

of 1824-1825;<sup>374</sup> William Lawson enclosed a newly-acquired farm "with a five rail fence" in 1824;<sup>375</sup> Peter Cunningham recorded in 1827 that "in Cumberland both the main and cross-roads are generally fenced...on each side, by four-rail fences,"<sup>376</sup> and the same kind of fence was used to divide properties such as the Homebush Estate "into regular fields";<sup>377</sup> Mrs. Meredith recalled that 'Homebush' driveway in 1840 was bordered by a four-rail fence, complete with slip-rails, the traditional Australian substitute for a gate.<sup>378</sup> This same kind of four-rail fence was recommended in the 1850s for enclosing pig-yards.<sup>379</sup> By 1854 it was claimed that

land is enclosed with fences uniformly constructed of wooden posts and rails, as in British America... These...are put up with great neatness, but have

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- 374 e.g. a two-rail fence around Alex. Riley's 'Burwood' Estate, with a split paling fence around the actual house -- his 'Raby' Estate had outer fences of post-and-rail, with subdividing fence of split palings; a three-rail fence beside a road at Parramatta, and around Macarthur's 'Elizabeth Farm'; top-rail fences around land at Liverpool, and a top-rail fence with roughly-trimmed branches as palings at Capt. Piper's Villa, etc.
- 375 Lawson to his son Nelson, from Prospect, 25 Jan. 1824, in Wm. Beard: Old Ironbark, Syd., 1967, p.28.
- 376 Cunningham: Two Years, I, p.72. Cunningham considered that "the open rail-fence" was superior to hedgerows, for the latter required constant attention and protection "for some years after being planted" and when fully-established, tended to check the "free circulation of air over the fields." With Australian hardwoods, a wooden fence would "last for thirty or forty years without any material repairs." op.cit., II, pp.169-170.
- 377 op.cit., I, p.91. In the same year (1827) a report attributed to Capt. William John Dumaresq, noted that in the Bathurst area, "from the great scarcity of timber, fencing is a very expensive improvement, and is only to be seen on the farms of the richest settlers; the want of paddocks is very general--what fences there are are bad, generally made of stringy bark, of a very inferior quality to the tree found nearer the coast, and as for iron bark there is none. What little fencing timber there is, is found on the ridge...The smaller settlers content themselves with a two rail fence, and half the space underneath the lower rail is filled up with turf pared from the most tenacious part of the soil, and makes an excellent fence." Mackaness: Fourteen Journeys, p.189.
- 378 Meredith: Notes and Sketches, p.130.
- 379 Henderson: Excursions, II, p.42.

ROAD FENCING



POST-AND-RAIL FENCE bordering the road between Sofala and Hill End. William Cox built similar fences along the more hazardous sections of his Blue Mountains road, 1814-1815.  
Photo.: L. G., 3 Sept., 1969.



POST-AND-RAIL FENCE along the Bulli Pass road, 1898. Note the Cabbage Tree Palm and Tree Fern, remnants of the great Illawarra "cedar brush".

Photo.: NSW Govt. Printer.

a very unornamental appearance, in comparison with the hedgerows with which we are familiar.<sup>380</sup>

While the goldrushes did not institute fencing<sup>381</sup> they certainly promoted the enclosure of the great outback runs, although the immediate post-goldrush period was not marked by the greatest expansion of fencing. Already by mid-1852, intending squatters were told they would find that

fences are constructed by morticing split rails into upright posts; the wood used is stringy bark, iron bark, gum and forest oak.<sup>382</sup>

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- 380 Australia: its Scenery, p.93, clearly taken from Lang: Historical Account. Hedgerows of Gorse, Ulex europaeus; Broom, Cytisus scoparius; and Hawthorn, Crataegus oxyacantha were widely planted in Tasmania. Hawthorn was said to lose "its bushy character in New South Wales." (Lang: op.cit., II, p.101) but it was planted in the colder areas, e.g. the Northern Tablelands. Mr. Peter Dangar advises (Jan. 1970) that the well-developed hedge of Hawthorn around 'Palmerston', Armidale, was originally planted in the late 1880s between two three-rail fences which no longer exist. By 1831, Charles Fraser was exporting from the Botanic Gardens "seeds of the Deccan, which forms an impenetrable hedge for any animal from a mouse to an elephant, but requires to be assisted by a rough two-rail fence to recline upon." (Fraser to Col. J. T. Morisset, Norfolk Is., 13 May 1831, in Pub. Serv. Jour., 10 Oct., 1902, p.11). This plant was almost certainly Mysore Thorn, Caesalpinia sepiaria, introduced from India. It was planted at Innes House, Lake Innes, Port Macquarie, where it flourishes to this day, after 130 years or so. Thickets of this thorn are most formidable, as Fraser suggested.
- 381 as mentioned above, Bigge noted that "the more opulent" were beginning to fence their large estates thirty years before the goldrushes. On the other hand, nearly 7,000 N.S.W. runs were still unfenced as late as 1892. See footnote 402. During the shepherding era, chiefly before the goldrushes, fences were usually built around the homestead and its garden, cultivation paddocks, stockyards, breaking yards, lambing yards, etc. while the remainder of the run remained "open."
- 382 Earp: Gold Colonies, p.96. Much of the Riverina was enclosed by 1853. (Mossman & Banister: Australia Visited, p.147). In mid-1858 fencing in the southern Riverina was described as consisting "of two or three horizontal rails and vertical posts...this fencing is very simple work, but it is hard...it does not require the strength of a giant, it is not difficult, but quiet, steady, bush work..." A "couple of 'mates', handy men, need not overwork themselves to get through a mile in six or seven weeks." Here was the answer for those who wanted work—"one small run...has a continued line of two-railed fence...upwards of 40 miles," and there were plenty of other opportunities. SMH, 2 July 1859, p.3, from an Edwards River correspondent.

