

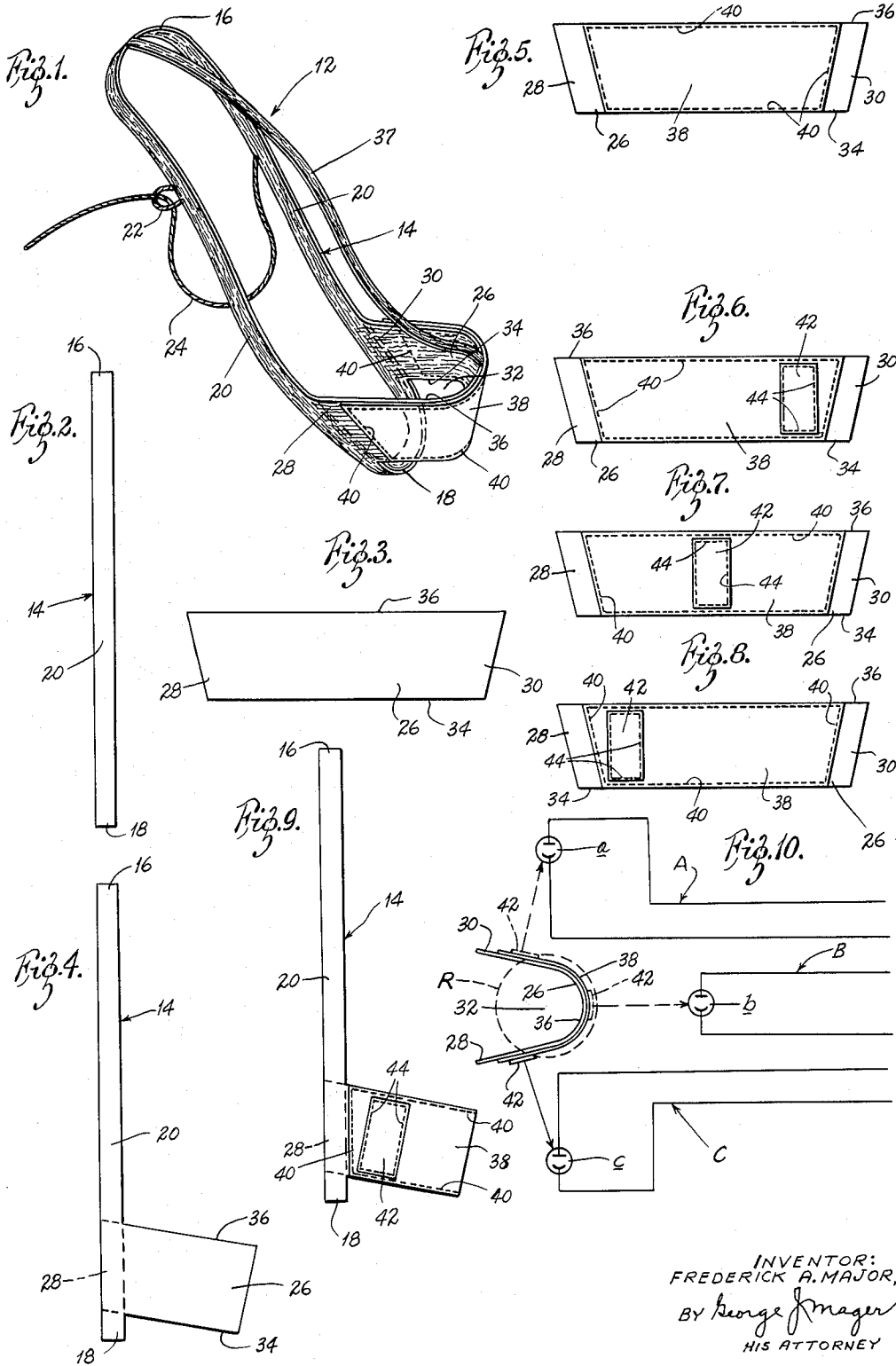
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COW HALTER INCORPORATING FEED CONTROL MEANS

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**COW HALTER INCORPORATING FEED
CONTROL MEANS**

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The general object of the present invention is to provide primarily for milk cows, a novel halter that not only includes means for effecting the usual functions of a conventional halter, but furthermore incorporates means adapted for use in connection with the somewhat recent developments in apparatus and mechanisms for dispensing feed in determined quantities to such livestock.

