June 11, 1968 F. L. KREEGER 3,387,825

PORTABLE FENCE

Filed June 2, 1966

Fig. 1.

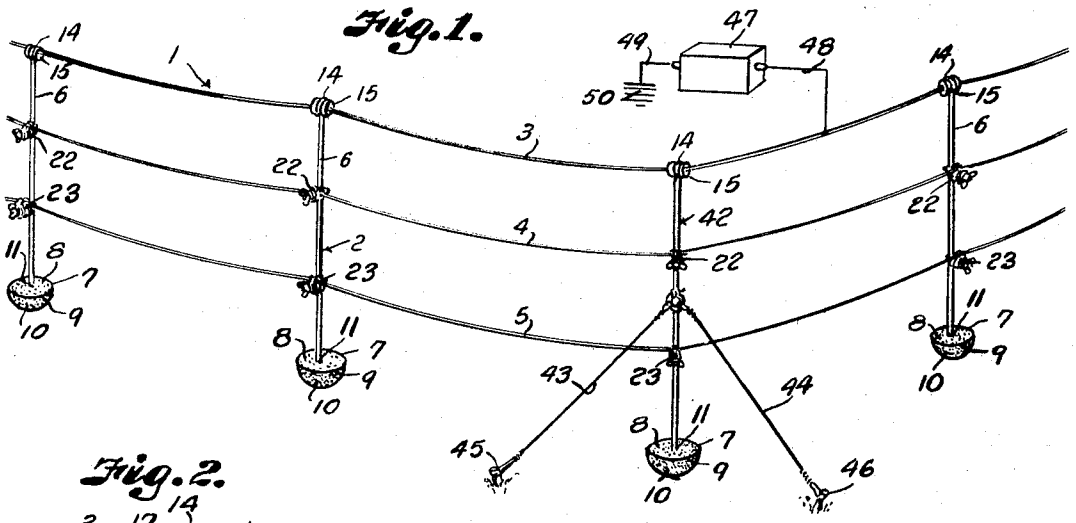


Fig. 2.

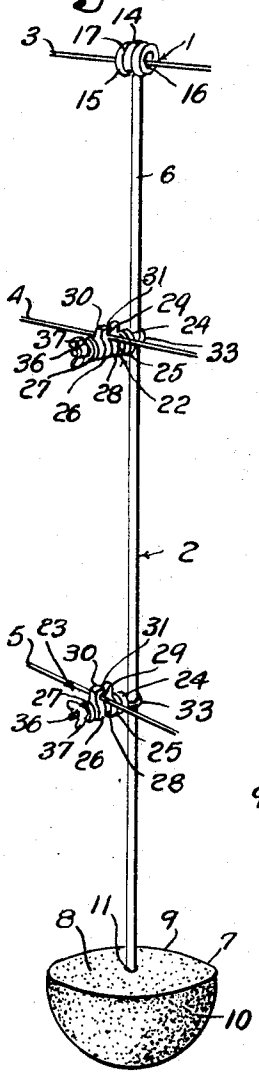


Fig. 3.

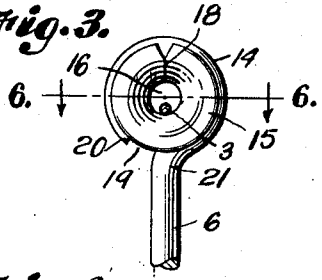


Fig. 6.

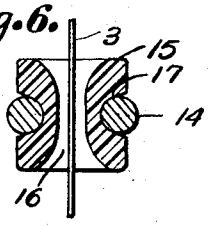


Fig. 4.

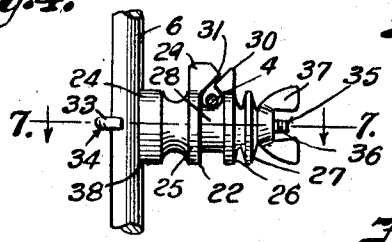


Fig. 7.

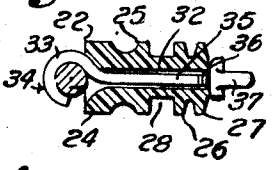


Fig. 5.

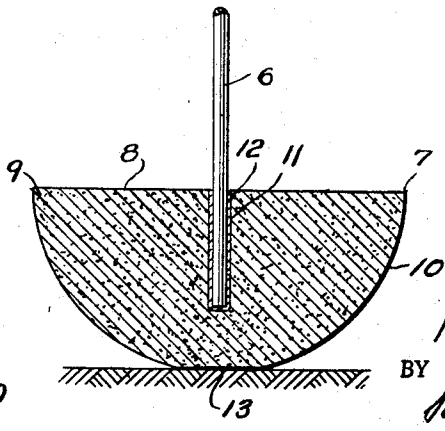
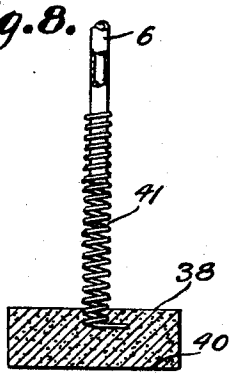


Fig. 8.



