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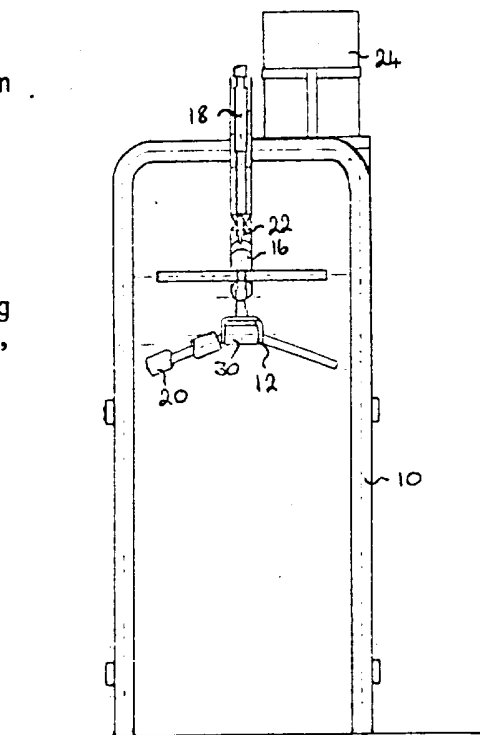
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(54) Title: Method and apparatus for the application of biologically active fluid to livestock.

(57) Abstract:

This invention is concerned with the application of biologically active substances to livestock and comprises apparatus including a height adjustable framework and associated with the framework, one or more yoke shaped rollers attached to a movable arm, such that an animal entering between the framework will come into contact with the rollers, causing the arm to lift. The action of lifting the arm, causes a dispensing mechanism to come into operation which allows fluid to flow from a container to a nozzle associated with the rollers, such that fluid is directed onto the animal as it passes through. When the arm returns to rest, the flow of fluid is shut off automatically.



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METHOD AND APPARATUS FOR THE APPLICATION OF  
BIOLOGICALLY ACTIVE FLUID TO LIVESTOCK  
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This invention is concerned with the application of biologically active substances to livestock and includes apparatus and a method of using same to achieve this objective.

The relatively new discovery of fluid substances which are biologically active with the animal to which they are applied has to a certain extent revolutionized thinking in terms of the control of parasitic pests of the kind which externally attach themselves to livestock.

By and large, previous methods of control required the immersion of the animal in a solution of insecticide which would not only kill parasites already attached to the animal, but which would also tend to discourage re-infestation for a number of weeks.

The two principal methods of applying such insecticides were the plunge dip and the spray race, details of which will be well known to persons familiar with this branch of the art.

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With the advent of the biological method of control, these known methods of applying a substance to an animal have been rendered ineffective and in fact, they are wholly unacceptable as a method of applying such substances, since these fluids are applied in concentrated form only along the back bone of the animal.

With the above in mind, the inventor has sought to devise a safe and efficient method and apparatus for the application of biologically active fluids and it is believed that the apparatus of the invention meets these requirements.

Therefore, according to one aspect of the invention, there is provided apparatus for the external application of fluids to animals which includes in working combination, a height adjustable framework; associated with the framework a dispensing mechanism comprising a yoke made up of one or more rollers and adapted to engage an animal passing through the arch of the framework in a manner that the dispensing mechanism will be lifted by the animal relative to the framework and in so doing will open a valve which will allow a flow of fluid to pass from a container to a nozzle in the zone of the rollers; the nozzle being directed towards the spinal ridge of the animal; and to close the valve so soon as the animal has passed through the apparatus.

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According to a further aspect of the invention, the apparatus above defined may include an adjustable damper to apply an even pressure to the animal during its passage through the apparatus; to ensure more even application of fluid to the animal and to assist in closing off the valve when the animal has exited the apparatus.

According to a further aspect of the invention, a method of externally applying fluids to animals includes the steps of setting up guide rails to cause the animals to pass in single file between the sides of the framework of a fluid applicator of the kind hereinbefore defined.

In order that the nature of the invention may be more fully understood, one or more preferred embodiments will now be described in detail by way of example with reference to the accompanying drawings in which:-

Fig. 1 is a schematically drawn front elevation of one embodiment of the invention; and

Fig. 2 is a schematic side elevation of the apparatus shown in Fig. 1.

In the ensuing description, like reference numerals will refer to the same parts throughout.

Referring firstly to Fig. 1, reference numeral 10 indicates generally the height adjustable frame which is adapted to form part of a cattle race which would cause animals to be funnelled towards the apparatus in single file.

