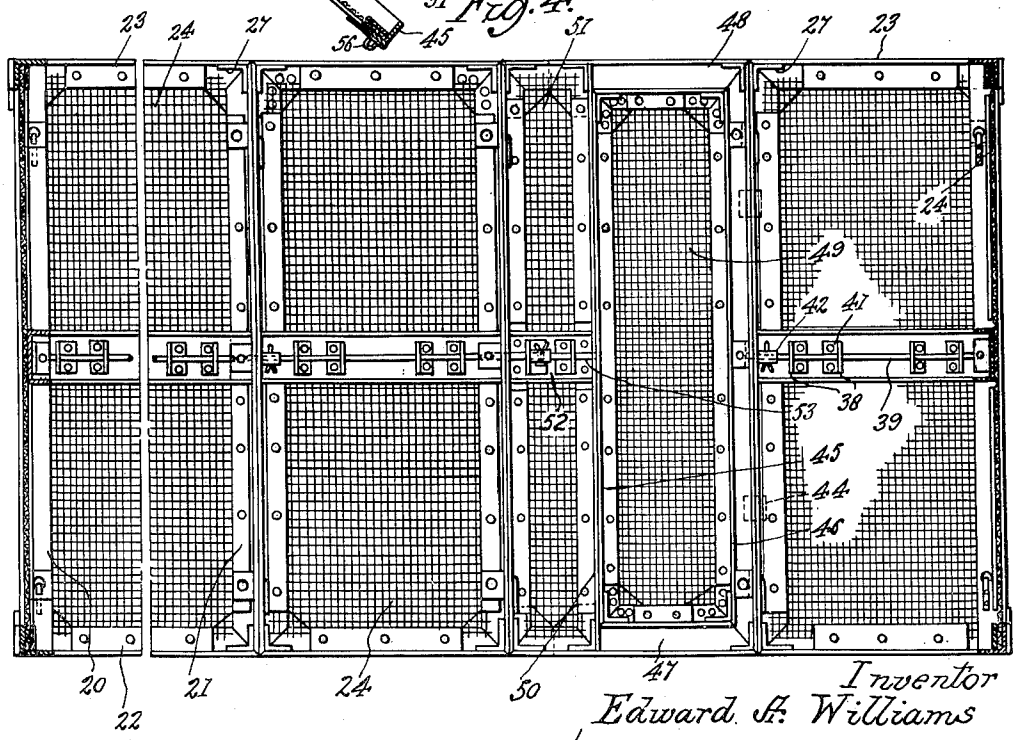


Fig. 4.



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Fig. 5.

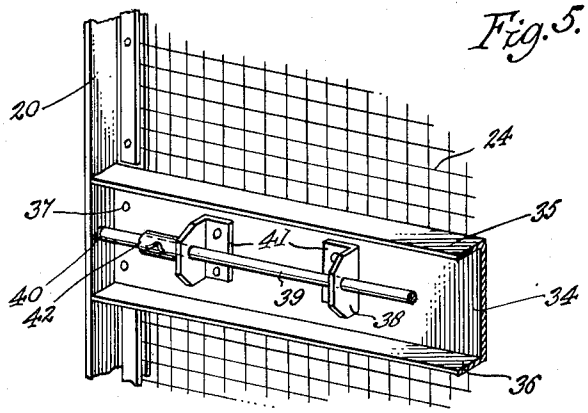


Fig. 6.

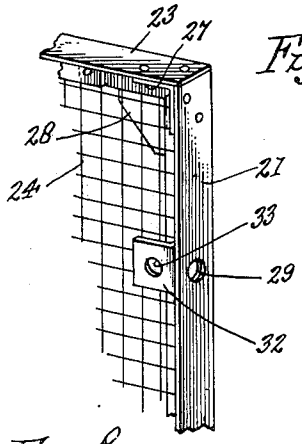


Fig. 7.

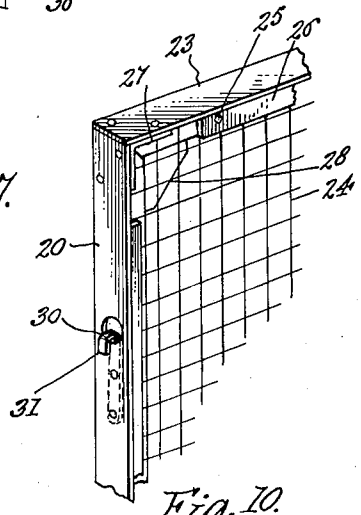


Fig. 8.