INVENTOR.
Fred L. Kreeger.
BY
Paul E. Mullendore
ATTORNEY.

United States Patent Office

3,387,825

Patented June 11, 1968

3,387,825

PORTABLE FENCE

Fred L. Kreeger, Rte. 313 and 5th St., M.R. 1,
Perkasie, Pa. 18944

Filed June 2, 1966, Ser. No. 554,752
7 Claims. (Cl. 256—10)

ABSTRACT OF THE DISCLOSURE

A portable fence comprising a series of upright posts having weighted bottoms adapted to bear on the top surface of the ground. Electrically-conductive wires are strung loosely between the posts so that the posts are free to tilt or rock without upsetting the remainder of the posts. In one embodiment, the weighted bottom of the post is rounded so as to be free to rock and return to its normal upright position. In another embodiment, a spring is interposed between the main portion of the post and its bottom to permit rocking movement of the portion but normally returning the portion to its upright position.

This invention relates to a portable fence that may be readily moved or transported from one location to another.

For example, farmers often confine livestock to feed in one area in a pasture or field, while a previously grazed-over area is allowed to recover, or they may desire to fence in a haystack or other feed in a pasture, or they may desire to separate diseased stock from a herd. Ordinarily, this requires building of more or less permanent fences around such areas, which fences are not only expensive, but require work in setting the fence posts, stretching the wires, and stapling the wires to the fence posts. Also, when such fences are to be moved, much time is required in removing the staples, rolling up the wire, removing the posts, and setting up at another location.

The principal object of the present invention is to provide a completely portable fence that is light, easy to handle, and requires no digging of post holes, yet is more effective in retaining the livestock penned therein. This is effected by using posts formed of lightweight, almost wire-like rods or tubing, having relatively small bases with rounded bottoms to retain them in an upright position, and by threading or snapping relatively small gauge wires loosely into insulators carried by the posts, all in combination with an electric current source for charging the fence wires. In this way, neither the posts nor the wires strung from them depend upon their strength to retain the livestock. Any animals attempting to reach through or over the fence will make contact with the charged wires and receive sufficient shock or sting to cause them to back up from the fence. An animal, on contacting the fence, may rock over one or more of the supports, but the supports immediately right themselves as the animal retreats.

In accomplishing the objects of the present invention, I have provided improved details of structure, the preferred forms of which are illustrated in the accompanying drawing, wherein:

FIG. 1 is a perspective view of a portion of a portable fence constructed in accordance with the present invention.

FIG. 2 is an enlarged perspective view of one of the wire supports.

FIG. 3 is an enlarged elevation of the upper end of one of the supports, showing the retention of an insulator for the upper wire of the fence.

FIG. 4 is a similar elevation of one of the insulators that is adjustably positioned on the support for holding the lower wires.

FIG. 5 is a section of smaller scale illustrating the base end of the support.

FIG. 6 is a section through the upper insulator on the the line 6—6 of FIG. 3.

FIG. 7 is a section through one of the adjustable insulators on the line 7—7 of FIG. 4.

FIG. 8 is the lower end and base of a modified form of the invention.

Referring more in detail to the drawings:

1 designates a portable fence constructed in accordance with the present invention, and which includes vertical ground supports 2 carrying one or more connecting line wires 3, 4 and 5.

The supports 2 are preferably lightweight tubes or rods 6, which are almost wire-like in character, to be somewhat flexible but rigid enough to sustain and carry the wires 3, 4 and 5 in position to provide a pen-like enclosure. The supports are preferably of a height corresponding to two-thirds the height of the larger animals to be penned in the enclosure. They, of course, may be shorter for smaller animals, but to make the supports universal they are selected preferably of a height to retain the larger animals, and the lower wires 4 and 5 are depended upon to retain smaller animals.

The supports 2 also include a base 7 having a sufficient weight therein to maintain normal stability of the rods or tubes 6 in an erect position under strong winds. To inexpensively provide bases 7 of desired weight, they comprise a mixture of aggregate such as sand and portland cement shaped in a vibratory type of mold so that the resulting base is extremely dense and compact in character. In this way, the desired weight can be obtained with a relatively small overall size, so that they are readily handled and shipped at minimum cost. The density imparted by vibration also resists breakage in handling and shipping.

