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H. G. OLSON

2,872,161

FENCES

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Fig. 1.

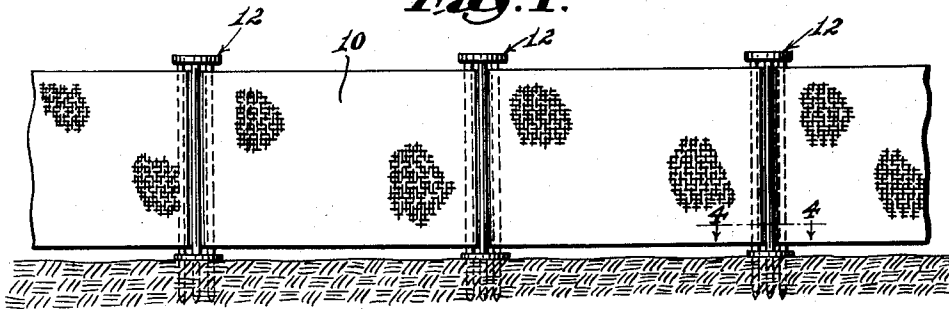


Fig. 2.

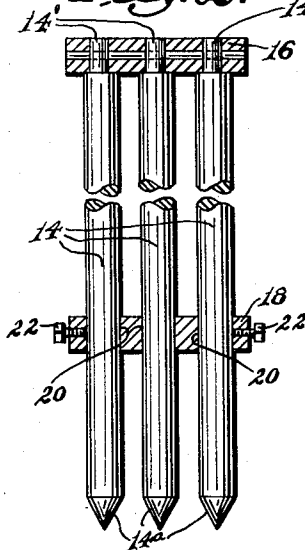


Fig. 3.

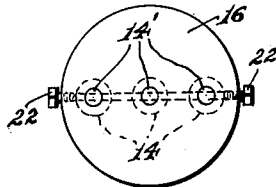


Fig. 4.

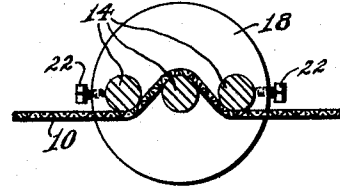


Fig. 5.

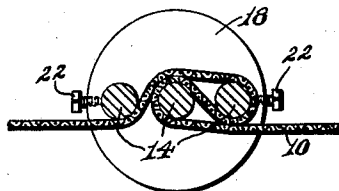


Fig. 6.

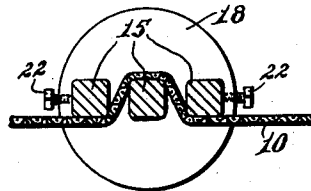


Fig. 7.

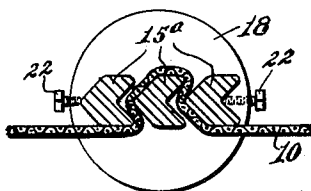


Fig. 8.

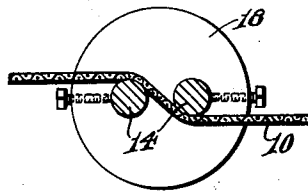


Fig. 9.

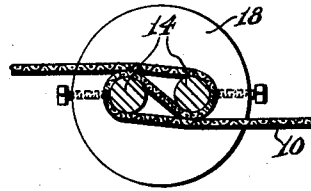
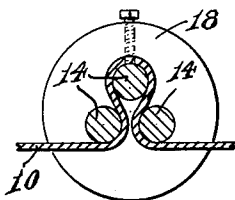


Fig. 10.

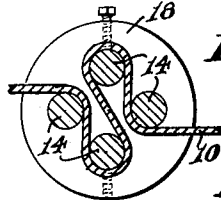


Fig. 11.

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FENCES

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6 Claims. (Cl. 256—24)

This invention relates to improvements in fences.

