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CLOTH HOUSE

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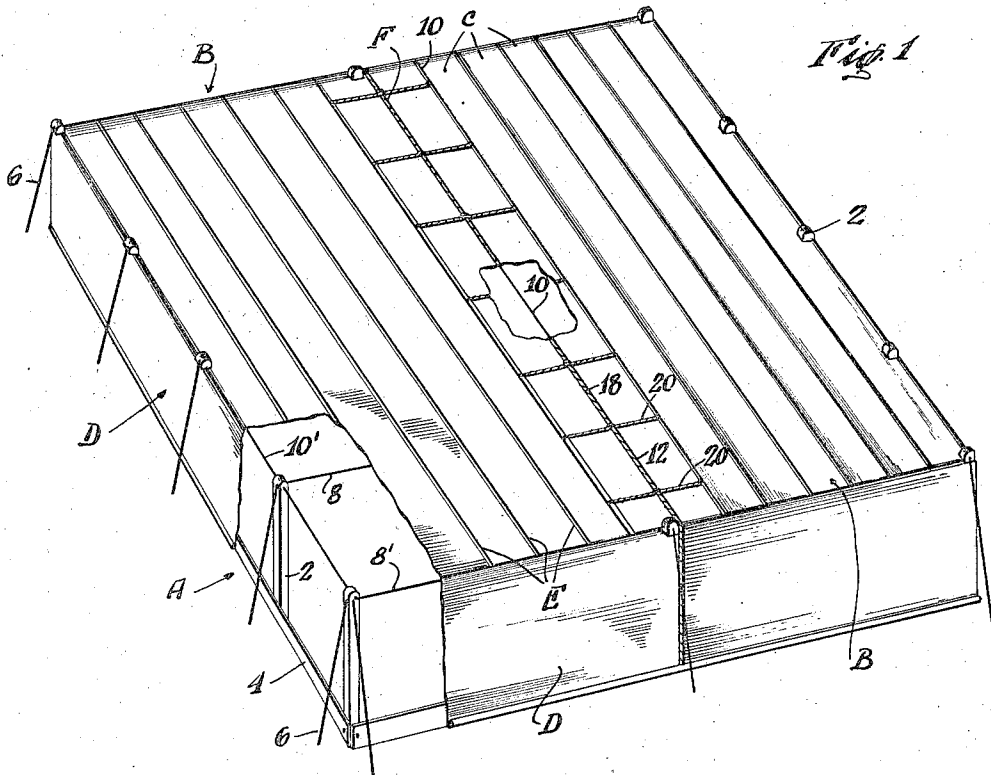


Fig. 1

Fig. 2

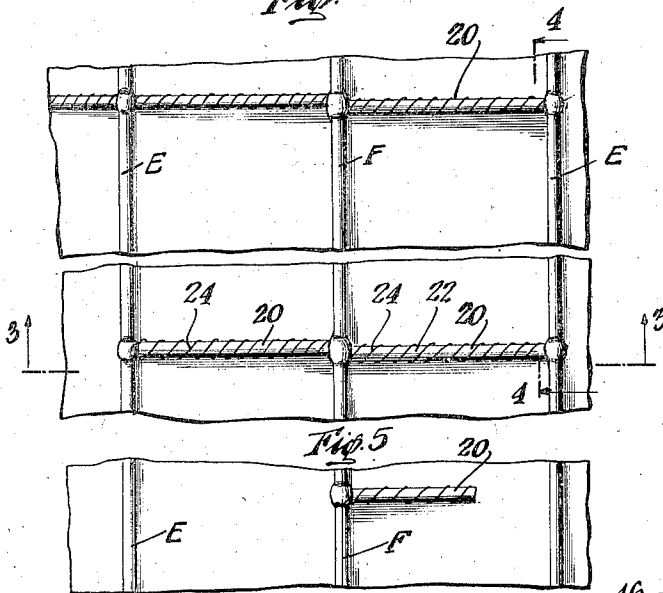


Fig. 4

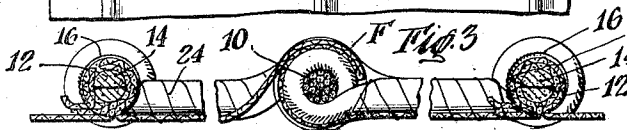
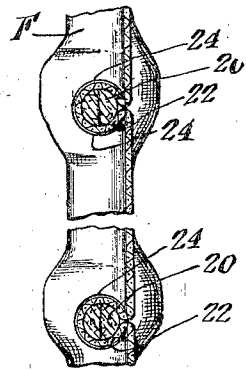


Fig. 3

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# UNITED STATES PATENT OFFICE

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## CLOTH HOUSE

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8 Claims. (Cl. 47—28)

This invention relates to the protective coverings for plants such as flowers, shrubs, tobacco, vegetables and fruit trees, and particularly to improvements in cloth houses of the type disclosed in my Patent No. 2,051,643.

Cloth houses and coverings comprise a framework of posts and interconnecting wires having a covering of a light netted fabric. They sometimes cover tracts of land as large as 200 acres in area. Side walls may be used depending upon the type of plants to be enclosed and the protection desired.

