

[Not numbered, = 125]

Glass.	103
Duties & Debentures.	112
Wages &c.	114
Waste in manufacg.	110
Wt. of Moils, Pontys, & Skimmings. }	110
Sp. gr. of Glass.	102
Accurate produce from S.S. mixture. }	102, & 96
Consumption of Materials.	97

[Not numbered, = 128]

Wages &c. (no overwork)	
Glass makers only	£59..10..4 $\frac{1}{2}$
Other departments	81.. 6..8 $\frac{1}{2}$
do in Bristol	<u>30.. 1..6</u>
Per week	<u>170..18..7</u>

or £21..7..4 per Journey, if the Weeks work be made.

Wages &c. (5 Journeys overwork)	
Glass makers only	£86.15..3
Other departments	90.19..6
do. in Bristol	<u>30.. 1..6</u>
Per week	<u>207..16..3</u> or
£207.16.3 - £170.18.7	
£36.17.8 for the 5 over journeys.	

[Not numbered, = 130]

Constants for Calculations	} or 10400 Crates per an.
Per Journey of 300 Tabs. (No overwork)}	
Wages and allowances to Glass makers only	£7.. 8..9 $\frac{1}{2}$
do do to other departments, at Nailsea	10.. 3..4
do do do at Bristol	<u>3..15..2</u>
Constant Charge per Journey	<u>£21.. 7..3$\frac{1}{2}$</u>
or rather more than £170 per week (£8886..16..0 per 52 weeks.)	

And for every Journey exceeding 8 per week } to Glass makers only (double set) }	£5..10..0
Extra packers and laborers	<u>1..18..7</u>
Constant charge per Journey "Overwork" or £29..14..3 per 100 Crates.	£7.. 8..7

[Not numbered, = 127, 126 blank]

Consumption of Material per An. (omitting 6 weeks for furnace building) for	
{ 2 Furnaces. 7 founds per week }	
{ Making 4700 to 4800 Tabs. }	
Sand.....	654 tons. 11 cwt. 2 qrs.
S.S.	204 11 0
Lime (Hyd ^{ic} .)	184 2 0
Cullet	640 0 0
Charcoal	17 10 3
Manganese	1 9 1
Arsenic	3 9 0
(C.T.C. Oct 1837)	

[Not numbered, = 129]

Wages per Journey (no overwork)	
Glass makers only	£7..8..9 $\frac{1}{2}$
Other departments	10..3..4
do. in Bristol.	<u>3..15..2$\frac{1}{4}$</u>
	£21.. 7.. 3 $\frac{3}{4}$

∴ 416 Journeys, or 10400 Crates cost us in Wages and allowances

£8886..16..0 = 52 weeks work	
Wages &c. per Journey (overwork)	
Glass makers only	£5..10..0
Extra packers &c	<u>1..17..6$\frac{1}{2}$</u>
	£7..7.. 6 $\frac{1}{2}$

Difference in wages and allowances only, about £14 per Journey
C.T.C. Aug. 1837

Aug. 1837.

End note: It had been established by comparison with the photograph of pages 118 and 119 on p.21 of Thomas, M, 1987, that the earlier transcription, copies of which are in the SMR, at Nailsea Library, and presumably elsewhere, was not necessarily accurate. There are three mistakes on p.118 alone. Additionally it seemed improbable that Coathupe would not have had his furnace big enough to take his pots, if his furnace details were interpreted correctly. In the event it seems that he didn't. I am very grateful to Mrs B Knutson, at Nailsea Library, and to Mr T Bowen of NDLS for facilitating the re-examination of the original in order to achieve a more reliable transcription. The foregoing is the result. It is understood that in the near future the notebook will be transferred to the Somerset Record Office for conservation and safe-keeping. (Aug. 2004)

APPENDIX 2 - Extract from *Builders' Work and the building Trades*, Seddon, 1889

“304.

Materials.

Glass used for glazing purposes is distinguished according to the method of its manufacture, as *crown glass*, *sheet glass*, and *plate glass*, and is described either by its weight per foot super or, in the thicker descriptions, such as plate glass, by its thickness; and may be either flat or bent to any required curve. The sizes of the sheets are limited by the process of manufacture.

Crown Glass. —*Crown glass*, also called Newcastle glass, from the chief seat of its manufacture, is blown in circular tables from 3 feet 6 inches to 5 feet diameter, leaving the boss, from which it was blown, in the centre. The method of blowing it, and bringing it to the required thickness—by making the tube, through which it is blown, revolve rapidly on its axis, causing the glass to run out by centrifugal force from the centre to the circumference of the disc—tends to an inequality of thickness, decreasing from the centre boss to the circumference, as well as to its being more or less striated in concentric rings; thus limiting the size of the good glazing panes which can be cut out of a table.

The qualities¹ of crown glass are known as *selected glazing* or

¹ The quality, weights, and sizes here given are those furnished by the “Glass Tariff” of Messrs. Hartley and Co. of Sunderland.

