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Making Bronco Ropes

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Abstract *In the 1890s and early 1900s H. Compton Trew developed the bronco method of handling cattle for branding and other treatment. His innovation led to new words in the Australian lexicon, alterations in harness and stockyard design, the construction of special 'bronco panels', and the adoption of twisted greenhide ropes which largely replaced the plaited ropes that had previously been used. Production of a first-class bronco rope required considerable skill. Their manufacture became a source of pride amongst outback cattlemen and they developed many variations in the treatment of the raw material, the way it was prepared, and the techniques used.*

Keywords: Australian outback cattle stations; 'broncoing'; cattle-handling technology; greenhide rope

Introduction

In the December 2007 (volume 25, no. 4) issue of *Prometheus* I described the origin and functioning of 'broncoing', a uniquely Australian cattle-handling technique. This involved the roping of cattle from horseback and dragging them to a specially prepared forked tree or setup of posts and rails where the beast could be immobilised for branding and other treatment. The basis of the bronco system was developed in the 1890s by an innovative cattleman named H. Compton ('Compie') Trew. Trew published an article on his 'lasso system' in 1905,[1] and by about 1910 his original system had been improved and more or less standardised. The 'standard' bronco method greatly increased the economic viability of the outback cattle industry and remained in widespread use across the outback for the next 70–80 years.

The bronco technique reduced overall costs and led to changes in the design of yards, harness and ropes, and in the training of horses and men. Most of these changes were described in my *Prometheus* paper, the main exception being the development of specialised 'bronco' or 'head ropes' (lassoes) and 'leg-ropes' (smaller and shorter lassos). A bronco rope had to be strong enough to handle a bucking or recalcitrant, fully-grown and semi-wild cow or bull (see Figure 1), and

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Figure 1. Buck Buchester dragging a bull to a bronco panel on Wave Hill station, 1978. The need for a very strong rope is evident in the lean of the bronco horse and the reluctance of the bull (courtesy Mick Bower).

had to possess a particular degree of stiffness to maintain a full noose. As a result a way of manufacturing ropes appeared which apparently had not previously been used in Australia, or was not widely used. While there were certain fundamental principles in the manufacture of these ropes there was considerable room for variation, including the type of hide chosen, its initial treatment before it was cut into strands, the way the strands were cut, the way they were twisted, and the way the finished rope was prepared before use.

Bronco Ropes

Greenhide or 'rawhide' ropes can be made either by plaiting three or more strands, or by twisting three or more strands together in a particular way. In South America, Mexico and the USA both plaited and twisted rawhide ropes were used, although plaited ropes seem to have been more highly favoured among the cowboys and vaqueros.[2] In Australia plaited greenhide ropes were in use from early settlement times—for example, in 1847 explorer Ludwig Leichhardt plaited 25 foot greenhide ropes to be used for tethering horses[3]—but there is no evidence that twisted greenhide ropes were in use until the advent of the bronco method.

Available evidence suggests that as well as introducing the bronco method for handling cattle, it was Compie Trew who first introduced twisted greenhide ropes. This was the view of the anonymous writer of Trew's obituary,[4] and of two cattleman who were contemporaries of Trew. One was cattleman and writer H. G. Lamond who was born in the Queensland Gulf country in 1885 and who worked on western

Queensland stations until 1927.[5] The other was Artie Rowland, a highly respected cattleman from north-east South Australia who claimed that Trew, 'was the … first man to start the twisted ropes instead of plaiting them. Twist up the strand first, then put the three of them together. Or you can make it four if you want'.[6]

One reason for the change to twisted ropes was that plaited ropes take longer to make, but according to Henry Lamond,

> unless great care is taken of a plaited rope, and without meticulous care has been exercised in making it, the thing doesn't last any time. It doesn't break or wear out. It loses its life, spring, elasticity, vim, ginger or whatever may be the proper definition. It throws out like a bit of chewed string, and there's no life in it.[7]

What appears to be the earliest Australian description of how to make a twisted greenhide rope is an article in *The Pastoralists' Review* of August 1907, titled 'Lasso Making'. Written under the pen name 'O'Grady', the author begins with the following statement:

> The making of greenhide lassoes is an art not usually possessed by the Australian cattle man, due no doubt to his method of working cattle in yards where a rough plaited head rope is all sufficient. But for a stockman or cowboy to do good work in the open on a branding camp it is essential that his lasso be light, strong, and pliable.
>
> For the benefit of cattle men who favour branding in the open in preference to employing yards [that is, using the bronco method], I will here give an exposition of the procedure pursued in making different sorts of lassoes as dictated to me by an able exponent of the art.[8]

As well as indicating that branding without the benefit of a yard was still a relatively new thing in Australia at this time, O'Grady's article suggests that using twisted greenhide was a new way of making ropes, and it provides general support for the proposition that Trew was the first Australian to begin making them.

In the years since O'Grady's article, many descriptions of greenhide rope-making have been published.[9] While the basic principals in each description are the same, many different ways were developed to prepare and cut the hide, and there were different opinions as to what colour, breed or age of beast was best to use. Different ways were also developed to twist the strands individually and, subsequently, to twist them together to form a rope.

One of the clearest descriptions was written by Jack Knox who, in the mid-to-late 1930s, was a stockman on the legendary Northern Territory cattle station, Victoria River Downs.[10] The technique he used forms the basis for the description provided here, but information from a wide range of sources is included to show the diverse ways a hide could be prepared, the strands cut and twisted together, and the various treatments that can be given to a finished rope.