The fabric covering generally consists of a plurality of narrow elongated strips of fabric joined along their adjacent edges to form wider strips. The narrow strips are usually about 40 inches in width and may be of any desired length, and are joined to form a continuous fabric preferably about 400 inches wide. These larger strips of cloth are applied to the top of the frame work by draping them over the interconnecting wires, then spreading them smoothly to cover the top of the framework. Adjacent edges of the strips are then wrapped around the longitudinally extending wires of the frame and sewed thereto by means of any type of stitching, such as, for example, lock stitching. The outer edges of the cloth strips are then drawn out to the peripheral wires of the frame work and side walls attached thereto in a similar manner. When side walls as well as a top covering are secured to the framework the tract of land is completely enclosed.

In this type of cloth covering, losses of and damage to the fabric have occurred because of a tendency of the fabric covering to billow in the wind. The fabric is usually fastened to the longitudinal supporting wires and is also fastened around the edges. The remainder of the fabric being relatively loose, the zones of attachment carry the greater portion of the strains and stresses exerted on the cloth as a result of force of the wind. These stresses will sometimes cause the fabric to rip initially along a line of attachment at the longitudinal wire. Oftentimes the fabric will be ripped along its entire length and will become totally separated from the framework.

An object of the present invention is to produce a covering for a cloth house having reinforcing means so situated and related to the supporting wires and to the fabric itself that any tears or rips initiated along the line where the fabric is joined to the wire or wires will be local-

ized and prevented from extending beyond a relatively small area in the fabric.

The object of the invention has been achieved by placing cords in and transversely of the fabric strips and so arranged that the cords will be wrapped around the supporting wires, thereby preventing a rip or rips from passing beyond the point where the cords engage the wires.

For a better understanding of my invention, reference may be had to the accompanying drawing in which:

Figure 1 is a perspective view of a cloth house partly broken away, embodying my invention;

Figure 2 is an enlarged detail of a portion of the cloth house disclosing my reinforcing means;

Figure 3 is an enlarged view in section, partly broken away, taken on line 3—3 of Figure 2;

Figure 4 is a sectional view taken on line 4—4 of Figure 2 and partly broken away; and

Figure 5 is an enlarged view of a section of a cloth house showing a modified form of reinforcing means.

In Figure 1 is shown a typical embodiment of a cloth house of the type disclosed in my Patent No. 2,051,643, comprising a framework generally indicated as A, made up of a plurality of posts 2, the lower ends of which may be buried in the ground, and having a baseboard 4 connecting them and entirely encircling the tract of land to be covered by the cloth house. The posts are rigidly guyed to the ground by means of suitable guy wires 6 and are connected at their upper ends by transversely extending wires 8 and longitudinally extending wires 10.

In the type of cloth house disclosed, two strips of fabric B which comprise the top of the house are draped over the wires 8 and their adjacent edges brought together, wrapped around the center wire 10 and stitched thereto. Their outer edges are also drawn to the outer wires 10' and 8' and are wrapped with side walls D around the edge wires 8' and 10' and stitched thereto. The number of strips B used to form the top of the house is dependent entirely upon the size of the tract of land, and may be two or more as desired.

The side walls D if used are preferably of the type disclosed in my Patent No. 2,051,643, being provided with reinforcements and grommets so that they may be readily attached to and detached from the baseboard 4.

The strips B consist of a plurality of narrow strips C, and may be provided with either wire selvage or tape selvage edges, or a wire selvage at one edge and a tape selvage at the other. The edges of the strip C are preferably joined by

overlapping the selvages 12 and rolling them around longitudinally extending reinforcing cords 14 and securing them in this position by means of over-edge stitching 16 to form a seam generally indicated as E. As pointed out in my Patent No. 2,051,643 the addition of the longitudinally extending cords 14 greatly strengthens the net and reduces the size of the areas of unreinforced fabric.

10 The strips B, are joined by wrapping them around the longitudinal wire 10 and securing them to the wire by means of suitable stitching to form a seam F. This seam F may be suitably reinforced by rolling a reinforcing cord 18 in the edges of the strips B and stitching it to form the seam.

At intervals along the strips B, I have attached cords 20 for localizing rips and tears. These cords extend transversely of the strips B and C from the edges of the strips B which are joined to form seam F. The ends of cords 20 as illustrated in Figures 2, 3 and 5, for example, will thus be rolled with the edges of strips B around the wire 10 and cord 12, if used, and are there secured by stitching.

The transverse cords 20 preferably extend entirely across the narrow strip C particularly if a longitudinal reinforcing cord is bound in the seam as indicated at E. However, if desired they may extend only partially thereacross, as shown in Figure 5, or may extend entirely across the strip B.

The transverse reinforcing cords 20 may be suitably attached to the strips C by folding and wrapping the fabric around the cords 20 and stitching with over-edge stitching 24 around the cord 20 and through the fold 22. The construction shown in Figure 4 is entirely satisfactory, but other ways of attaching the cords to the fabric in which the cords are also rolled, or at least partially wrapped in the fabric may be used with equal facility.

