

DEVELOPMENT OF THE PORT OF BRISBANE

[By E. V. STEVENS]

(Read at the meeting of the Historical Society of Queensland on 22nd May 1952)

The official boundary of the port is the area embraced by a line extending from Caloundra Head across to Moreton Island, thence down both Moreton and Stradbroke Islands to the southern extremity of the latter, crossing to the mainland and back along it to the point of commencement, and includes all creeks and navigable waters within that area. Commercially, one may say the River is the Port and it is with the river and its entrance that this paper is mainly concerned.

The Port was declared free by proclamation in the N.S.W. Government Gazette 10/2/1842, reading, "The ninth clause of an Act in Council No. 3 passed in the third year (1833) of His late Majesty William the Fourth prohibiting vessels from touching at any Penal Settlement without leave from the Governor, no longer applies."

The effort to establish Cleveland as the capital city had failed, and immediately following the declaration of Brisbane as a port of entry, the first Deputy Collector of Customs, W. A. Duncan, arrived by "Tamar" in June, 1846. The first Custom House, one story of brick and stone, on the same site as the now existing one, was erected by Jas. Atkinson in 1849. It was demolished in 1886 and the present building erected by John Petrie. (See NOTE 1.)

Earliest entrance to the port was by way of the South Passage between Moreton and Stradbroke Islands. A shifting channel and bar on which the sea ran high in easterly weather rendered this by no means a safe entrance. The decay of Cleveland led to its gradual disuse.

It was here the first pilot station was established, but was removed to Bulwer, Moreton Island, 1/8/1848 (N.S.W. Gaz. V.2, P.523). J. Freeman (Note 2), Harbour Master 17/7/1851 (N.S.W. Gaz. V.2, P.1143) and Capt. Wickham 1846-1859 did much survey work round Moreton Bay and Cape, yet, strange to say, the greatest danger in that locality, Smith's Rock, is said not to

appear on Wickham's charts. The Rock was located by Lt. Smith, surveying those waters in H.M.S. "Herald" under Capt. Denham in 1857, The rock carries but 9ft. of water on it at low tide and has been responsible for the greatest number of local maritime losses. Aarhus barque hit it and sank in 15 minutes (1894) with no loss of life, and "Waipara" was cast upon it 25/8/1909, but was beached at Yellow Patch, and her large cargo of frozen meat jettisoned. "St. Paul" sank in four minutes 26/3/1914, loss of life 18. She was inward bound with a cargo of chrome ore. "Marietta Dal" lost 15/5/1950—no loss of life, but very little of her valuable cargo was salvaged. "Young Australia," barque, outward bound, drifted on to Cape Moreton by a sudden shift of wind following a calm. Ship became a total loss, but entire cargo, passengers and effects, also crew, were saved June 1872. This vessel was formerly "Red Rover," U.S.A. built and owned, until taken over by the Black Ball Line.

Though subject to variation by shifting sand, Freeman's and the adjacent N.E. channel served the port well for many years, Freeman's not being closed until May 1934; the N. East, though nominally open, carries little traffic. The main entrance is now the Nor' West Channel, not fully lighted and buoyed until September 1895.

The N.S.W. Government in 1857 erected Cape Moreton Lighthouse (see Note 3), the first Superintendent being Jas. Braydon (N.S.W. Govt. Gaz. 1846, V.2, P.3129). A stone building 75ft. in height, it has a total elevation above sea-level of 400 feet. The original light, visible some 25 miles, consisted of 21 kerosene lamps set in three faces of seven each 2.3.2, the periodic flash being regulated by a hand wound clock mechanism. This has been superseded by modern lighting. It was not built by convict labour (see Note 3). Yet, while entrance to the Bay was safe, the Vanderdeckens of that day, even with their shallow draught, could find no way of entering the river, still less of ascending it. Effectually blocking all but the smallest craft, there existed the Bar—two, in fact, an inner and an outer. The inner ran from Luggage Point (Uniacke Point to Oxley) in a N.E. direction, the outer, a mile distant to seaward, ran right across the entrance. It is described as mud, sand, and shell formation, with water ranging from 4ft. 6in. to 10ft. 6in., according to

tide, but silting after flood would decrease this by one foot.

At this point Oxley's despatch to Gov. Brisbane, 1823, makes curious reading: "The muddiness and taste of the water assured us we were entering a large river, and a few hours ended our anxiety on that point by the water becoming perfectly fresh, while no diminution had taken place in the size of the river after passing what I called Sea Reach. We proceeded up about 20 miles. Up to the Point (? Bulimba) the river was navigable for vessels not drawing more than sixteen feet. They proceeded about 30 miles further, here, for the extent of about 30 yards, a ridge of detached rocks having no more than 12ft. on them at high tide (17 M. Rocks?). The river, at the termination of Sea Reach, is not fresh." (Hist. Records of Aust., Series I., Y.11, P.319.)

As no reference is made to a Bar, we may infer Oxley entered the river by way of the Boat Passage and the muddiness of the water indicates a heavy run off of flood water. Many years, however, were to lapse before any vessel drawing 16ft. could ascend the river. To illustrate this, the Engineer for Harbours and Marine relates (12/8/1911): "Capt. Brennan, who has been with the Marine Department since 1866, informs me that in 1868 he waded at low water across the river at the Quarries Reach upon a sand bank starting near Colmslie, and walked thence up to the Hamilton. The greatest depth on this bar was 3½ft., which depth continued until 1873, when the flood of that year removed it to 6ft. This flood also washed away the small islet in mid-channel known as "Egg Island."