More particularly the invention provides an improved fence structure wherein a flexible sheet-form fencing material is supported in generally vertically spread condition by means of plural element post units which may be suitably spaced apart throughout the length of any particular fence. Fencing structures in accordance with the invention will be found to have numerous applications, such as for enclosing any particular area, or for serving as a dividing barrier between adjacent properties or adjacent portions of a yard. The herein disclosed fencing structures will be found to have especial utility as fencing for restraining snow against drifting upon railroads, highways, and the like.

It is among the objects of the invention to provide a relatively inexpensive fencing structure wherein flexible sheet material of suitable width may be utilized as the barrier medium, it being engaged between and around posts of suitably spaced plural post supporting units between which the sheet material extends in a tensioned condition, and by which the sheet material is maintained in generally fully spread condition.

Another object of the invention is to provide fencing post units wherein a plurality of posts are maintained in slightly spaced general parallelism in each unit with lower end portions adapted to be driven into the ground and with the space or spaces between upper portions of the posts adapted to receive flexible sheet fencing material passed between and frictionally engaged under tension around the posts of the respective units.

A further object of the invention is to provide a relatively inexpensive fence capable of being readily installed by relatively unskilled labor, and utilizing fencing material of flexible sheet material which conveniently may be supplied in rolls of desired width, the sheet material being supported and maintained in generally vertically spread condition by driven plural-post units between and around the posts of which the sheet material is frictionally engaged under tension.

It is, moreover, my purpose and object generally to improve fencing structures and fencing procedures, and more especially to provide relatively inexpensive fences which practicably utilize flexible sheet material as a fencing medium.

In the accompanying drawing:

Fig. 1 is an elevational view of an installed section of fence embodying features of the invention;

Fig. 2 is an elevational view of one of the plural post units of Fig. 1, on a larger scale, and with portions in cross-section;

Fig. 3 is a top plan view of the plural-post unit of Fig. 2;

Fig. 4 is a cross sectional view on line 4—4 of Fig. 1, on the scale of Figs. 2 and 3;

Fig. 5 is a view generally similar to Fig. 4 but showing a modified arrangement of the fencing material engaging around and between the posts of a plural-post unit;

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Fig. 6 is a view generally similar to Fig. 4 but showing posts which have rectangular cross-section;

Fig. 7 is a view generally similar to Figs. 4 and 6 but showing another cross-sectional shape for the posts of the plural-post units;

Fig. 8 is a view generally similar to Fig. 4 but showing a plural-post unit having only two posts;

Fig. 9 shows the plural-post unit of Fig. 8 with a different arrangement of the fencing material around and between the posts;

Fig. 10 is a view generally similar to Fig. 4 but showing a modified relative arrangement of the posts of the plural-post units; and

Fig. 11 is a view generally similar to Fig. 10 but showing a four-post plural-post unit.

Referring to the drawing, the flexible-sheet fencing material 10 preferably will be one which is moisture impervious or highly moisture resistant and which is not greatly affected by temperature changes. Sheet materials manufactured from glass fibers are recommended although other sheet materials having adequate tensile strength and moisture-repellent properties may be used with satisfactory results. In cases where an enclosure fence is to be provided for confining small children within a relatively small play area, the fence may be readily set up and taken down as a day to day play pen enclosure which may be folded compactly for storage indoors, in which event the fencing material 10 would not need to be moisture and weather resistant but might be woven cloth of suitable strength to resist tearing. Ordinarily, however, the material 10 will be one of the available moisture resistant plastic sheet materials having substantial tensile strength or, preferably, fibre glass sheet material woven or otherwise formed to provide adequate tensile strength. Fibre glass screening having suitably small mesh openings presently is a preferred material for snow fences, and the like.

Use of the flexible-sheet fencing material 10 is made feasible by novel plural-post units indicated generally at 12 in Fig. 1. Each unit 12 may have three posts 14 maintained in slightly spaced general parallelism by connector elements 16, 18 which may be disks. Connector element 16 is shown secured to the upper ends of unit posts 14, and connector element 18 has holes 20 therein through which lower end portions of the unit posts 14 extend, with suitable means, such as the set screws 22, for securing connector element 18 in any selected position along the unit posts 14, the location of the connector element 18 on any particular unit ordinarily being determinative of the distance that the posts of that unit will be driven into the ground. Preferably, the lower ends of the unit posts 14 will be pointed, as at 14a, or otherwise formed to facilitate the driving process.