Choosing a Hide

The first step in making a twisted greenhide rope is, of course, to obtain a hide. Opinions varied widely as to what age, breed or colour of beast provided the best

hide to use, and some even believed that the season when the beast was killed also affected the quality of the finished product. Jack Knox preferred the hide from a white beast, but some believed the hide from a red animal was superior,[11] and yet others believed colour made no difference.[12] Some rope-makers believed the hide from a three or four year old, or a four or five year old beast was the best,[13] but R. M. Williams, founder of the well-known Australian company that manufactures horse, cattle and other equipment, advocated the hide from an animal less than three years old. Williams also said that a beast that had grown up during drought should be avoided, 'because it will have a papery hide or have bad growth spots on it',[14] and another writer said ropes should be made from a hide removed in the winter months.[15]

Some cattlemen believed that the hide from a shorthorn (*Bos taurus*) was better than one from a Brahman (*Bos indicus*).[16] R. M. Williams thought the hide of a heifer was better than that of a steer and that the hide from a bull was 'definitely not good',[17] but 'O'Grady' recommended the hide from a 'stout bullock or bull'.[18] The hide from a beast dead for some days could still be used to make a rope. According to Jack Knox,

> Even if the beast has died from natural causes and has lain undiscovered for two or three days, its hide is not only still suitable for twisted rope, but is much more easily flayed. To remove the hide in these cases it is only necessary to make a circular cut from the withers down the shoulder, along the belly and up the flank to the butt of the tail. After turning the beast over, reverse the operation from the butt of tail to the withers. Then hook a horse or vehicle onto the hide near the centre of the belly and the hide can be dragged off free from all foreign matter.[19]

While it may be that, generally speaking, one category of hide is better than another, in the opinion of Mick Bower, a former Northern Territory stockman who made many greenhide ropes, there is no guarantee that any particular hide will make a good rope. According to Mick, 'you can get a hide there that makes a beautiful rope, and a hide that looks just exactly the same, and it bloody doesn't!'[20] All rope-makers agree that particular care should be taken not to nick the hide while skinning the beast as this will lead to a weakness in the finished rope, and will shorten its life.

Curing Hides

J. K. Little, a cattleman who began a career in the outback cattle industry in the 1890s and later became a prolific writer using the pen name 'Culkah', said that a rope can be made from a hide as soon as it has been taken from a beast, with no curing at all. He described such ropes as 'make haste lassoes' because two men could make one in two hours, and he recalled making one by campfire light and using it the next day on 'some fifty-odd wild horses'.[21] However, Queensland cattleman and veteran bronco man Charlie Rayment asserted that, depending on the time of the year, ropes made from a fresh hide have to be left for a few days or a week to dry out.[22]

Making a rope from a hide immediately after it was taken from a beast has always been rare. Ropes were (and are) almost always made from a hide that has been dry-cured, and there are various ways this was done and various claims for the quality

Figure 2. Western Queensland cattleman Charlie Rayment cutting a strand from a hide dry-cured by being pegged-out on the ground (courtesy Charlie Rayment).

achieved. The method Jack Knox used was probably the most common. He merely pegged out the hide on the ground, flesh side up, and left it to dry (Figure 2). Most writers believed this should be done in a shady place,[23] but one man who made many ropes thought this was 'crap' and said he always pegged his hides out in the sun.[24]

Some men added salt to the pegged-out hide, but this was not necessary, and one cattleman warned that adding salt to the hide during humid weather would cause it to absorb moisture which could make the resulting greenhide too soft.[25] Others advocated sprinkling the hide with salt and folding it up overnight before pegging it out to dry.[26] One writer claimed that the ash of gidgee trees (*Acacia sp*), found in northern South Australia, central and western Queensland and the south-eastern Northern Territory, was 90% lime and that some cattlemen used it to cure greenhide.[27]

On some stations hides were stretched over and tied to an iron tyre from a large wagon wheel (Figure 3). The tyre was left leaning against a post, and while the hide was drying crows and ants would clean up any vestiges of meat left on it. When the hide was dry enough a knife was run around the inside of the tyre to produce a circular piece of greenhide. On the north Australian stations these could be stacked under cover until the wet season,[28] the traditional time for making items such as hobbles and bronco ropes, or they could be made into ropes and other gear throughout the year, and stored until required.

On the big outback stations a lot of hides were needed for ropes and other equipment. Buck Buchester, a cattleman who worked in the Northern Territory's

Figure 3. A hide left to dry after being tied to the iron tyre of a wagon wheel, Mt House station, central Kimberley, 1958 (F.H. Johnstone Collection, National Library of Australia).

Victoria River district for 50 years, said that each year on the 11,000 square mile (28,500 square kilometre) Wave Hill station he made about 40 or 50 ropes, and used another 20 hides to make 500 pairs of hobbles[29] (other cattlemen thought twice that many hides would be needed for this many hobbles).

J. K. Little believed that winter hides cured the best, but that hides cured in dry, cold, windy weather on the 'north-western plains' (Queensland) were inclined to go 'glassy'. In this area, he said, if hides were cured in the 'early storm season' (October–November) this effect did not occur. Little's view was that the hide should be washed immediately after being taken from the beast, then sprinkled with salt, folded or 'bibled' overnight, and pegged out in the morning. He said it should be pegged out in the shade and out of the wind, and after removing any bits of fat or meat, a mixture of fine ashes and salt should be spread over it.