DOMESTIC FENCING



POST-AND-RAIL FENCE CONVERTED TO SPLIT PALING FENCE, The Armidale School, Armidale.

Photo.: L. G., 23 Feb. 1969.



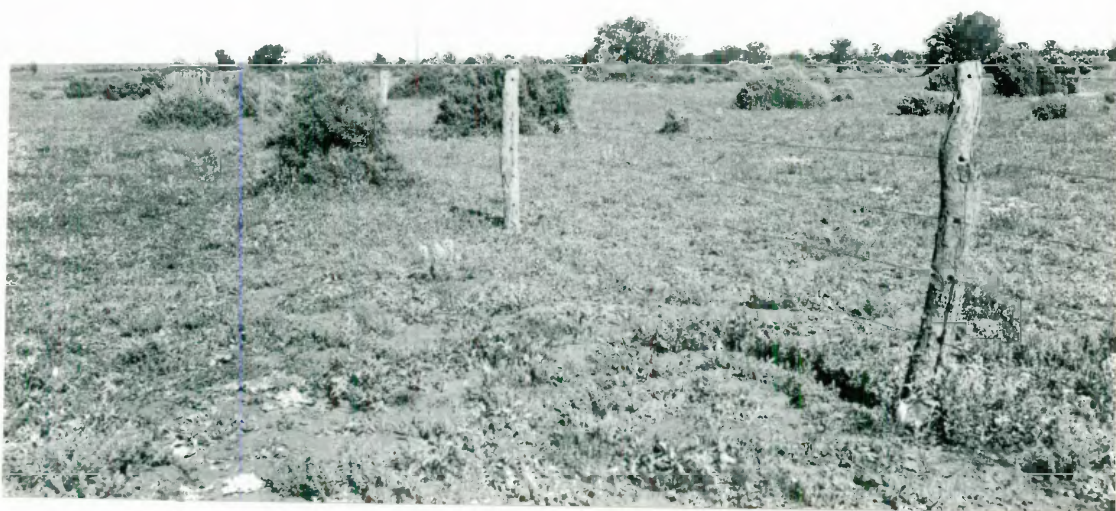
SAWN PALING FENCE of White Cypress Pine, Callitris hugelii. In this backyard fence, the palings are supported by strands of fencing wire, not nailed to rails.

Photo.: L. G., Gilgandra, 24 Aug. 1968.

During the goldrushes splitters and fencers who comprised an important section of the "nomad tribe" of bushworkers,<sup>383</sup> were no more plentiful than shepherds, so that fencing advertisements were plentiful during the Golden Decade.<sup>384</sup> Not all graziers considered that "paddocking", i.e. having a run divided by fences, was necessarily superior to "shepherding" anyway, although subdividing fences clearly enabled the grazing of pastures and the access to water to be controlled. Many were content with boundary fences only, not seeing the need for subdividing fences, and so the controversy continued into

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- 383 "The bulk of the labour is performed by a nomad tribe, who wander in quest of their work, and are hired only for a time...washing sheep and shearing them...when fences are to be made, or ground to be cleared, or trees to be 'rung'...They come and go, and are known by queer nicknames or...by no names at all...They are rough to look at, dirty in appearance, shaggy, with long hair, men who, when they are in the bush, live in huts, and hardly know what a bed is. But they work hard, and are both honest and civil...the squatters find...that the men are able to do that which they declare themselves capable of performing..." Trollope: Australia, p.202, referring to a station c. 250 m. west of Sydney, in 1871.
- 384 G. L. Buxton: The Riverina, 1861-1891, Melb., 1967, p.39, refers to these advertisements, which included: "Tenders wanted. Two rail fence, 21 miles in length, Wannock station, lower Murray. Posts to be put 2 feet in the ground and 5 feet out and to be 3 inches through the mortice holes; rail 7-9 inches width and all met rails to be thrown out..." (Border Post (Albury), 17 Jan. 1857). "Fencers. About 40 miles, 2 rail fence, strong pine rails and posts, plenty of timber all along the lines desired to be fenced." (Pastoral Times, 17 Nov. 1859). It is interesting to note that Capt. Francis Cadell, pioneer river navigator, "contracted to erect the thirteen-mile post and rail boundary fence between Moira and Mathoura stations with sawn timber. The finished product with its 6 inch X 3 inch posts, 6 inch X 2 inch rails of 'sound red gum' was, by contrast with split timber fencing, remarkably uniform, 'without doubt the finest fence in Australia'. Even the mortise holes in the posts were cut by the steam engine. But though the contract was 'fulfilled--honestly fulfilled', it cost Cadell more than £100 per mile, and this was high compared with £72 per mile for fencing by manual labour." Although the steam engine "worked beautifully", the bullock transport of the steam-sawn posts and rails consumed the profits. Buxton: op.cit., pp.40-1, from Pastoral Times, 28 July 1859. See also SMH, 2 July 1858, p.3. The 'red gum' was doubtless E.camaldulensis.

WIRE FENCING ON THE WESTERN PLAINS



SIMPLE POST-AND-WIRE FENCES of the western plains where large timber trees are scarce. Small whole tree sections have been used, with holes drilled for 'black' (ungalvanized) wire. The upper five-wire fence consists of small Black Box boughs, about 35 miles south-west of Wilcannia; the lower seven-wire fence consists of small posts of Mulga, Acacia aneura and Gidgee, Acacia cambagei 10 miles south of Tibooburra, with Yancannia Range in the background.

Photos.: L. G., Aug., 1968.

WIRE FENCING



TOP-RAIL FENCE with two strands of wire. "Wire-fencing is coming into very general use...When first put up in a district, unless there be a top rail of wood, it is very liable to be smashed by cattle and horses, as it is nearly invisible." Baden-Powell: New Homes (1872) p.208.

Photo.: L. G., 28 Sept. 1968 at Ulmarra, near Grafton.



