

S T E A M E R C H O C T A W

G E N E R A L R E P A I R S

The Extraordinary and General Repair Account of this Steamer was small for the past season, being but \$451.86, and represents numerous small repairs.

The repairs necessary before this Steamer goes to sea next season will only be those of a general character.

The CHOCTAW'S boilers are beginning to show many defects in the way of cracks in the rings. Before going to sea again it will be necessary to put on two or three patches. It is thought that this will enable the boilers to go through next season, but Chief Engineer Kelley gives it as his opinion that by another year this Steamer's boilers will require some very general overhauling,-possibly the removal of the entire insides of same.

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A C C I D E N T S

APRIL 26TH The Choctaw had finished loading at Presque Isle Dock, and was waiting for the heavy Northeast gale, which was blowing, to abate sufficiently to enable them to get away from the dock. A heavy undertow caused the Choctaw to range considerably and in so doing, she pulled down a part of the dock and broke some piles. The Choctaw cannot be held wholly responsible for this, as there is no protection at this dock for boats in heavy weather, and sometimes it is impossible for them to get away. In this case the Choctaw parted all her lines in trying to make fast and finally had to make an attempt to get away to avoid going ashore. The damage was repaired and the bill, amounting to \$22.50, paid by us.

APRIL 26TH The Choctaw had finished loading at Presque Isle Dock, and was waiting for the gale then blowing, to abate sufficiently to allow her to proceed with safety. The seas finally became so heavy the Choctaw could not remain at the dock longer with safety and the Captain decided to start out in order to avoid going ashore, as he had used all his lines attempting to make fast to the dock. The gale had been blowing from the N. E., but at the time the boat left it had shifted to the North'ard. There was a heavy sea running. When the Choctaw was just abreast of the South end of the Presque Isle breakwater, she met a heavy sea which lifted the boat and dropped her heavily on the bar striking her bottom. The boat did not bring up, but directly after striking it was found that she was leaking badly. It therefore became necessary to put into Marquette, about five miles distant. By the time she got there the vessel had settled about two feet, and in order to keep her from

STEAMER CHOCTAW

ACCIDENTS #2

sinking, it was necessary to put her aground. She was accordingly put aground on the soft bottom near the old No.3 ore dock. Telegrams were at once sent for assistance and at 4:00 A. M., April 29th, the wrecking tug "Favorite" and lighter arrived from Cheboygan, Mich., and the "Soo" respectively. Work was at once commenced lightering the cargo, and continued until 4:00 P. M. of that day, when it was decided enough ore had been taken out to proceed to Presque Isle coal dock, where steam hoists were available. About 8:00 A.M. Mr. R. Parry-Jones, representative of the Underwriters, arrived and took charge of the lightering and wrecking operations. A diver had come with the Tug Favorite, and an examination was made, showing that considerable damage had been done to her bottom and sides, and that her deck was bulged up amidships. When the Choctaw arrived at Presque Isle coal dock, more of the cargo was taken out by the steam hoists at the dock. When a sufficient amount of the cargo had been lightered to satisfy Mr. Jones that it would be safe for the vessel to proceed, the Choctaw left the coal dock, and, as the weather bulletins showed that a N. E. gale was coming, she went to Marquette and lay there until 5:00 A. M. of May 2nd, when, the weather being moderate, proceeded on her voyage, arriving at Cleveland without further accident at 6:00 A. M. May 5th, where she proceeded to discharge her cargo.

Besides the damage sustained by the Choctaw, it was necessary to have the lighter, diver and laborers during the time mentioned. It was also necessary to keep the ballast pump and syphon going to keep the hold free of water, requiring the consumption of about 40 extra tons of coal.

After the Choctaw was discharged at Cleveland, she went

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A C C I D E N T S # 3

to Lorain and was put in dry dock, where an examination showed the following damage: The vessel had struck near the forward end on the keel plate and on one garboard plate on the starboard side, badly indenting these plates and two frames broken, and that the vessel had broken across the bottom nearly amidships, the break extending through the first strake of the side plating above the bilge strakes on each side, and that the butts of bilge and bottom plating above the break, were badly started and that the butts of the tank top margin plate on each side, were started and the keel liner and one bottom longitudinal angle broken and one butt of center keelson started, and five bottom frames broken, and rivets connecting frames and floors broken off and also that the top sides had buckled up badly, involving on the starboard side, two plates and two lengths of gunwale angle bar, and two deck plates and on the port side, one sheer strake plate, one upper deck stringer plate and doubling plate and one length of gunwale angle bar and one deck plate. Considerable other damage was also done. The Choctaw was sixteen days in dry dock undergoing repairs. This, of course, is an insurance claim on the Choctaw's underwriters, and the bill, amounting in total to \$14,572.49, will be paid by them.