Here we retrace our steps to 1862, when Capt. Francis, Superintendent of dredging, located a channel leading to the river mouth. His claim to originality was disputed by several small ship-masters, but officially it was recognised.

This channel bore S.E. $\frac{1}{4}$ S. from Woody Point (Sailing Directions 1879, Vol. 2) and ran close by what is now Cribb Island, and Luggage Point.

At the same time, Lt. G. P. Heath, Port Master, advanced a plan for a dredged channel slightly to the east. In 1863, a Select Committee was appointed to hear evidence and decide which plan to adopt. Francis Channel (see Note 4) was tortuous, and the prevailing

summer wind—north-east—blew across it. Several shipmasters favoured it, however, and it had an advantage over Heath's in being shorter and needing less dredging. Francis Napier, from the N.S.W. Dept. of Works, brought from Sydney to give evidence, strongly recommended it after inspection. In support of Heath's plan was Capt. C. H. Richards, of H.M.S. "Hecate". The Francis plan was adopted. On the short term view, it had advantages, but later Heath's proposal was adopted.

Dredging commenced 20/8/1862 (Pugh). Plant consisted of dredge "Lytton" (see Note 5), 8 wooden punts and 1 of iron for removal of spoil, steam tugs "Brisbane" and "Rainbow" (hired). Lightship "Rose" was moored inside the Bar, $1\frac{1}{2}$ miles N. $\frac{1}{2}$ E. from Luggage Point. By 1864, though not completed, vessels were granted permits to enter by Francis Channel. (See Note 6). "Courier," 16/7/1864, reports: "The barques 'Lion' and 'Atlantic' were taken through the new channel at night during neap tides. These vessels, more than 200 tons, draught 11ft., were brought into the river without having been lightened, an event unprecedented in the history of the port. The channel had not yet been officially opened for navigation; tugs were 'Brisbane' and 'Settler'." There was a sequel, for "Courier," 22/7/1864, states: "The master of 'Atlantic' laid a complaint against Pilot Bowles that he was intoxicated, and caused his vessel to run aground though she was in tow by a steamer," Board of Inquiry recommended the dismissal of Bowles.

"Guardian" 23/6/1864 reports the arrival of "Corinne," 400 tons, 11ft. 9in. draught, towed in by tugs "Diamond" and "Brisbane," piloted by Capt. Francis and anchoring at Eagle Farm Flats; the largest ship yet berthed at our wharves.

Engineer for Harbours and Rivers report 10/6/1865: "West Channel (Francis Channel) cuttings inner and outer are completed to half width (150ft), channel is in constant use, vessels drawing up to 16-17 ft. may be brought on high tide as far as the hulk 'Prosperine' (see Note 7) below Lytton, but could not proceed further."

The channel was completed at the end of 1866, cost being £15,947. Engineer's report, Dec. 1867, says that during the year 950 vessels were piloted in without accident, the greatest number in any one week

being fifteen. "Courier," 20/3/1865, states a special contract for dredging was let to Capt. Francis for £20,000.

Although Francis Channel lacked depth (it held no more than 10ft. 6in. low water), was tortuous and difficult of navigation to the larger vessels then coming to the port, it continued in use until 1883, when the new cutting following the direction first advocated by Heath came into operation. At the outer end a light (see Note 9), signal and telegraph station was erected. The structure is described as of screw piles of 5½in. wrought iron with screws 4in. in diameter, screwed 24ft. into the mud in 16ft. of water at low tide and 23ft. at high. The straight cutting through the bar to a width of 200ft. had added an additional 2in. to the river. The largest vessel then to enter was the "Duke of Westminster," 3,726 tons, 400ft. in length.

Those who have travelled to Redcliffe by s.s. "Koopa" will remember this cutting, which bore away at the Western beacon the leads being on Fisherman's Island. In 1908, this cutting was diverted at the West beacon in a N.E. direction, and in 1909 the dredge "Maryborough" commenced work at the outer end, "Hercules" working the inner to dredge 400ft. in width 24ft. deep. Completed 1/10/1912 under the late Capt. Bishop, the cutting was open to traffic from above date, giving a straight run from the river. "Bombala" was the first large vessel to pass through it. Spoil was pumped upon the East banks, and formed what is now Bishop Island.

A new Pile Light was erected at the outer end. When testing for foundations, a test pile 82ft. long sank 20ft. by its own weight in soft mud. Foundation piles of reinforced concrete 43ft. long were then driven 41ft. into the ground and the superstructure bolted to them while 5,000 tons of sand was dumped on the area. The structure was wrecked in October 1949, when the tanker "Wave Protector" collided with it. It is intended to transform the Pile to a light beacon with an automatic gas light and use Bishop Island, now (1951) being walled, as a signal station.

PILOT SERVICE

The first pilot schooner, "Spitfire," anchored at the entrance to the Bay. There were three pilots, Sholl, Cooper and Howe, sea pilots. Salaries were £175 in

1861, raised to £200 for 1862. Boatmen received £96 per annum.

For the year ending 31/12/1860, 129 vessels, with a total tonnage of 30,243 tons, entered, upon which £174 was levied as dues. In December 1867 the Engineer for Harbours and Rivers reported "Spitfire" 13 years old and unfitted for the work; recommending a steamer.

It was not until 1879 that "Spitfire" was replaced. Heath, now Capt. Heath, reported the arrival of a schooner from England for that purpose (V. & P. 1879, V.2, P.909), but failed to mention her name. Later records suggest it was "Clara." Note that there were sea pilots; there were also river pilots and these maintained apparently until 1909 or 1910. Pugh records them in 1909, but not in 1910. The reason for them is more clear when as late as 1879 Sailing Directions stated: "Up to Doughty (Doboy) Creek, 6 miles (from river mouth) a pilot is needed to avoid shoals and bars, but beyond that there was 10ft. 6in. of water." The grounding of "Maori King" (see Note 13) 8/12/1890, at Barker's Quarry was, unofficially at least, ascribed to her sea pilot's lack of river experience.