POST-AND-DROPPER FENCE. When posts were scarce, the traditional 9 ft. panels were extended, and light batons or 'droppers' were interposed to stabilize the wire. This was especially necessary when early soft "black" wire was used. The droppers also made the fences more obvious to stock.

Photo.: Stan. R. Parsons, Dangarsleigh, c.1923.

the 1870s,<sup>385</sup> when the old post-and-rail fence was still described as that "which exists everywhere; as in the suburbs of Sydney, so in the almost trackless wilds of the interior."<sup>386</sup> Although wire fences came into increasing favour from the late fifties,<sup>387</sup> the post-and-rail fence was still being advocated in 1890. If built "of ironbark, bloodwood, blue or red gum, or other hardwood" they were still considered to be "very durable."<sup>388</sup> There is still ample mileage of post-and-rail fencing to attest to this fact.

The panels of post-and-rail fences were standardised at about nine feet,<sup>389</sup>

hence two panels go to one rod, and the fencing is thus easily measured, and usually paid for by distance.<sup>390</sup>

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- 385 G. S. Baden-Powell: New Homes for the Old Country, Lond., 1872, pp.171-4. It is interesting that the Everetts of Ollera, near Guyra, did not pay off their last shepherd until 1895 although "shepherding had been abandoned ten years before." A. V. Cane: "Ollera, 1838-1900", Syd. Uni. thesis 1949, p.62.
- 386 op.cit., pp.206-7. The Aust. Encyc. 4, p.34, states that "the post-and-rail fence gradually ousted most of the earlier fences." It is clear however that the "earlier fences" included the post-and-rail itself. The "ousting" of the more primitive fences depended on the resources of the landholder and the availability of skilled splitters and fencers. See footnote No. 398 for evidence of heavy log fences being constructed in 1870, well into the era of wire fencing.
- 387 The Maitland Mercury reported on 17 Dec. 1857 that on the upper Lachlan a cattle run was fenced with "iron wire instead of wooden rails, the wire...suspended to round wooden posts by means of iron staples." Buxton: Riverina, p.41. In Walkabout, Sept. 1953, p. 36, H. G. Lamond claimed that Cuthbert Fetherstonhaugh (later Rev.) is generally accredited as first station manager to introduce wire fencing for sheep paddocks in Australia, at Brookong Station, N.S.W., c. 1861.
- 388 Mackay: Aust. Agriculturist, p.28.
- 389 Lang: Historical Account, II, p.101; Baden-Powell: New Homes, p.207.
- 390 Lang: loc.cit.; Baden-Powell: loc.cit. The rails each nine feet long were overlapped about 6" within the mortices of the posts, thereby reducing the 18 ft. to 16½ ft., or one rod for two panels supported by three posts. Costs: 1861, 3-rails, 2/- to 2/6 rod; wire fences, with rails (i.e. top-rail) 1/6 to 2/- rod (Buxton: Riverina, p.41.) 1890, 3-rails, 4/6 to 7/- rod, with 2-rails about 1/- rod less. (Mackay: Aust. Agriculturist, p.29). Cf. 1826, 4-rails, 3/6 "per rod of twelve feet." (Cunningham: Two Years, II, p.159).

PRIMITIVE FENCING



CHOCK-AND-LOG FENCE. These were usually three logs high, like this example, forming a sheep-proof fence. Logs were supported by short notched chocks set at right angles to the line of fence. This one near Dangarsleigh, was very old when photographed by Stan. R. Parsons, Armidale, in 1923. "A fence of this description, where the wages of laborers are twenty shillings a week, and timber convenient, may cost from £30 to £40 per mile, and in stringy-bark or thickly-timbered country, from £20 to £25 per mile." One such fence "built of pine logs... stood the test of many years, notwithstanding that the herd was one of the most rowdy description." Mackay: Aust. Agriculturist (1890), p.31.

MULGA BOUGHYARDS



BOUGHYARD for sheep, an enclosure constructed of Mulga branches - a reminder of the quick fencing methods employed by squatters when moving into new country.

Photo.: L. G., May 1968, 73 m. west of Bourke.



BOUGHYARD of Mulga branches enclosing a pasture of salt-bush.

Photo.: L. G., 23 Aug. 1969, 40 m. east of Wilcannia.

According to the particular purpose of such a fence, so was the number of rails varied, and the distance between them determined. A specialised massive form of the post-and-rail fence became the standard Australian stockyard.<sup>391</sup>

Fencing was usually not so sophisticated in the pioneering stages of settlement. John Henderson referred to the sheepyard at Breeza Station, Liverpool Plains, in 1839 as being "fenced with bushes and boughs of trees."<sup>392</sup> Such were the "boughyards"<sup>393</sup> or "bowyards,"<sup>394</sup> primitive makeshift enclosures which often marked the beginning of a new run, more recent examples of which may still be found. (See photographs on p.274.) There were more permanent developments of this type of fence. By using heavier trunks and branches a "deadwood" fence or a "felled fence" could be constructed in such a way as to render it sheep-proof.<sup>395</sup> There were also refined forms of these heavy, primitive fences, constructed according to a definite pattern.

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- 391 Haygarth: Recollections, p.69, describes a stock-yard with 5 rails "firmly driven into mortised posts" three feet or more in the ground. "The timber generally preferred is the stringy-bark, blue-gum, or mountain ash." See also Harris: Settlers and Convicts, p.143, "stockyard...a large square enclosure of very strong posts properly half a rod apart and 5, 6, 7, or even 8 feet high out of ground, and 2 or 3 feet in ground," with 3 or 6 rails and "a round cap rail over all." Hodgson: Reminiscences, p.41, refers to stockyard posts "often three feet in diameter... buried in the ground...four feet."
- 392 Henderson: Excursions, I, p.193. A reference to the executions after the Myall Massacre suggests the year 1839.
- 393 Alexander Harris: Settlers and Convicts, p.206.
- 394 Australia: its Scenery, p.131.
- 395 Deadwood Fence: constructed simply of dead logs and branches piled up to make a barrier. Felled Fence: had a little more order in that trees along the boundary were felled specifically for the purpose, gaps in the line being filled with branches. Cf. Howitt: Two Years (1860), p.36: "The fields were enclosed by what they call brush fences, that is, simply the trees, as they are felled, thrown along in long lines, and their branches piled upon them. That is the first rude fencing of a new country...After these came posts and rails..." Clearly the terms "deadwood," "felled," "brush", "cockatoo," etc. were largely interchangeable. See photograph on p.279.

