

May 14, 1963

H. B. SMITHWICK
FENCE CONSTRUCTION

3,089,681

Filed Dec. 29, 1960

3 Sheets-Sheet 1

Fig. 1

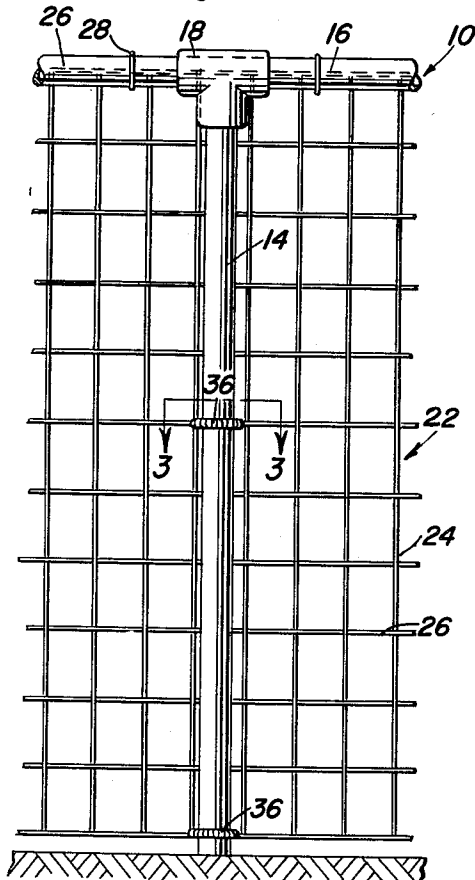


Fig. 2

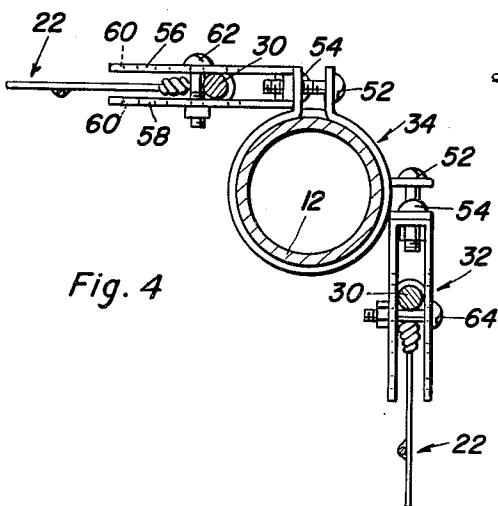
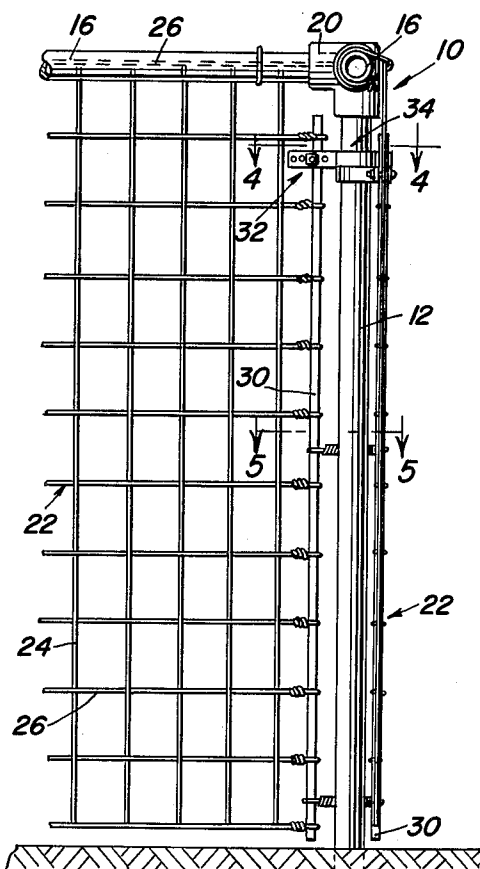
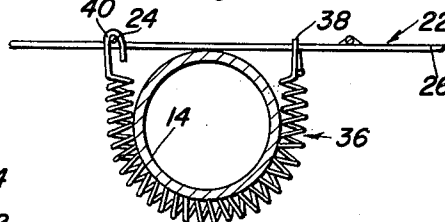


Fig. 3



Henry B. Smithwick
INVENTOR.