JUNE 13TH

The Choctaw was unloading at the Minnesota Dock, Buffalo, on this date. The chain on the bucket of the rig working in No. 6 hatch broke, allowing the bucket to drop on deck, inflicting two dents in the deck plate. As the dents were small and would not necessitate repair, no claim will be made against the Minnesota Dock.

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ACCIDENTS #4

SEPT. 19TH The Lehigh Valley Railway people at Buffalo notified us on this date that the Choctaw was responsible for some damage done to their dock at Buffalo, and on investigation the following facts were ascertained:

 The Steamer M. B. Grover was lying outside of the A. P. Wright and the Choctaw was lying outside of the W. H. Gratwick. In the afternoon the Gratwick hove astern, and as she did so, the Wright also hove astern, getting between the Choctaw and the dock. As the Wright hove astern, the Grover dropped into the dock and the Choctaw hove alongside of the Grover. The Grover may have crowded the float lying next to the dock into the piles when she dropped into the dock, but the Choctaw neither bumped against the Grover, nor crowded her into the dock in the slightest way. Under these circumstances, we refused to entertain any claim of the Lehigh Valley Dock for repairs, and the matter was dropped.

C H O C T A W

	1 9 0 1		1 9 0 2	
	Days	Percent	Days	Percent
Time in commission in port,	86 ³ / ₄	40.9	92	38.8
Time sailing,	118 ¹ / ₂	55.9	115	48.5
Time lost by bad weather, fog and low water,	4 ¹ / ₂	2.1	4	1.7
Time lost waiting at Soc Canal and River,	2	1.0	4	1.7
Time lost by accidents	¹ / ₄	.1	22	9.3
TOTAL TIME IN COMMISSION,	212	100.0	237	100.0
Number of trips made,	21		21	
Number of cargoes carried,	23		22	

PERCENTAGES OF TIME IN COMMISSION IN PORT

Season	1900	40.0
"	1901	40.9
"	1902	38.8

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R E C E I P T S	T O N S	A M O U N T	P E R G R O S S T O N F R E I G H T C A R R I E D
19 Cargoes iron ore from Marquette,	54,779	\$38,345.30	\$.7000
1 Cargo iron ore from Ashland,	2,879	2,303.20	.8000
2 Cargoes coal to Marquette, { 2501-1900 net tons @ 40¢ 2433-1100 net tons for which total freight was \$2200.	4,407	2,950.59	.6695
22	62,065	\$43,599.09	\$.7025
<u>D I S B U R S E M E N T S</u>			
Extraordinary and General Repairs,	\$ 451.86		
Ship Keeper and Winter Dockage,	136.66		
Fitting Out,	1,062.54		
Wages and Captain's Salary,	8,012.97		
Captain's Expense Account,	62.18		
Tug Services,	326.52		
Handling Cargoes,	10,955.02		
Taxes,	338.64		
Marine Insurance,	3,261.64		
Freight List Insurance,	44.50		
Mate's Supplies,	350.33		
Provisions,	1,525.20		
Steward's Supplies,	143.84		
Fuel,	6,423.75		
Engineer's Lubricants,	85.85		
Engineer's Supplies,	112.79		
Boiler Repairs,	116.82		
Machinery Repairs,	11.90		
Auxiliary Machinery Repairs,	6.10		
General Expenses (Telegrams, Dues Lake Carriers Assn., etc.	237.92		
Laying Up,	626.20		
		34,293.23	.5525
<u>NET EARNINGS FOR SEASON,</u>		\$ 9,205.86	\$.1500
Less amount not allowed by Insurance Co. in adjustment of claims,		69.57	
MAKING TOTAL NET GAIN FOR SEASON 1902.		\$ 9,236.29	

NOTE: The cost per ton to operate, after eliminating Extraordinary and General Repairs Account is \$.5452

