

Sketch notes on South Australia's Onkaparinga threshing roller, and some antecedents

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Part 2

More on Kangaroo Island

A possibly unique and certainly important threshing floor is near Penneshaw on Kangaroo Island. This was Joseph Henry Frederick (Harry) Bates's (1846-1936) floor. An inventory taken in 1920 of Bates's stock and implements on his 'Ironstone Hill Estate' did not mention a threshing roller, even in the 'Sundries' list.¹ If visible at the time, the roller presumably was considered so antiquated as to be beyond local interest or value. A 'Model of Threshing Floor' believed to have been made by Edward L. Bates (born at Penneshaw in 1883), the son of Ephraim Steen Bates Junior, and nephew of Harry Bates, was once part of the Penneshaw Museum collections. It possibly modelled this Ironstone Hill floor.



Figure 10

Fig. no. 10. Threshing floor on Ironstone Hill, Baudin Conservation Park. The mainland lies on the horizon. The animal walking platform on the low side of the slope is built up with stone to 700 cm in height (Photo: author, July 2000).

The greater part of Bates's barley was grown on Ironstone Hill, which he developed from the late 1870s. In 1896, the Dragon Brewery of Chambers and Blades wished to see samples of his malting barley come the autumn; in 1902 Haussen and Company, maltsters and brewers, took Bates's Big English and Chevalier barley for the Hindmarsh brewery – and in 1911, 500 bags of malting barley – and again in 1912 and 1917. Ironstone Hill was a very productive holding.

In December 1912 Harry's son, Tuss (Thomas), began to strip Ironstone Hill's barley. Yet, from the 20 stripper boxes collected he got 70 bags of grain from treading-out.² Over four days in February Tuss carted 298 bags of grain to the Penneshaw jetty from Ironstone Hill and the neighbouring Bates's section known as Binnie. Why was part of the crop trodden-out? In Australia, as also in America, roller threshing produced about the same amount of useful grain as treading-out, i.e. twice as much as from flailing.³ As not all Tuss's winnings were intended as malting barley, not all deserved the premium treatment of rolling.



Figure 11

Fig. no. 11. Edward Bates's stamped lead labels read: 'Fitting for Double Roller Pole for Centre Post of Threshing Floor used 1880-1908' (405 millimetres long); and, on the swivel ring connector, 'For End of Single Roller and Centre Post of 1890 Threshing Floor' (the ring is 145 millimetres in diameter) (Penneshaw Maritime and Folk Museum: accession no. 300-5) (Photographed in 2002).

From about 1905, Harry Bates and his father dealt with South Australia's E.P. Dignan, 'stripper' patentee, and manufacturer of The Challenge Stripper at the Wilmington factory,

but the Bates still used the roller until at least three years on, to 1908. So also, apparently, did Charles Willson at American Beach, who resorted to the roller because of difficulties with machinery.



Figure 12

Roller coupling (gudgeon) abandoned on section 91 (now part of Baudin Conservation Park) near a former threshing floor. Some nine stones of the floor's perimeter wall remained in 2000 when the photograph was taken.

Farm machinery often proved inadequate and an economic inconvenience. Thomas Willson Senior wrote to Harris, Scarfe and Company, suppliers in 1894 of 'a Hornsby mower & binder & Hornsby threshing machine & horse works for the same', to amicably settle a problem:

The mower was not a success. [I]t could not bind the crop, it was too heavy & an enormous waste was the consequence. The thresher ... was found to be useless, & thus in the height of harvest with a staff of expensive labourers [my son] had to leave home & bring the Horse works back to Adelaide. [?You] gave him another sett, too low in speed and was useless & he had to do the threshing without this machinery ... He wishes to return the Horse works [...] this season his crops not being good [i.e. plentiful], he will not require any ...

but will roll his crops out on the old system ... [He was] supplied with contrary to representation.⁴

The 'old system' most likely was practised on the Willson floor at American Beach, Dudley Peninsula.