The transverse cords 20 may be spaced at any suitable distance along the seam F and may be so arranged that when the strips B are connected they are either in alignment or in staggered relationship to each other.

As a result of my construction just described, if the wind, for example, balloons the cloth with sufficient violence to start a rip at any point along the line of maximum strain at the attached seam, the rip will run along the seam until it strikes one of the transverse cords 20 where it either will be stopped by the cord 20 or directed transversely of the strip C adjacent seam F. If the cord 20 extends the width of a strip C the rip may extend to the adjacent seam E at the edge of the strip. A longitudinal reinforcing cord 14 in seam E would limit the tear to that particular panel. The transverse cords 20 are rolled around the supporting wire 10 in forming the seam F, and it is unlikely that the rip will progress laterally to any great extent. Short transverse cords 20 may be found to give sufficient protection.

It will thus be seen that I have provided a highly satisfactory construction for reinforcing the fabrics used in making up a cloth house or protective coverings. This construction can be used to effectually localize rips occurring in all the vulnerable parts of a covering subjected to excessive strain. It will be understood, of course, that similar reinforcing means may be applied to the outer longitudinal or transverse edges of cov-

ering or to the sides without departing from the present invention.

The term "cord" used herein should be considered as including any suitable reinforcing element, such as for example, twine, rope, tape or wire.

Variations in the arrangement of my reinforcing means will occur to those skilled in the art and the embodiments of the invention disclosed therefore, should be considered as illustrative, only, and not as limiting the scope of the following claims.

I claim:

1. A protective covering for plants comprising at least two wide strips of fabric joined at their adjacent edges, each of said strips comprising a plurality of narrow strips of fabric joined at their adjacent edges, reinforcing cords extending along and attached to the joined edges of the narrow strips adjacent the joined edges of said wide strips, and other reinforcing cords extending transversely of and rolled in folds in said narrow strips and being rolled around the joined edges of the wide strips and the reinforcing cords at the joined edges of said narrow strips.

2. In combination with a framework comprising upright posts and longitudinally and transversely extending wires connecting the upper ends of said posts; a net supported on said wires comprising at least two wide strips of fabric joined at their free edges, said joined edges being attached to a longitudinally extending wire, each of said wide strips comprising a plurality of narrow strips of fabric joined at their free edges, reinforcing cords extending longitudinally of and attached to said wide strips on opposite sides of their joined edges and other reinforcing cords having portions wrapped around the longitudinally extending wire extending transversely across and attached to said wide strips between the first mentioned reinforcing cords and the joined edges of said wide strips.

3. In combination with a framework comprising upright posts and longitudinally and transversely extending wires connecting the upper ends of said posts; a net supported on said wires comprising at least two wide strips of fabric joined at their adjacent edges; said joined edges being attached to a longitudinally extending wire, each of said strips comprising a plurality of narrow strips of fabric joined at their adjacent edges, reinforcing cords extending along and attached to the joined edges of the narrow strips on opposite sides of said wire and other reinforcing cords having portions wrapped around the wire at said joined edge extending entirely across and at least partially wrapped in folds in the narrow strips between the first mentioned reinforcing cords and the joined edges of said wide strips.

4. A protective covering for plants comprising a plurality of strips of fabric joined at their adjacent edges to produce a wider strip, reinforcing cords attached to and extending longitudinally of said wider strip on opposite sides of said joined edges, and spaced reinforcing cords attached to and extending transversely of said strips between said longitudinal reinforcing cords, a portion of said transverse cords being rolled around and attached to at least one of said longitudinal cords.

5. A protective covering for plants comprising a plurality of strips of fabric joined at their adjacent edges to form a single wide strip, a longi-

5 tudinal reinforcing cord extending along and at-  
tached to the joined edge of the strip which  
forms the edge portion of said single wide strip,  
and spaced transverse reinforcing cords disposed  
in folds of, attached by stitching to and extend-  
ing transversely of the edge portion strip from  
an edge of the single wide strip.

10 6. A protective covering for plants compris-  
ing a plurality of strips of fabric joined at their  
adjacent edges to form a single wide strip, a  
longitudinal reinforcing cord extending along and  
attached to the joined edge of the strip which  
forms the edge portion of said single wide strip,  
and spaced reinforcing cords rolled in folds of  
15 and extending transversely of the edge portion  
strip from the edge of said single wide strip  
to and around said longitudinal reinforcing cord.

7. A protective covering for plants comprising  
a plurality of wide strips of fabric joined at their

adjacent edges to form a single wide cover strip,  
each of said wide strips consisting of a plurality  
of joined narrow strips, and a plurality of reen-  
forcing cords attached to and extending trans-  
versely of the said wide strips with a portion of  
5 said cords being secured to and overlapping the  
said joined edges.

8. A protective covering for plants comprising  
a plurality of wide strips of fabric joined at their  
adjacent edges to form a single wide cover strip, 10  
each of said wide strips consisting of a plurality  
of joined narrow strips, and a plurality of reen-  
forcing cords attached to and extending trans-  
versely of said wide strips with a portion of said  
cords being secured to and overlapping the said 15  
joined edges and the spaced edge of an adjacent  
narrow strip.

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