C H O C T A W

Comparisons

	1 9 0 1	1 9 0 2
Days in commission,	212	237
Number of miles traveled,	31,580	29,935
Number of trips made,	21	21
Number of cargoes freight carried,	23	22
Gross tons freight carried,	65,775	62,065
Average rate freight per gross ton,	\$.7650	\$.7025
Average cost to carry per gross ton freight,	.5022	.5525
Net earnings per ton freight carried,	\$.2627	\$.1500
Cost per ton to operate after eliminating Extra & Gen. Reprs.	\$.4900	\$.5452
Gross Receipts,	\$50,317.57	\$43,599.09
Gross Expenditures,	33,035.07	34,293.23
Net earnings,	\$17,282.50	\$ 9,305.86
Percentage of operations to earnings,	65.4	78.6
Gross earnings per mile traveled,	\$ 1.5933	\$ 1.4569
Operating expenses per mile traveled,	1.0461	1.1459
Net earnings per mile traveled,	\$.5472	\$.3110
Gross earnings per day,	\$ 237.34	\$ 183.96
Operating expenses per day,	155.82	144.69
Net earnings per day,	\$ 81.52	\$ 39.27
Expenses per day excluding cargo handling costs,	\$ 99.53	\$ 98.47
Cost provisions per man per day(excluding extra meals,)	\$.341	\$.372
Average tons coal consumed per mile steamed,	148/2000	164/2000
Average cost coal consumed per mile steamed,	\$.1786	\$.2059
Average tons coal consumed per hour steamed,	1645/2000	1786/2000
Average cost Oil consumed per mile steamed,	\$.00378	\$.00287
Average cost Oil consumed per hour steamed,	\$.0420	\$.0312
Average wages paid per day while in commission,	\$ 30.16	\$ 30.19
Average Ore cargoes from Lake Superior,	2,912	2,916
Average draft water on Ore cargoes from Lake Superior,	{ 17'7"for'd	{ 17'4"for'd
	{ 17'9"aft	{ 17'12"aft
Average mean draft water on Ore cargoes from Lake Superior,	17'8"	17'8"

STEAMER CHOCTAW
COMPARISON OF ITEMS OF DISBURSEMENT.

	1901	1902	+OR-	REMARKS
Extraordinary and General Repairs,	\$ 802.47	\$ 451.86	\$- 350.61	Considerable repair to hatch covers and fenders made in 1901.
Ship Keeping and Winter Dockage,		138.66	+ 138.66	In 1901 Vessel layed at Ship Yard in Lorain, where Ship Keeping expense was unnecessary.
Fitting Out,	666.79	1,002.54	+ 495.75	A more general replacement required in the several departments in 1902.
Wages and Captain's Salary,	7,708.30	8,012.97	+ 304.67	A longer season in 1902.
Captain's Expense account,	57.95	62.18	+ 4.23	
Tug Services,	280.93	326.62	+ 45.69	
Handling Cargoes,	11,933.81	10,955.02	- 978.79	In 1902 carried 2710 tons less freight than in 1901.
Taxes,	305.14	338.64	+ 33.50	
Marine Insurance,	3,365.70	3,361.64	- 104.06	Insurance rate decreased from 2.20 in 1901 to 2.05 in 1902.
Freight List Insurance,	62.68	44.50	- 18.18	
Mate's Supplies,	275.87	350.33	+ 74.46	Item of rope purchased in 1902 cost \$ 101.82 more than in 1901.
Provisions,	1,339.04	1,525.20	+ 183.31	Based on increased cost of \$.031 per man per day.
Steward's Supplies,	187.63	143.84	- 43.79	In 1901 range coal cost \$ 77.50- Did not purchase range coal in 1902.
Fuel,	5,641.91	6,423.75	+ 573.80	Based on increased consumption of sixteen pounds per mile.
Engineer's Lubricants,	119.42	85.85	- 27.23	Based on decreased cost of \$.00091 per mile.
Engineer's Supplies,	73.22	112.79	+ 39.57	
Boiler Repairs,	34.52	118.22	+ 82.30	In 1902 repaired breeching, repairing and lining furnace doors, calking patch, etc, \$54.17.
Machinery Repairs,		11.90	+ 11.90	
Auxiliary Machinery Repairs,		6.10	+ 6.10	
General Expenses,	91.41	227.92	+ 146.51	In 1902 paid Captain Wm. Smith, reward of \$100.00
*Laying Up,	477.27	626.20	+ 148.93	In 1902 Vessel was laid up at Marquette, and traveling expenses of crew was paid from that port. This item exceeds 1901 account by \$180.79

* The machinery on this steamer was practically fitted out for season 1902 while laying up at end of season 1901.
No fitting out work was done while laying up at end of season 1902.

