CATTLE HANDLING

IT IS ESSENTIAL YOU HAVE READ THIS HANDOUT BEFORE YOU ATTEND YOUR CATTLE-HANDLING CLASS.

INTRODUCTION

AS A VETERINARIAN YOU HAVE THE OVERALL RESPONSIBILITY TO ENSURE THAT NOTHING GOES WRONG AND EVERYONE IS SAFE.

RISK OF INJURY MUST ALWAYS BE KEPT IN MIND

Good cattle handling is an important skill which gets a job done safely, humanely and quickly. Handling skills are very important to vets because clients judge them on these skills. Clients dislike rough treatment or severe correction of their animals.

Cattle handling can mostly be done without physical exertion. Use human ingenuity and patience - not force. Force is met with equal or greater force. By understanding their behaviour, the actions can be predicted and thus directed to give the required response, with least likelihood of injury to animal and handler.

Cattle can cause injury in a number of ways. An adult cow can weigh 800kg, and its weight can knock down, trample or crush a person against a wall or fence, either by intention or accidentally. Bruised or broken toes will result from trampling by cattle if you don't wear proper protective footwear.

Cattle use their heads to attack and defend themselves. If they have horns they can inflict severe damage when they attack. A quick thrust sideways or forwards can be fatal. They can butt with great force and inflict injury even when polled or dehorned. Dairy bulls are especially dangerous.

Cattle usually kick with one hind leg at a time in a forward, outwards and backwards arc (the 'cow kick') and so can strike someone standing at their shoulder. Be especially careful with cows just after calving, at which time they can be aggressive if they think their calf is threatened.

Cattle do not bite, and there are no incisors in the upper jaw. The molars are very effective at crushing and grinding. Finger and hand injuries may be inflicted, during drenching of cattle. Never put your fingers between the cheek teeth.

The tail due to high excitement or fly worry can cause injuries to unprotected eyes when struck by the long hairs at the end of the tail.

To prevent injury special measures are required:-

Active measures require a conscious action by the person at risk, for example correct positioning to avoid getting kicked. Passive measures e.g. the culling and selection against aggression in beef cattle require no conscious action once they have been built into the system. Although such passive measures may reduce the risk substantially and are preferable, many risk reduction measures are combinations of the active and passive. For example, an active passive measure would be putting on boots with protective toe caps. That requires an action to use a passive measure. The maintenance of raised walkways ('catwalks') alongside races, shown in Fig.1, is a passive active measure as it is a passive intervention requiring action to maintain it. At present, safety in cattle handling is almost completely dependent on active measures, with some active passive, a few passive active and hardly any passive measures. There is great scope and a need for ingenuity in designing passive countermeasures for cattle handling.

WELFARE

The welfare of handled animals is important for two reasons.

1) We must maintain the well-being of the animal in our care.

2) The whole handling procedure is easier when the animal is relaxed.

Dairy cows are easier to handle when they are comfortable, i.e. when they are dry, free of draughts and clean. It is also easier to handle animals in clean conditions.

AROUSAL

Arousal is important in animal handling and is especially relevant to the handling of large, excitable beasts like cattle. The state of activation or arousal of an animal ranges from deep sleep to fight-or-flight, with several states in between. The higher the arousal the more an animal reacts to stimulation. An adult dairy bull which is aroused needs very little provocation to attack. Highly aroused cattle are likely to show fight-or-flight and to make sudden, violent movements. When walking in open country, it may be useful to have cattle running away, but this is undesirable in small spaces, where they may run into people or structures, jam in gaps, bruise themselves or fall over. Always try to give the minimal amount of stimulation necessary to get a response, otherwise there is a risk of getting undesirable or inappropriate behaviour such as flight.

When it cannot escape, an aroused animal which is further stimulated by handling may 'freeze'. For instance, a cow may go down in a crush and thus stop the flow of animals for pregnancy testing by rectal examination. Despite stimulation she may refuse to stand for several minutes. When she does stand, it will often be without warning, which is also dangerous unless anticipated.

It is usually desirable to keep animals calm so that they move or stand quietly. Cattle should be allowed to settle down for 20 minutes or so after yarding.

Control of arousal is fundamental to controlling the movement of animals. Handling, by its nature, stimulates animals and raises their arousal. An increase is usually undesirable and what is needed is a reduction. Some of the factors which affect arousal of cattle are shown in Fig. 2.

As a species which is generally more active in daylight (diurnal), cattle are naturally less active and quieter in the dark. Night time may well be a better time for handling excitable animals. Cattle can, however, be active at night, as shown by their grazing in the dark when the days are too hot.

A beef cow within a day of giving birth may attack anyone approaching her calf. Newly-weaned beef cows may force their way through fences in trying to rejoin their calves.

PERCEPTION

Cattle have a far more acute sense of smell than humans. Cows can smell their newly weaned calves from considerable distances, especially downwind, and need to be well separated. Cattle have some colour vision, but it is not known to which colours they are most responsive (for use on electrified fencing tape and flags for handling).

Their eyes are on the sides of the head. This gives wide panoramic vision of about 300 degrees but mostly with one eye at a time, i.e. monocular vision (see Fig. 3). This monocular vision means that cattle cannot estimate the size and speed of unfamiliar objects to the sides of their heads. Consequently they can be highly reactive to sudden movement ('spooked'). They only have depth perception at the front where the field of vision of both eyes overlaps to give binocular vision. They will stop and investigate shadows when there is a strong contrast of light. This can interrupt the smooth flow of a herd through a race or between pens. Cattle will also stop and visually investigate things which are not frightening. Cattle are likely to be cautious of a novel object until they have fully investigated it, and this slows movement.

EXPERIENCE

Cattle readily learn to accept routine. Cattle can also be trained to be led by a halter. In fact, cattle have shown by their nervous behaviour, that they can remember one bad handling experience for at least THREE years. Once cattle have successfully avoided some undesirable handling, e.g. being driven into yard, it is much more difficult to get them back into that area again. So the handling system must be set up correctly at the outset and made to work first time.

TERMS - Note some variations in terminology

Collecting	= mustering, rounding up, bringing in
Confining pen	= crush, squeeze chute, stocks (a pen just wide and long enough to hold one animal with one or more of the following:- -pole to prevent rearwards movement -neck clamp -moveable sides to squeeze the animal's body -structures to which feet can be tied -wide belts to support the animal)
Crowding pen	= Forcing/feeding pen (a small pen in which animals are crowded and stimulated to move into a narrow race, usually single-file)
Electric goad	= electric prod, 'hotshot'
Neck clamp	= head gate, head yoke, head bail, stanchion
Nose holder	= bulldog clip, nose tongs/lead/grips/pliers
Penning	= putting animals in pens either singly or in groups
Race	= chute, alley (a long narrow structure which confines animals to moving either single-file or several abreast)
Raised walkway	= catwalk
Single-file race	= confining chute (race only wide enough for one animal at a time)

Sorting	= drafting, separating (sorting animals into different classes of stock)
Sorting race	= sorting/separating alley (race usually about 3-4m wide used for sorting)
Tilting table	= operation table (table to which a standing animal can be tied and then tilted onto one side)
Wide race	= working alley/chute, feeding pen
Vertical gap	= man-gate, man-way (vertical gap in the side of a pen wide enough for an adult person but not for adult cattle to get through)
Yarding	= collecting and putting animals into yards

PREPARING

Successful handling follows good preparation. By thinking through the job ahead, you can be prepared for all the possible movements and manipulation of the cattle. The following points would be considered:-

1) What tasks need to be done?