Although connector element 16, in Figs. 2 and 3, is shown pinned to reduced upper end portions 14' of the three unit posts 14, it will be obvious that any suitably effective securing means may be employed for permanently attaching connector 16 to the posts. Actually, if desired, the posts may be removably secured to connector 16 as by being screwed into the connector, or by having their reduced ends threaded and projecting beyond the connector, with a nut on the projecting end of each reduced portion of post.

The fencing material 10 may be supplied in compactly folded condition or in a roll and, conveniently, may be arranged in the post units before the units are driven and while the adjustable connectors 18 are removed from the units. The sheet material may be slipped into each unit to engage around the posts 14 as shown in Fig. 4, or a more secure locking of the sheet material at each post unit may be attained by arranging the sheet material in

each post unit, or selected ones of the post units, as shown in Fig. 5. The adjustable connector element 18 then may be slipped on each post unit and be secured approximately at the same location on each unit. Then, the post units may be raised to erect positions and driven in succession into the ground with the connector elements 18 serving as limiting stops. The fencing material will be freed from wrinkles and subjected to a suitable amount of tension as the driving of successive units progresses, the end portions of the fencing material being suitably secured or anchored to the endmost post units in any desired manner, such as by being nailed or stapled to the posts of the endmost units or by having a loop formed at each end of the fencing, to be slipped on a post element of an endmost post unit.

The unit posts may have any of various cross-sectional shapes. Fig. 6 shows cross-sectionally rectangular unit posts 15, and Fig. 7 shows unit posts 15a which are arrow-head-shaped in cross-section.

Although it presently is considered preferable to provide three posts 14 for each post-unit, arranged with the axes of all posts of a unit in a common plane, three post units having posts arranged as in Fig. 10, and four post units as in Fig. 11 may be employed when it may be desired to provide a greater degree of wrap of the sheet material around the posts, as compared with the Figs. 2-4 showings.

Also, two post units may be found adequate in particular cases, as indicated in Figs. 8 and 9, the Fig. 9 arrangement of the fencing material 10 providing substantial wrap of the sheet material around each of the two posts 14.

In use, driving of the post units is facilitated by the relatively large connector elements 16 which serve as driving heads at the upper end of the units. Also, the head elements 16 constitute means to which any needed braces may be attached, and to which gate fixtures may be secured, if and when a gate may be desired. The lower connector elements 18 may be similarly employed for brace and gate fixture connections, it being assumed that means would be included for suitably adjusting elements connected to connector elements 18, to accommodate the connections to different positions of the elements 18 along the post units and relative to the driving heads 16 of adjacent plural-post units.

It will be apparent that the invention provides novel fence post units which make it practicably feasible to use flexible sheet fencing material for effectively accomplishing various fencing purposes and especially for efficiently restraining snow against drifting onto railroads, highways, and the like. Changes in details of construction are contemplated within the scope of the appended claims, and it is intended that the patent shall cover by suitable expression in the appended claims, whatever features of patentable novelty exist in the invention disclosed.

I claim as my invention:

1. A fence comprising a series of plural-post units having end portions adapted to be driven a predetermined distance into the ground at locations substantially spaced apart along the extent of the fence, each said plural-post unit comprising a plurality of generally parallel posts spaced relatively small distances apart and the said spacing of posts of the unit being substantially uniform throughout the major portion of the length of the unit, a connector element rigidly connecting together similar end portions of all of said posts of the unit and constituting a driving head for the unit, a second connector element through which all of said posts of the unit slidably extend, said second element being adjustably secured to at least one of said posts of the unit at a predetermined distance from said head element thereof and constituting a stop limiting the distance that the lower end portions of the posts may be driven into the ground, and flexible sheet fencing material extending in longitudinally

tensioned condition between successive plural-post units and frictionally engaging between and around the posts of said successive plural-post units, said fencing material having substantial width and said second connector element of each post unit being secured in position relatively closely adjacent to the lower edge of said sheet material.