305 PAINTER'S, GLAZIER'S, AND PAPER HANGER'S WORK.

picture qualities and *usual glazing qualities*. There are two picture qualities, called A for best and B for second best. The usual glazing qualities are divided into *best*, *seconds*, *thirds*, and *fourths* or *coarse*. The second quality is used for officers' quarters, etc., thirds for all ordinary barrack purposes, and fourths only for very inferior glazing, such as outhouses, stables, etc.

The weight of crown glass per foot super varies considerably, even in the same table, owing to its decreasing in thickness from the central boss, towards the edges; for windows it should run about 16 oz. per foot super. For every $\frac{1}{16}$ of an inch in thickness it weighs about 13 oz. per foot super.

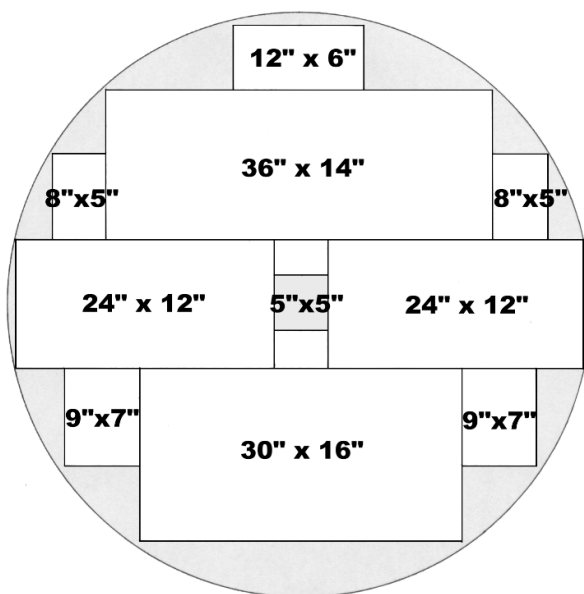


Fig. 276

On an average about 10 or 11 feet super can be cut out of each table, but if cut to the best advantage about 13 feet super can be got from a table, such as is shown in Fig. 276.”

Figure 3.28: 54.34 inch table cutting diagram (Redrawn from Fig.276 from Seddon.)

The sheets are usually cut to about $2\frac{1}{2}$ inches from the centre, leaving a *quarry*, generally 5 by 5 inches, which, having the central boss in it, is chiefly used for stable or similar work. The term *quarries* is also applied to glass cut up into small pieces for lead glazing. There is a difficulty in cutting sheets containing more than 6 feet super.

Crown glass is sold by the foot super in *crates* of 12 circular *tables* averaging 52 inches in diameter, if of *extra* thickness; or of 18 tables averaging 53 inches, if of the *usual* thickness for glazing. It may also be obtained in flattened slabs, or in squares cut to order, and bent to any curve required. Large squares run more expensive than smaller ones, on account of the greater waste to which the tables cut.

Unflattened is superior in quality to flattened crown glass, but unless specially selected, is so much curved as to necessitate cutting the sash bars, **or** using a large amount of putty.

On account of the improvement in the manufacture of *sheet glass*, in which the defects inherent to the manufacture of *crown glass* are avoided, the latter is no longer made at many of the large glass works, and is therefore going rapidly out of use; at the same time it is more colourless and less brittle than sheet glass.

306 BUILDER'S WORK AND THE BUILDING TRADES.

Sheet Glass. —*Sheet, flattened sheet, crystal or British sheet*, all signifying the same glass, is used for all ordinary glazing purposes, and is blown in a hollow cylindrical form with closed ends, which when removed leave a glass tube 3 to 4 feet long, and from 10 to 12 inches diameter: these, when cut down one side, are opened up into sheets and flattened out in a reverberatory furnace, and tempered by being cooled gradually in a succession of ovens, each of a lower temperature than the last. It can be polished on face, bent to any curve, or ground on face or edges, as may be ordered.

Sheet glass is either of the ordinary clear description known as crystal, or a light, tinted glass is supplied at an increase in cost of about 10 per cent. Crystal sheet glass is generally used for photographic studios, but an extra white quality can be supplied, though at a higher rate.

The *qualities* sold are A and B *picture qualities*, and the usual glazing qualities—viz. *best, second, third, and fourth or coarse*. The seconds are used for officers' quarters, offices, etc., and thirds for ordinary barrack purposes.

The *weights* per foot super are generally 15 oz., 21 oz., 32 oz., 36 oz., 42 oz., the latter being nearly $\frac{1}{4}$ inch thick. As a rule every $\frac{1}{16}$ inch may be taken as 13 oz. to the foot super.

In *dimensions* the ordinary stock sheets do not exceed in area 17 feet super, in length 75 inches, or in breadth 45 inches; nor are they less than 10 feet super, 44 inches in length, or 34 inches in breadth.

Sheet glass is sold by the foot super of the required quality and weight, in *crates* or in *squares* cut to order.

Obscured Sheet. —Sheet glass, obscured or frosted, so as to appear like ground glass, is made from any description of the third quality glass; it is cheaper than ground glass, and may be obtained either plain or in patterns of endless variety.

Fluted Sheet. —Sheet glass of third quality from 15 oz. to 32 oz. per foot super, is rolled, so as to form flutes or corrugations on both sides, which while it secures privacy without obstructing light, makes it much stronger than either ground or obscured sheet glass.