The base 7 for each support is preferably of hemispherical shape in that it has a flat upper face 8 and a rounding periphery 9 and a rounding bottom 10. The bases are molded with axial sockets 11 formed therein of a size to receive a tube or rod 6, as shown in FIG. 5, and to be retained therein by a suitable cement 12. In order to control rocking of the bases on the ground and to position the supports upright in idle position, the bottoms thereof are slightly flattened, as indicated at 13, FIG. 5.

The upper ends of the rods or tubes 6 are shaped to provide a slightly open hook or loop 14 to retain therein an insulator 15. The insulator 15 may be formed of a resilient insulating plastic and preferably of spool shape, having an axial opening 16 and a surrounding annular exterior groove 17 for accommodating the hooked end of the tube or rod 6 as it is shaped around the insulator to secure the insulator to the support. In order to facilitate insertion of the wire 3, the insulators are preferably split longitudinally, as indicated at 18, and the hooks are formed so that the insulators turn somewhat loosely therein, to bring the split 18 into registry with the gap 19 between the terminal 20 of the hook and the body 21 of the rod or tube. The wire 3 may then be easily pushed through the split 18 because of the flexibility of the plastic. After the wire is in the insulator, the insulator may be turned within the hook so that the split is in the position shown in FIG. 3 of the drawing.

The lower wires 4 and 5 are preferably adjustably carried on the rods or tubes 6, so that they may be adjusted to keep the lower wire 5 from shorting on vegetation in the field or pasture in which the fence may be installed, and to adjust both wires 4 and 5 according to the height of small animals that may be contained in the pen.

In carrying out this portion of the invention, the insulators 22 and 23 are also preferably formed of resilient plastic insulating material, and have a base 24 and flanges 25, 26 and 27 spaced from each other and from the base 24, as shown in FIGS. 4 and 7. The intermediate flanges 25 and 26 provide a groove 28 therebetween for containing the wires 3 and 4 that are locked therein by lugs 29 and 30 projecting radially from the flanges 25 and 26 and having portions extending inwardly over the groove 28 to provide a relatively narrow entranceway 31 therebetween for passage of the wires, after which the lugs readily spring back to retain the wires in place. The insulators 22 and 23 have axial openings 32 extending therethrough and into the base, where they flare outwardly toward the peripheries thereof to accommodate a hook-shaped head 33 on fastening devices 34 having shanks 35 extending through the axial openings 32 and terminating in threaded projections 36 for mounting wing nuts 37. Formed in opposite diametrical sides of the base are grooves 38 to seat against the rounding side surfaces of the tubes or rods 6 when the hook-shaped heads 33 of the fastening devices are hooked over the opposite sides of the tubes or rods 6, as shown in FIG. 7. When the nuts 37 are tightened, the parts are drawn into fixed relation. It is thus apparent that upon loosening of the wing nuts, the insulators may be slid along the tubes or rods 6 to the desired position, where the wing nuts are retightened.

In the form of support illustrated in FIG. 8, the base 29 is flat and of a size so that the bottom 40 rests stably upon the ground. In this form of the invention, the flexibility of the tube or rod 6 is provided by connecting the lower end thereof with the base by a resilient member such as a coil spring 41 that is adapted to be coiled tightely about the lower end of the rod or tube at one end, and the other end is anchored into the upper face of the base 29.

In order to provide substantial stability of the corner supports 42, they are preferably braced by guy wires 43 and 44 substantially in the plane of the sides of the fence. The guy wires may be attached to the corner supports in any suitable manner, as by twisting them around an insulator clamped to the supports and anchoring the opposite ends to ground stakes 45 and 46, as shown in FIG. 1.

It is obvious that the portable fence as thus far described is stable in itself, but lacks sufficient strength to retain livestock should they attempt to push their heads through the fence. However, to retain the animals, the wires 3, 4 and 5 are electrically charged by connection therewith of a suitable battery-operated charger 47, that is readily available on the market and is connected to the fence in the usual manner, for example, one output lead 48 may be connected with the upper wire 3 and the other wires 4 and 5 may be connected in series therewith, while the other lead 49 of the charger is connected with a suitable ground 50.

The wires 3, 4 and 5 are small in cross section and may be of a lightweight alloy capable of carrying an electric current without too much resistance. The wires are loose in the insulators and form catenaries between the supports, as shown in FIG. 1.