2) What is the minimum amount of handling for those tasks?

3) Who can best do the handling with maximum safety and least time and disturbance to the animals?

4) What is the best place?

5) Is it safe for the handler and the animal?

6) Which technique gets the job done quickest and with least disturbance to the animal?

7) How can the herd be checked after handling?

8) How are the cattle likely to respond? (What is their temperament and experience of handling?)

9) Are there enough people and pens?

10) What happens if the herd breaks back when you try to drive them into the yards?

Handling equipment for cattle must be big enough, strong, well maintained and understood by all who operate it.

MOVING

When preparing to move cattle there are 6 questions to consider:-

1) What is the plan of movement?

2) Are there enough people?

3) Is the route clear of obstructions, distractions and projections which would impede the smooth flow?

4) Is the footing adequate?

5) Are the cattle movements predictable?

6) Is the route ready? (For instance, are all the necessary gates open or closed?)

Cattle should be moved at their own pace as they are less likely to injure themselves. If they do run in the correct direction, let them go.

When moving cattle, patience and quiet are very important. If possible move cattle in one bunch rather than repeating the process with several smaller groups.

When moving cattle through a gate, the lead animals should be moved through and then others allowed to follow at their own pace, driving them on only if the flow stops. Too much stimulation at this stage is likely to cause breakaways. Once a group is moving, try and keep them together at a speed comfortable for them.

The amount of movement of the handlers should be kept to a minimum.

The use of a swinging gate to hold a beast behind is very useful when a crush is not available.

APPROACHING INDIVIDUALS

Always talk quietly, preferably with low-frequency sounds, when approaching an animal. This avoids surprising it with the consequent risk of it kicking out or running off. Regularly handled cattle should be approached in the way and from the side to which they are accustomed. Traditionally this is from the left but particular circumstances, like a milking system, may require another direction. Touch the shoulder area first and gently move up to the head. Frightened,

flighty or aggressive animals are likely to move or kick sideways. A kick is usually a semicircular slicing action which can cause serious injury. Aggressive animals like dairy bulls and nymphomaniac cows are more likely to butt and crush a person. An escape route should be close by before approaching such animals. A direct approach is aggressive to cattle and this may be met with aggression, i.e. a charge forward and butt. See Fig. 7 and 8 on direction of approach.

RESTRAINING THE HEAD

Having restrained the head, the animal is much more likely to be still. Once this is achieved the animal is less likely to injure the handler.

A rope halter is the basic tool of restraint for working with cattle and many other species. It is important to place the halter correctly. Frequently a halter is put on upside down or improperly placed with the rope behind the horns but not behind the ears. This results in the rope crossing over or near the eve, endangering the eye. It also creates a very bad impression, if the vet halters an animal incorrectly.

Placing the halter on an animal in a chute or stanchion offers no particular challenge. To do so in a box stall may present some difficulty. If the nose loop is made slightly larger than the poll loop, one can often flip it over the nose and over the poll and behind the ears very easily. If it is impossible to approach the animal in this manner, it may be necessary to first place a rope around its neck (Fig. 16-18).

After haltering, the animal can be tied to a post, a ring, or any other secure object to carry out additional procedures, using a quick release knot, (Fig. 39). It is usually necessary to fix the head by pulling it tightly to the side or upward, or both, and snubbing it to the post with the halter tie. It can be difficult to remove all the slack from the rope when completing the halter tie. Practice is necessary to form the loops closely around the object. Many procedures such as withdrawing blood, giving injections, or examining the teeth and various other body areas can be carried out by controlling the head in this manner. If the halter is to be left on an unattended animal, be certain that it is the type that will not slip and become a noose around the neck. The animal should only be left unattended for short periods and ideally not at all. If it has to be left a little longer the tie must be long enough to allow the animal to lie down.

"Bull-holders" or "bull-dogs" may be applied to the nostrils if the examination is likely to be prolonged, or if the animal is troublesome, as this relieves the strain on the fingers. For troublesome animals, the double-swivel type bull-holder is better than the rigid type. The swivels allow an animal to turn and twist its head without twisting the operator’s wrist. If the animal has no horns and the operator wishes to examine its face or head, he or she can generally do so by holding the nostrils only (see Fig. 19-23).

Bulls over a year can be very treacherous and are usually rung at this age, so a bull-pole or leader can be snapped on to make handling easier and safer. Dairy bulls need to be handled with extreme care, as minor things may irritate them, and injury can easily result. By law you must have at least two people present when handling bulls.

RAISING AN ANIMAL THAT HAS GONE DOWN.

Making it stand - Before attempting to get an animal to stand, it is vital to examine it to check that it is humane for it do so and that standing is possible.

Various stimuli have been successful in getting cattle to stand, for example:

I) Clapping and shouting close to the ear.

2) Slapping the neck and chest.

3) Close proximity of a barking dog; never let the dog bite the patient

4) Pouring cold water into the ear.

5) Pressure on the tail on a hard surface.

6) Creating a clear route of exit, e.g. open door box, yard gate etc.

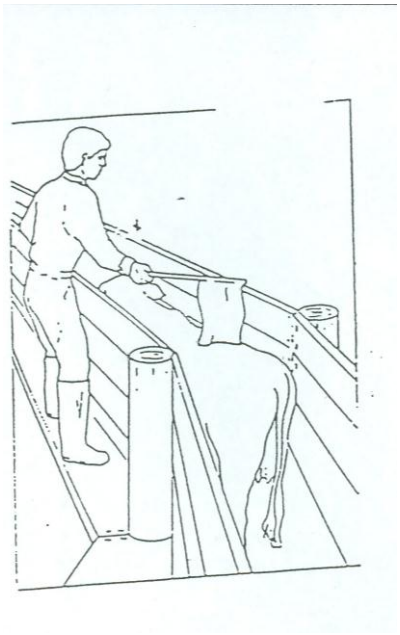


Fig. 1. Using a raised walkway to handle cattle in a single-file race with a flag or a light stick. Note the solid sides of the race, but solid fences may make it difficult for veterinary access, for example when examining or injecting the patient.