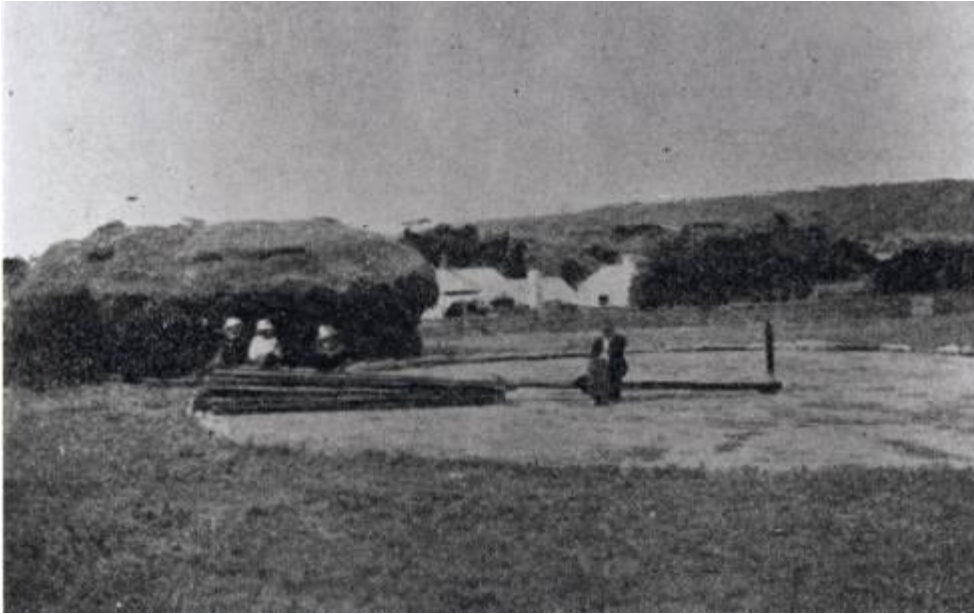


Figure 13

Fig. no. 13. The threshing floor of Charles Danford Willson (1850-1936) at American Beach, beside a grain stack. In 1899 the district council permitted W. Lashmar to make use of the 'old threshing floor' near Willson's home for a fee of five shillings.⁵ Was it this floor – not overgrown by grasses or shrubbery when photographed in 1908 – or another floor? The unusual and extraordinarily long pole provided ample space for scraping the threshed straw, husks, and grain to the floor centre for collection before winnowing.



Figure 14

'Buick's Threshing Floor'. The mounted constable and a field worker sit on the roller which has attached, not carved, beaters. The centre post is garlanded with sheaves; the circular floor's perimeter stones are visible at the lower left. About 1900 (Penneshaw Maritime and Folk Museum: P96.437).⁶ This professionally composed scene was photographed by the advertising agent and photographer, Alfred J. Pulleine, then of St Leonards (North Glenelg). The woven sapling fence was a form much used in the district.

European ancestors: from Lombardy to the Antipodes?

The 1811 *Encyclopaedia Britannica* tells that 'a tapering roller fastened to an upright shaft in the centre of a threshing floor' and pulled by oxen was still then in vogue in Italy, and suggested that it probably descended from the Roman *tribulum*, or from the roller sledge (Punic wain). This wain was a cart using toothed axles or rollers that acted as pounding scutchers (such cams and would have provided a very bumpy ride for the oxen driver), and showed the combative nature of threshing evident in the Old English stem of 'slay' in the word sledge.⁷ It is possible that agriculturalists of Austrian Hapsburg Lombardy of the eighteenth century, had knowledge of and approved Netherlandish rollers, which contributed to the form noted in the *Britannica*.⁸ Thus, a direct ancestor of the Onkaparinga roller may have been the Lombardy roller described by Loudon (1783-1844).

The corn, he wrote, 'is generally beaten out by a wheel or large fluted cylinder ... which is turned in a circular track, somewhat in the manner of a bark-mill in England.'⁹ Loudon's sketch is of a parallel roller, necessarily pulled backwards and forwards rather than revolving on one axis around a central point in the threshing floor.