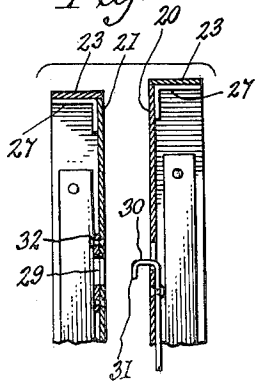


Fig. 9.

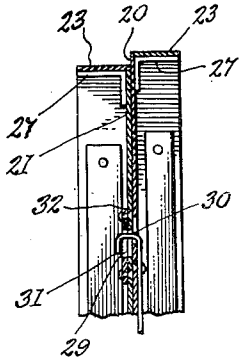
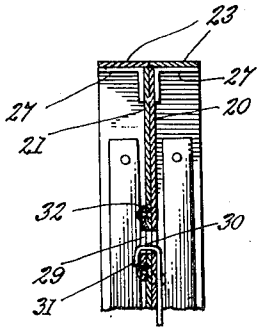


Fig. 10.



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PORTABLE SECTIONAL ENCLOSURE

Edward Almon Williams, New Orleans, La.

Application November 13, 1947, Serial No. 785,615

6 Claims. (Cl. 256—25)

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The present invention relates to improvements in portable sectional enclosure and more particularly refers to a portable sectional cage or fence composed of a number of panel, and one or more door, sections so related that the sections may be transported in a knock-down condition to the desired location and there set up and interlocked with the end and purpose in view of throwing an improvised and quick protection about merchandise on a wharf overnight or in an emergency in cases where the goods cannot be immediately warehoused or transported to destination.

Such fences or cages are intended for the protection of cargo, freight and other goods, wares and merchandise located on wharves, docks, sheds, warehouses, terminals, and other facilities, although it will be understood that the fence may have numerous other uses and may constitute a permanent as well as a temporary structure.

Another object of the invention is to provide a protection for such goods or merchandise from theft and pilferage and to achieve this object and purpose by a construction that is light in weight and hence easily portable to location, economical in its construction, and adapted for ready assembly into a coordinated fence unit in which all of the sections will be closely locked together; the construction of the interlocking mechanism being such that stevedores and others employed in dock work may be readily able to handle the sections and to set them up and assemble the same into their interlocking relationship without any special instructions.

A still further object of the invention resides in providing an extremely strong construction and one which will repel all assaults of thieves, and moreover which is so constructed and arranged as to conceal the locking mechanism from the exterior of the fence or stockade whereby the mechanism will not be revealed to the casual thief and whereby further planned theft may be repulsed by the fact that the locking mechanism is safe within barriers which prevent the manipulation of the locking mechanism from tools inserted through the wire cage from the exterior thereof.

With the foregoing and other objects in view, the invention will be more fully described hereinafter and more particularly pointed out in the appended claims.

In the drawings, in which like parts are denoted by the same reference characters throughout the several views,

Figure 1 is a top plan view, with parts broken away and parts shown in section, of an improved

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sectional fence constructed in accordance with the present invention;

Figure 2 is a side elevational view of the same with parts broken away and parts shown in section;

Figure 3 is a horizontal section taken on the line 3—3 in Figure 2;

Figure 4 is a vertical section taken on the line 4—4 in Figure 1;

Figure 5 is a fragmentary perspective view of the locking mechanism and its mounting;

Figure 6 is a perspective view of one fence section showing the hook receiving opening;

Figure 7 is a similar view showing the opposed complemental fence section with hook adapted to enter the opening in Figure 6;

Figure 8 is a fragmentary vertical sectional view of the two fence sections shown in Figures 6 and 7 in opposed initial position preparatory to interlocking;

Figure 9 is a similar view showing the two sections brought together; and

Figure 10 is also a vertical section of the two sections in which the hook section has been slid down to cause interlocking of the hook in the wall of the opening.