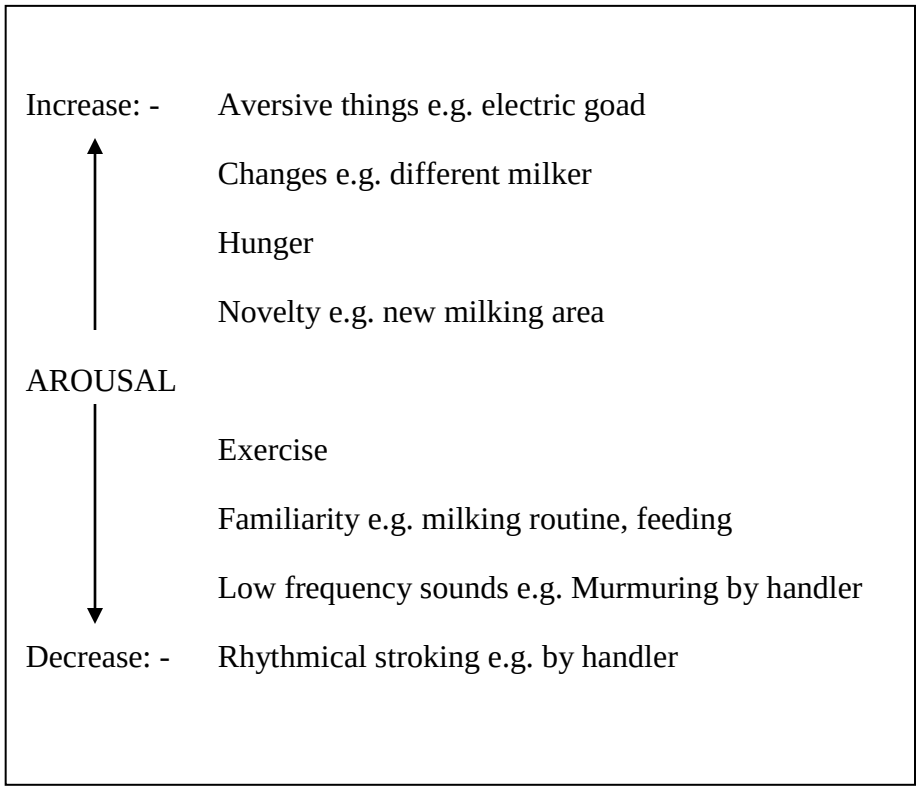


Fig. 2. Factors affecting arousal of cattle.

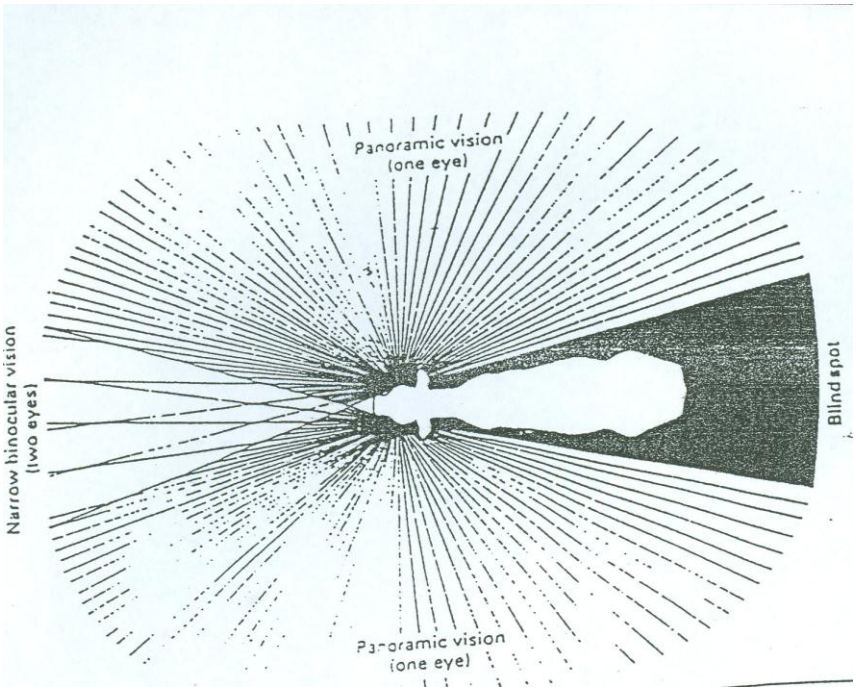


Fig. 3. The field vision of a cow.

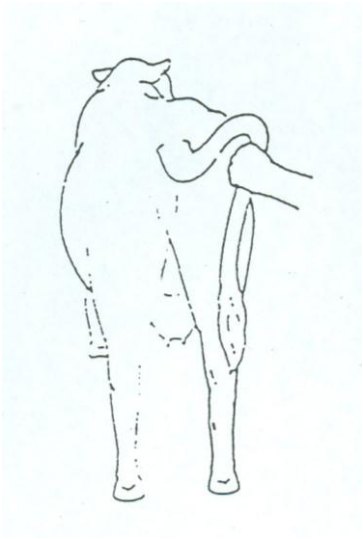


Fig. 4. Twisting the tail to make a cow move forward. Be careful not to twist too hard and break the tail!

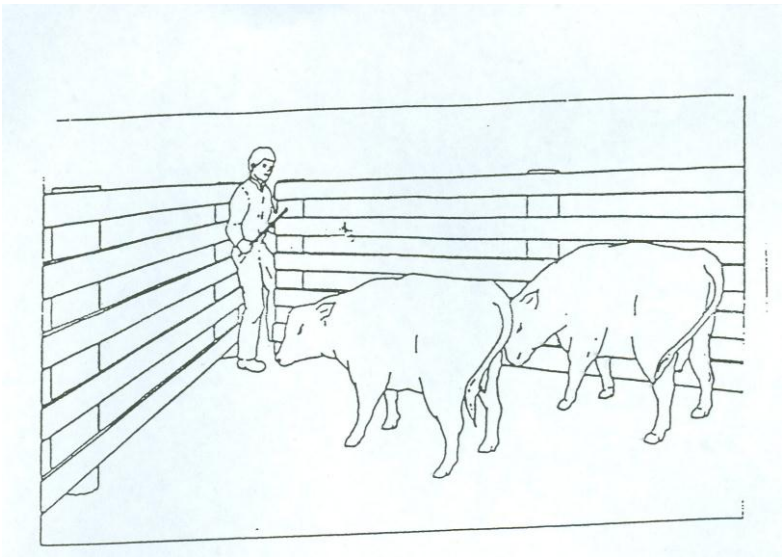


Fig. 5. Handler escaping through a vertical gap.

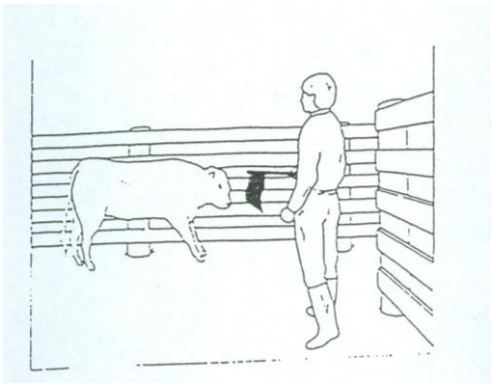


Fig. 6. Using a flag or stick to stop a beast going through a gate in the pen. Avoid hitting the animal with a stick unless absolutely needed.