An exemplary feeding apparatus of the character referred to is disclosed in United States Patent No. 3,157,157 granted on November 17, 1964. In column 1 and continued in column 2 of said patent, the more recent developments in the handling of dairy cows are set forth in detail, and it is not deemed necessary to elaborate thereon herein. Another exemplary apparatus of the character referred to is disclosed in United States Patent No. 3,131,673 granted on May 5, 1964. In column 1 of this patent, the subject of selective dispensings for milk cows is also treated in some detail. It is believed that reference to these patents in conjunction with the description that follows, will afford a more comprehensive understanding of the objectives contemplated by the present invention.

Preferably though not necessarily, the halter of the present invention would be woven of rope, and would include as its principal components a headstall, a throat latch, a noseband, and a therewith associated supporting strap. The head stall would be woven in the form of an endless elongated loop, such configuration being common in many present-day halters of the type under consideration. What will herein be termed the upper end segment of the headstall functions as a head strap in customary fashion. What will herein be termed the lower end segment of the headstall functions as a chinstrap, also in conventional fashion. The pair of headstall segments that connect the upper and lower end segments thereof aforesaid, will herein be termed cheek straps. The throat latch is also well known in the art. It is comprised of a loop of rope having its ends woven into one of the cheek segments, and a length of rope having one end woven into the other of said cheek segments near the upper end segment of the headstall. Permanently attached to the lower end or chinstrap segment centrally would be a metallic ring adapted to have one end of a lead line or rope secured thereto. Inasmuch however, as such ring and lead line form no part of the present invention, this arrangement has not been illustrated. Customarily, a nose strap has its opposite ends secured to the cheek segments of the headstall. In a conventional halter, this nose strap has a width that corresponds with that of the headstall, and when the halter is in position on a cow, such strap will lie in a plane intermediate that of the animal's eyes and nostrils.

All of the thus far described halter elements are well known, so that the present invention is directed primarily to the provision of a novel noseband that replaces the conventional nose strap aforesaid, to elements associated with said band, and to the provision of a supporting strap for the novel nose band, the top extremity of the strap being woven into said upper end segment 20 of the headstall, and the bottom extremity thereof being woven into the upper marginal portion of said noseband.

In accordance with the concepts of this invention, the noseband would first of all be at least approximately four times as wide at the headstall. Viewed in the flat, that is

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assuming that its opposite ends were not as yet woven into the cheek band segments of the halter, the noseband of the instant invention would present a trapezoidal configuration. Consequently after the ends of the band had been woven into said cheek band segments, said noseband forms with the chin strap segments what will be termed a conical opening for the reception of the lower portion of a cow head as will appear.

It is therefore a specific object of the present invention to provide a halter having a wide noseband instead of the comparatively narrow conventional nose strap.

It is another object of the invention to provide a wide noseband having a trapezoidal configuration, so that when the opposite ends thereof are each woven into one of the cheek segments of the halter, said band in conjunction with the chin strap segment of the head stall will define a downwardly converging conical opening for the reception of or entrance therinto of the lower portion of a cow head.

As indicated earlier, the nose strap of conventional halters extends across the face of the cow head between the eyes and the nostrils. The wide noseband of the present invention is so designed that when the instant halter is in place, the bottom edge of said band will lie in a plane approximately two inches above that of the animal's nostrils, and the top edge thereof will lie in a plane below that of her eyes.

It is a further object of the invention to provide a supporting strap for the noseband, said strap being connected at its upper end to the upper end segment of the headstall, and at its lower end to said noseband.

It is now an accepted fact that a contented cow will produce more and better milk than a fretful one. When the halter of the instant invention is in place, the chin strap segment will automatically adjust itself relatively to the noseband, so that normal breathing, drinking and feeding on the part of the animal would not be restricted in any way.

Accordingly, it is another object of this invention to provide a halter including a novel wide noseband and a supporting strap that cooperate with conventional halter elements in such manner as not to disturb the tranquility of the cow wearing same any more than a conventional halter would.

