This invention relates to improvements in portable animal enclosures and particularly is directed to a novel type of portable shade structure designed especially for providing shade for fattening hogs.

The primary object of this invention is to provide a simple, easily portable and compact frame structure which can be easily moved from one point to another and which can be quickly and simply covered with a covering material to provide a sun protective enclosure, especially for fattening hogs.

A further important object of this invention is to provide a frame structure that can be easily disassembled and which can be varied in size and which includes novelty interconnected tubular pipes.

These and ancillary objects are attained by this invention, the preferred embodiment of which is set forth in the following description and illustrated in the attached drawings, wherein:

Figure 1 is a perspective view of the frame structure for the hog shade;

Figure 2 is an exploded perspective view of one of the upper joints, showing the parts in position for interconnection;

Figure 3 is an exploded perspective view of one of the bottom joints, showing the parts in position for interconnection;

Figure 4 is a cross-sectional view of one of the upper joints, shown generally in Figure 1 and specifically in Figure 2;

Figure 5 is a vertical sectional view of one of the bottom joints, and

Figure 6 is a fragmentary perspective view, partly broken away, illustrating a detail of construction forming a part of the invention.

Referring now more particularly to the drawings and, initially to Figure 1, the frame structure includes a main or body portion 10 and outstanding, horizontal side wings or sections 12 and 14 which extend laterally from the sides of the body portion 10. The body portion includes opposing vertical sides 16 and 18, each of which is composed of vertically disposed and longitudinally spaced tubular pipe sections 20. The lower ends of such pipe sections 20 are welded to the upper sides of ground engaging tubular pipes 22 and 24, each of which has upwardly forward and rearward ends, and which define runners. The upper ends of the pipe sections 20 are welded to the undersides of top, side tubular pipes 26 and 28. The sides 16 and 18, which are made up of the vertical sections 20, runners 22 and 24 and top side bars 26 and 28, constitute the permanent elements of the structure and form the basic elements of the body portion 10. The sides are secured together, in easily disassembled but sturdy fashion, by transverse lower pipe sections 30 and transverse upper pipe sections 32.

The lower pipe sections 30 are each formed of tubular pipe and are coextensive in length. Each pipe section 30 terminates at its opposing ends in transversely disposed channel bars 34, which are adapted to be vertically disposed and which engage the inner sides of the vertical pipe section 20, at the lower ends of the latter. The lower ends are formed with vertically spaced openings 36 which are registrable with openings in the web portions of the channel bars to receive bolts 38 that receive nuts 40 to clamp the channel bars in place on the pipe sections. In such fashion, all of the lower pipe sections 30 are secured to the sides and provide the lower transverse connecting and rigidifying means between the sides. The pipe sections 30 are spaced longitudinally apart so that hogs can lie on the ground therebetween.

The transverse upper pipe sections 32 are also terminated by rigidly fixed channel bars 42 which are adapted to be horizontally disposed and to have their flanges overlie the upper and lower sides of the top side pipes 26 and 28. The channel bars 42 are provided at their webs with openings 44, which align with transverse openings 46 in the pipes 26 and 28 to receive bolt assemblies 48. The upper pipe sections are coextensive in length with the lower pipe sections and substantially overlie them and are spaced longitudinally apart to provide the upper transverse connecting and rigidifying means between the sides.

For the purpose of providing a greater amount of shade and shading a more extensive area, the side wings or sections 12 and 14 may be independently attached to the outsides of the opposing side sections 16 and 18 so as to extend laterally from the top pipes 26 and 28. The side wings or sections are identically formed and a description of one will suffice for both. Thus, the side section 14 includes parallel tubular pipes 54 which extend laterally from the top pipe 26 and are spaced longitudinally apart. The pipes 54 are horizontally disposed and are each terminated at their ends by channel bars 56, which are horizontally disposed and are secured by bolt assemblies to the top pipe 26 and an outer upper side bar 58 formed from tubular pipe stock.

The side wings are rigidized and held in place by braces or struts 60 which are diagonally disposed and extend from the pipes 54 to the runners. The lower open ends of the tubular braces are fitted over lugs 62 which upstand at an angle from the runners and the upper ends of the struts are welded to the undersides of the pipes 54.

In use, the frame structure may include only the body or center portion 10 or either or both of the side wings.

The frame structure is covered with a fine mesh covering, such as mesh wire, and then a layer of straw or hay or similar covering material is placed over the mesh covering. The structure is moved about by a tractor or other drafting vehicle to maintain a sanitary shade for fattening hogs.

While the best known form of this invention and the preferred use thereof have been shown and described herein, other forms and uses may be realized as come within the invention defined by the appended claim.

What is claimed is new:

In a device of the character described having a body and a pair of horizontal wing sections detachably secured to and extending outwardly from the upper ends of opposite sides of said body, said body and said wings being of tubular construction, bracing means for said wing sections, said bracing means comprising a plurality of tubes welded to the undersides of said wings and extending downwardly toward said body, and a plurality of upwardly and angularly disposed lugs affixed to the lower sides of said body, said tubes having their lower ends disposed in encompassing relation over said lugs.

References Cited in the file of this patent

UNITED STATES PATENTS

2,182,283 Curtis Dec. 5, 1939
2,700,389 Butcher Jan. 25, 1955

FOREIGN PATENTS

103,350 Great Britain 1917
686,152 Great Britain Jan. 21, 1953