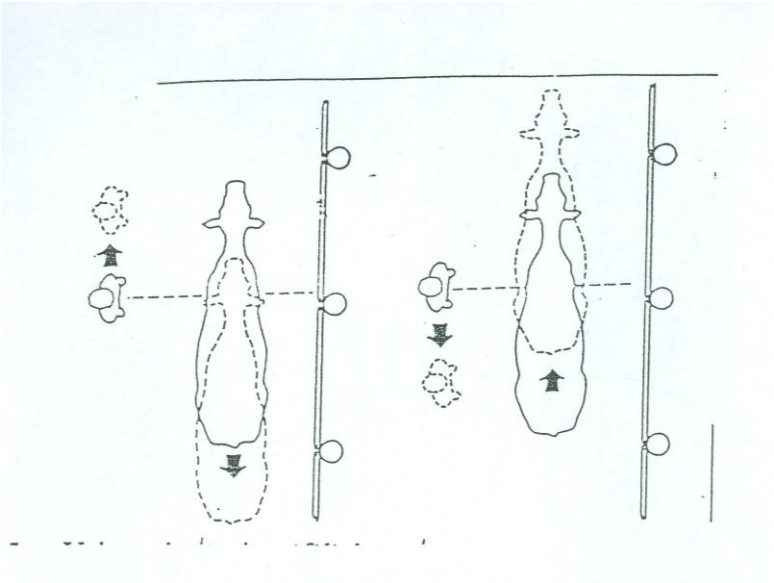


Fig. 7. Using the 'point of balance' through the shoulder to move cattle either forwards or backwards against a pen side.

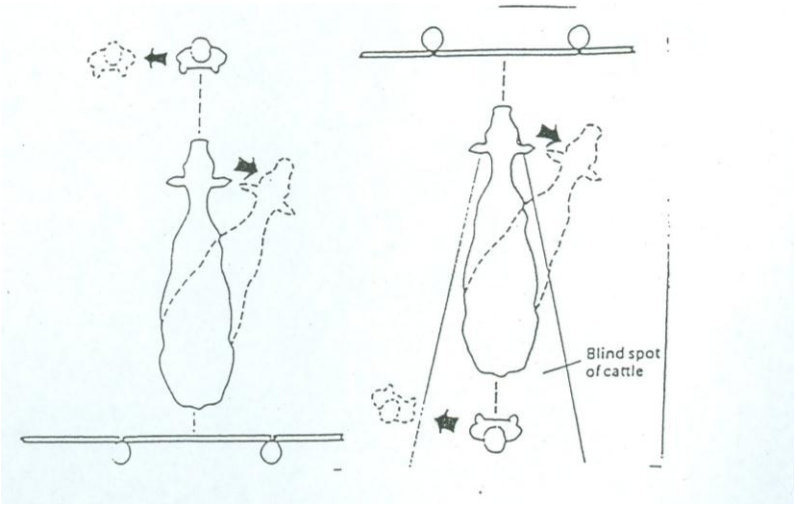


Fig. 8. Using the 'point of balance' through the mid-line to move cattle to the side from either in front or behind. Note that cattle cannot see the handler standing in the blind spot directly behind them.

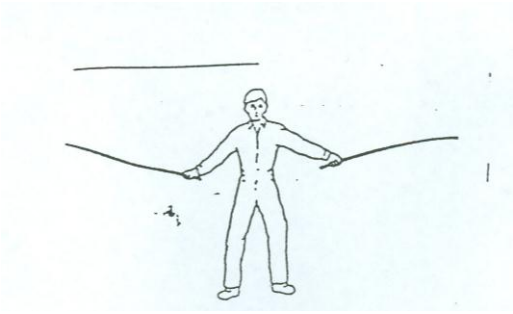


Fig. 9. Increasing the range and power of the handler by using two sticks.

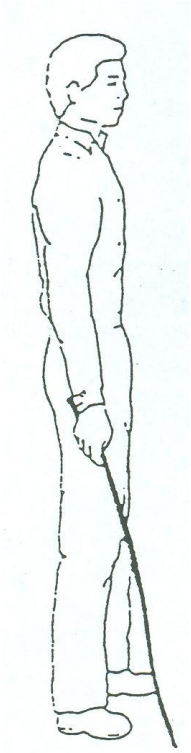


Fig. 10. Reducing the body profile of a handler to reduce power of movement. Note the side is presented and the stick lowered.

Fig. 11. - A solid adjustable stanchion.

Fig. 12. Rope halter properly placed, with the free end exiting beneath the mandible.

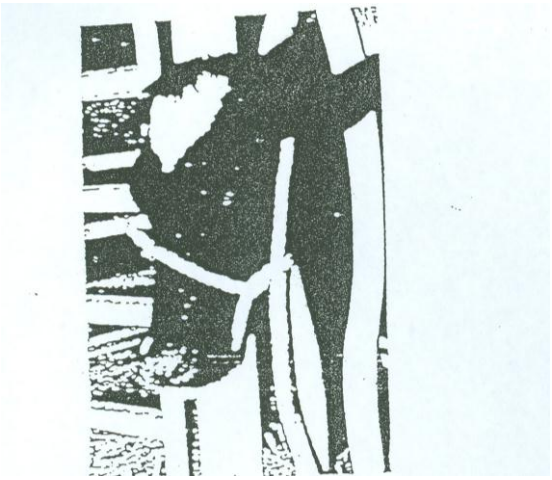


Fig. 13. Rope halter improperly placed, with the free end exiting over the poll.

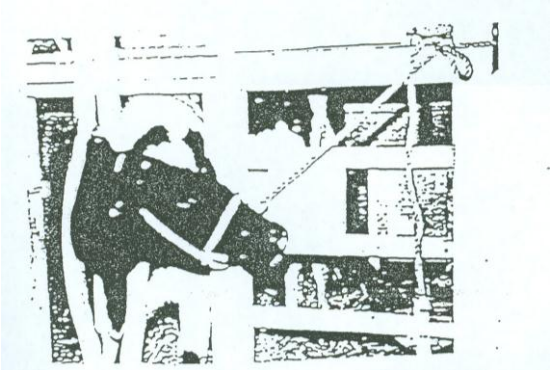


Fig. 14.The head is properly secured with the rope halter tied.

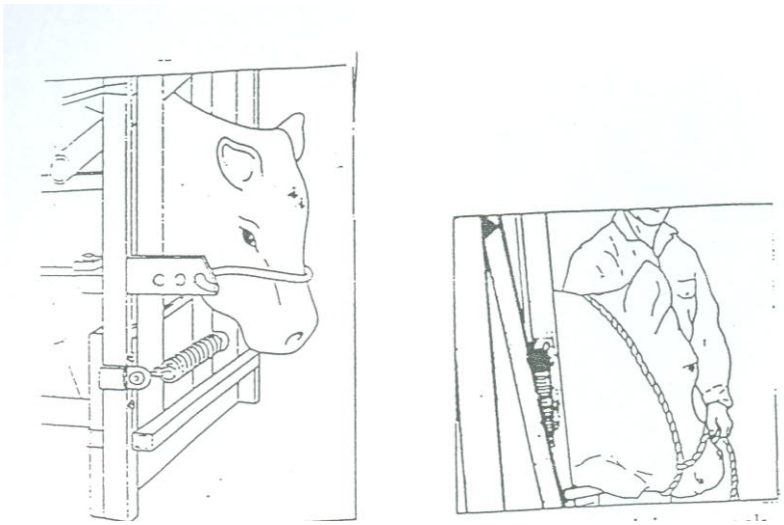


Fig. 15. (Left) Neck and nose bar holding a cow's head in a neck clamp, (right). Head restrained with neck clamp and halter,