Examples were the chock-and-log fence and the dog-leg fence.<sup>396</sup> The less massive primitive fences were also refined into such forms as the "basket fence" which involved a process rather like wattling,<sup>397</sup> and there were many other variations, often quite localized.<sup>398</sup>

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- 396 Chock-and-log fence: Straight logs up to 15' or so were supported by notched chocks 6"-9" in diameter set at right angles to the line of fence. See photographs on pp.273, 282 and Baden-Powell: New Homes, p.207. Dog-leg fence: "Two round posts were erected, and crossed...like an open pair of scissors. They were supported by an 18 inch high block of wood, six to eight inches in diameter. This...was repeated, and a pine log with branches still attached was placed in the vees of the crossed posts...a fairly good sheep-proof fence could be constructed." Mrs. F. E. Mitchell, West Wyalong, from old residents, 1967.
- 397 Basket fence: "Stakes are driven in, and then pliant 'stuff' interwoven, as in a stake hedge in England." Baden-Powell: op. cit., p.208. See also Cooper: Wild Adventures, p.80.
- 398 e.g. Billabong Fence, Stubb Fence, Log-and-Bush, Zigzag, etc. See Mackay: Aust. Agriculturist, pp.31-2. See also M. Sharland: "Evolution of the Fence", Walkabout, April 1952, pp.29-32; B. Cronin: "The Old Bush Fence", Walkabout, April 1951, pp.46-7; H. G. Lamond: "Fencing", Walkabout, Sept. 1953, pp.36-7. Cf. E. E. Sorenson: Life in the Australian Backblocks, Lond., 1911 p.30: "The fences near the homestead show some variety of style. There is the dog-leg...the chock-and-log, the log-and-stub, the brush, cockatoo, sapling-rail, and the zig-zag. All require a mass of timber and a lot of hard labour to construct; and they make a great blaze when a bush fire happens along." They also provided excellent harbour for rabbits. Even traces of these early primitive fences are therefore now very rare. Note the specifications in the following agreement of Jan. 1870 to erect a "log fence" near Inverell: "We the undersigned agree to make and erect...miles of log fence, to be substantially put up, no boughs or leaves to be put into it; to be not less than 4 ft. 6 in. high in any part; no appletree to be used in any part except as bottom logs or top chocks. If any saplings are used as top rail cross-logs or to fill up gaps they shall not be less than 3 in. in diameter without bark in the smallest part. All crosslegs to be not less than 9 in. in the ground and the holes not to be filled up. All top rails to be firmly supported every 12 feet and not to overlap on to the cross logs of the other panel, the two bottom logs to be not less than 8 in. in diameter in the smallest part. The said fence to be sheep proof and to be put up in a workmanlike manner without unreasonable delay." It is perhaps little wonder that such a fence cost £100 per mile. Cane: "Ollera," p.138, quoting from the Inverell Times (N.D.).

FENCING IN MALLEE AND MULGA



FORK AND RAIL FENCE of Mallee, 25 m. west of Euston. Mallee scrub in background.

Photo.: L. G., 28 Aug. 1969.



FORK AND RAIL FENCE of Mulga, Acacia aneura, with six strands of 'black' wire, near the Bulloo River Overflow, east of Tibooburra. Mulga trees, mainly dead, in background.

Photo.: L. G., Aug. 1968.

The wire fences, although supported by wooden posts, had the disadvantage of being almost invisible, so that stock walked or ran into them, sometimes with unfortunate results to both fence and animals. This problem was resolved by a transitional type of fence with wires stretched through auger-holes in the posts of a top-rail fence, which had a single conventional wooden rail at the top.<sup>399</sup> In areas where posts were scarce, the distance between them was increased with the advent of wire. The early soft wire sagged, making it necessary for light batons or "droppers" supported by, and giving support to, the wire, to be inserted between the posts. These droppers were free, not inserted into the ground, one, two or three being used in each panel. This was the post-and-dropper fence which is still fairly common.<sup>400</sup>

Barbed wire, wire netting and steel posts permitted further variations, some of which were used in desperate attempts to control dingoes and to curb the rabbit invasion, especially after 1880. The quantity of material drawn from the bush specifically for fencing must have been enormous. With a little experience, fencers preferred certain timbers in certain areas for their work,<sup>401</sup> but the actual amount of timber used can be but roughly inferred from the mileage of fencing constructed. By 1871, it is estimated that there were some 20,000 miles of fencing in New South Wales, most of it in the Riverina; by 1880 another 750,000 miles had been erected, and between 1880 and 1890 the almost unbelievable distance of 1,000,000 miles of fencing has been estimated from the annual reports of the N.S.W. Chief Inspector of Stock.<sup>402</sup> The extent to which bush resources were affected by the fencing movement can only be imagined, yet the bush answered this basic need, and despite prodigious waste, continues to do so, although steel fencing is reducing the demand.

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399 Baden-Powell: *op.cit.*, p.208. See photograph on p.271.

400 see photograph on p.271.

401 see Appendix VIII for fencing timbers.

402 N. G. Butlin in A. Barnard (Ed.): The Simple Fleece, Melb., 1962, pp.331, 333. These estimates tally reasonably well with other sources, e.g. T. A. Coghlan: The Wealth and Progress of New South Wales 1893, Syd., 1893, p.586 — by the end of 1892, a total of 1,636,437 miles of fencing "without wire netting" and 53,704 miles "with wire netting." The use of wire netting reflects the increasing rabbit invasion after 1880. This fencing enclosed 45,046 sheep and cattle runs in N.S.W.; a further 6,968 runs still "were open or unenclosed."