2. A fence comprising a series of plural-post units adapted to stand erect at locations spaced substantially apart along the extent of the fence, at least one of said units comprising at least three generally straight and parallel posts spaced appreciably and substantially uniformly apart throughout the major portion of the length of said one of the units, a connector element rigidly connecting together similar end portions of all of said posts of said one unit and constituting a driving head for the unit, a second connector element slidably mounted on the posts of said one unit and adjustable therealong toward and from said head element, means on said second connector element for securing said second element in any selected position along said posts, said second element constituting a stabilizing means for engaging the ground around said posts of said unit when the latter is installed in its said erect condition, and flexible sheet fencing material frictionally engaged between and around said posts of successive plural-post units and supported and maintained in generally vertically spread condition thereby between the two said connector elements of each unit, and extending under appreciable longitudinal tension from one to another of the said successive units.

3. In a flexible-sheet fence, a relatively wide sheet of flexible material, a series of plural-post units arranged in spaced succession for supporting and maintaining the flexible-sheet material in fully spread condition, each said plural-post unit comprising generally similar parallel and slightly spaced posts whose spacing is substantially uniform throughout a major portion of the length of the unit; said posts having lower end portions adapted to be driven into the ground, a relatively large connector element rigidly securing together the upper ends of all of said posts of the unit and constituting a driving head for the unit, a second relatively large connector element through which all of said posts of the unit have slidable extent whereby said second element may be adjusted along the posts toward and from said head element, and means on said second element for securing said second element in any selected position along said uniformly spaced portions of the posts for constituting a stop limiting the distance that the posts of the unit may be driven into the ground; said flexible-sheet material extending in tensioned condition from one to another of said units and being frictionally engaged between and around the posts of each unit between the two said connector elements thereof.

4. A fence post comprising a plurality of generally vertically disposed similar post elements, a pair of disk members for maintaining said post elements in parallelism with a predetermined uniformly spaced relationship, one of said members being fixed at the upper ends of said post elements and constituting a driving head for the unit, and the other of said members being adjustable toward and from said head member for accommodating flexible sheet fencing material of different widths between the two said disk members, and means on said other of the members for securing said second member in any selected position of adjustment along the post elements, for standing in slightly spaced relation to the lower edge of sheet fencing material which may be supported by the fence post, and for constituting a stop means limiting the distance that lower end portions of said post elements may be driven into the ground.

5. A fence comprising a series of plural-post units having end portions adapted to be driven a predetermined distance into the ground at locations substantially spaced apart along the extent of the fence, each said unit com-

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prising three slightly spaced parallel posts whose said spacing is substantially uniform throughout the major portion of the length of the posts, and a pair of connector elements maintaining the said spaced parallelism of the posts, one of said connector elements being rigidly connected to upper ends of the said three posts and constituting a driving head for the unit, and the other of said connector elements being adjustably secured to said posts, whereby it may be located selectively at different distances from said head element, and fibreglass flexible sheet material engaged between and around said posts of said spaced units in spread condition between the said connector elements of the respective units, and extending under longitudinal tension between successive plural-post units, said other of the connector elements of each said unit being located relatively close to the lower edge of said sheet material and constituting a stop limiting the distance that the posts of each unit may be driven into the ground.

6. A fence comprising a series of plural-post units having end portions adapted to be driven into the ground at locations substantially spaced apart along the extent of the fence, each said plural-post unit comprising a plurality of generally parallel posts spaced relatively small distances apart with their said spacing substantially uni-

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form throughout the major portion of the length of said posts, a connector element rigidly connecting together all of said posts of the unit adjacent the upper ends of said posts, flexible sheet fencing material having substantial width extending in longitudinally tensioned condition between successive plural-post units and frictionally engaging between and around the said posts of said successive plural-post units, and means selectively adjustable along said posts of each plural-post unit for accommodating said sheet material of different widths between said connector element and said adjustable means, and for constituting a stop for limiting the distance said posts may be driven into the ground, said adjustable means of each said unit being in position to stop driving of the posts with the lower edge of said sheet material out of engagement with the ground.

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