Little found an old pick-head useful for making holes on the edge of the hide to take the pegs, and advised that the pegs should be driven in with an outward slant

to make the hide as tight as possible. After a week the hide would tighten and then a straight-bladed spade could be used to give the hide a thorough scraping to clean up the inner tissue. At this stage he recommended rubbing a pint (half a litre) of fresh warm milk into the hide because he said it gave the hide a creamy tone and, he believed, helped to soften it.[30]

Cutting Strands from a Hide

The strands of greenhide required for a bronco rope had to be about two to two and a half centimetres wide. If these were cut from the hide before it became too dry, the cutting could be done while the hide was still pegged to the ground. If a hide was dry-cured for too long it became hard and difficult to cut easily, and had to be moistened until it reached a suitable softness. This could be done by soaking it in a creek or a drum of water. 'O'Grady' recommended soaking a hide for about six hours, then leaving it overnight in a shed where it was protected from the wind.[31]

If a hide was dried while pegged to the ground a strip was usually cut from it *in situ*. To do this, a circular piece about 15 centimetres across was first cut from the centre of the hide. The cutting of the required strip was then started from the edge of this hole, with the cutter moving around the hide as the strip progressed (Figure 3). To maintain a uniform width while cutting the strip required a very good eye and a steady hand, or the use of an improvised gauge or a leather plough.[32]

When cutting strands from a hide pegged to the ground one cattleman said he would start three strips at once, which meant that he did not have to move around the hide so many times, and he claimed that it shortened the time it took to do the cutting.[33] However, another cattleman said that if you cut three strips at once you could end up with thick and thin portions of the hide together in the rope, and this would make the rope uneven and possibly weaken it.[34]

If the hide had been dried on a wagon tyre and then cut free, the strip could be started at the outer edge of the circular piece. Some rope-makers nailed such a hide through the centre to a suitable piece of wood and then turned the hide around as they cut the strip.[35] R. M. Williams described a clever way that a hide nailed through the centre could have the strip to be cut marked on it with precision. To do this it was essential that a 'five or six inch nail' (12–15 centimetres) was used because a nail of this size was the correct diameter for the method to work. Once the hide was nailed down, Williams said that a length of carpenters' or bricklayers' string should be wound around the nail, beginning at the bottom and without the coils overlapping. Then a black or puce pencil should be tied to the string about 10 centimetres from the nail and, keeping the string stretched tight and the pencil upright, a line could be marked onto the hide as the string was unwound. This produced a spiral line on the hide and when the strip was cut following this line it was of uniform width, and the correct width for rope-making.

When as much as possible of the usable portion of the hide had been cut, most rope-makers considered the strip ready to use, though some advocated using a sharp knife or a spokeshave to bevel the edges of the strip.[36] 'O'Grady' apparently wanted to produce a very fine rope and went to much more trouble to prepare the strand. He said it should first be tested by tying it to a post and getting two or three station hands to try and break it by pulling on it—if it broke it should be thrown away and another hide used. He warned that this stretching could cause irregularities in width

to appear and these should be trimmed off with a sharp knife. Next, the strand should then be passed through a spokeshave to pare back the inside and outside 'shell' of the hide to produce a strip 'of white even hide that looks like yards of tape'.[37]

Twisting the Strands

Stretched, pared back or otherwise, the strip was cut into three or four equal lengths, depending on whether a three-strand or four-strand rope was to be made, and then soaked in water until pliable enough to be twisted into a rope. The usual way to make ropes was to first fasten one end of each strand to a single iron ring fixed to a swivel (usually a hobble chain), and to tie the other ends to separate swivels.

Some rope-makers passed the strands through a spreader board before tying them to the swivels. A spreader board is, as the name suggests, a piece of board designed to keep the strands apart and in control while the rope is being formed. It has holes bored through it and for a three-strand rope these holes should form a triangle with sides of 8–12 centimetres (Figure 4). With a three-strand rope Jack Knox achieved the same effect as a spreader board by placing one strand between the handles of a pair of fencing pliers and the other strands on the outside of the handles.

The swivel with the three strands attached was then fixed to a post or tree and the three swivels at the other end were tied to heavy weights (Figure 5). Alternatively, the three swivels could be tied to a post or tree about 15 or 20 centimetres apart, and the other ends of the strands tied to individual weights, without a swivel (Figure 6). The weight (or weights) used had to be heavy enough to maintain tension on the strands as they were twisted, but light enough to be able to slide along the ground as the tension was increased. 'O'Grady' suggested using flour bags filled with about 50 kilograms of earth,[38] while Charlie Rayment suggested using a coil or two of fencing wire.[39]

To begin forming the rope a long stick or a crowbar was passed through the ring which had the three strands tied to it, and either driven into the ground or laid at an angle so that the ring could not turn. At the other end each individual strand was twisted by placing a stick through the ring and turning it around. Each strand had to be twisted more or less the same number of revolutions in the same direction. R. M. Williams said that a strip 40 feet (13 metres) long should be twisted about 200 times,[40] while Jack Knox said the strips should be twisted until they

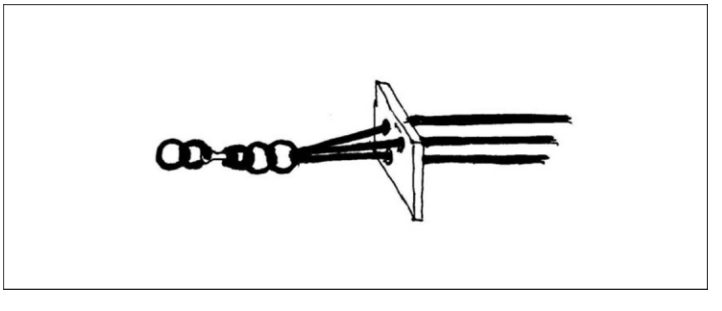

Figure 4. A spreader board with strands attached to a swivel.