It is a further object of the invention to provide a covering for the front surface of said noseband. This covering would be in the form of a trapezoidal panel of flexible material that is incapable of reflecting light, and would be secured preferably by stitching, to the band. In the interest of brevity and clarity hereinbelow, this novel covering will be termed a black noseband facing.

In contemplation of the various developments in methods and apparatus for dispensing determined feed rations to individual cows on a scientific basis as noted, it is another object of the present invention to provide means in association with said noseband facing adapted to energize a particular electrical circuit.

To this end the invention teaches the attachment of a panel to the front or exposed surface of said noseband. The panel would preferably be rectangular in configuration and made of a flexible material that has high light reflecting qualities, such as white plastic material. The panel would be permanently secured at a selected location on the facing preferably by lines of stitching contiguous to its perimeter.

A further understanding of the aims and objectives of the present invention may be had from the description to follow with reference to a sheet of drawings that accompanies this specification. In these drawings, all of the views except one are of a schematic or diagrammatic nature, it being believed that the basic concepts and prin-

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ciples of the present invention may be clearly understood without elaborate presentation of details.

In said drawings:

FIGURE 1 is a perspective view of a halter constructed in accordance with the teachings of this invention;

FIGURE 2 is a schematic view of the headstall element of the halter, in the flat;

FIGURE 3 is a schematic view of the noseband element of the halter in the flat, and prior to its being incorporated into the FIGURE 2 headstall;

FIGURE 4 is a schematic view of the headstall element and the noseband element in the flat, as these would appear subsequent to being integrated;

FIGURE 5 is a schematic view of the noseband in the flat with a facing of black plastic material sewn thereonto;

FIGURE 6 is a schematic view similar to FIGURE 5 illustrating the application by stitching of a light reflecting element to the front surface of the facing aforesaid adjacent to the right end portion thereof;

FIGURE 7 is a view similar to FIGURE 6 illustrating said light reflecting element applied centrally to the noseband facing;

FIGURE 8 is a view similar to FIGURES 6 and 7 illustrating the light reflecting element aforesaid applied adjacent to the left end portion of the noseband facing;

FIGURE 9 is a schematic view similar to FIGURE 4 showing the headstall and the FIGURE 8 noseband arrangement in the flat; and

FIGURE 10 is a diagrammatic exemplary illustration of the present invention in use.

As noted hereinbefore, all of the views except FIGURE 1 are presented in schematic fashion. Generally, halters of the type under consideration are hand woven, and are comprised of intertwined rope strands difficult to illustrate in detail, wherefore the diagrammatic illustrations are believed adequate for a complete understanding of the invention.

FIGURE 1 depicts a perspective view of an exemplary halter embodying the novel noseband and support strap concept of the present invention. The illustrated halter 12 includes a headstall 14 that is woven of rope strands, and is in the form of an endless loop. The upper end segment of the headstall is designated 16 and functions as a head strap in usual fashion. The lower end segment 18 of the headstall functions as a chin strap, said upper and lower end segments being connected by a pair of cheek strap segments 20. The halter 12 also includes a throat latch comprising a rope loop 22 having its ends interwoven into one cheek strap segment, and a cooperating length of tie rope 24 having one end interwoven into the other cheek strap segment. The thus far described elements and functions of the halter are well known, and per se form no part of the present invention.

Instead of the conventional narrow nose strap however, the present invention provides a relatively wide noseband 26. The ordinary nose strap has approximately the same width as that of the headstall, whereas the illustrated noseband 26 contemplated by the present invention is at least approximately four times as wide as that of the headstall 20.

The configuration of the noseband 26 as it would appear in the flat, is schematically shown in FIGURE 3 to be trapezoidal. Consequently, when the opposite end portions 28 and 30 thereof have been woven into the lower portions of the cheek strap segments 20 as schematically suggested in FIGURE 4, the noseband 26 will define together with the chin strap segment 18, a downwardly converging conical opening 32.

As best seen in FIGURE 1, the opening 32 facilitates entry of the lower portion of a cow head therein when the halter is being mounted. Another reason for the provision of the conical opening 32 will be explained below. The band 26 is so designed that when the halter 12 is properly positioned on a cow, the central bottom

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edge portion 34 of said band will lie in a plane approximately two inches above the animal's nostrils, and the central portion of the top edge 36 thereof will lie in a plane below the eyes of the animal.