A new pilot vessel, "Musgrave," was lost on her voyage from England off Columbo, Jan. 1885 (Pugh). To replace her, a steamer, "Advance," was bought in Melbourne at a cost of £13,800 (V. & P. 1885, V.3, P.409) to relieve "Clara." "Advance," being too costly to run, was replaced by the schooner "Governor Cairns" bought in England, her cost on arrival being £3,500. (V. & P. 1894, v. 3, p. 1,013.)

Following the loss of "Aarhus" on Smith's Rock, 1894, an inquiry was held into the working of the Pilot Service. This was acrimonious at times. Capt. Mackay, Harbour Master, maintained "Governor Cairns" was equal to any demand, if properly handled. Other evidence went to show that few **could** handle her. She anchored off Yellow Patch, the Pilot ground, was staffed by three pilots, and when a replenishment was needed, the pilot on turn had to walk from Bulwer to Yellow Patch, and there be taken off by the vessel's boat. Certainly, a dray was provided, but was useless in the loose sand; if it got out at low tide, there was no hope of return, and on high water it was not possible to start.

Occasionally the "Pacific," outward bound, might

take them off at Bulwer but for obvious reasons this conveyance found little favour.

Regarding "Aarhus," it transpired that she signalled for a pilot at 7.20 p.m., Feb. 24. "Governor Cairns" answered the signal but, beyond heaving short, took no action until 8.30 p.m., when her whaler put off, searched for "Aarhus" without avail, and returned to the Pilot vessel at 10.15 p.m.

"Aarhus" struck between 8.20 and 8.30 p.m., but the Pilot vessel was not aware of her loss until the following morning, when her masts were seen sticking out of the water. The pilot in charge was disgraced, but the Marine Board held "Aarhus" partly to blame.

"Governor Cairns" was found to be inadequate; she was waterlogged and her hull inexpressibly foul, which may have accounted for her bad behaviour. Moreover, the North-West Channel was coming into use and, if there were a head wind, it took the schooner too long to get out. "Advance" was recommissioned. After her sale in 1902, "Llewellyn" (see Note 15) and "Cormorant," both steamers, small and slow, served as pilot vessels (V. & P. 1902, V.3, P.958); "Governor Cairns" was sold in 1905 and, while "Llewellyn" and "Cormorant" were an improvement, pilots were far from comfortable. With the arrival of "Matthew Flinders" in 1914, followed by "John Oxley" in 1927, the pilot staff could be home based, and experienced comfort when on duty.

"Bulwer" was abandoned as the Pilot Station in December, 1909, "Llewellyn" was used as the Pilot Vessel, and all pilots based on Brisbane. The distinction between river and sea pilots was abolished at this time.

"Matthew Flinders" is to be retired from pilot duty, and tenders have been called for a new vessel to replace her (1951). For the year ending 30/6/1951 605 vessels, aggregate tonnage 4,358,884, were piloted into the Port.

RIVER REGULATION

Apart from what may be termed primary obstacles, Lytton Rocks and 17 Mile Rocks, projections of land due to a winding course, impediment of the river's flow has been due to accretions of silt, due to erosion. The 17 Mile Rocks (see Note 16) were the subject of a report by Lt. Heath as far back as 1860,

and they were in part removed. Capt. Almond, Port Master, drew attention to Lytton Rocks, 26/7/1894, and in 1895 a rock drilling plant was working upon them, but this work is still incomplete. These works, however, were, in the main, navigational aids.

J. Brady, Engineer for Harbours and Rivers, recommended 10/6/1865: "That purchasers of land along the river should be compelled to burn off or destroy all felled timber within the flood mark." There is no evidence that this practical suggestion was acted upon.

The flood of 1893 (see Note 18), when the river rose to 30ft. 4in. on the Port Office gauge, and stranded "Paluma," "Elemang," and "Mary Evans," in the Botanic Gardens, made river regulation of primary importance. It was recommended that the Gardens, Kangaroo, Kinellan, and Bulimba Points be cut back in all 58 acres. This plan by E. A. Cullen, Engineer, and Capt. Almond, was approved by Lindon Bates (V. & P. 1899, V.3, P.1027).

The first retaining wall was at Hamilton, 1898; from that time on, as opportunity presented itself, all banks of the river were walled, where necessary. By 1902, the river, as far as Pinkenba, was open to vessels drawing 26-27ft. at any high water.

Owners of private water frontages were induced to have them walled by the Department at cost. Response to this was moderate only, and compulsion was resorted to, and by 1908 the length of private walling reached 10,000ft. In 1919, Parker Island was cut away by some 30 acres, the passage behind it having been closed by Coxon's Wall in 1902. Walling and reclamation have been continued at intervals. In 1951, 2,308,500 barge yards of silt were pumped ashore at Parker Island, Hamilton and Pinkenba, but siltage due to erosion continues to be a major difficulty. It may be mentioned that the City Council's filtration plant filtered out 2,000 tons of silt in 1951 from our water supply alone.

The Nor' West Channel is silting in parts, and it is intended to obtain a sea-going dredge to deepen this Channel to 38 feet to the river mouth, and also increase river depth (see also Memo. from C'wealth Dept. of Shipping and Transport attached).