Referring more particularly to the drawings, the fence is composed of a plurality of panel sections and at least one door section. Conveniently each of these sections including both door and panel sections is made up of a substantially rectangular aluminum alloy frame covered with aluminum wire mesh. The sections have been built 84" high which will prevent anyone from scaling the same.

Each panel section comprises vertical standards 20 and 21, a transverse base bar 22 connecting the lower ends of the standards 20 and 21, and a top connecting bar 23 connecting the upper ends of such standards 20 and 21. The standards 20 and 21 and the base and top connecting bars 22 and 23 are preferably of angle iron construction with the outer flanges flush with the plane of the section and presenting a flat exterior surface; while the inner flanges are flush with the edges of the section and project inwardly from the outer portions of the front flanges.

Metal screen or mesh material is stretched across each section, being fitted at its marginal portions against the interior surfaces of the outside flanges of the members 20, 21, 22 and 23 and held thereagainst by rivets 25 or other appropriate fastenings passing through retaining bars 26 placed over such marginal portions.

Internal angle braces are riveted or otherwise

affixed in the internal corner portions of the frame to the inside flanges.

Corner braces 28 are riveted or otherwise affixed across the corner portions of the rectangular frame at the exterior faces of the same, being secured to the outer flat flanges of the angle iron members.

In the end flanges 21 of each section are a number of round or other openings. The right-hand portion of Figure 2 shows three such openings 29, namely, upper and lower openings and an intermediate opening. The upper and lower openings are adapted to be occupied by hooks carried by the abutting inner flanges 20 of the adjacent panel section. These hooks are of peculiar form and comprise outstanding shanks 30 with depending bills 31 projecting downwardly from the outer ends of the shanks 30. The bills are in spaced relation to the flanges 20. The distance from shank 30 to the lower end of bill 31 is not in excess of the diameter of the opposed opening 29 whereby the hook may pass through the opening 29 in the relatively raised position of the hook sections with reference to the opposing sections having the openings 29.

Each section also carries angle or other plates 32 riveted or otherwise affixed to the inner flanges of the parts 21, and having perforated portions 33 having the axes of their perforations at substantially right angles to the perforations 29 for the purpose of assembling the sections end to end in the same plane or at right angles to one another.

Intermediately of each section is a transversely extending channel bar 34 having upper and lower flanges 35 and 36, such bar being secured as by rivets 37 or other fastenings to the external flanges of the standards 20, 21.

In the channel frames are affixed in spaced relation a number of bearing plates 38 for a sliding bolt 39 the outer end of which is adapted to project through a perforation 40 in the inner flange of the standard 20 in alignment with the intermediate opening 29 of the standard 21 of an adjoining section. The diameter of the locking bolt 39 is substantially that of the intermediate opening 29 so that when the bolt 39 is projected across and into the opening 29 the adjoining sections will be locked against any relative up and down movement which would disengage the hooks 30, 31 from interlocking engagement in the upper and lower openings 29. In the same way when one section is turned at right angles to the other as in forming the corner portion of the fence, the bolt of one section will be placed opposite the perforation 33 in the intermediate part of an adjacent section so that the bolt may lock the two sections against up and down relative movement.

The bearing plates 38 are preferably angle members having bases 41 riveted or otherwise affixed to the channel member 34. In this way the bearing plates 38 may be bent at various angles about their bases 41 in order to impose friction tension on the sliding bolt 39 whereby to hold such bolt in either projected or retracted position and to prevent accidental or casual unlocking of the sections. A limit sleeve 42 is affixed to each bolt 39 between the standard 20 and the first bearing plate 38 to arrest the bolt in its inner and outer positions.

The door section 43 is similarly constructed; and in so far as the parts are the same, the same reference numerals apply. In this section is mounted a door arranged to swing on hinges 44 to open and closed positions and the door may be formed of a rectangular structure of vertical standards 45 and 46 with a bottom connecting bar 47 and a top connecting bar 48 across which is stretched wire mesh 49.

The door will be of a width less than the complete horizontal dimension of the door section and a vertical angle iron standard 50, affixed at its upper and lower ends respectively to the upper and lower connecting bars 22 and 23 of the door section, defines the door jam or that part thereof which receives the free edge 45 of the door. The remainder of the door panel outside of the door is covered with mesh 51. A channel beam 52 extends across the panel section 51 at an intermediate part thereof and houses therewithin the sliding locking bolt 53, the same being mounted upon bearing plates 54 which are adjustable to impose frictional tension on the bolt 53. The bolt carries fixedly thereon a sleeve 55 by which the bolt may be operated manually and which is arranged to strike one or other of the bearing plates 54 according to the position of the bolt.