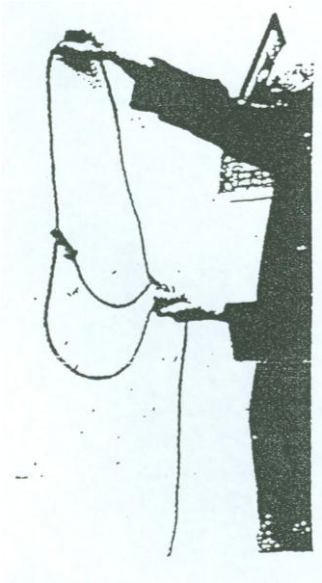


Fig. 16. Halter showing enlarged head and nose loop.

Fig. 17. Haltering. Note the large loop has been dropped over the nose and the ear piece can then be pulled over the poll.

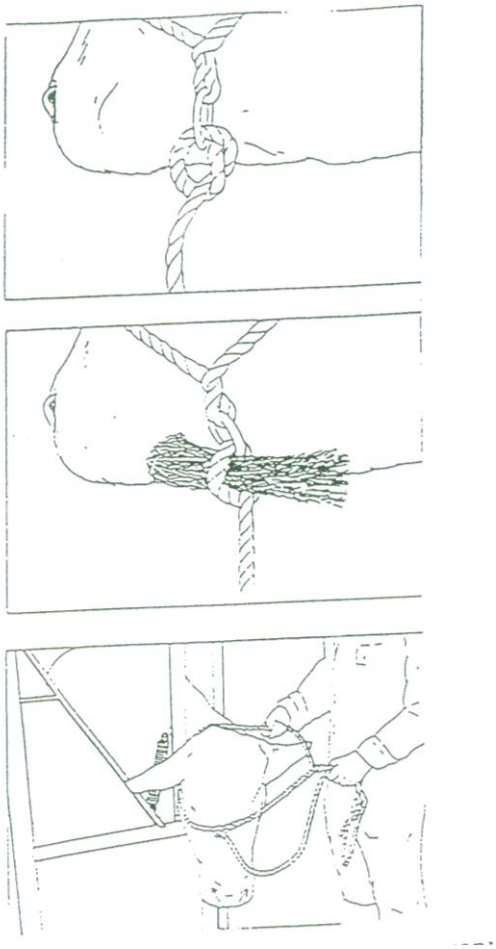


Fig. 18. (Top) Half-hitch on halter to prevent over-tightening or slipping off. (Centre) A wisp of hay in the half-hitch may ease release if the knot becomes wet or tight. (Bottom) Slipping a halter over the ears.

Fig. 19. Using thumb and finger as a temporary nose tongs. Make sure your nails are short!

Fig. 20. Bull-holders or bull-dogs. The term 'bull-tongs' is also used for bull-holders which have long rigid handles.

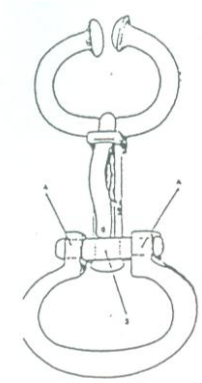


Fig. 21. Bull-holders with double swivels. This type, swiveled in one direction at A and A, and in the opposite at B, allows a bull to be held without risk of injury either to the bull's nostrils or to the assistants wrist. In addition, it cannot so easily be displaced through the animal wrenching its head sideways. In these respects it is superior to the rigid form of bull-holders shown in Fig. 20.

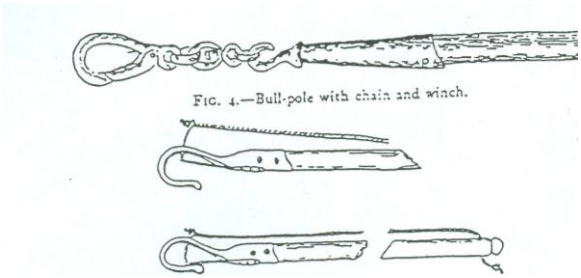


Fig. 22. Bull-poles.

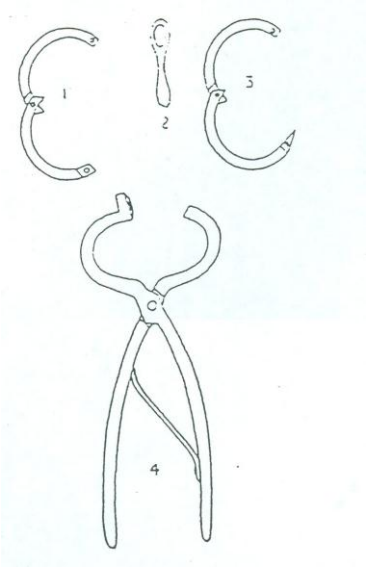
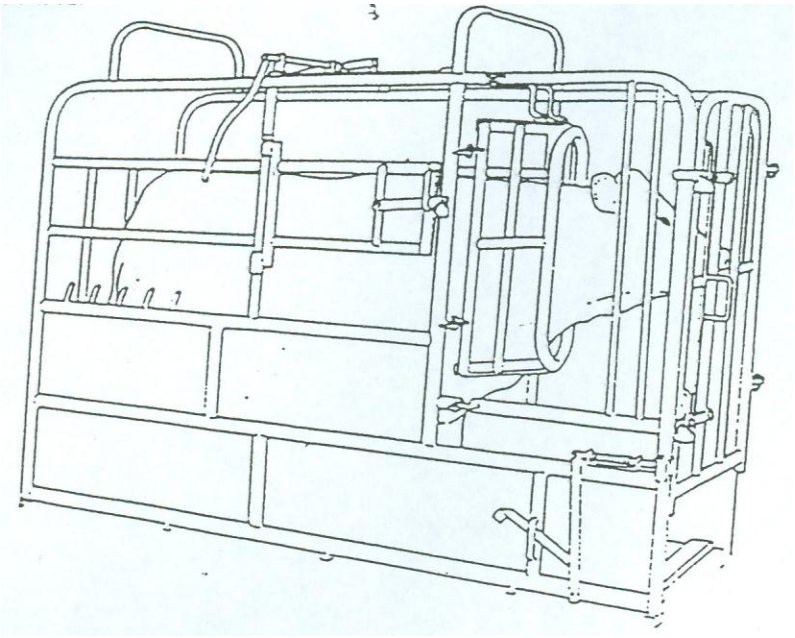


Fig 23. A bull ring (1), key (2), self-piercing bull ring (3), and nose-punch (4) for use with the bull ring

RESTRAINING THE WHOLE ANIMAL

Fig. 24. Cattle confining pen of conventional design.