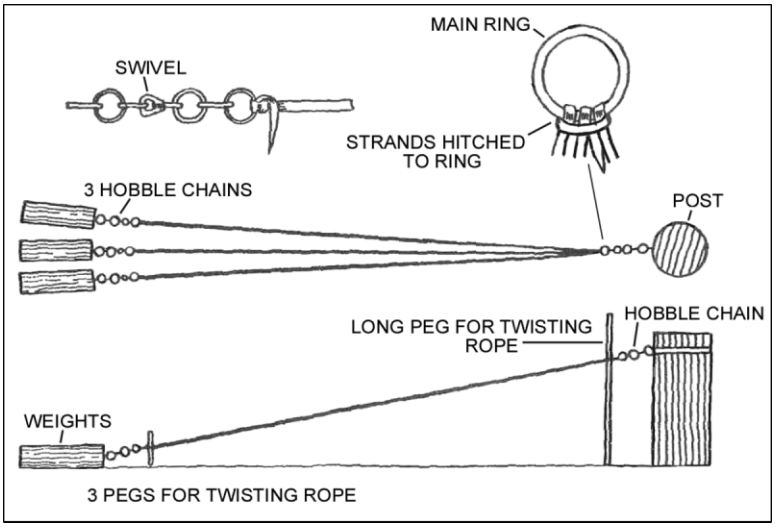

Figure 5. Details of making a rope, adapted from an illustration in the article by Jack Knox. The strands were twisted individually from the left hand (weights) end. If a spreader board was used it was moved close to the post and all three strands were twisted together from that end.

showed signs of knotting.[41] When each strand had been twisted enough a longer stick was passed through the ring to prevent the strand from untwisting, and when all three strands had been twisted enough they were ready to be twisted together.

Forming the Rope

Twisting the individual strands together could be done by any one of several means. One way was to pass a stick through all three rings to effectively prevent any of them from untwisting, and then moving the spreader board to the other end. There, a lever was placed through the ring at that end and the strands twisted together by turning it *in the opposite direction* to that in which the individual strands had been twisted. To clarify this point, if the individual strands at one end were turned in a clockwise direction, at the other end they would be seen to be turning in an anti-clockwise direction. Therefore, when strands were twisted together at that end they had to be twisted in a clockwise direction. As the rope formed the spreader board was moved back along the strands, ending up at the end with the three swivels. Some rope-makers said that if they were working by themselves they never bothered to use a spreader board or the handles of a pair of pliers because it was impossible to twist the rope while moving the spreader board or pliers along. Nevertheless, they managed to make good ropes.

If the three swivels had been tied to a post or tree, another way to twist the three strands together was to untie two of them from their swivels and retie them to the third swivel (Figure 7). The ring between the strands and the swivel could then be turned in the opposite direction to that in which the individual strands had been turned, thus forming the rope. If a spreader board was used it was moved close up the swivel before the twisting began, and moved back as the rope formed.