DEADWOOD FENCE of logs piled up to form a rough, but effective barricade. Note the simple telephone line running along the same boundary. Thomas Tourle found this method of fencing employed near Bathurst in 1840: "Our Fencing is what is termed Cockatoo; i.e. Trees felled and rolled in Line."<sup>403</sup>

Photo.: Stan. R. Parsons, Kelly's Plains, near Armidale 1923.

Fencing materials and techniques would themselves provide an interesting field of study, especially in cases where a particular form of ecology produced a distinctive type of fence.<sup>404</sup> The fence, sign of prior occupation, and symbol of hopes for success in the bush, has stirred the sentiments of one observer, who maintained that old fences

are eloquent of human courage and aspiration laid aside these many years. Their timbers are a sounding-board for long dead voices, the thunder of hoofs, the bourdon of grave days and lonely nights.<sup>405</sup>

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403 Thomas Tourle, letter of 24 July 1840, copy in possession of Mr. Richard Hudson, Balala.

404 see for example the nearby photographs of mulga boughyards still occasionally found in mulga scrub country, where the dominant tree tends to provide rather short trunks and thin, twisted branches.

405 Bernard Cronin in Walkabout, April 1951.

TOWN HOUSE AND COUNTRY HOUSE



SLAB-AND-SHINGLE HOUSE at Pembroke, near Wauchope. Note the unglazed window aperture, the slab-and-bark chimney and the ground plate supporting the slabs. Pieces of flattened kerosene tins have been inserted between the deteriorating shingles to prevent roof leaks. Wooden and tin cover-strips have been applied over the interstices between the slabs.

Photo.: L. G., 1960.



WEATHERBOARD-AND-SHINGLE TOWN HOUSE, 64 Dumaresq Street, Armidale. Stringybark weatherboards and shingles, some lining of sawn pine and some of lath-and-plaster, doors and skirting boards of red cedar. Note the typical hipped roof, which has just been stripped of its covering of old galvanized iron prior to complete demolition.

Photo.: L. G., 6 Jan. 1969.

We might add that fences are also eloquent of the bushworker's ingenuity and skill and of the settler's use for the land he hopefully acquired. Fencing as a bush skill developed along lines which were largely determined by the nature of bush materials, a skill which contributed significantly to a greater understanding of the qualities of those materials, and to some extent, of the qualities of the native fodder plants those bush materials were made to enclose.

The same problem of shelter which had confronted the First Fleeters also beset succeeding generations of settlers and bushworkers as they strove to establish themselves in new bush environments. Where there were trees, this problem was quite often resolved by the use of techniques which, with some modifications, were employed from the earliest years of European settlement until well into the twentieth century. The transitory shelters of the foundation period often had walls of She-oak<sup>406</sup> uprights supporting horizontal lengths of Cabbage Tree Palm<sup>407</sup> trunks "plastered over with clay",<sup>408</sup> or of wattle-and-daub,<sup>409</sup> with roofs of thatch,<sup>410</sup> palm-leaves, bark or She-oak shingles.<sup>411</sup> For more permanent shelter, horizontal weatherboards were

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406 Forest Oak, Casuarina torulosa and Swamp Oak, C.glauca.

407 Livistona australis.

408 Collins: An Account, p.21. Compare the structure of the gold-fields cottages here designated "pole-and-pug" -- photographs on pp.286, 287.

409 i.e. a woven lattice of pliant stems (especially from Green or Black Wattle, the Acacia decurrens group, and from the so-called Black Wattle, Callicoma serratifolia) "plaistered up with clay." (Voyage of Governor Phillip, p.124).

410 of "the grass of the gum-rush" (Collins: loc.cit.) i.e. the narrow leaves of Grass-trees, e.g. Xanthorrhoea arborea, X.hastile and X.media; Blady Grass, Imperata cylindrica var. major and "rushes" such as Juncus maritimus var. australiensis, Scirpus nodosus and Cladium junceum.

411 by May 1788, shingles were being split for roofing. (Collins: op.cit., p.29). The First Fleeters quickly appreciated that the wood of the She-oaks (Forest Oak, Casuarina torulosa; Swamp Oak, C.glauca and River Oak, C.cunninghamiana) split readily along the medullary rays towards the centre of the log. Ironbark, stringybark, and other timbers were also used throughout the nineteenth century, depending upon locality and preference. See Appendix VIII for timbers used. See also Thesis I, Chap.III for some account of the earliest plant materials used for building, and P. Cox & J. M. Freeland: Rude Timber Buildings in Australia, Lond., 1969, Chaps. III and V, and M. Herman: The Early Australian Architects and their Work, Syd., 1954, Chap. I, for building techniques.

PRIMITIVE BUSH DWELLINGS



SLAB AND BARK SHEPHERD'S HUT on a run at Segenhoe. Note the chock-and-log sheepyard. A rare glimpse of pioneer life from an early photograph. c.1860, among papers from Roumalla, Uralla.



SLAB AND BARK HUT of stringybark, probably Broad-leaved Stringybark, E. caliginosa. Photo.: Charles Kerry c. 1895, used by J. H. Maiden in Forest Flora of N.S.W., VI, to show the use of stringybark in New England.

BUSH SHELTER -- TEMPORARY AND PERMANENT.



BUILDING A TEMPORARY BARK GUNYAH about 1825. The aborigines were recognised as expert bark-strippers who did not need to fell a tree in order to bark it completely. Warnings against the barking of trees were still being issued in the 1870s by field botanists like William Carron. Sketch from Atkinson: State of Agriculture.



