

June 6, 1961

O. H. KNEEN
FENCE CONSTRUCTION

2,987,299

Filed Dec. 30, 1957

2 Sheets-Sheet 1

Fig. 1.

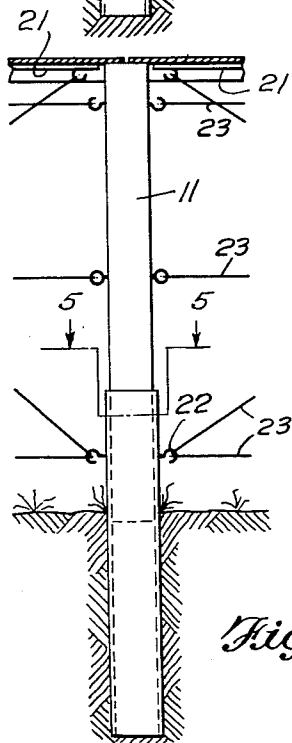
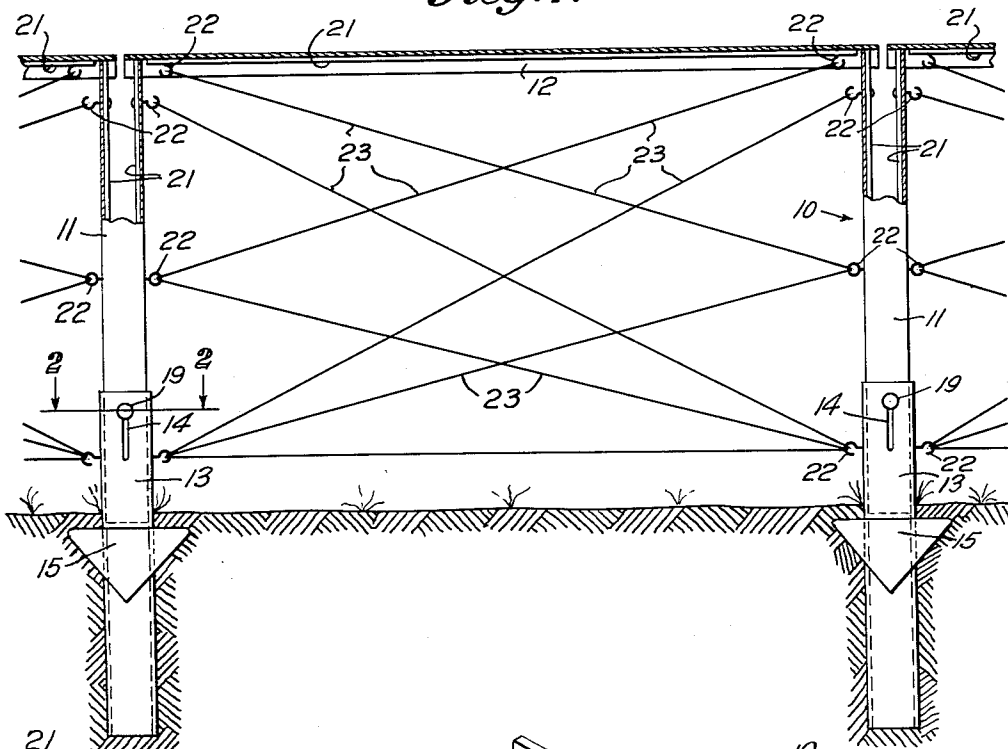


Fig. 4.

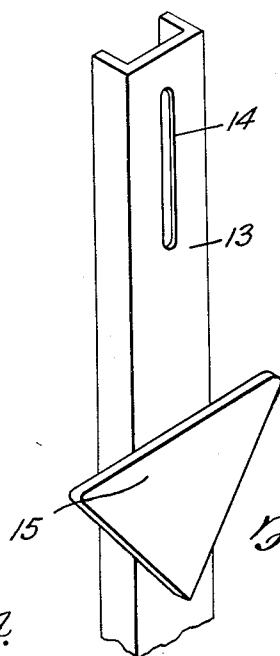


Fig. 3.

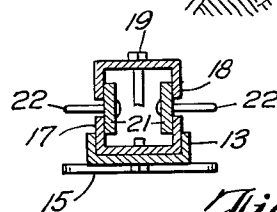


Fig. 2.