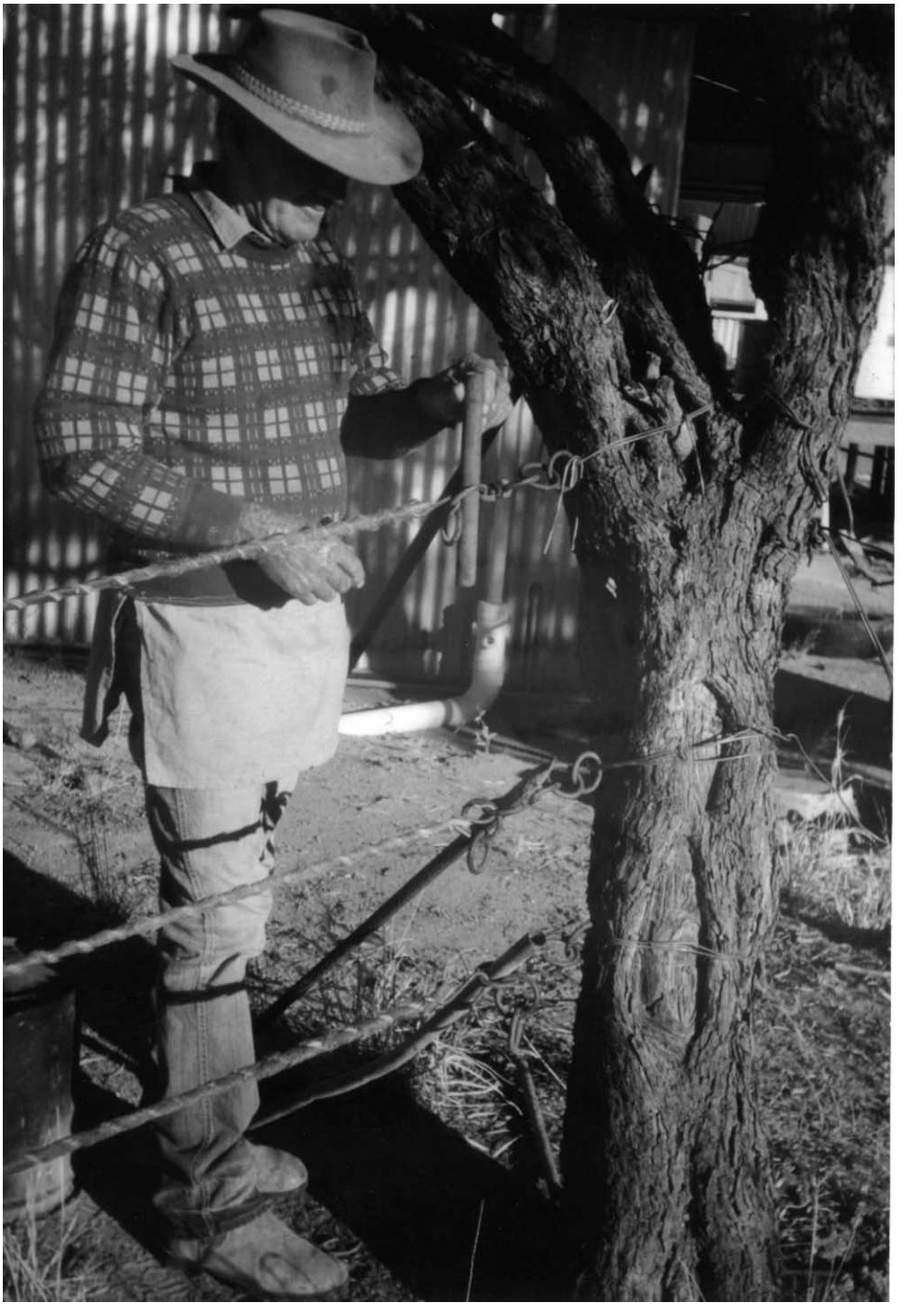

Figure 6. Charlie Rayment twisting a strand of greenhide. The lower two strands have already been twisted and their swivels 'locked' by having a long metal bar passed through the rings (courtesy Charlie Rayment).

Figure 7. The three strands seen in Figure 6 have been attached to a single swivel so that they can be twisted together to form a rope (courtesy Charlie Rayment).

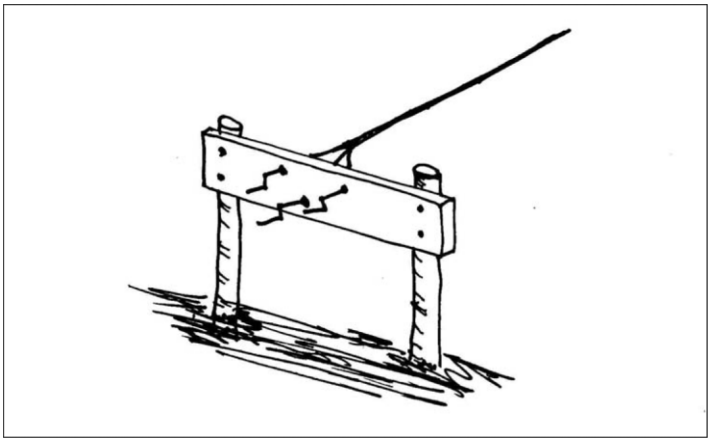

Figure 8. A rope-making machine for use at a homestead.

If the work was to be carried out at a homestead there were other ways that the individual strands could be twisted together. J. K. Little, who began work on outback cattle stations when isolation was extreme and conditions somewhat primitive, advocated drilling three holes in a large sapling into which were placed green branches shaped like grindstone handles.[42] The ends of the handles were made long enough to protrude beyond the sapling so that the strands could be attached to them, and the handles were turned to twist up the strands, one after the other. A similar but more sophisticated system was to use three metal winding handles set in a short plank fixed to posts set in the ground (Figure 8). The ends of the winding handles either were formed into a hook or had the ends flattened out and a hole bored in them to allow the strands to be attached.

Once the strands were attached to the three crank handles, the loose ends were passed through a spreader board and attached to a single iron ring, swivel and weight, rather than each being attached to its own ring, swivel and weight. The weight could be a coil of fencing wire (about 50 kilograms),[43] a suitably heavy log,[44] a bag of sand or a heavy anvil.[45] Whatever was used for a weight it was crucial that it could slide along the ground as the tension increased. Using the crank handles the strands were twisted individually in the same direction. When all three (or four) strands were twisted enough, the crank handles were tied or in some other way locked together to prevent them from unwinding. The strands were then twisted together by placing a stick through the iron ring at the weighted end and using it as a lever. Another method for twisting the strands together was to use a winding handle set in a board, instead of turning the ring with a stick (Figure 9).

Yet another way was to untie all three strands and tie them to the outer ends of three spokes of a wagon wheel. The wheel was then jacked up until it could turn freely, and turned so that the strands twisted together (Figure 10).