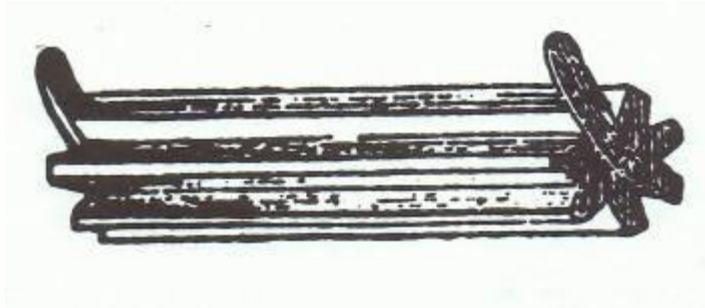


Figure 15

The Lombardy threshing roller illustrated in J.C. Loudon, 1831.¹⁰ The carved beaters (fluting) are similar in section to the longitudinal grooves of Ukrainian-American stone Mennonite rollers and the Onkaparinga roller.

South Australian farmers were advised against using the parallel tillage roller for threshing, precisely because it pushed the crop up into a heap rather than rolling over it. Yet, the Onkaparinga roller, that required some two weeks to be fashioned, although inexpensive was not always an alternative within a farmer's reach. On Edward's farm at Morphett Vale, in the 1860s, the machine-reaped barley was 'thrashed by a common roller, a large circle being made, and the horses treading out the corn as well'.¹¹ A photograph of Malcolm Lloyd Buick threshing grain on Kangaroo Island shows a horse-pulled, bag-weighted parallel roller alongside his grain stack.¹² Similarly, the young Kangaroo Island brothers Bevan and Bruce Bates, drove a horse-pulled parallel roller to thresh field peas, occasionally pitching the crop with forks, and scooping the heads to the middle of the floor with a bevelled wooden scraper, where they were collected for a hand-operated winnower.¹³

Fig. no. 16. Edward L. Bates's lead label reads: 'Shaking forks Used with Roller on Trashing [sic] Floor'. The handles are 1.3 metres long (Collection: Penneshaw Maritime and Folk Museum).

Netherlandish threshing rollers

The Dutch-type of roller, which had minor regional design differences, was used from the early eighteenth century in the Netherlands, and also on Denmark's main island, Seeland, in north Sweden, and in Austria.¹⁴ The earliest verified threshing roller in the Netherlands is dated to 1730. The names 'Groningen' and 'Friesian' threshing blocks, both of which saw widespread use on big farms during the eighteenth century, became interchangeable. The type could weigh from 500 to 1000 kilograms, and though described as massive, was smaller and lighter than the carved Onkapinga roller. Cereal crops, clover and, if hard enough, peas and beans were subjected to this roller. There is reason to think that the German roller (*Dreschblock*) was an adaptation of the Dutch type.

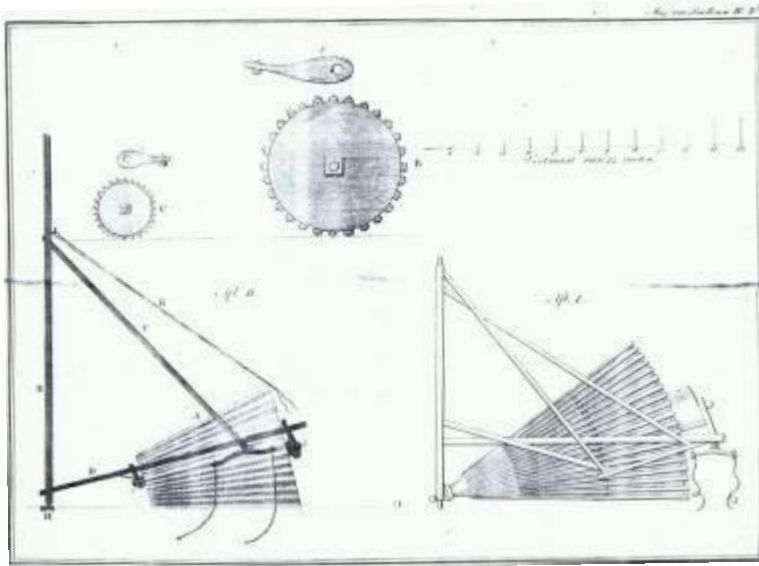


Figure 17

Patent drawing of Netherlandish threshing rollers. Before 1804. (From J. Kops [1804] (ed.), *Magazijn Van Vaderlandschen Landbouw*. Courtesy of the Nederlands Openluchtmuseum, Arnhem). The drawing on the lower right is of the Groninger block: the horse walked outside the threshing circle, making its pulling easier and the thrash cleaner.¹⁵