In operation the sections may be stored one upon the other in flat knock-down condition in a warehouse or dock building; and whenever material recently unloaded upon the dock cannot be evacuated immediately, a suitable number of the sections may be transported to the locus of the merchandise and set up as a fence around the same.

The preferable practice is to first stand up the door section 43, and then referring to Figure 3, attach section A to the door section at one side, then join section C to section A, section D to section C and so on around the rectangle, attaching section B lastly to the other side of the door section 43.

The method of assembly is illustrated in Figures 8, 9 and 10. One of the sections, as shown in Figure 8, is brought opposite the adjoining section. For instance, the section carrying the hooks 30, 31 may be elevated slightly above the section having the opening 29. Thereupon the sections are moved together as shown in Figure 9 causing the hook to pass through the opening 29. Subsequently the hook section is moved downwardly as shown in Figure 10 so that the bill 31 of the hook engages the other section in and about the wall of the eye or opening 29. Both upper and lower hooks are assembled simultaneously in this manner. The locking bolt 39 is thereupon shot across the opening 40 and the intermediate opening 29 of the companion member and due to the fact that the diameter of the opening 29 snugly receives the bolt 39 the sections are locked against any relative movement such as would permit disengagement of the hooks 30, 31 from the eyes or openings 29. The bolt 39 is moved by engagement of the fingers with the limit sleeve 42 and shifting this sleeve from its position against the first bearing plate 38 (Figure 5) over against the upright or standard 20.

In a similar manner the sleeve 55 of the door section may be slid over to the right in Figure 3 to cause the locking bolt 53 to project through the registering openings of the door section and the next adjacent panel section B to lock this panel section to the door section and to prevent relative movement between the two sections such as would disengage their hooked association.

Other sections C and D are hooked into one another and subsequently locked together in the

manner described and the section C is joined at right angles to the section A, the hooks 30, 31 and the locking bolt 39 of the section C engaging in the eyes or openings 33 of the left end of the section A as shown in Figure 3.

As shown in Figure 3 all of the sections are joined together in a substantially rectangular arrangement to form a complete enclosure or stockade completely surrounding the goods on the wharf or dock. Obviously the sections might be connected in geometrical formation.

If desired, the sections may be nailed or otherwise secured to the wharf or dock so as to prevent lifting of the same.

As shown in Figure 3 the door 49 may be opened and in this connection it will be noted that the hinges 44 are upon the outside surface of the sections thereby enabling the door to swing outwardly of the fence so as not to be restrained by any of the merchandise protected in the enclosure. The door carries an eye 56 and the door section a hinged hasp 57 for fitting over the eye or staple 56 whereupon the staple 56 receives a padlock 58, the key of which is retained by a watchman or some other authorized person.

It will be apparent that the fence is interlocked as to all of its sections by mechanism entirely within the enclosure and accessible only after the door 49 has been unlocked and the authorized attendant enters the enclosure for the purpose of retracting the various bolts 39 and 53 to enable the sections to be so relatively moved as to disengage the hooks 30 and 31.

It will also be apparent that externally the fence presents a plain unscalable exterior devoid of footholds or other projections that might enable thieves to scale the wall.

It will also be noted particularly from Figures 2 and 5 that the channel beams 34 and 52 are so constructed and arranged that they perform several functions. In the first place these channel beams reinforce and strengthen the intermediate portions of the rectangular section frames. Secondly, such channel beams provide a support for the supporting plates 38 and 54 in which the bolts 39 and 53 are slidably mounted. In the third place and importantly, the flanges 35 and 36 of the channel beams projecting inwardly of the beams and inwardly of the sections above and below the bearing plates 38, 54 and the bolts 39, 53 effectively screen these locking members from the eyes of casual thieves and pilferers, thus obscuring the mechanism and therefore leaving such gentry uninformed as to the method and mechanism of interlocking and thus failing to suggest a solution of the locks. For the more intelligent criminal class who plan thefts the channels including the flanges 35 and 36 completely house and protect the internal locking mechanism in so far as any accessibility is permitted from the exterior of the fence. Tampering with the locking bolts by screw drivers or other tools inserted between the meshes of the screening is prevented by the flanges 35, 36 which will divert those tools away from the locking mechanism and render opening of the locking mechanism impracticable in this manner.