In the collection of the Stockman's Hall of Fame in Longreach there is a 'New Era Rope Machine', patented in 1911 and manufactured in Chicago by the Continental Trading Corporation. Set in a heavy cast iron housing and with holes at the base to enable it to be bolted to a workbench, this machine has only one handle which turns a series of cogs so that three evenly spaced hooks near the outer edge of the housing and one in the centre revolve simultaneously. To make a rope with

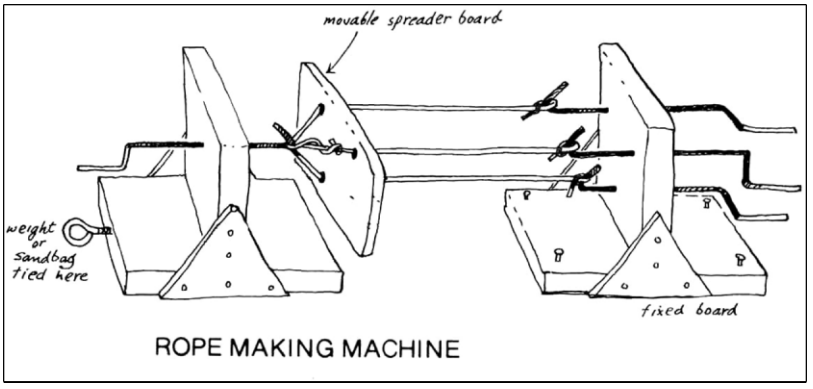

Figure 9. A rope-making machine, as illustrated in Ron Edward's book, *Australian Traditional Bush Crafts* (Lansdowne Press, Melbourne, 1975).

this machine, the strands were first tied to the three outer hooks and the loose ends fixed to a swivel and weight, as in the other methods. The handle was then turned so that all three strands were twisted simultaneously. When they were twisted enough the strands were tied to the central hook and the handle was turned in the opposite direction to twist them together to form the rope. As with the other methods, the formation of the rope could be controlled by a spreader board or the handles of a pair of fencing pliers, as described above.

Finishing the Rope

When the rope was formed almost all rope-makers said that the rope should be left stretched out for a week or more to dry thoroughly—the longer the better, according to Jack Knox.[46] During this time it would sag and this sag had to be taken out by further twisting, or by moving the weight back to increase the tension on the rope.[47] Once the rope was formed the ends had to be prepared for use. One end

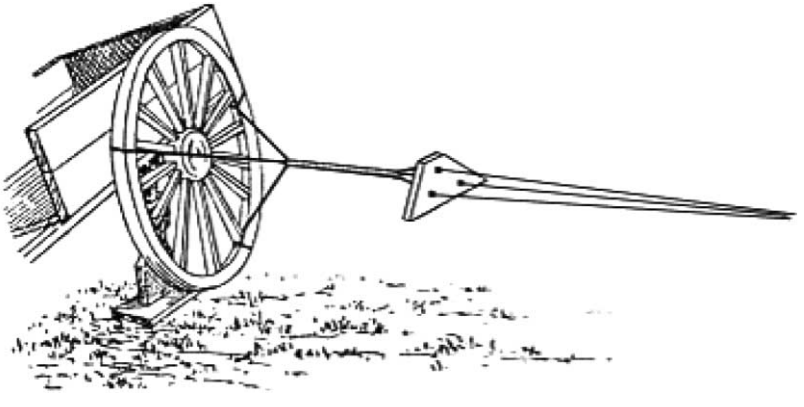

Figure 10. The method of using a wagon wheel to twist strands of greenhide into a rope (adapted from an illustration in the *Pastoral Review*, 16 January 1923, p. 46).

needed an eye or keeper of some sort through which the other end of the rope could be passed to make a noose, and this was made from greenhide or a heavy iron ring was used. Most rope-makers suggest that the greenhide keeper or iron ring should be fixed to the rope with a 'Turks head' ('wall and crown') knot,[48] but one recommended a 'Mathew Walker' knot.[49] The other end of the rope was attached either to an iron ring or to a ring and swivel.

It was a matter of personal preference whether the hair was left on the finished rope or was removed. According to 'Q55' in an article he (or she) wrote in 1955, ropes with the hair still on were referred to as 'woolly dogs',[50] but this name does not appear to have ever been in widespread use and may have been restricted to a particular time or place. 'O'Grady' advocated using a butcher's knife to scrape the hair from a hide before it was cut into strands, but most rope-makers recommended removing the hair after a rope was finished and there were various ways this could be done. On Argyle station in the East Kimberly one stockman did it by drawing the rope back and forth through the eye of a mattock head.[51] On Humbert River station in the Northern Territory, Charlie Schultz would get some Aboriginal women to scrape the hair off with butcher's knives, or he would drag the rope along a dirt road behind a motor vehicle until the hair was worn off.[52]

'O'Grady' recommended rolling a new rope between 'a case and an old iron axle, the heavier the better', and then rubbing it down with 'a good sized piece of raw beef (no fat) and plenty of elbow grease' and warned that any other kind of grease would soon destroy it. He said that after such treatment the rope should be briskly rubbed with a piece of chaff bag to remove fragments of meat, and the rope would 'assume a bright lemon colour'.[53] No other rope-maker suggested rolling a rope, but some suggested greasing them with soap or a thick soap-lather,[54] while others recommended using unsalted fat or leather oil.[55] Jack Knox advocated a mixture of one part Stockholm tar and two parts fat, but only applying it an hour or so before the rope was used.[56]

Greased or otherwise, when bronco ropes were new they were stiff and it was only after a period of regular use that they reached an ideal suppleness. In between use it was necessary to keep them stretched out, rather than coiled, to prevent a permanent curl developing.[57] Asked how long a rope would last Buck Buchester said, 'Well, about 500 calves I reckon, but [that's] all up—calves and bulls and all'.[58] Given that in their heyday big Northern Territory stations like VRD and Wave Hill branded 20,000–30,000 calves,[59] by Buck's estimate they could easily have gone through 40 or 50 ropes in a season. Another cattleman who worked on Wave Hill thought he got much more work out of a rope than this,[60] but the fact is that the life of a bronco rope depended on many factors, including the roughness of the panel being used, the care taken in preventing nicks in the hide while it was taken from the beast, and the size of the cattle being broncoed.