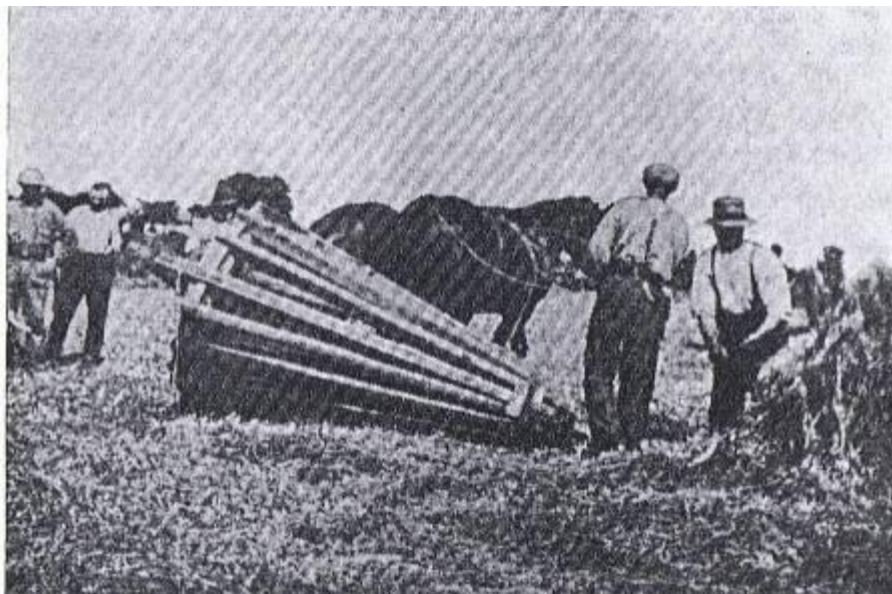


Figure 18

Rape (canola) (*koolzaad*) seed threshers with threshing block hitched to horses, Groningen, northern Netherlands.¹⁶

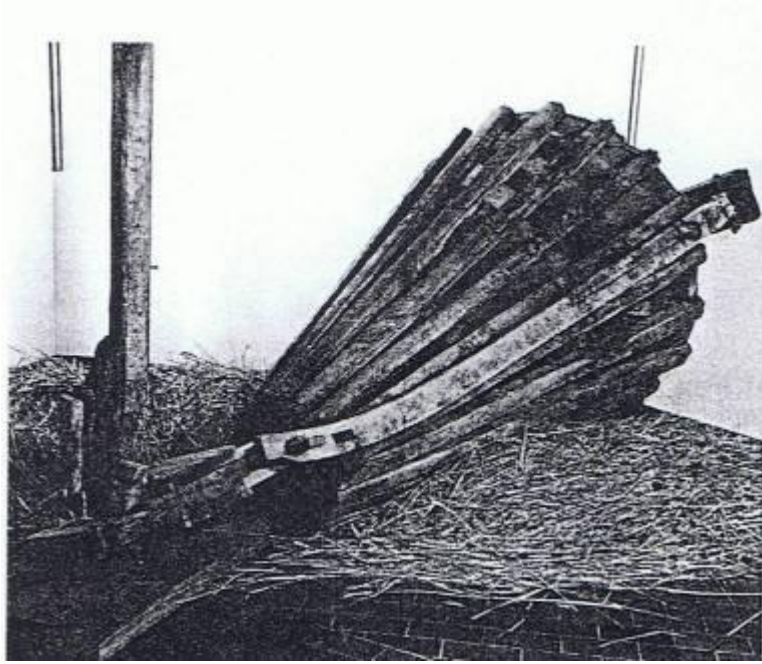


Figure 19

Threshing roller (*Dreschblock*). Now in a west German village museum, this roller was used by its former owner in East Friesland to 1970.¹⁷