Numerals 37 designates a supporting strap for the noseband. The strap 37 is relatively narrow, and has its upper end woven into the headstrap segment 16 of the headstall 14, and its lower end into the upper edge portion 36 of the noseband centrally thereof. With the halter 12 in position on the head of a cow, the strap 37 will lie along the front of her face between the eyes, will serve to stabilize said noseband, and will furthermore prevent downward displacement thereof.

Permanently secured to the front surface of the noseband is a covering panel or facing 38. The facing 38 also has a trapezoidal configuration when viewed in the flat, as best seen in FIGURES 5 through 8, and is preferably secured to the noseband by lines of stitching 40. The facing 38 is comprised of flexible material that is incapable of reflecting light. Preferably, the facing would be cut from a sheet of black plastic material, although it should be understood that a facing of black cloth could be substituted.

In accordance with the concepts of the present invention, a rectangular panel 42, highly capable of reflecting light, would be secured to the facing 38 at a selected position. The location of the light panel 42 would be determined as will be explained, and said panel would be permanently secured to the facing preferably by lines of stitching 44. Preferably, the panel 42 would be made of white plastic or white patent leather material. As viewed in FIGURES 6 through 8, the panel 42 is exemplarily shown secured to the facing 38 at three selected locations, these being respectively to the right of center, at the center, and to the left of center.

Diagrammatically shown in FIGURE 10 are portions of three electrical circuits each including a photoelectric cell for independently activating one circuit. It will be understood that these circuits control the operation of a feed dispensing apparatus that forms no part of the present invention. In the interest of descriptive clarity hereinbelow, the circuits are identified as A, B, C, and the included photoelectric cells are identified as *a*, *b*, *c*. A water and food receptacle R is represented by a broken line circle, and is designated R.

In order to explain the use and operation of the invention, it will be assumed that the receptacle R is located in a feed stall provided with a suitable surrounding guard rail, so that a cow about to be fed (and milked if desired), would be so to speak confined in said stall as is understood. Now prior to feeding, it is customary to provide the cow with drinking water. Wherefore it will also be assumed that the receptacle R is supplied with water prior to entrance of the cow into the feed stall.

The photoelectric cells *a*, *b* and *c* would be appropriately mounted in a horizontal plane a few inches above the brim of the receptacle R, and would be circularly spaced approximately ninety degrees apart, as illustrated. In consequence of this cell arrangement, when the cow lowers her head to drinking position, a panel 42 on the noseband facing 38 would automatically be disposed in approximate alignment with one of the photoelectric cells, as suggested by means of the arrows that appear in FIGURE 10.

It is believed apropos at this point, to direct attention to the conical formation of the noseband 26, its disposition relatively to the chin strap segment 18 of the headstall, and its connection via the strap 37 with the head strap segment 16. With the halter 12 properly secured in place on the head of a cow via the throat latch means as is understood, shifting of said noseband is obviated, so that an applied panel 42 will necessarily be directed toward one of the photoelectric cells when the cow lowers her head to drink from the receptacle R.

In connection with the diagram of FIGURE 10, it will

also be assumed that a beam of light from a source associated with each photoelectric cell directs its rays toward one of the areas wherein a panel 42 would be located when the cow is drinking. It will further be assumed that the circuit A when energized, would effect a food dispensing operation that delivers for example, five pounds of feed concentrate to a receptacle R after the cow had imbibed the water previously contained therein.

It will also be assumed that the circuit B when energized, would effect a dispensing operation that delivers for example, ten pounds of feed concentrate to a receptacle R after the cow had imbibed the water previously contained therein.

It will furthermore be assumed that the circuit C when energized, would effect a dispensing operation that delivers for example, fifteen pounds of feed concentrate to a receptacle R after the cow had imbibed the water previously contained therein.