SHIPPING COMPANIES

Out of the many shipping companies now trading to the Port, two have been selected on account of their long association and survival, Howard Smith & Sons Ltd., and the A.U.S.N. The history of Howard Smith presents a straightforward picture; that of the A.U.S.N. many changes.

Capt. Wm. Howard Smith, founder of the Company, arrived in Melbourne at the end of 1854. He was part owner of "Express," running between Melbourne and Geelong. In 1862, he sold out, went to England, and there purchased an iron screw steamer of 672 tons—"Keif"—used as a water carrier in the Crimean War. Renamed "You Yangs," she went first on the Melbourne, Sydney, Newcastle run. In 1873, "Edina" was purchased. Gregory ("Romance of Edina") says she was the first of the Howard Smith Line to engage in the Queensland trade.

"Courier" (3/7/1875) reports her maiden voyage arrival. Her sailing notice of that year appears over the name of Barker & Co. In fact, agents seem to have varied nearly every voyage—R. Armour, Howard Smith, Parbury Lamb. It should have been mentioned that the Company was originally the Melbourne S. S. Coy., which appears up to 1879. On July 3 of that year, Wm. Howard Smith signed for the Melbourne S. S. Coy.; on the following day, notices were signed by Wm. Howard Smith & Sons.

Their first wharf was Beattie's "Commercial," just below the Custom House ferry. In 1877, the Municipal Council completed a wharf at Petrie's Bight at a cost of £16,115. This was leased to Howard Smith & Sons, for five years at £1,800 p.a. in 1880. In 1884, a fire damaged this wharf to the extent of £2,500. A new wharf was built and leased to Howard Smith by tender for four years at £4,000 p.a. At this time, the firm had been floated into a Limited Liability Coy. (Annual Review of Q'ld. 1902). There was then no wharf below Howard Smith's which extended from just below the Brisbane Tug. Co. to the old Gas Works Yard. A little further down was the wharf of William Collin & Son, destroyed by flood, 1893. Oswald Chas. Smith was Brisbane Manager (see Note 20).

A.U.S.N. COY.

This Company originated as the Hunter River

Steam Navigation Co. in 1840. Its first fleet was "Rose," "Thistle," and "Shamrock." Of these, "Shamrock" was the first to visit Brisbane in 1841. In May, 1843, the trade, being unprofitable, was discontinued, but shortly afterwards resumed. The company purchased two allotments with river frontage in Brisbane, for £50, in 1844. Later events indicate the site to have been Margaret Street. The Company's name was changed in March, 1851, to the Australian Steam Navigation Co., the directors being doubtful of the legality of trading, under the original charter, to Brisbane. The charter stated trade was to be carried on with ports adjacent to the Hunter River. An elastic interpretation, however, was given to "adjacent" and doubts resolved. New offices were built at the foot of Margaret Street (see above), 1861. An extraordinary event occurred in 1862 when six sheep were imported from, of all places, China, by the Acclimatisation Society, and the company carried them from Melbourne to Brisbane, free of charge.

In 1861, a new shipping company, the Queensland Steam Navigation Co., was formed, first vessel, "Queensland." The Company failed in 1867-1868, when it lost the Government mail subsidy and the entire assets were purchased by the Aust. Steam Navigation Co. In 1881, the A.S.N. Co. refused to co-operate with the British India Coy. in the matter of transshipment cargoes. The B.I. then established a feeder service, the Queensland Steamship Co., its first vessels being "Warrego," "Barcoo," and "Maranoa." The Australian Steam Navigation Co. could not meet this competition, and handed over its entire fleet to the Queensland Steamship Co. for £200,000 (C. 23/2/1887), to become the A.U.S.N. Coy.

The agency originally held by Capt. O'Reilly was relinquished in 1877 and a branch office constituted. (Source mainly "History of the A.U.S.N. Co. by Capt. F. H. Trouton, 1884.)

WHARFAGE

Few of the old wharves survive; they served their purpose, largely catering for up-river traffic to Ipswich, and as such fall outside the scope of this paper. Such as have historic interest or illustrate a point will be briefly referred to.

One of the earliest of these is mentioned by Dr.

Lang (Queensland, Australia, Chapter 3, P.59). It was built by convict labour at Eagle Farm for use by the establishment there; after completion, it was found no vessel could approach it by reason of the flats (see Note 21). Short Street wharf, now occupied by Collin & Sons, long back held by J. & G. Harris, was rebuilt Oct. 1884 for D. L. Brown & Co. It was from here in December 1894 that "Cutty Sark," with 5,304 bales of wool, her plimsoll two inches submerged, left on her last voyage under the British flag (Lubbock "Log of Cutty Sark"). This wharf is now shoal as is the remains of Gibbs Bright's Kangaroo Point. The firm was Bright Bros. when the wharf was built in 1885 (Pugh). "Jumna," drawing 21ft. 4in., berthed here in 1887. The site is now a Municipal Park.

Coming to modern times, circumstances compelled wharfage to move downstream, the first being Dalgety & Co., who purchased the site upon which stood Dath Henderson and Bartholomew's sawmill, and the Queensland Brewery in 1906. From then on, the vacant land in Bulimba reach rapidly became wharf sites. From Bulimba to Pinkenba there were, in 1948, 14 private wharves with 10,000 feet of berthage and three Government with 17,000 feet, all of which, with the exception of two, Abattoir & Borthwicks, 900 feet, are on the north bank of the river.

The probability of wharf extension was early recognised. A Commission was set up in 1875 to inquire into additional wharf sites for Brisbane. Sites still public property were: Below Victoria Bridge 1,040ft., at rear of Parliament Buildings, 368ft., in the Domain 422ft., Port Office 349ft., Custom House Reserve 290ft., Dock Reserve from Commercial Wharf to upper end of Gas Coy's ground 638ft. It was recommended that these be not alienated. Subsequent history proved the wisdom of this and the inclusion of all river frontages, could it have been foreseen, would have saved large sums later paid in resumptions, e.g., £71,111 for land between Hamilton and Pinkenba in 1920.