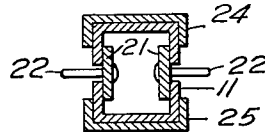


Fig. 5.

Inventor
Orville H. Kneen,
By KARL W. FLOCKS Attorney

June 6, 1961

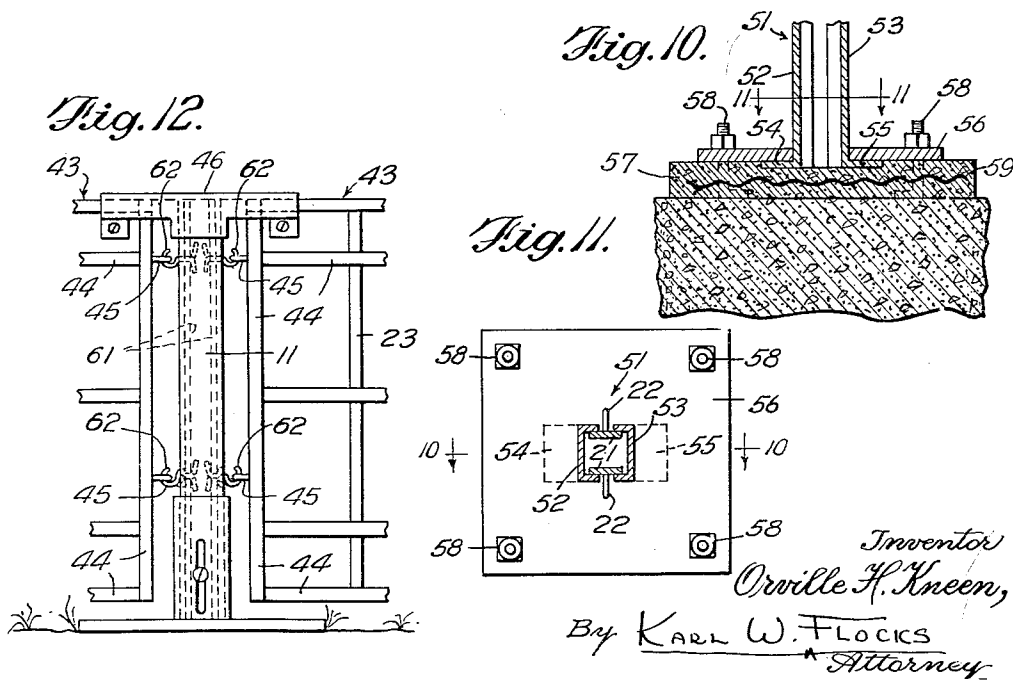
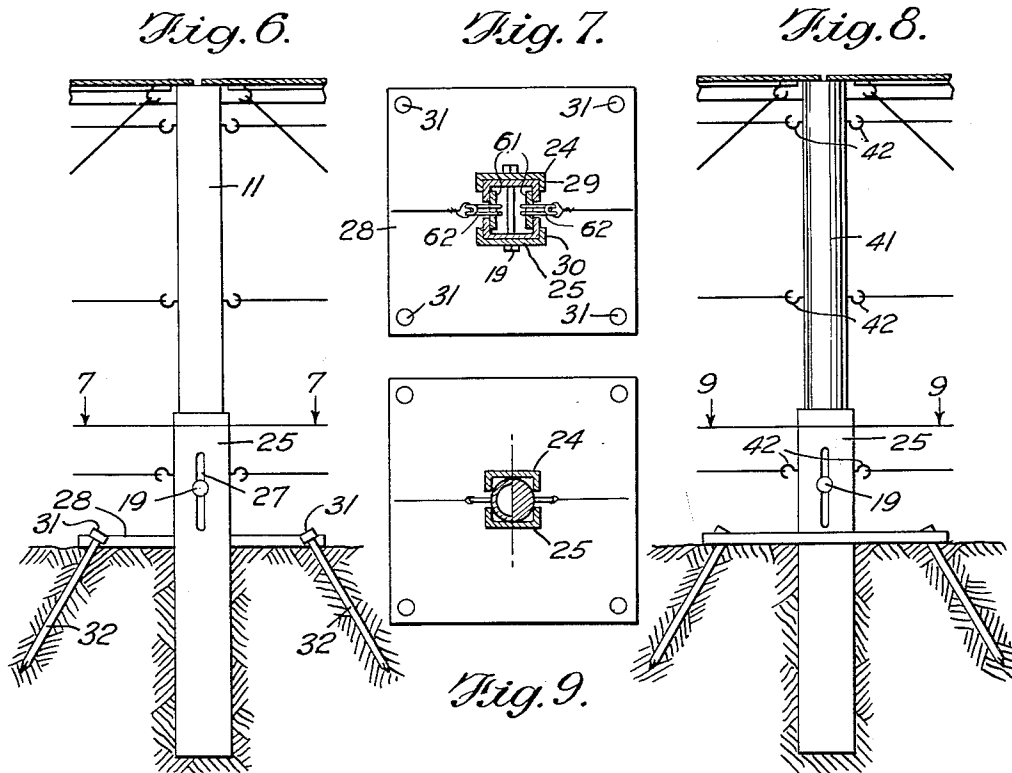
O. H. KNEEN