BY *Clarence A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

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Fig. 5

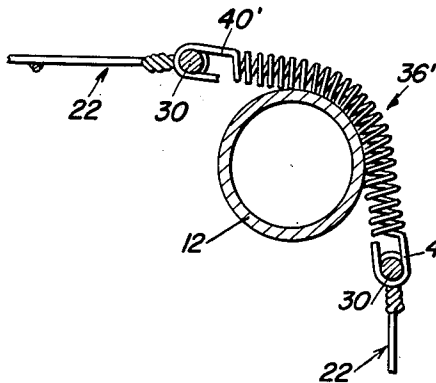


Fig. 6



Fig. 7

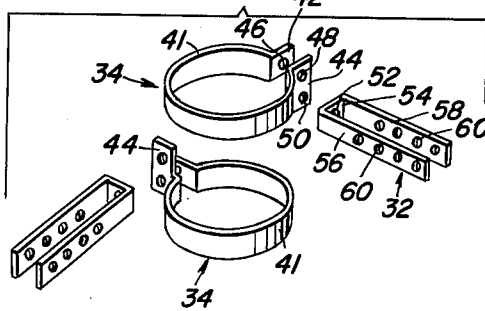


Fig. 8

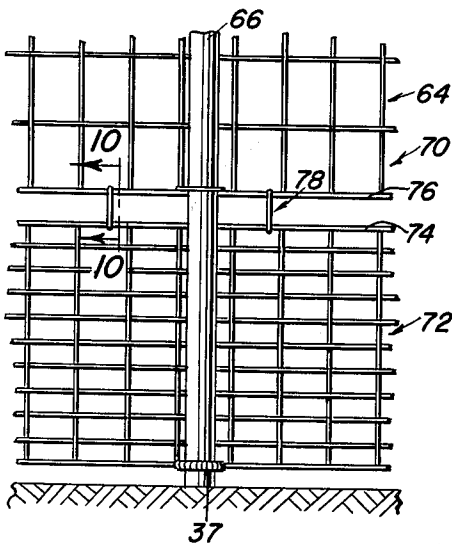


Fig. 9

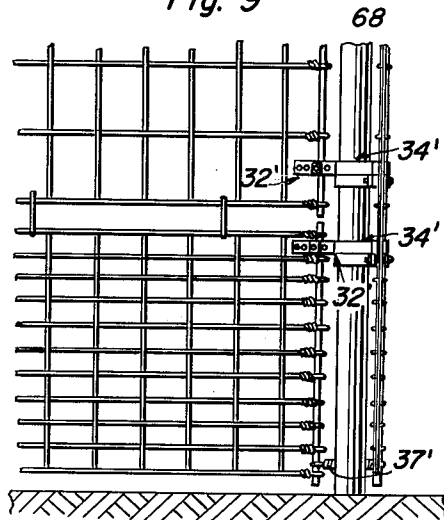


Fig. 11

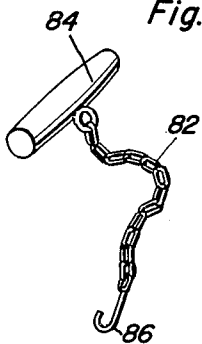
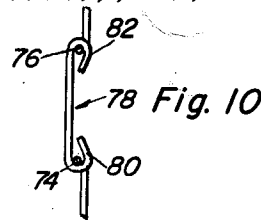
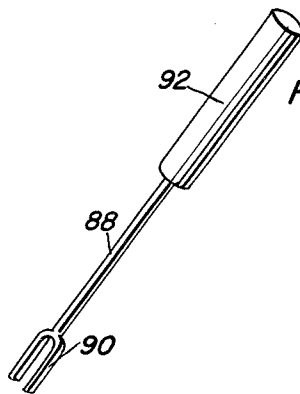


Fig. 12



Henry B. Smithwick
INVENTOR.