Brisbane Wharves Ltd. (Howard Smith, and William Collin) had acquired frontages to the river below Bowen Terrace, and application was made by both to erect wharves there. Permission refused on the grounds that, coupled with the projection of Kangaroo Point, not then cut back, there would be danger to navigation (V. & P. 1899, V.2, P.1059).

In 1938, however, the Point having been removed and the Story Bridge site defined, Brisbane Central Wharves were resumed from Brisbane Wharves Ltd. as from January 1, 1935, at a cost of £138,504, and leased to Howard Smith for 21 years at a rental of £5,000 p.a. subject to a periodic revision (V. & P. V.1, P.50) (page 52 states Wm. Collin was awarded £750). V. & P. 1941, P.686, states that wharf reconstruction was being carried out by the Department of Harbours and Marine, on behalf of the Bureau of Industry, at Petrie's Bight, on the property resumed. When completed, there would be three berths with a frontage of 1,500ft. Leased to Wm. Howard Smith & Sons at £7,875 p.a. less a rebate of £1,500 p.a. until the third berth was completed, rent to operate as from 1/4/1940.

This completed a continuous chain of wharfage 2,606ft. as compared with 510 in 1876. Harbours and Marine Department Report, 1951, states that wharfage had been increased by the construction of the Broken Hill Coy's wharf, provided with four diesel electric cranes fitted with electric magnet for removing pig iron, but the cranes can be used in the unloading of general cargo, and were the first to be placed upon a commercial wharf. Nixon Smith's wharf was extended, and when completed, increased accommodation by 1,000ft. Plans are being proposed for 1,200ft. of wharfage upstream from the B.H.P. Wharf and the Brisbane Stevedoring Co. will extend the wharfage downstream. A tanker berth at Parker Island is being prepared for Ampol Petroleum Co.

SLIPS

"Courier," 6/9/1862, reports "A slip has been erected about five miles up the river mouth opposite a place known as "Williams," and, reporting the arrival of the paddle wheel steamer "Kate," says 16/4/1865: "Kate has been taken down the river to the Government slip near Lytton to have her false keel removed." Search has failed to find any official record of this slip; there was at that time a Customs Office at Lytton and the slip may have been built in conjunction with it. Votes and Proceedings 1866, P. 1,007, contain a statement of expenditure on "Kate," which includes an item "A.S.N. Coy. paid £5/10/- for use of their slip."

Nor is the history of Peter's slip complete. The late Mr. R. Peters was unaware of its true age, but

thought it to be about 90 years. He informed me that it was laid down by—Anderson, Parker, A. Peters and Capt. Wyborn, that A. Peters bought the others out 3rd November 1873. (See Note 24.) It can be traced in Pugh's Directory of 1865 as Anderson and Parker, and "Courier" 25/5/1865 reports the launching of "Emma," a steam yacht, from Mr. Anderson's yard at Kangaroo Point for Jas. Collins. Peter's big slip can take vessels up to 1,000 tons (E. A. Cullen). (See Note 25.)

Moars was the next slip, commenced in 1881, completed 1884. The first vessel laid on it was "Fanny," master John Burke, founder of the Burke steamer line. It is said Moar made no charge for this service. The first paying guest was, I believe, "Taldora." This slip was purchased by the City Council, Jan. 1931, for the purpose of slipping their vehicular ferry boats (See Note 26), price £6,252 (Mr. Grenner, City Council). The Council in turn sold it to the Government in April 1940 for £2,500. The slip was enlarged and used in the ship-building programme.

DOCKS

The dock site recommended in 1875 was abandoned in favour of one at South Brisbane, and in 1876 a contract was let to J. and A. Overend for £62,796. The contract excluded machinery and caissons and seems to have been for excavation only. Work commenced January 1876. By 1881 it was sufficiently advanced to allow the barque "Doon" to enter, though not completed. It was extended 100ft. to permit vessels up to 400ft. to enter, and when completed cost £85,000. (Cullen, Dock and Harbours Authority, Nov., 1923.)

(See Note 27.) Cairncross Dock was a wartime (1939-45) necessity. It can accommodate two 10,000 ton vessels at the same time. Dimensions (see note) are 829ft. 6in. by 110ft. Depth over the sill at L.W.S.T. 30ft. of Dock 51ft.

The Shaw Savill liner, "Gothic," 15,682 tons, is the largest vessel yet docked at Cairncross. The South Brisbane dock is mainly used for Government vessels.

PORT FACILITIES

The quick turn round of vessels in these days of high overhead expenses is essential if a port is to be favourably regarded. This can be accomplished only

by an efficient labour force and modern cargo handling equipment. Despite primitive conditions, this fact was recognised in our earliest days. "Courier" 20/8/1862 reports the arrival Monday evening of "Telegraph" with 150 tons in the hold and some on deck. By 11.30 a.m. Tuesday, she had discharged, and at 3.30 p.m. was ready to depart. An instance of expedition in discharging and taking in cargo never before witnessed in Brisbane. Dowse and Trundle advertise ("Courier" 31/12/1864): "A powerful crane has been installed at their Victoria wharf. Vessels of any tonnage can berth at this wharf." But it was long years before a modern element was introduced. Cullen (Dock & Harbours Authority Nov. 1923) (see Note 25) writes: "All cargo is handled by ship's own tackle; there is one only 10-ton electric crane owned by a private company." (This was, I believe, the Adelaide S.S. Coy. at their South Brisbane Wharf.) (See Note 26.)