2,987,299

FENCE CONSTRUCTION

Filed Dec. 30, 1957

2 Sheets-Sheet 2



1

2,987,299

FENCE CONSTRUCTION

Orville H. Kneen, 4731 7th Road N., Arlington 3, Va.
Filed Dec. 30, 1957, Ser. No. 705,919
14 Claims. (Cl. 256—24)

The present invention relates to a fence construction, and more particularly to a fence construction in which separate ground-penetrating supports are provided for the fence posts, and in which the fence posts and/or the fence rails are provided with novel means for attaching original fabric panels.

In present-day practice, the yards of urban and suburban homes are frequently enclosed by fences. These fences generally are of two types: a first type is an extremely sturdy type that will usually last for years, even though rusty, but that has the disadvantage that it must invariably be installed by experienced fence-erecting crews; the other type is often installed by the property owner himself but requires the use of tools and skills that the ordinary householder does not possess. Thus, it is common for the householder desiring to install his own fence to buy the fence material, either wood or lightly coated wire mesh, and to buy or rent in addition such tools as posthole augers or diggers, wire stretchers, sledge hammers, etc. These tools not only add to the expense of the fence but require certain skills and strength that many average householders do not possess. Where wooden fences have been erected by the householder, constant maintenance is required to prevent the fence from rotting, particularly below the ground level, and weathering generally. Thus, constant painting is required, and there is the certainty in almost any soil that the fence posts will rot in the ground and require expensive replacement or even replacing the fence entirely. Where metal wire fabric fences are used, the result is often less than desired, because it is difficult to properly stretch the wire fabric to provide the taut fence that is required for appearance and protection. This is particularly true where the fence is placed on terrain that is not level. Lightly coated metal fabric such as is sold for home fences rusts quickly and it is extremely difficult to clean off the rust and paint the fabric.

With the above-noted state of the fence erection art in mind, it is an object of the present invention to provide a fence, or more properly, a fence system, that may be readily constructed and erected by a person having a minimal amount of skill and strength, and one that requires the use of only ordinary tools.

It is a further object of the present invention to provide a fence construction in which a separate support is provided for the fence posts and the posts themselves do not penetrate into the ground.

Another object of the present invention is the provision of a separate support and anchor for a fence post.

It is yet another object of the present invention to provide a system of fencing in which a top rail may be used or not, and in which a bottom rail may be used or not, as the builder desires, according to the pattern of fence he decides to erect.

Yet another object of the present invention is the provision of a system of fence construction that will enable the fence panels to be woven or otherwise constructed in place, of long-lasting fabric, webbing, or other materials, in original designs if desired.

It is yet another object of the present invention to provide a system of fence construction in which prefabricated panels of frame and fabric may be assembled apart from the erection of the fence posts, and the panels placed in position after the erection of the posts.

It is still another object of the present invention to provide a fence construction wherein the person erecting the

2

fence can provide individual designs for the fence panels.

It is a still further object of the present invention to provide a fence construction of the desired type from parts that are readily prefabricated to size and packaged in

5 knocked-down condition.

A still further object of the present invention is the provision of a fence-anchoring system that does not extend beyond the line of the fence, so that a fence can be erected right at the property line without having any part of the fence or its anchorage extend over the property line.

10 Still another object of the present invention is the provision of a removable fence constructed exclusively of materials having extremely long life and not subject to deterioration by weather or contact with the ground.

15 A further object of the present invention is the provision of a fence construction that provides a rigid, continuous fence.