BY *Clarence A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

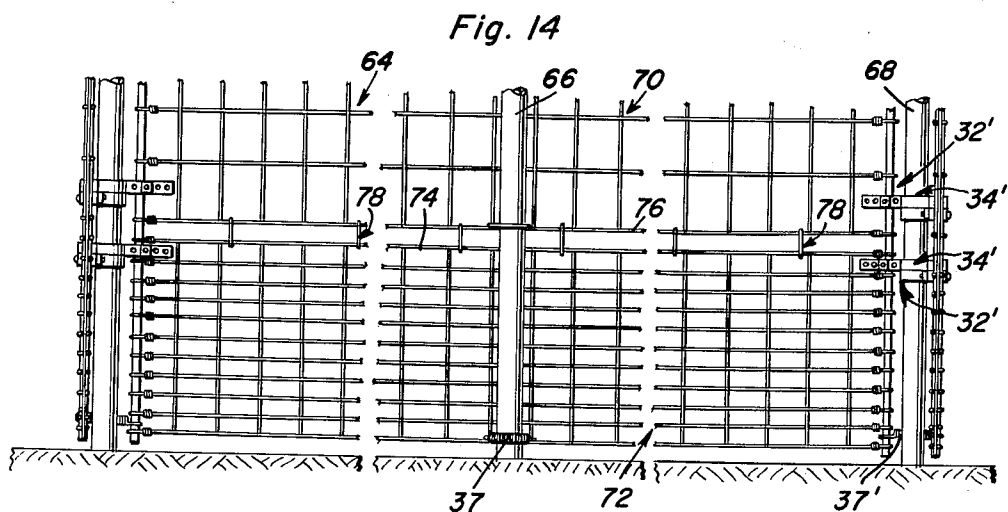
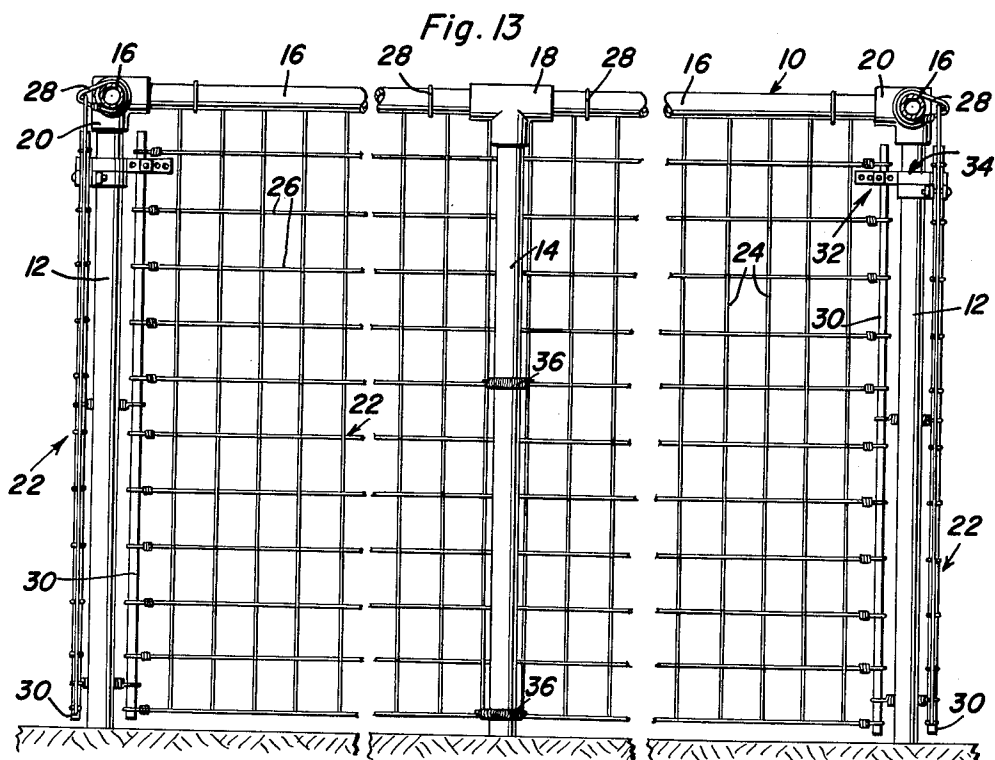
May 14, 1963

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Filed Dec. 29, 1960

3 Sheets-Sheet 3



Henry Smithwick

INVENTOR.