No reliable information is available on the numerical waterside labour force strength. Formed in the stormy days of 1890, it was a voluntary organisation, members contributing 6d. a week. Employment being casual, men drifted into it and sought other jobs when available. Pay was 1/- per hour. Industrial legislation, however, greatly strengthened the Waterside Workers' Union, from a membership of some 800 in 1900 to 1200 in 1909, 1500 in 1928, and today stands at 2,650.

In 1947, there were six only electric cranes operating on Brisbane wharves exclusive of the Government Coal Wharf (see note). A new epoch, however, was ushered in when the Commonwealth Handling Equipment Pool was formed. This derived from wartime necessities and modern methods introduced by the U.S. Forces. An Allied Materials Handling Standing Committee, consisting of representatives of the United States, Imperial and Australian Armed Forces and other interested Commonwealth bodies, was set up. The primary object of this Committee was to develop the use of mechanical equipment to facilitate the working of cargo and a quicker turn-round of ships.

The post-war years did not lessen this need and the Commonwealth Handling Equipment Pool was established. The first equipment was obtained mainly from the United States Army mainland and South Pacific Island bases and the Pool commenced operations in Brisbane on 15th June, 1946. Additional new

equipment has been procured from time to time by the controlling body, the Commonwealth Department of Shipping & Transport. The plant is available on hire to all projects, priority being given to waterfront operations for which 99 Fork-lift trucks, 31 tow-motors, 22 light cranes, and five Heavy Cranes are obtainable for wharf and cargo use. Two of the heavy cranes mounted on barges and operating a grab-bucket are utilized in dredging wharf frontages, and a third of larger capacity is on its way.

TOWAGE

Up to 1883, towage was conducted by the Government, as the work offering did not provide sufficient inducement for private enterprise, and practically anything that could steam at all had power enough to deal with the class of vessels then existing. As late as 1882, a paddlewheel tug, "Sea Horse," 80 h.p., was built by the Queensland Government and considered adequate. Growing volume and size of shipping necessitated tugs of greater power, and in 1884 Webster and Co. bought "Otter," which was acquired in April 1885 as a patrol boat, by the Queensland Government during the Russian war scare. Webster & Co. then placed an order with the same builders, Ramsay & Ferguson, of Leith, for "Beaver," which arrived May, 1886. (Steering Wheel, Nov. 1939.) (See Note 29.)

In 1903, the firm of Jas. Campbell & Sons purchased "Greyhound," a wooden tug of 124 tons, built by Allan & Hunter, of Sydney, and entered towage competing with "Beaver & Boko" (Gibbs Bright). In 1903, the Brisbane Tug. Co. was formed and the above tugs brought under its control. The Company was dissolved in 1911, re-forming as the Brisbane Tug & Steamship Coy., and continued until 1940, when it abandoned towing. "Greyhound" was sold to the Geelong Harbour Trust 1936, and was lost at sea during the war of 1939-45. "Boko" had been sold in 1917 to A. Peters, and her hull lies in the Aquarium Passage. A.U.S.N. Coy. bought "Beaver" in 1940, and on her retirement, was bought by Wm. Collin & Sons, by whom she is used as a lighter.

Space does not permit a recital of the many activities of the firm of Jas. Campbell. It traded extensively in timber from Coochin Creek and other local centres,

had lime kilns at New Farm, opposite Peter's Slip, and imported Oregon from Pugent Sound.

Their wharf at New Farm was in later years occupied by Rosenfeldt, milling imported Oregon pine; destroyed by fire 18/2/1931.

SHIPBUILDING

The first iron vessel built in Brisbane was "Louisa," 90ft. x 16ft. 6in., 100 tons, two 15 h.p. engines. Built for Capt. Mellor by R. R. Smellie ("Courier" 23/12/1871). The first wooden vessel of her class built in Queensland, was a schooner of 100 tons, 80ft. x 18ft. 6in., by Smith and Miller of Doughboy Creek ("Courier" 18/11/1862, Sum for England). Smellie & Co. built three hopper barges for the Marine Department on the reserve adjoining th Port Office in 1877 for £11,379. This firm built the first local dredge, "Octopus," for the Department in 1882, at a cost of £30,000. Evans Anderson & Phelan built the dredge, "Hydra," in 1887, J. W. Sutton & Co. the "Tridacna" clam shell hopper in 1889, while, Smith, Forrester & Co. built 2-anchor launches "Opossum" and "Koala" in 1886. Shipbuilding as an industry was not developed in Brisbane until 1939, when Commonwealth and State Governments with Evans Deakin & Co. combined to set up the yard at Kangaroo Point. (See Note 30.)

APPENDIX TO "NOTES ON THE DEVELOPMENT OF THE PORT OF BRISBANE"

NOTE 1. Custom House, 1886.

A tender by Dart & Massey, £30,284, was accepted ("Courier" 14/7/1886), but tenderer refused to proceed.

A tender by T. Hannah, £33,797, was then accepted ("Courier" 30/7/1886), but he, too, failed to proceed.

Finally, John Petrie undertook the work for £37,000 ("Courier" 8/9/1886).

Pending the completion of the new building (1889), Customs business was carried on in premises lately occupied by the Q.N. Bank, Queen Street, on the south corner of Isles' Lane.

NOTE 2. Freeman's Channel is named after J. Freeman, Harbour Master.

NOTE 3. **Cape Moreton Light:** In reply to an enquiry by the Oxley Memorial Library, Mr. N. G. Powell, whose father followed Braydon as Head Keeper, stated, "No convict labour was used, but owing to shortage, some 35 good-conduct prisoners were employed upon it.