It is another object of the present invention to provide a post construction that may be readily positioned on masonry surfaces, such as low walls, when the ground is rocky, on concrete poured into shallow depressions.

20 Other objects and the nature and advantages of the instant invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

25 FIG. 1 is an elevational view of a fence in accordance with the present invention, with some parts in sections and with some parts cut away;

FIG. 2 is a section taken on the line 2—2 of FIG. 1;

30 FIG. 3 is a perspective view of an individual support member used in FIG. 1;

FIG. 4 is a view similar to FIG. 1, but showing another embodiment of the support of the present invention;

35 FIG. 5 is a cross-sectional view taken on the line 5—5 of FIG. 4;

FIG. 6 is an elevational view, with parts in section, of yet another embodiment of a separate support in accordance with the present invention;

40 FIG. 7 is a cross-sectional view taken on the line 7—7 of FIG. 6;

FIG. 8 is an elevational view showing the use of the support of the present invention with a cylindrical fence post;

45 FIG. 9 is a cross-sectional view taken on the line 9—9 of FIG. 8;

FIG. 10 is a cross-sectional view of another embodiment of the invention, used with a masonry base;

FIG. 11 is a cross-sectional view taken on the line 11—11 of FIG. 10; and

50 FIG. 12 is an elevational view showing an embodiment of the present invention wherein prefabricated panels are used.

Referring now to the drawings, there is shown in FIG. 1 a fence 10 having upright posts generally designated 11 and a top rail 12. The posts 11 do not penetrate into the ground, but instead are held upright by support members 13. As best seen in FIG. 3, each of the support members 13 is made up of a channel member which penetrates into the ground and has a slot 14 in the upper end thereof. There may be optionally secured to the support members 13 a wedge-shaped bearing member 15 to give added stability to the support member 13. If desired, bearing member 15 may be separate from the support member 13.

65 In FIG. 2, the construction and arrangement of parts may be seen, in which the post 11 comprises spaced-inwardly facing channels 17 and 18 to form the hollow post 11. The channel 17 is received in support member 13 with its web against the web of support member 13 and its flanges within the flanges of support member 13, and a bolt and nut assembly 19 extends through the channel members 17 and 18 and through the slot 14 in channel

3

member 13 to secure the channel members 17 and 18 together as a unit and to secure the thus-formed post 11 to the support member 13.

Within the post 11 there are positioned two longitudinally extending strips 21 each having secured thereto a plurality of hooks 22. The hooks 22 extend from between the two channel members 17 and 18, as may be seen in FIG. 1. When a top rail 12 is provided, and/or an identical bottom rail (not shown), either of which may be curved or any other desired shape, it has secured thereto a strip 21 with hooks 22, as is shown in FIG. 1, or the hooks may be inserted into holes provided in rail 12. Extending from between the hooks 22 is lacing or fabric 23 which forms the panels of the fence.

It may be seen that the erection of a fence in accordance with FIG. 1 of the drawing may be readily accomplished by simply driving the support member 13 into the ground against the posts 11, which may be either pre-formed, i.e., loosely assembled and including the channel members 17, 18 and the strips 21, or it may be assembled in place against the support member 13. In any event, it is a simple matter to secure all the parts into the assembly shown in FIG. 2 and to secure them by the bolt assembly 19. Once the posts 11 are set and fixed perpendicularly through the use of wedges or member 15 when separate from 13, the top rail 12 is put in place and secured by any convenient means, such as brackets, not shown. Thereafter, the lacing 23 or other fabric material is woven, interlaced on, or otherwise attached between the hooks 22 to form the panel of the fence.

The embodiment of the invention shown in FIGS. 4 and 5 comprises posts 11 as heretofore described together with a top rail 12, if desired, and strips 21. The support members are doubled, for as shown in FIG. 5, the posts 11 are held by two channel members 24 and 25, which are driven into the ground in facing relationship and are spaced apart a sufficient distance to accommodate the post 11. Posts 11 may be assembled in any convenient manner, such as by welding of the parts thereof into a unitary assembly, or by bolting them together. However, the post as assembled, together with the supports, has the appearance and parts described above in connection with FIGS. 1 and 2.

The construction of a fence in accordance with the embodiment of the invention shown in FIGS. 4 and 5 begins with the driving into the ground of one of the channel members 24 and 25 in the relationship noted above. Thereafter, the post 11 is inserted against the support thus provided by the channel members 24 or 25, the other support is driven down, the top rail, if used, is secured to the post 11, and then the lacing 23 is woven, as before mentioned, between the hooks 22.