SLAB HOUSE OF THE 1820s. Luxford Farm, near St. Mary's, probably the oldest structure of this type near Sydney. It was moved and re-erected away from flood level at one stage, but it has preserved its original form. Note the earthen floor, hip roof (now covered with iron), the low verandah, and the roof and ground plates supporting the whitewashed slabs. Note in the interior view the round rafters supporting a bark ceiling of Tea-tree, Melaleuca quinquenervia. The house was inhabited until the 1950s.



used quite early<sup>412</sup> but apparently not very widely or persistently. The most practical answer was provided by the remarkably conservative slab hut,<sup>413</sup> which, with the post-and-rail fence became the traditional man-made feature of the New South Wales landscape in areas of forest and woodland.

In February, 1804 Banks's collector, George Caley, described a building erected by meat-salters at the Cowpastures as "no more than a small hut built of boards, thatched with grass, and a wooden chimney."<sup>414</sup> Doubtless structures like this were among those which offended Macquarie's sense of propriety six years later, when he described the habitations of the settlers between Parramatta and Ryde as "in general...miserably bad,"<sup>415</sup> while around Seven Hills and Toongabbie he found "the houses or rather huts of the settlers...very bad, mean, and inconveniently constructed."<sup>416</sup> Not all of these were slab-and-

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412 split weatherboards were first used as outer sheathing to protect the vulnerable mud mortar of inner brick walls. See Cox and Freeland: Timber Buildings, p.34.

413 sometimes loosely called "bark" huts because of the bark roof, but some huts were built entirely of bark. Their form is said to have evolved from the simplest structure "with which the builders were familiar—the plain hip-roofed box still to be found throughout the rural areas of the Grampians, the Mid-lands or the Cornish countryside..." Freeland: Architecture, p.12. The earliest sketches of settlements clearly show these slab huts—e.g. Collins: An Account (1798) passim. The slabs themselves were heavy planks of timber split or "run out" from logs, sometimes left rough or "half-round" (if from the outer part of the log), but sometimes finished with axe and adze. Slabs were also pit-sawn and mill-sawn. They were usually 7, 8 or 9 feet long, sometimes longer, and in hut-building in N.S.W. were usually arranged vertically to form the walls. Baker: Aust. Language, p.79 refers to "slab" meaning an uncut log in 1829, but James Atkinson clearly used the term to mean a split plank by 1826. (State of Agriculture, p.96).

414 Curry: Reflections by Caley, p.101. The "boards" were probably vertical slabs, and the thatch was most likely of Blady Grass.

415 Macquarie: Journals of Tours, pp.4-5.

416 op.cit., p.34.

thatch or slab-and-bark huts. Some were built entirely of bark,<sup>417</sup> while others still had walls of similarly primitive construction as pointed out by Surgeon Peter Cunningham, who after five voyages to N.S.W. between 1819 and 1828, advised prospective settlers of their likely accommodation in the new land:

Houses on the first establishment are either

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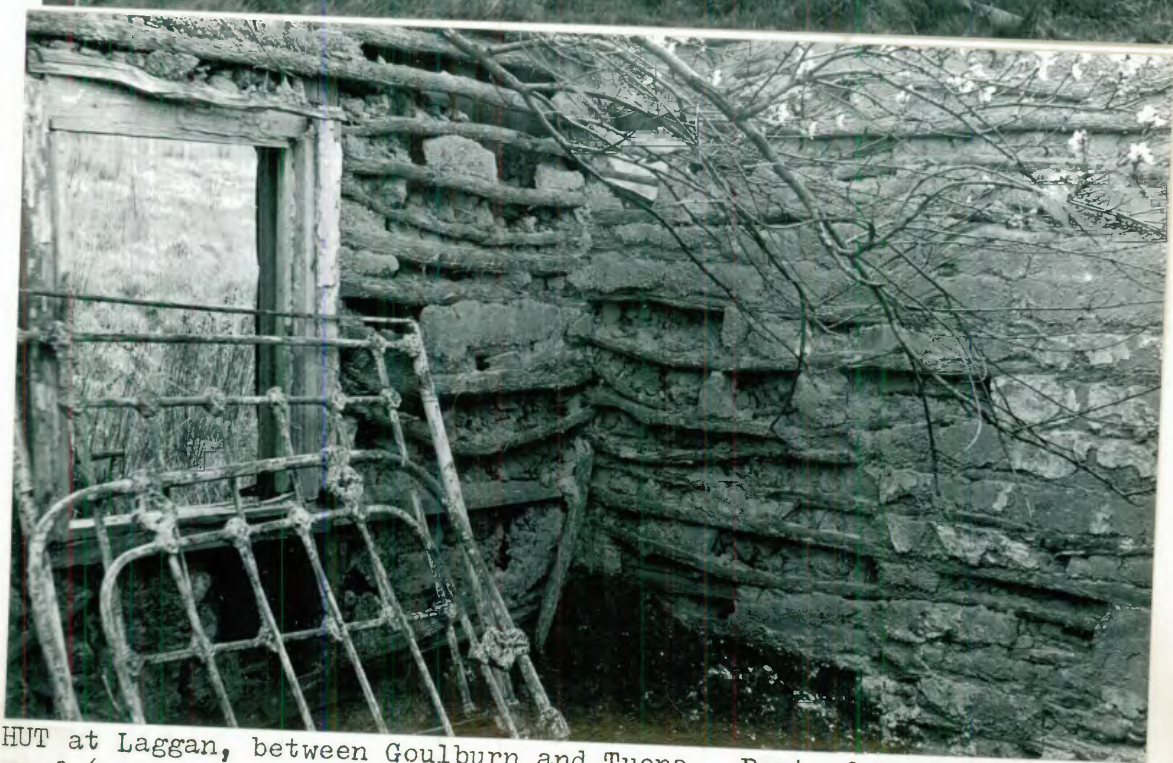
417 e.g. the ex-convict's hut at Campbelltown in the 1820s, described by Alexander Harris as being about 9' x 6', with walls, roof, door, chimney, shelving, table and bed all of bark, with blocks of wood as chairs. "The architect of the building had used all his materials whilst they were green, so that in seasoning they had twisted into all manner of forms except planes...the table was the crookedest thing in the whole hut..." Harris: Settlers and Convicts, pp.18-19. Similarly Atkinson: State of Agriculture, p.29, where are described the bark huts built by the "Dungaree Settlers" an "improvident, worthless race of people," who erected "large sheets of the bark of the box or stringy-bark" over a frame of saplings, to which the bark was secured" by tying it with strips of the inner bark of the stringy bark." Many were content to live in these "for more than 20 years" with bark tables and bedsteads and blocks of wood for chairs. Compare the road-menders' huts near Springwood in 1822: "...you never saw anything like these huts...Some stakes...are stuck in the ground, the outside bark from the trees is tied together, and to these with narrow strips of bark of what is called stringybark; being tough, it answers the purpose of cord, and the roof is done in the same manner. There was a kind of chimney but neither window nor door, but a space left to enter...all round were placed small stakes, and across and on top were laid pieces of bark, so as to form a kind of broad shelf...Here we spread our beds..." Mrs. Elizabeth Hawkins, April 1822, in Mackaness: Fourteen Journeys, p.109. The same kind of bark huts were built by the A.A.Co. settlers at Port Stephens in 1826. Dawson: Present State, pp.18-19. A remarkable instance of the conservatism of bush architecture was witnessed by Mr. Thomas Crowley, Armidale, who in 1969 described to me a bark hut exactly like the above, inhabited by an Irish family near Temora as late as 1920.