PREVENTING KICKING

Fig. 25. Tail lift, to help prevent kicking

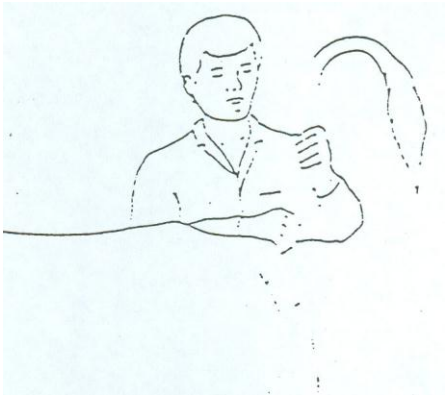


Fig. 26. Flank pressure also reduces the chance of kicking

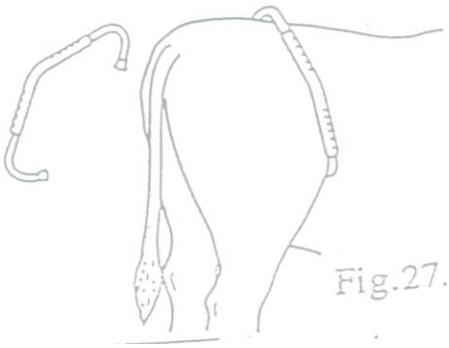


Fig. 27. C-shaped clamp (kick-bar) for preventing kicking.

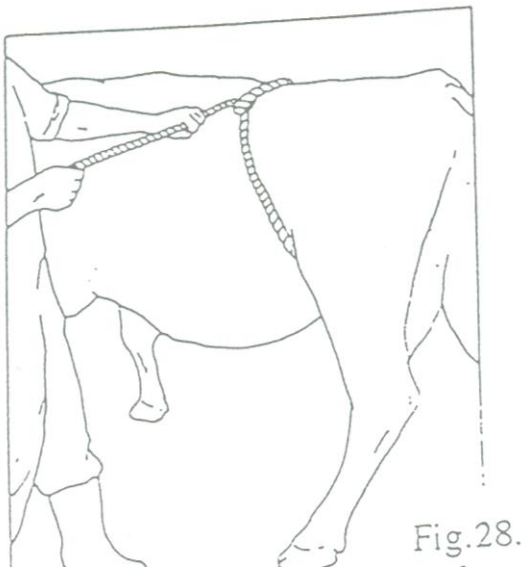


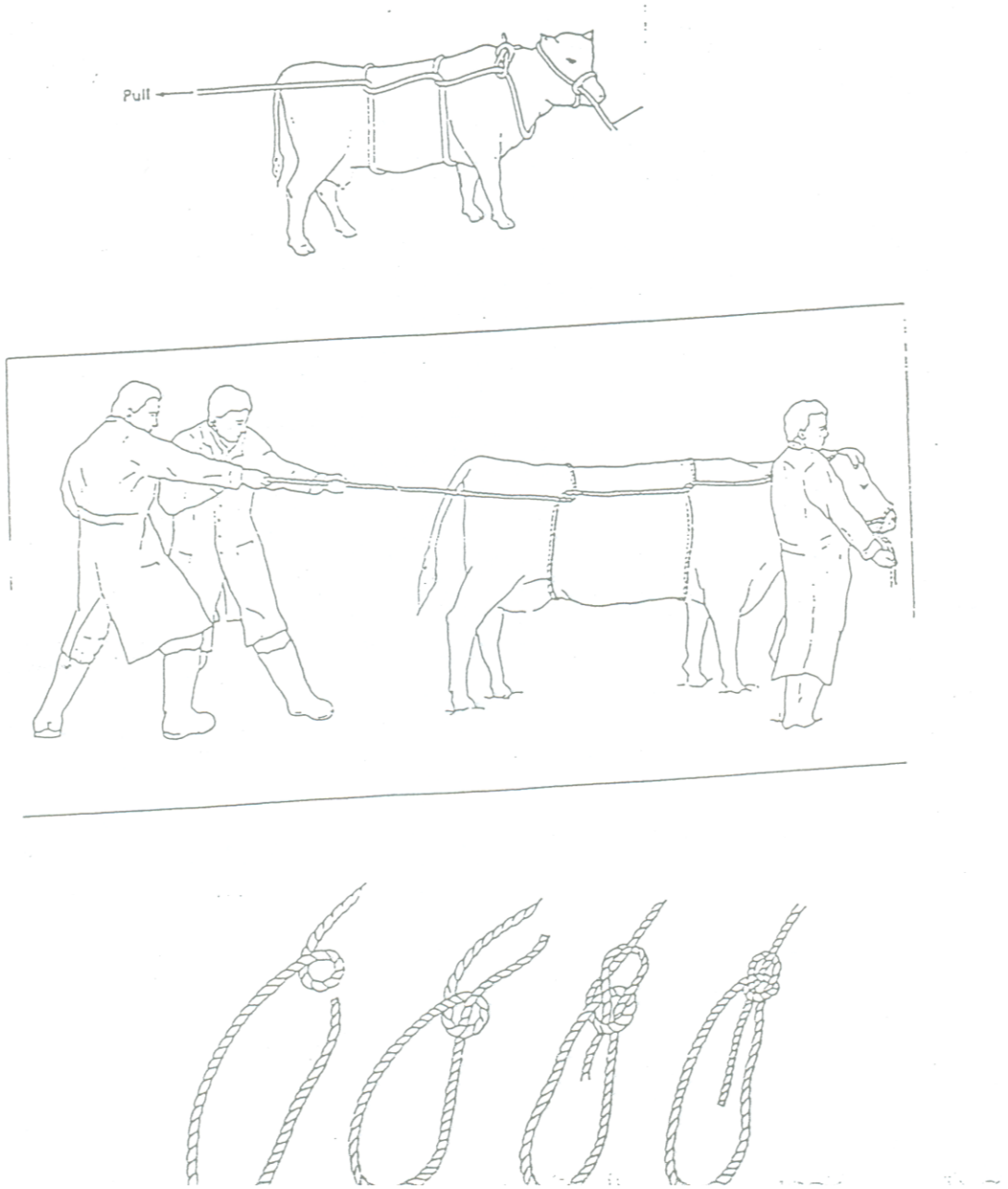
Fig. 28. Flank pressure exerted by a rope around the abdomen, for preventing kicking.

Fig. 29. Pressure applied over the back and chest by a rope, this may calm an animal when they do not settle down when the head, limbs, or tail have been held.

CASTING A COW.

Fig. 30. (top) Half hitches used for casting cattle (Reuffs/double-half-hitch method). (Centre) Handlers in position for casting. (Bottom) Bowline (detail).

Shank of halter held by person right side of cow.