In FIGS. 6 and 7, there is shown another embodiment of the present invention, particular attention being invited to the support of the post 11 wherein there are provided the channel members 24 and 25 in the heretofore-mentioned relationship, these channels being provided with slots similar to the slot 14 shown in FIG. 3; a slot 27 may be seen in the channel member 25 in FIG. 6. The channel members 24 and 25 penetrate into the ground, but have in this embodiment a base plate 28 having slots 29 and 30 therein to receive the channel members 24 and 25. Base plate 28 has a plurality of apertures 31 therein, preferably one at each corner. Stakes 32 are driven through the apertures 31 to secure the base plate 28 to the ground. Base plate 28 may be corrugated or otherwise made to assure drainage under wooden posts.

In FIG. 7, there is shown a strip 61 in which the hooks are loosely mounted; this is accomplished by making the hooks 62 with a cotter-key construction, so that the strip 61 may be sold separately and the hooks 62 inserted by the builder of the fence. Other means to provide a loose connection may be used, such as making the hook with a hole on the end opposite the hook, and inserting a pin or wire through the hole to secure the hook firmly but

4

provide a pivoting connection. Of course, either of these "loose" attachments of the hook may be used in any of the embodiments of the invention.

To construct a fence in sandy or loose soil, the base plate 28 is first placed on the ground and stakes 32 driven into the ground through the apertures 31. This secures the base plate to the ground. The channel members 24 and 25 are then driven through the openings 29 and 30 in the base plate 28, so that they penetrate into the ground and also extend above the ground. The post 11 is then placed between the channel members 24 and 25 and the bolt 19 secured through the channel members 24 and 25 and the post 11. The remainder of the construction is carried forward as above described.

The embodiment of the invention shown in FIGS. 8 and 9 is similar to that shown in FIGS. 6 and 7, except that there is here used a post 41 which has an exterior surface that is round; post 41 may be either solid or hollow. When post 41 is solid, it may be desirable to use a wooden post and to screw hooks 42 into the wooden post 41. There could also be used a post 41 that is made of metal and is hollow; with such a post, the hooks 42 could be either screwed into it or welded or bolted to it. Thus, it may be seen that if the post 41 is wooden, the hooks 42 may be inserted by the person constructing the fence; on the other hand, with either wooden or metal posts 41, the hooks 42 may be either assembled to the post 41 by the manufacturer or by the person building the fence. Construction of the embodiment of the invention shown in FIGS. 8 and 9 is similar to that discussed above in connection with FIGS. 6 and 7, with the exception of the placement of the hooks 42, as noted.

In the embodiment of FIGS. 10 and 11, a post 51 comprises a pair of facing channels 52 and 53, each having an outwardly-turned flange 54 and 55 at the lower end thereof. Overlying flanges 54 and 55 is a base plate 56, which is secured by cement or concrete 57 to any masonry or similar surface, such as a concrete block. Suitable bolts 58 extend upwardly from beneath strengthening mesh 59 through holes in plate 56, and are secured by suitable nuts, the mesh and bolts being embedded in the cement or concrete 57. The post 51 may include the strips 21 and hooks 22.

This embodiment may be used on top of any masonry construction, such as brick walls, and on pavement. Also, it is to be understood that for use on hard ground, such as rock or hardpan, a shallow hole may be dug and filled with concrete, and the base plate 56 and post 51 placed therein before the concrete is set and hard. Of course, on asphalt, the base plate 56 may simply have spikes driven through, as in FIG. 6. It may also be seen that a round post, such as the post 41 of FIG. 9, could have a flange at its lower end fashioned as the post 51, and be held by embedded bolts in lieu of plate 56 and bolts 58.

In FIG. 12, there is shown the embodiment of the invention wherein prefabricated panels are assembled to, by way of selected example, erected posts 11. The prefabricated panels 43 comprise frame members 44 between which lacing 23 is placed in any desired pattern or configuration. Frame members 44 have eyes 45 secured thereto, and these eyes 45 are held by hooks 62, as shown. To give the fence rigidity and continuity, a rigid cap member 46 is secured to the post 11 and to the adjacent panels 43.