The roller yoke 12 is positioned so as to be at a position of rest as illustrated at a position which will cause the animal to have to duck its head under the yoke in order to pass by. The provision of blinds (not shown) may assist in causing the animal to drop its head since it would then not be able to see ahead. Once the animal has ducked its head under the yoke 12, it will tend once again to stand upright which will cause the yoke 12 to be raised upon the support arm 16 which is pivotally attached to the framework 10.

Damping means is provided by an adjustable shock absorber 18, which is preferably of the double acting variety. The damper prevents any sudden upward movement of the yoke 12 thus causing the rollers 20 to stay in close contact with the animal as it passes through the apparatus. The double acting shock absorber 18 then allows the unit to reset itself under the influence of gravity without imposing any undue shock loads on the apparatus as a whole.

As the yoke 12 is raised, it automatically actuates a valve mechanism 22 which will allow the flow of a biologically active fluid from the container 24, firstly through a constant flow valve (not shown) and then to a nozzle 30 which is so positioned that it will direct fluid either onto the rollers 20 from whence it will pass to the back of the animal, or alternatively, the nozzle may be directed in such a manner as to release fluid directly onto the animal as it passes by.

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Referring now to Fig. 2, the support arm 16 can be clearly seen with roller yoke 12 and damper 18. The support frame 10 is adjustable so as to intergrate with most known livestock handling equipment and can be varied so as to cope with the application of fluids to practically any type of animal normally kept as livestock. This is the first apparatus of this kind known to the inventor and it is believed that the apparatus will fill a need which is now being felt for some time in the livestock industry. The various advantages of the invention will be readily apparent to those persons who are skilled in this field of the art and it is possible that further adaptations or applications of the invention may become apparent in time.

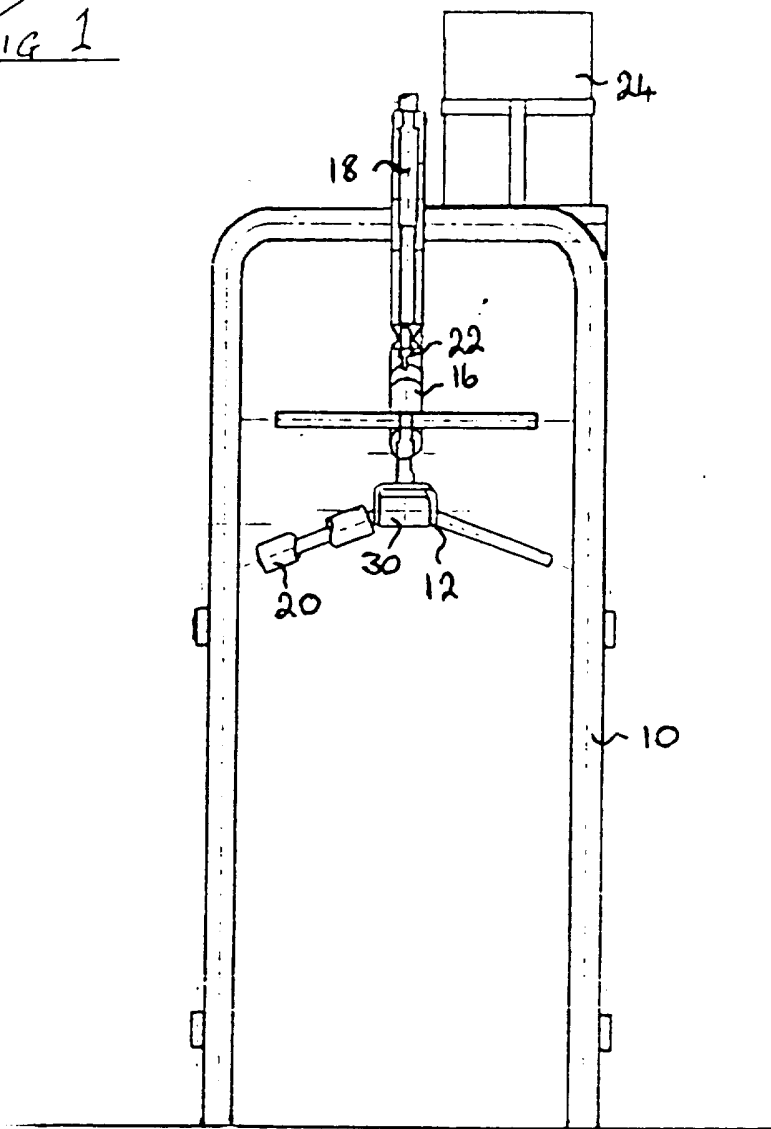
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CLAIMS  
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1. Apparatus for the external application of fluids to animals including in working combination a height adjustable framework; associated with the framework a dispensing mechanism comprising a yoke made up of one or more rollers and adapted to engage an animal passing through the arch of the framework in a manner that the dispensing mechanism will be lifted by the animal relative to the framework and in so doing will open a valve which will allow a flow of fluid to pass from a container to a nozzle in the zone of the rollers; the nozzle being directed towards the spinal ridge of the animal; and to close the valve so soon as the animal has passed through the apparatus.
  