The American threshing roller

It seems unlikely that the Americans designed threshing rollers independent of Dutch antecedents. In 1765, for example, a Mr Harvey threshed grain in the Connecticut colony with a 'large revolving ribbed cone' roller (probably of Dutch derivation).¹⁸ The conical roller was introduced to Caroline County, Maryland, in the later eighteenth century, and persisted beyond the introduction of efficient threshing machines. Such rollers were used in the wheat-growing Mohawk Valley, in central New York State, and in parts of Maryland, and in Delaware.

The form of stone roller brought from the 1870s by Dutch-Prussian Mennonites, who had settled in the Ukraine wheat bowl in the eighteenth century, was employed in America's prairie-lands. Unlike Mr Harvey's roller, and the Dutch and German types, this did not revolve within a frame. From such models sprang further inventive variations.

John Hobday of Gloucester County was one of several men who designed tools for 'beating out of wheat.' He won an award in 1774, the year in which William Dangerfield built a machine to his design that operated on a demountable plank floor.

It is a circle of 60 feet diameter in the center of which [there] is a paul fixed in the ground from which there goes three beams that reach the outer edge of the great circle and betwixt the outer ends of them are fixt four rollers, each roller having 320 spokes in it, they are 6 feet long ... The Machine is drawn by 4 Horses and beats out 1000 Bushels of wheat every day.¹⁹

This threshing system possibly gave rise to, and certainly must have influenced, the massive American wooden 'Porcupine' or peg-tooth roller, which is markedly different from all rollers discussed so far, and although not clearly a direct antecedent of the Onkaparinga roller, it is a first cousin in the family. This type was sometimes called a 'wooden nigger', a name possibly derived from the dark tussocks of hard grasses and rock nodules given the name 'nigger', but it is impossible not to consider in this context the compelled labour the word evokes. In 1845 such a tapering roller was described as having 'square pins of hard wood inserted at proper distances the whole length'; the horse drew it on the same principle 'that the stone wheel in an ancient bark mill was drawn.'²⁰ Jared van Wagenen (born in about 1871) recalled seeing a twelve-foot long peg-tooth roller drawn around by horses probably only once, when he was very young: the bumping 'nigger' behind them 'doubtless greatly increased their efficiency', he observed'.²¹

The Henry Ford Museum and Greenfield Village Research Center, Michigan, holds a splendid example, 3.5 metres long, that came from Schoharie County, New York, and is dated to *c.*1820. Such a threshing roller installed inside a barn in Central New York State was photographed in about 1920.²²

A summary – and the ultimate ancestor?

The threshing roller's appearance in north-west Europe from the early eighteenth century seems certain, and its origins in the Netherlands (where blocks were re-employed during the war-time 1940s to supplement machines—and which, during coal shortages, also provided long-burning winter wood),²³ is most likely. Yet, perhaps the conical threshing roller of China, most likely understood from colonial exchange, was the ultimate model for European rollers.



Fig. no. 20. Chinese stone threshing roller tapered to revolve in a circle.²⁴

The dangers to life of roller threshing may have contributed to its relatively short South Australian use, and the growing availability of the mechanised stripper certainly contributed to the number of rollers offered at farm auctions from the 1860s.²⁵ In parts of Australia where it was employed, the threshing roller filled the need for an implement between the stick-and-a-half (the flail) and treading-out and the evolution of mechanised combination harvesting (successful from the early twentieth century). The roller was a cultural transfer – most directly from German settlers – a transitional technology pragmatically employed to advantage in the State's colonial development.