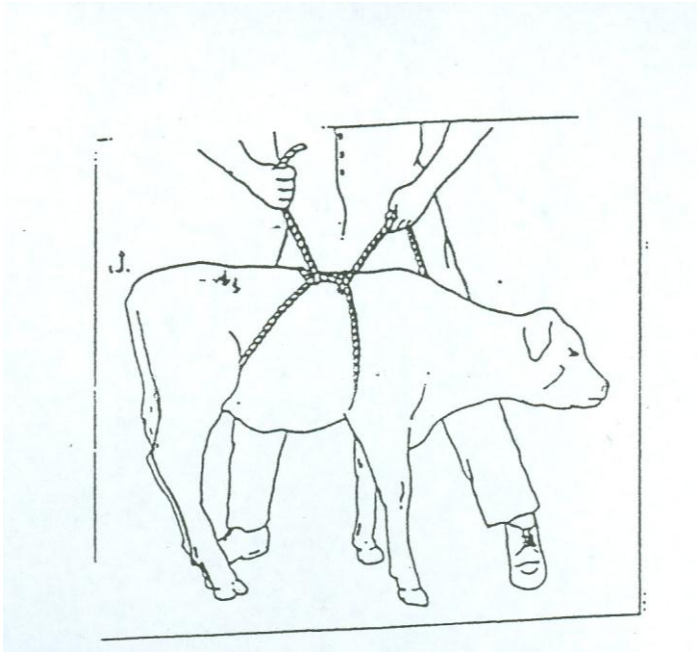
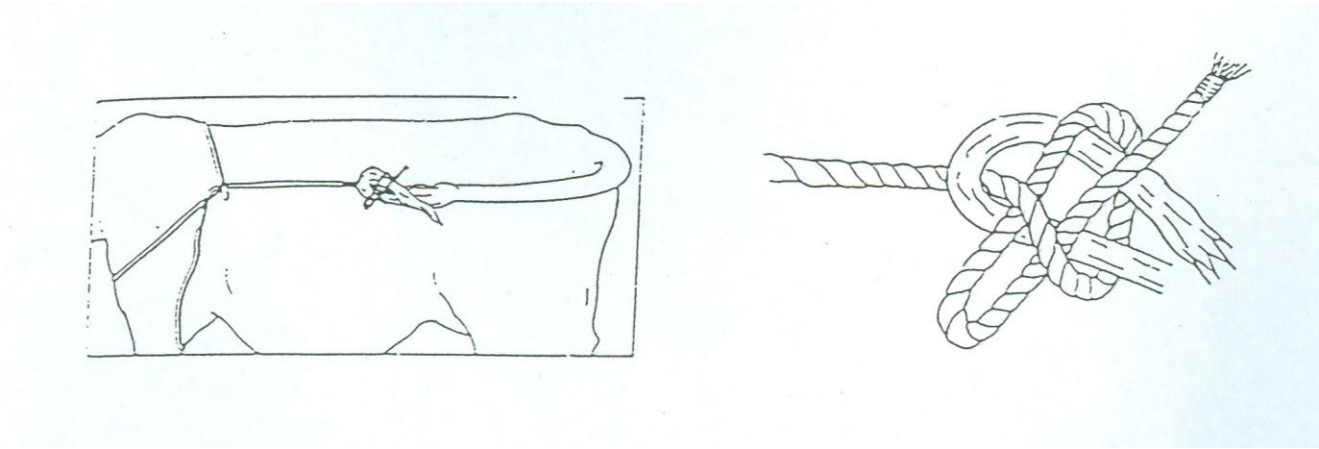


Fig. 31. Lark's head hitch for casting a calf.

TYING THE TAIL.

A lashing tail is dangerous and should be held or tied away.

Fig. 32. (Left) Tail tied to a rope around the neck. (Right) Sheet bend for tying rope to tail.



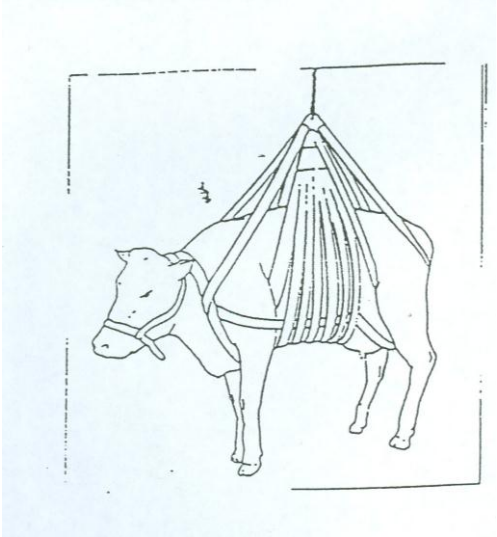


Fig. 33. The 'downer cow' harness for lifting recumbent cattle.

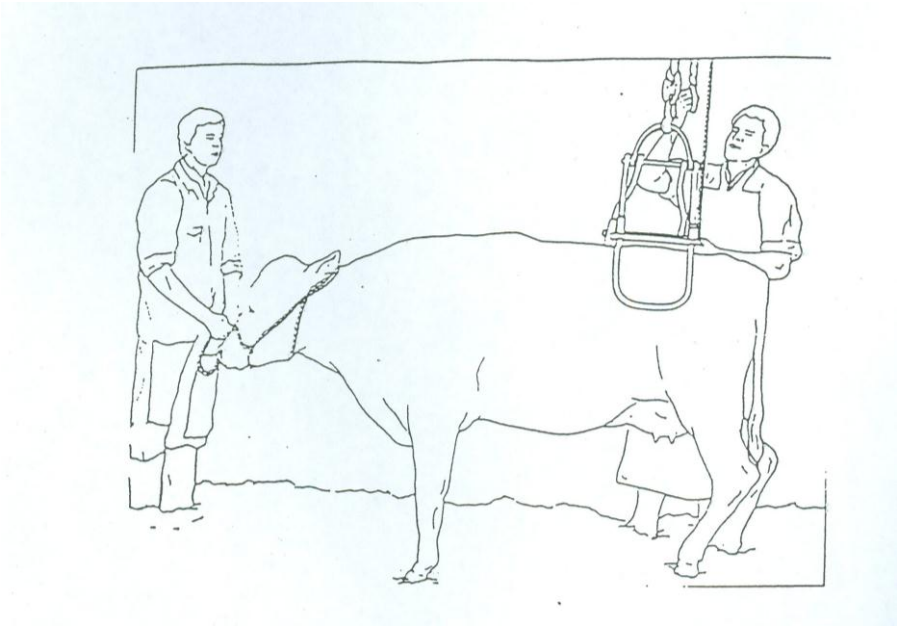
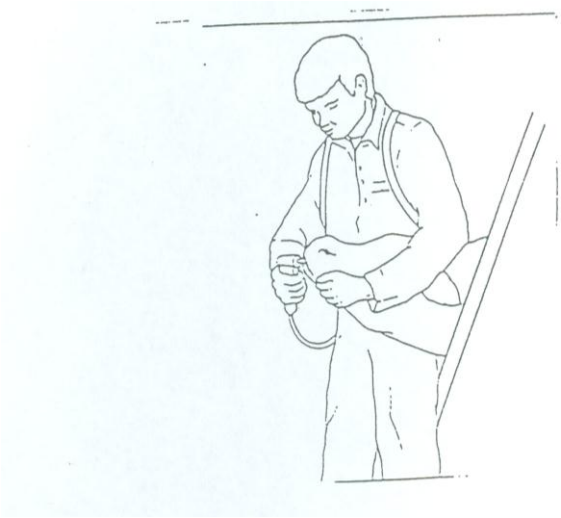


Fig. 34. The Bagshawe hoist used for raising cows with posterior paresis. The head must be controlled by halter.