"POLE AND PUG" ON THE GOLDFIELDS.



TIMBER AND CLAY HOUSES. Known locally as "wattle-and-daub" houses, they are not strictly so, for there is no interwoven or "wattled" plant material. Here, heavy corner posts and other uprights support a horizontal grille of light poles plastered or "pugged up" with puddled clay, often containing roots and other fibrous matter. The poles were roughly trimmed with the bark usually left intact to provide an adhesive surface for the clay. This technique was precisely that used by some First Fleeters when constructing huts of Cabbage Tree Palm and clay in the earliest days of settlement. The verandah has protected parts of the front wall from erosion in the lower view. The term "pole-and-pug" suggests itself as appropriate. Photos.: Upper, hut at Trunkey Creek; Lower, cottage built for an employee of Parsons's butcher's shop, Tucua, c.1880. L.G., 2 Sept., 1969.

"POLE AND PUG" ON THE GOLDFIELDS



SLAB HUT at Laggan, between Goulburn and Tuena. Part of the bark roof (stringybark) remains held by wooden pegs and "jockeys". An additional bedroom was constructed of "pole-and-pug." In this, the arrangement of the uprights and the light poles may be clearly seen (especially in the lower interior view) as well as the desperate attempts by a later generation to support the deteriorating walls with boards from old packing cases.

Photos.: L. G., 2 Sept. 1969.

formed of wattle and plaster,<sup>418</sup> or of split timber and plaster, -- the roof being composed of sheets of bark or thatched with blady grass,<sup>419</sup> which proves by far the coolest roof in hot weather and the warmest in cold weather...<sup>420</sup>

Cunningham's "split timber and plaster" house immediately suggests lath-and-plaster, which was sometimes used for protected external walls<sup>421</sup> as well as for interior walls and linings, but in fact he meant a slab house:

In the split-timber houses, a frame is first put up with a groove in the upper and lower wall-plates to slide the split timber into, after being trimmed by the axe, the width of a plank being chipped out at the corner of the outer position of the groove of the lower wall-plate, to admit the introduction of the last timber, which is then securely nailed...<sup>422</sup>

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418 i.e. wattle-and-daub. Sydney Quarantine Station in 1829 was still of this construction: "...six barnlike structures, built of saplings, on long poles, and plastered with mud," and so was a dwelling on Samuel Terry's "Emu Station, 130 miles from Sydney" in 1833: "There were twenty-seven of us...sitting about in the hut, which was built of 'wattle and daub', or poles and mud, roofed with the bark of the gum-tree." W. J. Barry: Glimpses of the Australian Colonies and New Zealand, Auckland, 1903, pp.5,11-12. "Poles and mud" suggests the kind of construction here called "pole-and-pug" to describe some buildings (on the central western goldfields) still known locally as "wattle-and-daub". It is likely that the latter term has long been applied to a technique which involved no actual "wattling" at all. This probably arose as an increasing availability of nails (especially from the 1870s when mass-produced drawn-wire nails became plentiful) rendered the "wattling" procedure unnecessary. See H. Hodge: The Hill End Story, Newcastle, 1964, I, p.146, for a view of a "miner's wattle and daub home", c.1872, with walls of poles and clay just as those shown here in the photographs on pp.286, 287.

419 Imperata cylindrica var. major.

420 Cunningham: Two Years, II, p.161.

421 as in Mary Reiby's little cottage, which stood next to "St. Malo", Hunter's Hill. Both were destroyed to make way for an expressway in 1961.

422 Cunningham: op.cit., II, p.162. Nails were often unavailable to average settler, and wooden pegs were used. Where joinery could be effected by tying, bush fibres or greenhide thongs were used before wire became plentiful.

Such a house, 24 feet by 12 feet, with earthen floor, fireplace and chimney, thatched roof, rear skillion seven feet wide, and plastered with a mixture of "alluvial soil, mixed with...cow-dung...and with chopped grass," then "whitewashed with lime, plaster of Paris, or apple-tree ashes<sup>423</sup> and sour milk," might be built for £20.<sup>424</sup> It was appreciated that

a veranda tends materially to the coolness of the habitation...while a low fence of split wood...secures it against...dogs, pigs, &c.<sup>425</sup>

Thus the "stringybark order of architecture"<sup>426</sup> was well established by the 1820s.