BY *Clarence A. Wilson*
and *Harvey B. Jacobson*
Attorneys

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3,089,681

FENCE CONSTRUCTION

Henry B. Smithwick, 2352 Coronet Place, Jackson, Miss.
Filed Dec. 29, 1960, Ser. No. 79,423
6 Claims. (Cl. 256—47)

This invention relates to a novel and useful fence construction and more specifically to a fence construction having a net section supported between a pair of terminal uprights and intermediate uprights disposed therebetween with the fence net supported in such a manner whereby it may be pivoted about a horizontal axis substantially paralleling the upper marginal edge portion of the section to lift the lower marginal edge portion of the net section upwardly and away from the surface by which the terminal and intermediate uprights are supported.

By providing a fence construction having a net section which may have its lower marginal edge swung upwardly about an axis extending along the upper marginal edge of the net section, the task of trimming a lawn immediately adjacent the lower marginal edge portions of a fence section is completely eliminated as a mower may be used immediately along a line normally defined by the fence net section. Additionally, wide but relatively low objects may be passed from one side of the fence to the other without lifting them over the upper edge of the fence and many other advantages can be realized by a fence whose lower marginal edge may be swung upwardly about an axis extending along the upper marginal edge of the net section.

The use of fences having metallic net sections defining mesh areas is increasing rapidly and it is therefore the main object of this invention to provide a manner in which more or less conventional fence constructions of this type may be readily modified so as to enable the lower marginal edge portions of the net section to be swung upwardly about an axis extending along the upper marginal edge portions thereof.

A further object of this invention, in accordance with the immediately preceding object, is to provide a fence construction having swingable sections that may, without major revisions, be manufactured in the same manner as are stationary fence sections of this type.

Still another object of this invention, in accordance with the preceding objects, is to provide a means whereby the swingable fence sections may be secured in their normal positions but may also be readily released from their normal positions and swung to elevated positions.

A still further object of this invention is to provide tools which may easily be manipulated to either secure the swingable fence sections in their normal positions or to release the fence sections from their normal positions so that they may be swung to their elevated positions.

A final object to be specifically enumerated herein is to provide a fence construction which will conform to conventional forms of manufacture, be of simple construction and easy to operate so as to provide a device that will be economically feasible, long lasting and relatively trouble free in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a fragmentary side elevational view of an intermediate portion of the fence construction comprising the instant invention;

FIGURE 2 is a fragmentary vertical sectional view of

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a corner portion of the fence construction comprising the instant invention;

FIGURE 3 is an enlarged fragmentary horizontal sectional view taken substantially upon the plane indicated by the section line 3—3 of FIGURE 1;

FIGURE 4 is an enlarged fragmentary horizontal sectional view taken substantially upon the plane indicated by the section line 4—4 of FIGURE 2;

FIGURE 5 is an enlarged fragmentary horizontal sectional view taken substantially upon the plane indicated by the section line 5—5 of FIGURE 2;

FIGURE 6 is a side elevational view of one of the tension members utilized to retain the fence net sections in their normal positions;

FIGURE 7 is an enlarged exploded perspective view of a pair of clamp and bracket members utilized to secure the net sections to a terminal corner post;

FIGURE 8 is a fragmentary side elevational view similar to that of FIGURE 1 but showing a modified form of the invention;

FIGURE 9 is a fragmentary vertical sectional view similar to that of FIGURE 2 but showing the modified form of the invention;

FIGURE 10 is an enlarged fragmentary vertical sectional view taken substantially upon the plane indicated by the section line 10—10 of FIGURE 8;

FIGURES 11 and 12 are perspective views of two tools to be used when releasing and securing the fence sections from their normal positions; and

FIGURES 13 and 14 are side elevational views drawn on a reduced scale of the fence constructions illustrated in FIGURES 1—4 and FIGURES 8 and 9 respectively with portions thereof broken away and shown in section.