Patent Plate. —*Patent plate* glass is merely a superior class of polished sheet glass, and can be distinguished from *plate glass* by a more wavy appearance of the surface, as well as by the air bubbles, which in sheet glass and patent plate are oval, whilst those in crown and plate glass are circular.”

APPENDIX 3 - 1804 Price List

“Lucas, Chance, Homer & Coathupe’s Prices of Crown Window Glass and Glass Bottles, for Exportation.” Broadside. Bristol: 1804. Courtesy of the Massachusetts Historical Society

LUCAS, CHANCE, HOMER, & COATHUPE'S

PRICES OF

CROWN WINDOW GLASS AND GLASS BOTTLES,

FOR EXPORTATION.

WINDOW GLASS.

	£. s.	£.	
Best Glass, ... in Sheets,	3 0	per Side, or ...	60 per Score of 21 Sides.
Best Seconds,	2 10	per Side, or ...	50 per Score of 21 Sides.
Common Seconds,	2 0	per Side, or ...	40 per Score of 21 Sides.
Cribs of Quarries,	1 5	per Crib, or ...	25 per Score of 21 Cribs.

No Scorage on a less Quantity than 21 Sides.

		SECOND QUALITY.	£. s. D.
SQUARES above 36 Inches and not exceeding 48, ... as 8 by 6,			1 13 0
48 Inches to ... 70, ... as 9 by 7,			1 19 0
70 Inches to ... 100, ... as 10 by 8, ... and 11 by 9,			2 8 0
100 Inches to ... 130, ... as 12 by 10,			2 12 0
130 Inches to ... 160, ... as 13 by 11, 14 by 10, and 15 by 10,			2 16 0
160 Inches to ... 190, ... as 14 by 12, 15 by 11, and 16 by 11,			3 0 0
190 Inches to ... 210, ... as 15 by 13, 16 by 12, and 17 by 12,			3 5 0
210 Inches to ... 250, ... as 16 by 14, 18 by 12, and 19 by 13,			3 10 0
250 Inches to ... 300, ... as 18 by 16, and 20 by 14,			4 0 0
300 Inches and all above,			4 10 0

} per 100 Feet.

BOTTLES.

	s. D.
Pints,	1 7
Quarts,	1 10
Pottles,	3 8

} per Dozen.

2 per Cent. allowed on Bottles for Breakage, if stowed loose on board Ship.

5 per Cent. Discount for Money, or 6 Months Credit.
The Drawback in all Cases the Property of the Manufacturer.

BRISTOL, JAN. 1, 1804.

Figure 3.29: 1804 Price list with available sizes

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To aid with interpretation, a transcription from the above broadside (Ref.: Broadside – small 1 January 1804, held by the Massachusetts Historical Society), is given below.

LUCAS, CHANCE, HOMER, & COATHUPE'S

PRICES OF

CROWN WINDOW GLASS AND GLASS BOTTLES

FOR EXPORTATION.

WINDOW GLASS

		£. s.		£
Best Glass,	in Sheets	3 0	per Side, or	60 per Score of 21 Sides
Best Seconds,		2 10	per Side, or	50 per Score of 21 Sides
Common Seconds		2 0	per Side, or	40 per Score of 21 Sides
Cribs of Quarries		1 5	per Crib, or	25 per Score of 21 Cribs

No Scorage on a less Quantity than 21 Sides.

		SECOND QUALITY		£. s. d.
Squares above	36 Inches and not exceeding	48,	as 8 by 6	1 13 0
	48 Inches	to 70,	as 9 by 7	1 19 0
	70 Inches	to 100,	as 10 by 8, and 11 by 9	2 8 0
	100 Inches	to 130,	as 12 by 10	2 12 0
	130 Inches	to 160,	as 13 by 11, 14 by 10, and 15 by 10	2 16 0
	160 Inches	to 190,	as 14 by 12, 15 by 11, and 16 by 11	3 0 0
	190 Inches	to 210,	as 15 by 13, 16 by 12, and 17 by 12	3 5 0
	210 Inches	to 250,	as 16 by 14, 18 by 12, and 19 by 13	3 10 0
	250 Inches	to 300,	as 18 by 16, and 20 by 14	4 0 0
300 Inches	and all above			4 10 0

} per 100 Feet

BOTTLES

	s. d.
Pints	1 7
Quarts	1 10
Pottles ⁴⁷	3 8

} per dozen

2 per Cent. allowed on Bottles for Breakage, if stowed loose on board Ship

5 per Cent. Discount for Money, or 6 Months Credit.

The Drawback in all Cases the Property of the Manufacturer.

BRISTOL, JAN, 1; 1804.

The above was found through a web search. A further search revealed that there is an 1809 price list with the Koerner Library at the University of British Columbia. There is also a reference at the same source to a "*Crown glass cutter and glazier's manual*" by William Cooper, 1835. Both are held as microforms, but have not been requested, as these and the above were only located very late in the study.

⁴⁷ From the Concise Oxford Dictionary: pottle: (archaic) measure for liquids, half gallon pot etc. containing this.