On the other hand the dismantling of the fence by an authorized person who has secured access through the door 49 to the inside of the stockade may be carried out expeditiously and promptly by simply shifting all of the bolts 39 and 53 to the retracted positions.

After the cage is erected in a complete rectangle and all the bolts thrown and the door 49 locked,

none of the bolts 39 or 53 may be retracted without opening the door 49 and first retracting the bolt 53 on the door section and so on; one section at a time, counterclockwise around the entire enclosure. This may readily be seen by reference to Figure 3 which shows clearly that each sliding bolt when thrown into the next section will prevent a retraction of the sliding bolt in the next section. This is an important safety feature since, even if a person gains access to the interior of the enclosure by any means other than the regular door 49 thereto, he will be unable to retract any of the bolts and thereby cannot disengage any of the sections. In other words these sections may only be disengaged by first opening the door 49 in the door section 43.

Another important point is a fool proof feature in the erection of the cage. It will be seen again by referring to Figure 3 that the sliding bolt 53 on the door section 43 cannot be thrown into the next section until the bolt on section A, then section C, then section D, and so on, one section at a time, clockwise around the entire rectangle, has been thrown. It would therefore be impossible to close the door 49 to the door section 43 until all of these bolts had been thrown and all of the sections securely locked in place, because if this had not been accomplished, the bolt 53 on the door section would be protruding into the door frame, thereby preventing the closing and locking of the door 49.

It will be understood that the references to the size of the panels and the material out of which they are built will not be restrictive, but such statements are by way of example merely.

While I have disclosed herein the best form of the invention known to me at the present time, I desire it to be understood that I reserve the right to make changes and modifications in the herein described embodiment of the invention provided such changes fall within the scope of the following claims.

What I claim is:

1. A sectional fence of the kind described comprising companion panels each having eyes in one end and hooks in the other end, said hooks having bill portions not greater in length than the width of the eyes to permit the hooks to pass through the eyes when the sections are assembled in an off-set relation, said hooks being interlocked with the walls of the eyes by relative movement between the sections to a level final position, and locking bolts movably carried by the sections, each locking bolt positioned to enter an opening provided in an adjoining section when in such level final position, each said locking bolt being of approximately the internal diameter of said opening to cause locking of the sections against such relative movement.

2. A sectional fence as claimed in claim 1 characterized by the fact that the eye ends of the sections carry eye plates having eyes level with the first mentioned eyes but extending at substantially right angles thereto to receive the hooks and bolt of an adjoining section fitted at substantially right angles thereto.

3. A sectional fence of the kind described comprising companion panels each having eyes in one end and hooks in the other end, said hooks having bill portions not greater in length than the width of the eyes to permit the hooks to pass through the eyes when the sections are assembled in an off-set relation, said hooks being interlocked with the walls of the eyes by relative movement between the sections to a level final position, a lock-

ing bolt movably carried by each section and positioned to enter an eye of an adjoining section when in such level final position, said locking bolts each being of approximately the internal diameter of the eye to cause locking of the sections against such relative movement, and bearing plates carrying said locking bolts, said bearing plates being so arranged with respect to said locking bolts as to impose frictional binding therebetween.

4. A sectional fence as claimed in claim 3 characterized by the fact that said bearing plates have bases riveted or otherwise secured to the sections with the bearing plates extending out at substantially right angles therefrom and being perforated in alignment to receive the locking bolts therethrough.

5. A sectional fence as claimed in claim 4 characterized by the fact that a limit sleeve is affixed

to each bolt and plies between one of the bearing plates and a part of the section.

6. A sectional fence as claimed in claim 5 characterized by the fact that the bearing plate bases are secured to the bottom member of a channel frame secured across the sections on the inside thereof and having inwardly projecting upper and lower flanges for concealing and protecting the locking bolts and bearing plates.

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The following references are of record in the file of this patent:

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