DRENCHING.

Fig. 35. Restraining the head for drenching, using a neck clamp. Note that the fingers and thumbs are outside the mouth.



MOUTH GAG

Fib. 36. (Left) Inserting a gag into the mouth to fit between the upper and lower molars. (Right) Drinkwater mouth gag.

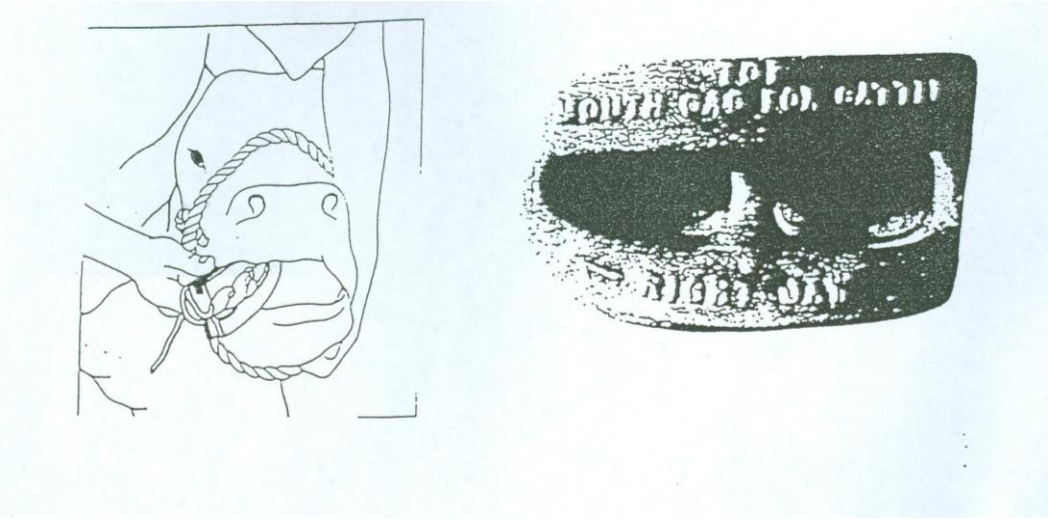
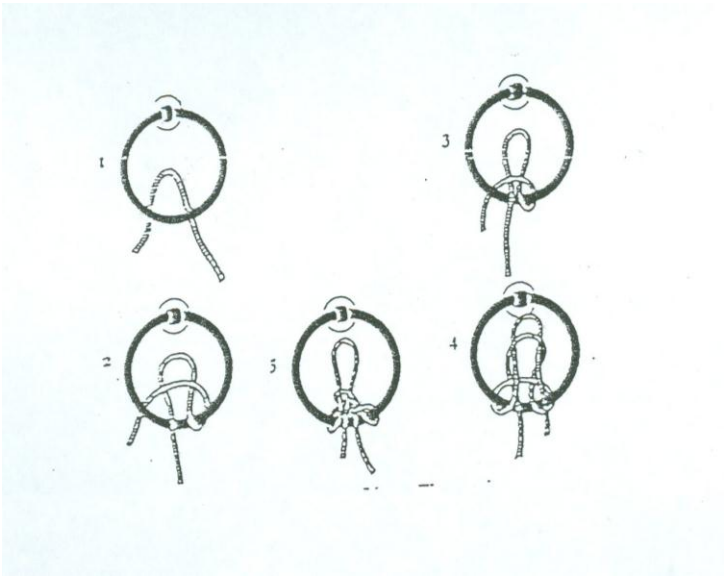


Fig. 37. Lifting a calf.

Fig. 38. Carrying a calf.

TYING A KNOT.

Fig. 39. A quick release knot on a tying ring.



LIFTING THE LEGS OF CAT'T'LE.

Fig. 40. Raising the foreleg by hand.

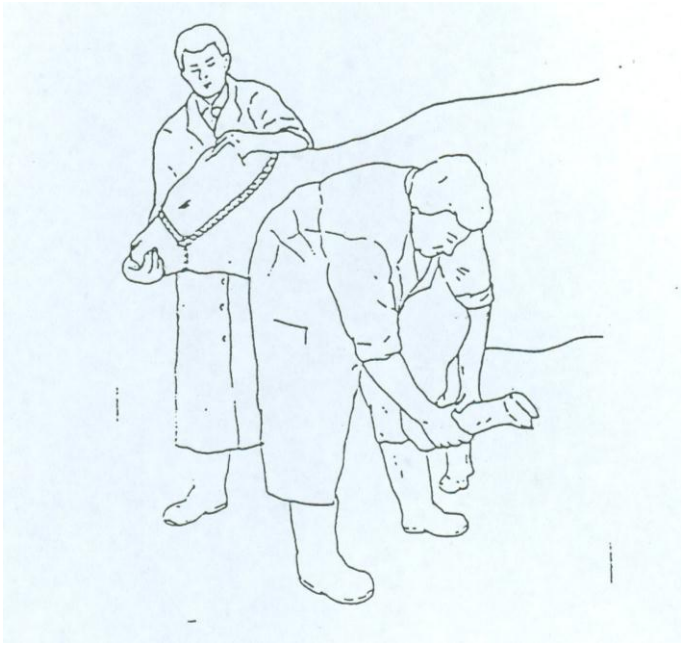


Fig. 41. Raising the foreleg with the aid of a rope over the withers.

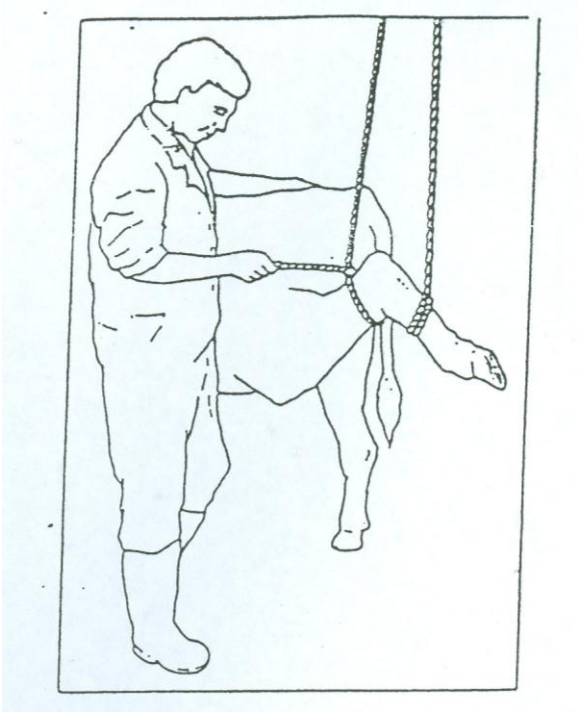


Fig. 42. Raising the hind limb, using a rope, over a ring, hook, or beam in the roof.

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September 1996.

Modified January 2016 by Dr. Marc A. Driscoll