The iron ring bolts which are still in the lowest wall, were not to chain the prisoners to, but the tackle used to hoist the

heavy stone blocks to the upper walls was rigged to these bolts. The clock, weighing 500 lbs., was also hoisted in this way.

The iron-barred windows were not for the purpose of keeping prisoners inside, but thieving natives out.

NOTE 4. Francis Channel. See attached charts, 1860 and 1906.

NOTE 5. Dredges.

Goldsmith (Reminiscences of an old Engineer, part 2) says Lytton was a Kauri pine dredge. She is believed to have been finally cast behind the Hamilton Training Wall.

NOTE 5. Tug "Brisbane," 74 tons, 50 h.p., was built at Glasgow, engines by A. & J. Inglis, on arrival (6/10/1862) she will relieve the hired tug "Rainbow" ("Courier" 19/7/1862).

PUNTS:

3 wooden, built by Winship, total cost	£3,727
3 wooden, built by J. Cuthbert, total cost	£4,350
2 wooden, built half cost (why half?)	£1,450
1 iron by P. N. Russell	£1,850

Wooden punts were found to be quite unsuitable, used after as cargo barges.

A later dredge "Bremer," launched at P. N. Russell's wharf, Sydney, was acquired ("S.M. Herald" 22/8/1864; "Guardian" 25/8/1864). She could dredge to 12ft. only.

NOTE 6. Permits to pass through were granted by the Lands and Works Dept. Govt. Gazette, 1864, P.736.

NOTE 7. Prosperine: First police hulk was "Julia Percy" 1862. Condemned, replaced by a Towns barque "Margaret Eliza," which was re-named "Prosperine." (See note on Water Police Hulks in Historical Society Bulletin, No. 92, or Oxley Library.)

NOTE 8. Francis & Contract: Verified V. & P. 1865, P.1293. J. Brady, Engineer for Harbours and Rivers. Amount of contract not traced.

NOTE 9. Pile Light: Iron work by the Bundaberg Foundry cost £1,989: erection was by Departmental staff.

NOTE 10. Dredges: "Maryborough," built by Walkers Ltd., Maryborough, 1885—cost £30,630.

Hercules & Samson built by Sir William Armstrong Whitworth & Co., England, to the design of Lindon Bates, an American engineer, both taken over after trial, May 1901. Hercules cost £70,000, Samson £120,000 (Goldsmith, Rem. of an old Engineer). Hercules worked well, Samson badly, most of her time being laid up and eventually sold to the N.S.W. Government, 2/9/1914, for £16,000. Opinion was, that while operating well in loose material, Samson especially could not handle stiff mud. Hercules sold to the Brisbane Cement & Lime Co., Nov., 1951.

NOTE 11. "Wave Protector" 10,000 tons, was anchored head out, waiting for the tide to flood. She failed to swing sufficiently or quickly enough, and struck the pile a glancing blow—no loss of life.

NOTE 12. "Spitfire" went to Cooktown, where, after a total service of 25 years, she was sold for £300 (V. & P. 1885, V.3, P.409).

In 1888 (August), she foundered on L Reef, Torres Straits.

NOTE 13. "Maori King," a round-bottomed ship fitted with rolling chocks but little keel, appears to have been an unhandy vessel in narrow waters, as she veered practically during the whole passage up river, though in tow.

NOTE 14. Originally a timber carrier, then employed as a sanitary vessel, probably so in 1894. As I had a passage from Bulwer to Brisbane in her sister ship "Moreton," in 1904, I can understand the reluctance of pilots.

I have walked from Bulwer to Yellow Patch and know what that loose sand is.

The pilot, too, would have to carry his bag, and possibly an oilskin coat.

NOTE 15. "Llewellyn." Lost with all hands between Rockhampton and Mackay, 17/7/1919 (Rhodes Pageant of Pacific).

NOTE 16. 17 Mile Rocks. A tender by J. Petrie for part removal for the sum of £12,000 has been accepted ("Guardian" 31/1/1863). Work upon them has continued intermittently up to the present.

NOTE 17. Lytton Rocks. The rock drilling plant was destroyed by fire. These rocks now (1952) blasted out, this will permit the future dredging of the river to greater depths, as desired.

NOTE 18. 1893 Flood. Vessels referred to were moored to piles laid down at the foot of the Gardens banks in 1887 (V. & P. 1887, V.4, P.11). It was a recognized mooring, and some of the piles can yet be seen, though the water is shoal.

NOTE 19. Cutting of Points. The plan was to cut back as follows:—

Garden's Point	.....	.....	.....	17½	acres
Kangaroo Point	.....	.....	.....	15½	"
Kinellan Point	.....	.....	.....	10½	"
Bulimba Point	.....	.....	.....	14½	"
				57½	"
					round figures

The work did not proceed continuously, and the area removed may have been subject to alteration. Kangaroo Point was the first to be cut.

NOTE 20. Howard Smith Staff, 1891. Oswald Charles Smith, manager; Newman, accountant, followed shortly after by E. Aldous, A. Ewart (fares and freights), G. Elson (cashier), Harry Noble, C. Warner-Bubb, G. Agate, G. Edmonds, D. Andrews, C. Eden, E. V. Stevens, last and least.

Wharf clerk was P. B. Maries, Wharfinger, Capt. Cotter, Ship's carpenter, D. Ramsay.

At this time, no ships were swung to berth. A boat put out from the wharf and passed a hawser from the vessel to a bollard, and the ship warped in. All cargo was handled by hand truck and ship's winch.