2. Apparatus as claimed in Claim 1 wherein the dispensing mechanism includes an adjustable damper to apply an even pressure to the animal during its passage through the apparatus; to ensure more even application of fluid to the animal and to assist in closing of the valve when the animal has exited the apparatus.

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Fig 1



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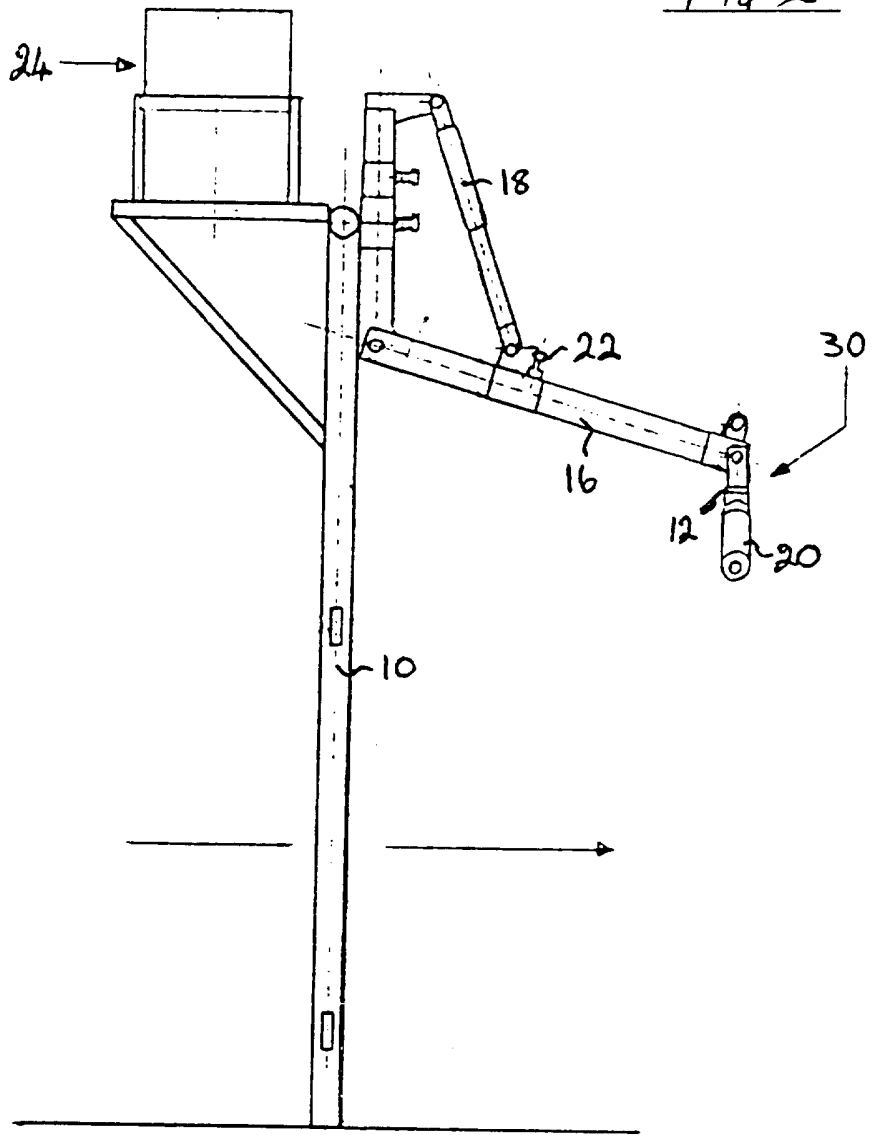
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Fig 2



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