Leg-ropes

Leg-ropes could be made from strands cut from a hide, in the same manner as bronco ropes, but they could also be made from worn-out bronco ropes. If they do not break first, eventually bronco ropes become too soft to work efficiently and a common practice was to cut them in half and make leg-ropes out of them.[61] In contrast to head-ropes, which need to be reasonably stiff or 'springy', leg-ropes

Figure 11. An Aboriginal stockman about to apply a leg-rope to a bull, Victoria River Downs, 1953. This leg-rope has two iron rings attached, one a keeper to form the noose and the other a 'handle' to loosen the rope when the beast is released (F.H. Johnstone Collection, National Library of Australia).

need to quite supple so that they can easily tighten around the leg of a beast. Mick Bower used to plait leg-ropes because 'it's a lot more slippery when you put it on somethin's leg, a beast's leg, well it pulls up tighter and easier'. Mick added that although it takes more work to make a plaited leg-rope, they do not take as much breaking in as one that has been twisted.[62]

Because the noose on a leg-rope or a bronco rope could become extremely tight as a roped beast struggled to escape, they were sometimes difficult to loosen. This was especially the case with leg-ropes because the noose tightened to a much smaller diameter.[63] It was dangerous to place a hand or finger between the rope and a beast—the beast might move and tighten the rope again, possibly catching the hand and causing a serious injury—so some rope-makers fixed two iron rings to one end of their ropes (Figure 11). If this was done, one ring could act as an eye for the rope and the other could be used as a handle to loosen the loop.[64]

Conclusions

Although sources are limited it appears that Compie Trew, the originator of the bronco system for handling cattle, was also the originator of the twisted greenhide rope in Australia. Because of the need for strength and stiffness, twisted greenhide ropes were a crucial component of the bronco method and without them the technique would have been much less efficient. Considerable skill was required to make them and many variations were developed in all aspects of their manufacture. Making a good bronco rope became a source of pride, and opinions varied widely on the factors which led to the best ropes, variations

which are testimony to the ingenuity and personal experience of Australian cattlemen.

With the decline of broncoing in the 1980s and 1990s as the dominant method for handling cattle in the outback, and the concurrent introduction of cheap nylon ropes, the manufacture of twisted greenhide bronco ropes also declined. However, concern that the old broncoing skills would die out led to the competitive sport of 'bronco branding' being established in 1984.[65] Based on the original broncoing technique, one of the rules of bronco branding is that the ropes used must be made of greenhide. Interest in the new sport is increasing, and as a result there has been a resurgence of interest in the art of making twisted greenhide ropes.

Notes and References

1. H. C. Trew, 'Trew's lasso system', *The Pastoralists' Review*, 15 March 1905, p. 18.
2. B. Grant, *Encyclopedia [sic] of Rawhide and Leather Braiding*, Cornell Maritime Press, Inc. Cambridge (USA), 1972, pp. 30–3.
3. For example, in his book, *Leichhardt the Dauntless Explorer* (Angus and Robertson Publishers, Sydney, 1988, p. 439), C. Roderick mentions Leichhardt plaiting 25 foot greenhide ropes to be used for tethering horses, in May 1847.
4. 'Death of Mr. H. C. Trew', *Adelaide Advertiser*, 19 September 1958.
5. H. G. Lamond, *The Pastoral Review*, 18 November 1963, p. 1187.
6. Personal communication, Helen Tolcher, 19 April 2001, citing part of an interview she conducted with Artie Rowland at Nockatunga station in August 1975.
7. H. G. Lamond, *Horns & Hooves: Handling Stock in Australia*, Country Life Ltd, London, 1931, p. 174.
8. 'O'Grady', 'Lasso making', *The Pastoralists' Review*, 15 August 1907, p. 514.
9. Apart from the article by 'O'Grady', some of the other descriptions of greenhide rope making are J. Knox, 'Making rawhide ropes', *The West Australian*, nd; J. K. Little ('Culkah'), 'The cattleman's work: ropes and branding pens', *The Pastoral Review*, 16 September 1942, pp. 615–6; J. K. Little, 'Greenhide gear and how to make it', *The Pastoral Review*, Part 1, 15 December 1951, pp. 1368–9 and Part 2, 18 January 1952, pp. 21–2; 'Q55', 'Operations at calf branding', *The Pastoral Review*, 16 July 1955, p. 872; R. M. Williams, *The Bushman's Handcrafts*, R.M. Williams Pty Ltd, Adelaide, 1972; and R. Edwards, *Australian Traditional Bush Crafts*, Lansdowne Press, Melbourne, 1975, pp. 55–6.
10. The Victoria River Downs records at the Noel Butlin Archives, Australian National University, place Jack Knox on that station from October 1933 to September 1938 (Victoria River Downs Ledgers, 1909–44, Ledger 4, February 1930–February 1937, Goldsbrough Mort Papers, 42/15).
11. C. Rayment, *Greenhide Rope Making*, unpublished typescript in possession of the author.
12. Williams, *op. cit.*, p. 90.
13. Little, 1951, *op. cit.*, pp. 1368–9; 'Q55', *op. cit.*, p. 872.
14. Williams, *op. cit.*, p. 90.
15. 'Lasso making', *The Stockowner's Guide*, The Pastoralists' Review, Sydney, 1912, p. 225; Little, 1942, *op. cit.*, p. 616.
16. Personal communications, Mick Bower and Buck Buchester, Katherine, 1999.
17. Williams, *op. cit.*, p. 90.
18. 'O'Grady', *op. cit.*, p. 514.
19. The Victoria River Downs records at the Noel Butlin Archives, Australian National University, place Knox on VRD from October 1933 to September 1938 (Victoria River Downs Ledgers, 1909–44, Ledger 4, February 1930–February 1937, Goldsbrough Mort Papers, 42/15).
20. Personal communication, Mick Bower, Katherine, 1999. Mick went to work on Birrindudu station in 1954 and was a ringer on Gordon Downs, Nicholson, Nutwood Downs and