In contemplation of the foregoing assumptions, and the recent developments in connection with the scientific feeding of milk cows as set forth in the patents hereinbefore designated and others, the attainment of the objectives of the present invention will be briefly explained relatively to a fictitious milk producing establishment that will be called "The John Doe Dairy." As a general rule, this dairy houses, feeds and milks approximately three hundred cows. In accordance with the scientific studies aforesaid, one hundred of the cows require a daily concentrate feed ration of five pounds, and one hundred of the cows require a daily concentrate feed ration of ten pounds, and one hundred of the cows require a daily concentrate feed ration of fifteen pounds for maximum resultant milk productivity.

Accordingly as should be understood, "The John Doe Dairy" would require and utilize one hundred halters 12 having a panel 42 secured to the noseband facing 38 adjacent the right hand end thereof, as shown in FIGURE 6; a second hundred halters 12 having a panel 42 secured to the noseband facing 38 centrally thereof, as shown in FIGURE 7; and a third hundred halters 12 having a panel 42 secured to the noseband facing 38 adjacent the left hand end thereof, as shown in FIGURE 8.

In view of the drawings and the foregoing description, it is believed that the principles of the instant invention have been adequately presented. It is to be understood however, that said drawings are illustrative only, and that structural details may obviously be modified in some respects without departing from the scope of the present invention as set forth in the claims hereunto appended.

What I claim is:

1. In a cow halter of the character described having a headstall including an upper end headstrap segment and a lower end chin strap segment, said segments being connected by a pair of cheek strap segments, the combination therewith comprising:

a wide noseband having each of its opposite end portions secured to one of said cheek straps;

a narrow supporting strap for the noseband having its upper end secured to the halter head strap segment and its lower end secured to the upper edge of the noseband centrally thereof;

a facing of flexible material that is incapable of reflecting light permanently secured to the front surface of said noseband;

and a panel that is highly capable of reflecting light permanently secured to the facing at a selected location intermediate the ends thereof.

2. In a cow halter of the character described having a headstall including an upper end headstrap segment and a lower end chin strap segment, said segments being connected by a pair of cheek strap segments, the combination therewith comprising:

a wide noseband having each of its opposite end portions secured to one of said cheek straps;

a narrow supporting strap for the noseband having its upper end secured to the halter head strap segment and its lower end secured to the upper edge of the noseband centrally thereof;

a facing of flexible material that is incapable of reflecting light permanently secured to the front surface of said noseband;

and a panel that is highly capable of reflecting light permanently secured to the facing at a selected location intermediate the ends thereof;

the central bottom edge portion of the noseband being adapted to lie in a plane approximately two inches above the nostrils of the animal, and the central top edge portion of said noseband being adapted to lie in a plane below the eyes of the animal, when the halter is properly positioned on the head of a cow.

3. In a cow halter of the character described having a headstall including an upper end headstrap segment and a lower end chin strap segment, said segments being connected by a pair of cheek strap segments, the combination therewith comprising:

the elements recited in claim 2 wherein the width of the noseband is at least approximately equal to four times the width of the headstall.

4. In a cow halter of the character described having a headstall including an upper end headstrap segment and a lower end chain strap segment, said segments being connected by a pair of cheek strap segments, the combination therewith comprising:

the elements recited in claim 2 wherein the configuration of the noseband is trapezoidal prior to the integration of its opposite end portions with said cheek straps, whereby when said end portions thereof have been integrated into the cheek straps, said noseband will define with the chin strap segment of the headstall a downwardly converging conical opening that facilitates entry of the lower portion of a cow head therinto when the halter is being mounted, and serves to obviate shifting of the noseband after the halter has been properly secured in place.

5. In a cow halter of the character described having a headstall including an upper end headstrap segment and a lower end chin strap segment, said segments being connected by a pair of cheek strap segments, the combination therewith comprising:

the elements recited in claim 2 wherein the facing of flexible material is black, is trapezoidal in configuration, and is secured to the front surface of the noseband by lines of stitching contiguous to its edges.

6. In a cow halter of the character described having a headstall including an upper end headstrap segment and a lower end chin strap segment, said segments being connected by a pair of cheek strap segments, the combination therewith comprising:

the elements recited in claim 2 wherein the panel highly capable of reflecting light is white, is rectangular in configuration, and is secured to the noseband facing by lines of stitching contiguous to its edges.

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