In assembling the portable fence with the elements as described, the supports are spaced apart a desired distance, depending upon the contour of the ground, usually at about 30 or 40 foot intervals. The supports are set upon the rounded bottoms of the base and the weight of the bases retains the rod or tube portions 6 in perpendicular position. The insulators 15 are turned in the hook-shaped ends of the members 6, so that the splits 18 register with the gaps 19. The upper wire 3 may then be pushed through the splits into the insulators. This eliminates necessity of threading the wires through the insulators when solid insulators are used. The lower insulators 22 and 23 are adjusted to the desired position on the tubes or rods 6 and secured with the lugs 29 and 30 uppermost. The wires 4 and 5 may then be pushed between the lugs and into the grooves of the insulators. As above stated, the wires 3, 4 and 5 extending around an enclosed area are preferably connected in series, so that all of them are effective in producing a slight shock or stinging sensation sufficient to cause an animal to retreat from the fence before the tube or rod portions of the support are rocked upon the bases 7, in the case of the preferred form of the invention, or the spring-like connections 41 yield, in the case of the modified form of the invention shown in FIG. 8. If an animal should make contact with any part of the portable fence, the force may rock one or more of the supports, however, the supports rock back into position on retreat of the animal. Since the animal is standing on moist ground, it is a ready conductor between any one of the charged wires and the ground, so that the initial contact produces a slight sting or shock that causes the animal to retreat.

While only a single wire, for example, the wire 3, may be sufficient to retain animals in the enclosure, in cases of relatively dry ground conditions use of the lower wires makes a greater contact with the animal, to produce a stronger sting or shock under dry ground conditions.

After the animals have grazed over the portion of the pasture or field which the portable fence encloses, the portable fence may be readily moved to another part of the field or pasture to provide a grazing area while the previous area has an opportunity to recover.

While I have referred to a rectangular fence, it is obvious that it may be adjusted to close off an area of any shape.

Portable fences constructed in accordance with the present invention are also adapted for fencing in a haystack or other feed from which the animals are to be excluded, or they may be easily set up to fence off sick animals from the rest of the herd in a pasture.

From the foregoing, it is obvious that I have provided a readily portable fence which is of lightweight construction, readily moved from place to place as desired, and which effectively retains animals penned thereby.

What I claim and desire to secure by Letters Patent is:

1. A portable fence for confining livestock including a series of spaced-apart enlongated wire supports, each support comprising a light-gage elongated member, and a weighted base bearing loosely on the ground and having a socket receiving the lower end of the member, said base normally mounting said member in an upright position, but permitting said member to be rocked downwardly upon application of lateral pressure thereto and returning said member to said upright position upon relief of said lateral pressure, insulators carried by the members,

at least one wire extending loosely through the insulators, so as to afford rocking of less than the entire series of members without rocking the remainder of said members and

means for charging said wire with an elastic voltage.

2. A portable fence as described in claim 1, wherein the bases are precast concrete.

3. A portable fence as described in claim 1,

wherein the bases are precast concrete and have rounded bottoms, said sockets being formed in said base and having means to anchor the member therein.

4. A portable fence as described in claim 3, including means for adjusting the insulators on the members to keep the wires from contact with the ground.

5. A portable fence according to claim **1** including an upper wire and a lower wire extending through the insulators carried by the supports,

the members comprising light gauge rods having loops at their upper ends,

the insulators for said upper wire comprising spool-type insulators carried in said loops to threadedly receive the upper wires,

the insulators for the lower wire comprising insulating elements mounted for adjustment along said supports.

6. A portable fence according to claim **1** wherein said base comprises a bottom resting stably upon the ground and a resilient flexible member intermediate said bottom and said socket to mount said elongated member so as to be rocked by flexure of said flexible member.

7. A portable fence according to claim **6** wherein said resilient flexible member comprises a coil spring anchored at one end into said bottom and having its other end coiled tightly about the lower end of the elongated member, forming said socket.

References Cited

UNITED STATES PATENTS

316,599	4/1885	Brinly et al.	256—47
459,019	9/1891	Roberts	256—47
625,526	5/1899	Warner	256—47 X
1,013,410	1/1912	Lynch.	
2,447,251	8/1948	Huette.	
2,450,730	10/1948	Hord	256—10 X
2,574,052	11/1951	Metcalf	256—10
2,690,898	10/1954	Melcher	256—10
2,856,159	10/1958	Braddock	256—10 X
3,001,765	9/1961	Shobert	256—10
3,350,066	10/1967	Cope	256—32

FOREIGN PATENTS

149,709	1/1953	Australia.

DAVID J. WILLIAMOWSKY, *Primary Examiner.*

DENNIS L. TAYLOR, *Examiner.*

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

June 11, 1968

Patent No. 3,387,825

Fred L. Kreeger

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

Column 3, line 6, "small" should read -- smaller --; lines 37 and 44, "29", each occurrence, should read -- 38 --; line 42, "tightely" should read -- tightly --. Column 4, line 65, "elastic" should read -- electric --.

Signed and sealed this 21st day of October 1969.

(SEAL)

Attest:

Edward M. Fletcher, Jr.

Attesting Officer

WILLIAM E. SCHUYLER, JR.

Commissioner of Patents