Referring now more specifically to the drawings the numeral 10 generally designates the fence construction of the instant invention which includes a plurality of terminal and intermediate uprights 12 and 14 respectively interconnected at their upper ends by means of horizontal members 16.

Intermediate coupling members 18 and corner coupling members 20 are utilized to secure the horizontal members 16 to the uprights 12 and 14.

The fence 10 includes a net section generally referred to by the reference numeral 22 which includes a plurality of crossed chords including vertical chords 24 and horizontal chords 26. Although the net sections 22 are illustrated in FIGURES 1 and 2 of the drawings as including substantially vertical chords 24 and horizontal chords 26, it is to be noted that other types of net sections may be used including oppositely inclined diagonal chords or any other type of net sections which could be utilized in combination with the various types of securing means to be described hereinafter.

The net sections 22 each include an upper horizontal chord 26 which is secured to the horizontal members 16 by means of eye links 28 loosely encircling the horizontal members 16 as well as the upper horizontal chords 26. In this manner, the lower marginal edge portions of the sections 22 may be swung upwardly about an axis of rotation coinciding with the upper horizontal chord 26.

Each of the net sections 22 includes a relatively thick reinforcing vertical chord 30 at its opposite ends and the upper ends of these reinforcing chords 30 are secured to the adjacent terminal uprights 12 by means of bracket assemblies generally referred to by the reference numeral 32 and clamp assemblies generally referred to by the reference numeral 34. At this time it is to be pointed out that the bracket assemblies 32 are pivotally secured to the clamp assemblies 34 for movement about substantially horizontally disposed axes wherein the terminal end portions of the fence sections 22 may also be piv-

oted about axes generally paralleling the axes of rotation of the intermediate portions of the fence sections 22.

With attention now directed to FIGURES 1 and 3 of the drawings it will be seen that tension members in the form of expansion springs generally designated by the reference numeral 36 are utilized to secure the intermediate and lower portions of the net sections 22 to the corresponding terminal and intermediate uprights 12 and 14. One end of each of the expansion springs 36 is provided with a closed eye 38 and the other end is provided with a backturned hook portion 40 for removable securement to one of the vertical chords 24 of the fence section 22. The closed eye 38 may be engaged with either a horizontal chord 26 of the section 22 or a vertical chord 24 thereof. The other end of the expansion spring 36 is then passed around the side of the associated upright remote from the fence section 22 and the hook portion 40 is engaged with either a vertical or horizontal chord of the fence section 22. In this manner, the sections 22 are removably secured to their respective intermediate uprights 14.

With reference now to FIGURES 2 and 5 of the drawings, it will be noted that the same expansion springs 36' are utilized to secure the terminal end portions of adjacent fence sections 22 to each of the terminal uprights 12 comprising a corner post. In this instance, however, each end of the expansion spring 36' is provided with a backturned hook portion 40' which is engaged with one of the reinforcing vertical chords 30. In addition, the expansion spring 36' passes around the outer surfaces of the terminal corner upright 12 defining the outside of the corner formed by the adjacent net sections 22.

With attention now directed to FIGURES 4 and 7 of the drawings, it may be seen that the clamp assembly 34 comprises a split band having generally parallel outturned ears 42 and 44 on its terminal end portions. The ear 44 is enlarged relative to the ear 42 and while the ear 42 is provided with an aperture 46 aligned with the aperture 48 formed in the ear 44, the ear 44 is provided with an additional aperture 50. A fastener 52 is passed and secured through the aligned apertures 46 and 48 to secure the clamp 34 to its respective upright. A fastener 54 is passed through the aperture 50 and the aperture 52 formed in the bight portion 54 of the bracket assembly generally designated by the reference numeral 32. In this manner, the bracket assembly 32 is pivotally secured to the corresponding clamp assembly generally designated by the reference numeral 34.