NOTE 21. Eagle Farm Flats. The old stone powder magazine area was known as Eagle Farm Flats. In 1863, Pinkenba and Lower Eagle Farm Flats were regarded as the most serious obstructions in the river's lower reaches. The 1860 chart shows deep water inshore, flats off-shore.

NOTE 23. Wharfage.

E. A. Cullen, writing in "Dock & Harbour Authority," November, 1923, "Total length of wharfage is 16,535ft., of which 13,900ft. have a depth of 24 to 28ft. L.W.S." In 1948, there were 22,000ft.

Pugh's 1878 Plan of Brisbane shows, from Alice Street to Boundary Street.

1. The Baths.
2. Alice St. Ferry.
3. A.S.N. Wharf.
4. Market St. Wharf.
5. Jas. Campbell's Wharf.
6. Raffe's Wharf.
7. D. L. Brown's Wharf.
8. Barker's Wharf.
9. Bright Bros. Wharf. The Custom House.
10. Commercial Wharf.
11. New Government Wharf, and Brisbane Gas Co.'s land; From Alice Street to Victoria Bridge, N. side.

Queen's, and Victoria:

South side Parbury's only; Kangaroo Point, Shaftson Reach, 1. Douglas's, and 2. Peter's Slip.

Bright's office, now occupied by J. Sands, stands in a cul de sac off Parbury Street.

NOTE 24. No evidence has been seen to support the statement that the Anderson who partnered Parker in the original Peter's Slip was connected with the firm of Evans, Anderson, and Phelan.

A letter from Mr. Edwin Phelan states that to the best of the writer's knowledge, the late Mr. Jas. Anderson had no interest in Peter's Slip (10/12/1951).

NOTE 25. Moor worked for Peters as a shipwright, and when asked what he was excavating his land for, replied, "I am going to start a firewood depot." (Authority R. Peters.)

Valuation at sale to Council—

Shop £87; Buildings £564; Plant £3,201; Slipway £750; Land £1,150; Wharf £500 (City Council records).

NOTE 26. Vehicular Ferries.

One ran from Charlotte Street across to Bright Street, Kangaroo Point, first trip 23/1/1884 (Pugh). It was here that "Rockton," 19ft. 8in. draught stuck and "Barcoo" hung for some time.

"Coromandel" moored at a buoy below, swung across the river at high water and remained so all that tide—all in 1887.

Another vehicular ferry still runs (1951) from Commercial Road to Bulimba.

NOTE 27. Docks.

For full dimensions of both, see Sailing Directions for Brisbane, p.115.

NOTE 28. Dock and Harbour Authority was a periodical of that time. E. A. Cullen was Engineer for Harbours and Rivers.

NOTE 29. Electric and other cranes: for full details see Sailing Directions, 1948, p.118.

One—10-ton electric at Musgrave Wharf.

One—40-ton electric at Bretts.
 One—12-ton electric at Bretts.
 One— 5-ton electric at Bretts.
 One—10-ton electric at Newstead 1.
 One—40-ton electric at Evans Deakin's Fitting-out Wharf.
 One—10-ton hand at Pinkenba.

NOTE 29. For industrial legislation, see paper by Mr. Justice Matthews, President of the Industrial Court of Queensland. Historical Society's Journal. Vol. IV., No. 2 (1949).

COPY OF LETTER FROM GEORGE McLEAY, MINISTER FOR SHIPPING AND TRANSPORT, DATED 19/12/51

Dear Mr. Stevens,

Further to my letter of 28th November, 1951, relative to your request for a brief statement on the introduction of mechanical equipment for use on our wharves, through the Commonwealth Handling Equipment Pool, I am enclosing herewith a statement containing information considered to be suitable for inclusion in a paper on "Development of the Port of Brisbane."

I trust that you will find this brief outline of the origin and development of the use of mechanical equipment in Australia, with particular reference to Brisbane, of value for your purposes.

Yours sincerely,

(Sd.) GEORGE McLEAY.

Mr. E. V. Stevens,
 BRISBANE, Q'ld.

NOTE 30. "Sea Horse" had a colourful history, and, as a barge, is still in service. For details, see "Blackbirding" Historical Society's Journal, V.IV., No. 3, 1950. "Lady Norman."

"Beaver" fitted with new boilers 1922.

NOTE 31. Now a barge owned by Wm. Collin & Son. (1951) who bought her from A.U.S.N. Coy.

"Boko" built by A. Leslie, Newcastle-on-Tyne, paddle wheeler. Arrived Brisbane, October 1877.

Other A.U.S.N. tugs were—

"Chesterford," 128 tons, built at A.U.S.N. shops 1911, for B.I. Coy., turned over by "Kyarra" during towage operations at Hamilton, 23/10/1913. Engineer drowned, "Chesterford" later raised.

"Fearless," 104 tons, built at Newcastle 1895 by P. Callan. "Coringa I.," 287 tons, by Denny Dumberton 1914, for B.I. Coy. The belief that "Coringa I." was lost at Dunkirk is quite erroneous. A letter from the Admiralty shown me by Capt. Greenwood (A.U.S.N. Co.) states she foundered in the Irish Sea 23/6/1940. She was used by the British Navy as a rescue ship, and it is possible that the armament placed upon her affected her stability, for she developed a sudden severe list and capsized.

NOTE 32. Though I have failed to verify the co-operation from official sources, the position was undoubtedly that new vessels were urgently needed to replace war losses. The newly-created Australian Shipping Board offered contracts, the Queensland Government the site available under lease, and Evans Deakin built the ships.

The leases comprised Moar's Slip, and the Government Immigration Department's river frontages were probably some resumptions.