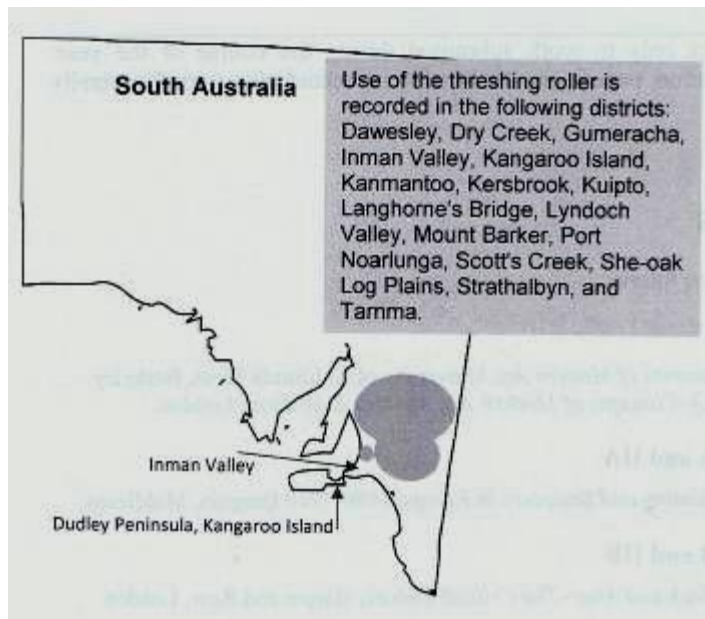


Figure 21 [optional]

South Australia. Districts where use of the threshing roller is recorded.

¹ Inventory dated 19 April 1920 taken by Bates's 'Cuttlefish Bay' neighbour (H.F. Bates papers, Penneshaw Maritime and Folk Museum). Baudin Conservation Park opened in April 2002. In 1999, a remnant log (possibly part of a roller) lying on the floor, was 3.3 metres long; the end diameters were 650 and 123 centimetres. The 3m length was also recorded in 1980-1981 during a Kangaroo Island heritage survey (S. Marsden, Heritage Investigations, Field Diary I, PRG 1049/1, SLSA).

² H.F. Bates, log bok (H.F. Bates papers, Penneshaw Maritime and Folk Museum).

³ Peter Cousins, Curator of Agricultural Collections, 'The "Porcupine" Thresher,' notes from 14 January 1971 (Henry Ford Museum & Greenfield Village, file 00.3.16419).

⁴ Letter from Thomas Willson senior from Lincoln Cottage, Hog Bay, 23 Nov 1885 (typescript).

⁵ District Council of Dudley, *Minute Book 23rd June 1888 To 15th November 1902*, meeting of 30 Nov 1889, f.34. The photograph of Willson's floor was published in the *Observer*, 4 Apr 1908, p.29.

⁶ Perhaps the place is on David Buick's property at Kangaroo Head (the floor was lost in a land-slip during the wet 1910 winter), which principally grew barley and oats. It is likely that the worker standing to the right of the photograph was a descendant of the Tasmanian Aborigine, Betty, and Nathaniel Thomas of Antechamber Bay.

⁷ From H. Blink, *De geschiedenis van den boerenstand en den landbouw in Nederland* [The history of the peasantry and agriculture in the Netherlands], Groningen, n.d., in J.H.G. van der Poel, in his memorial book, *Het dorsen in het verleden* [Threshing in the past], Utrecht, 1955, p.6. (Courtesy of the Nederlands Openluchtmuseum, Arnhem). I thank Marlies Riem for translating the Dutch used in this paper. See 'Thrashing', *Encyclopaedia Britannica*, vol. 26, 11th edn, Cambridge UP, 1911, p.887. The 1810 edition of the *Encyclopaedia* noted British mechanical threshers invented from 1732 onwards, but not the threshing roller.

⁸ In the latter half of the eighteenth century about 85 per cent of the Lombard population was employed in agriculture (mainly producing grain, rice, fodder, and mulberry leaves for the silk industry); the irrigated low plains of the River Po, the most developed in all Italy, and in 'all of Europe', attracted praise from foreign agricultural experts (Alexander Grab, 'Enlightened Absolutism and Commonlands Enclosure: the Case of Austrian Lombardy', *Agricultural History*, vol. 63, no. 1, Winter 1989, pp.50-51 (online, <<http://www.jstor.org/stable/3743974>>, accessed 19 Sep 2009).