The legs 56 and 58 of the U-shaped bracket assembly 32 are provided with pairs of aligned apertures 60 and after a reinforcing chord 30 has been positioned between the legs 56 and 58, a fastener 62 is secured through one of the pairs of aligned apertures 60 to maintain that reinforcing chord 30 captive within the bracket assembly 32. In this manner, the upper marginal edge portions of the terminal ends of the net sections 22 are mounted for pivotal movement about a horizontal axis.

With attention now directed more particularly to FIGURES 8 and 9 of the drawings there will be seen a modified form of the fence construction generally designated by the reference numeral 64. The fence construction 64 also includes intermediate uprights which are designated by the reference numeral 66 and terminal uprights designated by the reference numeral 68. However, the fence 64 includes a permanently mounted upper net section or horizontal member generally designated by the reference numeral 70 and a swingable lower net section generally designated by the reference numeral 72. The lower net section 72 is mounted substantially the same as net sections 22 are mounted however the upper horizontal chords 74 of the net sections 72 are pivotally secured to the lower horizontal chord 76 of the upper section 70 by means of pivot or eye links generally designated by the

reference numeral 78, see FIGURE 10. The links 78 are each provided with opposite end backturned hooked portions 80 and 82 which are disposed about the horizontal chords 74 and 76 respectively. Bracket assemblies generally referred to by the reference numeral 32' and substantially identical to the bracket assemblies 32 are utilized to support the terminal ends of both the net sections 70 and 72 and the clamp assemblies 34' are substantially identical to the clamp assemblies 34. In addition, the expansion springs 37 and 37' are substantially identical to the expansion springs 36 and 36' respectively.

Referring now to FIGURE 11, there will be seen a flexible tension member generally designated by the reference numeral 82 having a transverse handle 84 on one end and a hook member 86 on the other end opening toward the handle 84. The tension member 82 is utilized to hook the opened ends of the expansion springs whereby they may be pulled into engagement with the chords of the fence sections.

In FIGURE 12 there is illustrated a rigid rod-like body which is elongated and designated by the reference numeral 88. The body 88 has a bifurcated end portion 90 on one end and a handle 92 on the other end. The bifurcated end 90 is utilized to engage the hooked portions of the expansion springs whereby they may be urged out of engagement with the chords of the net sections. In this manner, the net sections may readily be disconnected from their normal positions so that they may be swung to their elevated positions.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. In a fence construction of the type including a pair of terminal uprights having at least one intermediate upright disposed therebetween interconnected above their lower ends by means of a horizontal member, a swingable fence net section disposed on one side of said uprights having crossed chords, means pivotally securing the upper end of said net section to said horizontal member between said terminal uprights for movement about a horizontal axis adjacent the upper edge of said net section, means removably securing the lower marginal edge portion of said net section to said terminal and intermediate uprights, rigid upright tension chords carried by the opposite ends of said net section and to which a majority of the chords disposed at the opposite ends of said net section are secured, said means removably securing the lower marginal edge portion of said net section to said terminal uprights being secured between the latter and said tension chords.

2. The combination of claim 1, wherein said tension members each comprises an expansion spring having means on opposite ends thereof secured to the horizontally spaced points of said section and the midportion thereof at least partially embracing the corresponding upright.

3. The combination of claim 1, wherein said net section includes an upper horizontal chord, said pivotal securing means including eye links loosely encircling said upper horizontal chord and horizontal member at points spaced longitudinally therealong.

4. The combination of claim 1, wherein said pivotal securing means includes bracket members secured to said opposite ends of said section adjacent the upper portion thereof, clamps secured to said terminal uprights adjacent said brackets, and means pivotally securing said brackets to said clamps for movement about horizontal axes generally paralleling said net section.

5. The combination of claim 1, wherein at least one

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of said terminal uprights comprises a corner post disposed between two angulated net sections, said tension members disposed about said post being disposed about the sides of said post facing outwardly of the corner defined by said post.

6. The combination of claim 1, wherein said net section includes upstanding chords, said removable securing means comprising elongated tension members having means on opposite ends engaged with upstanding chords of said net section disposed on opposite sides of at least some of said uprights, the intermediate portion of each of said tension members disposed about the side of said

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some uprights remote from said net, said tension members comprising expansion springs and said engaging means comprising hooked end portions.

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