Manbulloo. While on Birrindudu he was taught to make greenhide ropes by Jack Burns, a man whose skill in making greenhide ropes was recognised throughout the region.

21. Little, 1952, *op. cit.*, p. 21.
22. Personal communication, Charlie Rayment; 'O'Grady' (*op. cit.*, p. 515) also recommended allowing such ropes to dry.
23. Little, 1952, *op. cit.*, p. 21.
24. Personal communication, former drover and ringer Rodney Watson.
25. Personal communication, Ernie Rayner, Atherton tableland, February 2005. Ernie went to the Victoria River district in the late 1950s and worked as a ringer on Coolibah, Victoria River Downs and Willeroo. Later he was a Stock Inspector in the district.
26. 'Q55', *op. cit.*, pp. 871–3; Little, 1942, *op. cit.*, p. 615; personal communication, Rodney Watson.
27. 'Nowan', 'Who's who in the bushland: Acacia species (the gidgees)', *The Pastoral Review*, 15 July 1939, pp. 770–1.
28. R. Macnamara, *The Way it Was*, privately published, Queensland, 2002, p. 26.
29. Personal communication, Mick Bower and Buck Buchester, Katherine, 1999.
30. Little, 1942, *op. cit.*, p. 616.
31. 'O'Grady', *op. cit.*, p. 514.
32. Personal communication, Mick Bower; a leather plough, also known as a leather gauge, is an adjustable tool that enables a strip of uniform width to be cut from a sheet of greenhide or leather.
33. Personal communication, Ernie Rayner, February 2005.
34. Charlie Rayment, 'Greenhide rope making', unpublished typescript, 8 August 1994.
35. Edwards, *op. cit.*
36. Little, 1952, *op. cit.*, p. 21.
37. *The Stockowner's Guide*, *op. cit.*, p. 225.
38. 'O'Grady', *op. cit.*, p. 515.
39. Personal communication, Charlie Rayment.
40. Williams, *op. cit.*, p. 93.
41. Knox, *op. cit.*
42. Little, 1952, *op. cit.*, pp. 21–2.
43. Personal communication, Mick Bower, Katherine, February 1999.
44. Edwards, *op. cit.*, pp. 55–6.
45. Williams, *op. cit.*, p. 92.
46. Knox, *op. cit.*
47. Personal communications, Charlie Rayment and Mick Bower.
48. 'The xpert says: rawhide ropes', *Hoofs and Horns*, March 1955, p. 2; Edwards, *op. cit.*, p. 56.
49. 'O'Grady', *op. cit.*, p. 515.
50. 'Q55', *op. cit.*, pp. 871–3.
51. Macnamara, *op. cit.*, p. 26.
52. Personal communication, Charlie Schultz, owner of Humbert River station from 1927 to 1941. Charlie Rayment also drags his ropes along a dirt road behind a vehicle to remove the hair.
53. 'O'Grady', *op. cit.*, p. 515.
54. Little, 1951, *op. cit.*, p. 1369.
55. A.N.M., 1934, p. 263; Williams, *op. cit.*, p. 93; Edwards, *op. cit.*, p. 56.
56. Macnamara, *op. cit.*, p. 26.
57. 'Q55', *op. cit.*, p. 871; personal communication, Charlie Rayment.
58. Personal communication, Buck Buchester, Katherine, 1999.
59. In a report written by VRD manager Alf Martin in 1929, he reported that 25,000 calves had been branded the previous year. The number branded rose to 33,000 in 1933 (Noel Butlin Archives, Bovril Australian Estates Ltd Records, 119/4/1, Correspondence between Bovril Australian Estates Ltd, London, and station manager, 1927–33).
60. Personal communication, Rob Sampson, a head stockman on Wave Hill in the 1950s.

61. Personal communications, Buck Buchester, Charlie Rayment and Rob Sampson.
62. Personal communication, Mick Bower, Katherine, February 2000.
63. Personal communication, Mick Bower, Katherine, February 2005.
64. Macnamara, *op. cit.*, p. 26; personal communication, Mick Bower, Katherine, 1999.
65. J. Bowen, 'Bronco branding blast off!', *Stockman's Hall of Fame* paper, June 1984.