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- ⁹ Loudon, *An Encyclopaedia of Agriculture*, 2nd edn, London, Longman, Rees, Orme, Brown and Green, part 1, Book 1, 1831, p.49.
- ¹⁰ Loudon, *Encyclopaedia of Agriculture*, p.49.
- ¹¹ *Observer*, 27 December 1862, p.2h.
- ¹² C.A. Thomas, comp., *Birth of American River 1802 ... and events to 1978*, Kangaroo Island, C.A. Thomas, 1978, p.49.
- ¹³ Bruce S. Bates, pers. comm., 2000.
- ¹⁴ A handbook for Baltic farmers, published at Tallin in 1850 mentions, but only cursorily, a 'wooden cylinder used for threshing' (C.E. Müller, *Praktisches Handbuch der Landwirtschaft vorzugsweise für die Ostseeländer Russlands bearbeitet*, Reval, 1850, noted in Juhan Kahk, 'The Spread of Agricultural Machines in Estonia from 1860 to 1880', *Agricultural History*, vol. 62, no. 3, Summer 1988, p.34 (online, <<http://www.jstor.org/stable/3743207>>, accessed 19 Sep 2009.)
- ¹⁵ Jan Kops, ed., *Bijdragen tot de Kennis en Historie van den Vaderlandschen Landbouw* [Contribution to the Knowledge and History of National Agriculture], Haarlem, A. Loosjes Pz., 1804. The roller core, usually an oak tree trunk generally dressed square, was some six and a half feet long and sheathed with beech [*beuk*] or oak ribs, that were somewhat narrower at the larger end of the cone than at its apex, and was detachable from the barn floor. The narrow end was attached to a barn king post that pivoted on a steel pin in an oil-filled pot sunk into a heavy stone, and, most of the time the roller remained in place by its own mass.
- ¹⁶ van der Poel, *Het dorsen in het verleden*, p.13.
- ¹⁷ Hermann Kaiser, 'Flegel, Göpel, Dreschmaschinen' [Flails, Horse Mills, and Threshing Machines], in *Materialen & Studien zur Alltagsgeschichte und VolksKulture Niedersachsen*, Museum Dorf Cloppenburg, p.19 (Courtesy of the Nederlands Openluchtmuseum, Arnhem).
- ¹⁸ Quick and Buchele, p.44.
- ¹⁹ Harold B. Gill Jr., 'Wheat Culture in Colonial Virginia', *Agricultural History*, vol. 52, no. 3, July 1978, p.391 (online, <<http://www.jstor.org.proxy.library.adelaide.edu.au>>. A paul (or pawl) is a pole or stake.
- ²⁰ Jephtha R. Simms, *History of Schoharie County and Border Wars of New York*, Albany, Munsell & Tanner, Printers, 1845, p.85, Library of American Civilization, microfiche 16031.
- ²¹ Jared van Wagenen Jnr, *The Golden Age of Homespun*, Ithaca, New York, Cornell UP, 1953, p.240. The scene is illustrated with a drawing on p.241.
- ²² In Jared van Wagenen (author's copy courtesy of Henry Ford Museum and Greenfield Village Research Center, Michigan. Curator's file 00.3.16419; B.81208.)
- ²³ van der Poel, *Het dorsen in het verleden*, n.p.
- ²⁴ From Joseph Needham, *Science and Civilisation in China*, vol. VI: 2, *Agriculture*, by Francesca Bray (1984), CUP, 1954- (From <books.google.com.au/books?isbn=052132727X ... >, accessed 9 Aug 2009).
- ²⁵ The number increased over 1863-1865: for example, at Samuel Potter's near Lyndoch Valley; at Terrell's at North Gumeracha; at George Dunn's at Mount Torrens; and at William Prowse's property near Blumberg (Birdwood). I thank Bernard Arnold and the late R.J. Noye for sharing their searches of auctions in the *Observer* newspaper. Bob Noye noted that in contemporary China farmers spread crops on bitumenised highways for their threshing by passing transport trucks (pers. comm., 1999).