Alexander Harris carefully described how houses were being constructed at Illawarra about 1825:

Like all bush-houses it was only one story high, and, like almost all, had a verandah in front of about six feet deep. The first step...was digging post-holes, of about two feet deep, at various distances round the circumference, and along the interior divisions, in which were placed posts ten feet high, squared on the four sides with the axe, excepting the two feet let into the ground... Along the ground between these, as well as along the tops, wherever there was to be a wall, were laid ground-plates and wall-plates, of about the same size, and squared on the sides facing each other, and having a groove of about an inch and a half wide and two inches deep mortised into the flat sides their whole length. Into these grooves were fitted the two ends of the eight-foot slabs we had split with the maul and wedges. The roof was made much in the usual way, only, being for some time...to continue covered with bark, the battens were not put so close together as they would have been if the roof had had to be shingled. The flooring-boards, according to the custom of the country, were six inches wide and one thick...The rooms were all joisted at top, and on the joists was spread a floor of bark, so as to form, over the whole top of the house, the settler's usual first rude granary. Squares of a couple of feet each way were left open in the wall...for windows; at

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423 e.g. Angophora subvelutina, A.floribunda, A.costata.

424 Cunningham: op.cit., II, pp.162-3.

425 op.cit., II, p.163.

426 James Tucker's apt phrase in Ralph Rashleigh, p.78.

present, however, they were only fitted with shutters...<sup>427</sup>

It is interesting to compare Harris's description of this Illawarra house with James Tucker's picture of "Big Mick's" dwelling in the "Irish Corner" of Sir John Jamison's Regentville Estate near Penrith about 1828:

Mick's dwelling...originally consisted only of two small apartments, with sundry additions... abutting from one or other side in divers singularly ugly excrescences, with lean-to roofs resting against that of the parent edifice. All these structures were composed of the then unvarying materials of Australian architecture in the interior—slabs or thin pieces split off by means of mauls and wedges from logs, the roof covered with forest box<sup>428</sup> or stringy bark,<sup>429</sup>

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- 427 Harris: Settlers and Convicts, pp.41-2. In another work, Harris described for the benefit of the 'new chum' how the materials for the house were obtained: "Having secured his ground, taken out his tools, and selected a site for his hut, he will next get the stuff for it, although it is cheaper to get it built by contract. The framing is generally of round trees, merely freed from the bark. The slabs for the sides are thus procured:- a tree that will split freely is chosen (box or stringybark or iron-bark). It is then felled with the saw, and the bark being cut through at about 7 or 8 feet lengths, is hammered lightly with the poll of the axe till it becomes partially loosened, and will strip by inserting and prizing with the axe... The bark is then removed in sheets, and laid, inner side downwards on the ground with a log on it to render it flat. If it incline to crack in spreading out, a fire of dry leaves and rubbish is kindled, and the sheet set upon it like a funnel, the fire roaring upwards and soon reducing it to a state of pliability. The tree itself is then sawn into lengths, and the logs split down by wedges with a maul into slabs. Very few English woodmen, however, could find out the best way of working the Australian timber without much loss of time. It is best, therefore, even for them to have a practised bushman with them till they understand the work. Beside, the bushman is more smart and off-hand with the work than the home workman; and so gives him a valuable lesson. As a single tree will not yield bark enough for a hut, he had better, if possible, secure the services of a few blacks: they are capital bark-getters, but usually strip off merely the butt sheet from the tree as it stands. If no blacks are to be met with...and he have to strip the bark himself, the best way is to fall the trees." (A. Harris: A Guide to Port Stephens in New South Wales...Lond., 1849, pp.42-3.)
- 428 probably Grey Box, E.moluccana.
- 429 probably White Stringybark, E.eugenioides.

HUT AND HOMESTEAD.



SLAB-AND-BARK HUT on Mt. Lindesay, Nandewar Ranges, 1877. Slabs and bark probably from Silvertop Stringybark, E.laevopinea. Note the bark chimney, the "jockeys" and "riders" on the roof, the post-and-rail fence and picket gate. The dark tree in the background is probably Callitris sp. Painting by Miss C. E. McDouall, 1877, copy by Mr. B. Ingles by courtesy of Nandewar Historical Society.



LINDESAY HOMESTEAD, 1877, a complex of slab and weatherboard structures, all with shingled roofs, (hipped except for the store on the extreme right.) The lefthand weatherboard building is apparently the most recent, being added in front of an earlier slab structure which may then have become a detached kitchen. Painting by Miss C. E. McDouall, 1877, copy by Mr. B. Ingles by courtesy of Nandewar Historical Society.

WEATHERBOARD AND SHINGLE

GABLE-ROOFED HOUSE demolished in Marsh Street, Armidale in 1969. Note roof of iron-covered shingles, the sawn studs, shingle-battens, and weatherboards, and the split laths which supported the inner plaster wall linings.

Photo.: L. G., May 1969.



WEATHERBOARD AND SHINGLE COTTAGE of about 1890 in the old timber settlement of Failford, near Taree. Such inhabited cottages with exposed shingle roofs are now rare in N.S.W.

Photo.: L. G., June 1969.

SLAB AND WEATHERBOARD



SLAB COTTAGE at Walcha. Note the original cottage of c.1870 at left, with its round rafters. Sawn rafters were used in the later extensions to the right. Note also the shingle battens, and the weatherboards later fixed over the slabs on the front facade to "modernise" the building and to enable the composite building to present a unified appearance. Some of the split stringybark slabs are massive, 9 ft. long and up to 15" wide and 4" thick.

Photo.: L. G., May 1969.



SLAB FARMHOUSE. Henry Cooper's old home (c.1880) at Bowraville. Note symmetrical facade and hip roof, which produce a Georgian effect. Many of the mill-sawn vertical slabs are of Red Cedar.

Photo.: L. G., May 1969.