In construction of a fence in accordance with the embodiment shown in FIG. 12, the posts 11 are erected with the aid of any of the heretofore-mentioned supports. The panels 43 are then secured by using the fittings 45 and the fence is completed. It will be understood that the panels 43 shown in FIG. 12 may be constructed by the homeowner from material and parts that may be prefabricated. Alternatively, the entire panel 43 may be prefabricated by a manufacturer and sold in the assembled condition.

Any suitable material may be used for the lacing 23;

5

thus, aluminum wire or aluminum strip material may be used, as well as plastic strips or plastic webbing. Whatever material lacing 23 is made of, it may readily be seen that each person constructing a fence in accordance with the present invention may execute it in any woven or interlaced design that he wishes, and also that individual designs may be executed for each panel of a fence. It will also be appreciated that certain of the materials for the lacing 23 permit the employment of various colors.

Throughout the specification, any of the members described as "hooks" may be in the form of either a hook or an eye.

It may be readily understood that the fence in accordance with the present invention is not only readily assembled, but is also very strong. In addition, it may be seen that the fence of the invention is readily removable should it be desired for any reason to remove it and place it at another location. This permits a flexibility of a location not now permitted with standard types of fence construction.

It will be obvious to those skilled in the art that various changes may be made without departing from the spirit of the invention and therefore the invention is not limited to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. In a fence, at least a pair of vertically extending posts, support means anchored to a support surface, a pair of spaced, open-topped channel-like members facing toward each other and received in said support means above said support surface, elongated strip elements disposed longitudinally in said channel-like members of each post, said strip elements being removable from said channel-like members and extending transversely therebetween and normal to the general plane of said fence, hook means spaced longitudinally on said strip elements and extending toward each other from between said channel-like members of the respective posts, and panel-forming means on the hook means forming a panel secured between said posts and removable from said channel-like members.

2. The structure of claim 1; and a top rail removably received at opposite ends on the respective posts, second hook means depending from said top rail, said panel-forming means being engaged to said hook means.

3. The structure of claim 1; said support means comprising a channel-shaped element embedded at its lower end in said support surface, said channel-shaped element including an inner surface portion complementary to and juxtaposed on the outer surface of one of said channel members of the respective posts.

4. The structure of claim 3; and a second channel-shaped element opposed to and extending toward said first-mentioned channel-shaped element, said second channel-shaped element being terminally embedded in said support surface and including an inner surface portion complementary to and juxtaposed on the outer sur-

6

face of the other channel-like member of the respective posts.

5. The structure of claim 3; said channel-shaped element including wedge means embedded beneath said support surface in juxtaposed relation to the outer surface of said channel-shaped element.

6. The structure of claim 3; and a base plate circumposed about said post in engagement with said support surface, said base plate including transverse apertured portions, and stake elements extending through said base plate apertures and penetrating said support surface.

7. The structure of claim 1; said channel-like members including laterally extending flanges at their lower ends, said support means comprising a masonry block, a base plate circumposed about said channel members and removably secured to said masonry block in overlying relationship to the channel-like member flanges.

8. The structure of claim 1; said panel-forming means comprising a preformed panel section removably received on said hook means.

9. The structure of claim 1; said panel-forming means comprising a webbing material laced on said hook means.

10. The structure of claim 1; said hook means comprising elements formed integrally with said elongated strip elements.

11. The structure of claim 1; said hook means comprising hook elements removably received on said elongated strip elements.

12. For use in a manually erectable fence, a vertically extending post, support means anchored to a support surface, a pair of spaced, open-topped channel-like members facing toward each other and received in said support means above said support surface, at least one elongated strip element disposed longitudinally in said channel-like members and removable therefrom, said strip element extending transversely between said channel-like members for disposition normal to the general plane of a fence in which said post is used, hook means spaced longitudinally on said strip element and projecting normal to said strip element between said channel-like members for receiving panel-forming means thereon.

13. The structure of claim 12; said hook means comprising hook elements formed integrally with said strip element.

14. The structure of claim 12; said hook means comprising hook elements removably received on said strip element.

References Cited in the file of this patent

UNITED STATES PATENTS

207,518	Hayden	Aug. 27, 1878
557,286	Robbins	Mar. 31, 1896
714,683	Ewell	Dec. 2, 1902
1,147,409	Krawczyk	July 20, 1915
1,628,860	Steinkraus	May 17, 1927
1,979,866	Chapman	Nov. 6, 1934