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Captain's Expense Account

	1 9 0 1	1 9 0 2
Telegrams and Telephones	\$ 34.00	\$ 36.18
Postage	8.50	9.50
Railway Fares	15.20	9.30
Customs	8.40	8.00
Stationery	2.45	3.18
Express	1.20	.55
Exchange	2.70	.20
Miscellaneous	2.75	5.50
T O T A L	\$ 75.20	\$ 72.41

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Details of General Expense

	1901	1902
Telegrams etc	\$ 11.23	\$ 35.64
Stationery	4.70	12.45
Trimnings and buttons	16.55	10.75
Travelling Expenses	6.40	176.07
Dues, Lake Carriers Association	37.68	37.68
Amount paid Robert Logan, for investigating and Reporting on Engine Indicator Cards	10.00	10.00
Marine Reporting	16.25	23.00
Board Bills of Captain and Engineer while fitting out and laying up	83.10	85.74
Prizes and Rewards		100.00
T O T A L	\$185.91	\$491.33

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P R O V I S I O N A C C O U N T

	1 9 0 1			1 9 0 2		
	QUAN.	PRICE	AMOUNT	QUAN.	PRICE	AMOUNT
Sugar	1,059 lb	\$.057	\$ 61.00	1,019 lb	\$.066	\$ 68.15
Tea	60 "	.318	19.10	67 "	.288	19.46
Coffee	156 "	.134	20.88	199 "	.125	25.11
Spices & Vinegar			8.06			7.41
Extracts	16 bt	.236	3.79	16 bt	.246	3.95
Baking Powder	57 lb	.21	11.97	58 lb	.23	13.34
Bread & Crackers			28.91			28.56
Butter & Butterine	510 "	.165	84.44	542 "	.228	127.74
Lard & Cotoline	326 "	.100	32.73	337 "	.107	36.30
Cheese	104 "	.128	13.47	87 "	.146	12.76
Fresh Milk	261 gal	.139	49.45	188 gal	.172	32.43
Condensed Milk	132 can	.092	12.12	140 can	.087	12.17
Pickles			11.89			20.50
Sauce			.95			8.80
Eggs	227 dz	.172	39.05	266 dz	.210	56.12
Flour	12-1/2 bbl	4.089	51.12	11-3/4 bbl	4.574	53.75
Buckwheat Graham & Corn Meal	323 lb	.024	7.77	338 lb	.038	15.83
Farinaceous Foods	107 "	.056	6.04	181 "	.047	8.99
Canned Fruit	61 can	.130	7.97	146 can	.130	19.08
Canned Vegetables	386 "	.070	27.09	313 "	.092	28.98
Dried Fruits	243 lb	.090	22.09	289 lb	.097	28.39
Dried Vegetables	112 "	.042	4.77	95 "	.089	8.16
Fresh Fruit			54.63			41.20
Fresh Vegetables			48.05			49.30
Potatoes	139 bu	.904	125.60	130 bu	.745	96.95
Dried Onions	24 pk	.319	7.66	19 pk	.381	7.25
Fresh Fish	176 lb	.095	16.72	141 lb	.087	12.35
Salt Fish	140 "	.114	16.09	150 lb	.107	16.09
Fresh Meat	3,451 "	.107	369.71	4,263 "	.108	463.66
Salt Meat	997 "	.088	88.21	1,178 "	.090	106.48
Molasses & Syrup	9-1/2 gal	.277	2.63	23 gal	.30	6.90
Ice	487 cwt	.182	88.68	610 cwt	.184	112.40
Miscellaneous			10.95			2.40
TOTAL			\$1,352.59			\$1,550.97
Less Cash Discounts			14.55			25.77
			\$1,339.04			\$1,525.20

Average consumption of meat per man per day in 1901 was 1.15 lbs

" " " " " " " " 1902 " 1.37 lbs

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D E T A I L S O F S T E W A R D ' S S U P P L I E S

	AMN'T	PRICE	1901	AMN'T	PRICE	1902
Table linen, towelling etc		\$	\$.38		\$	\$ 14.65
Bed linen, blankets etc			15.05			39.85
Cutlery and spoons			5.52			5.84
Crockery and glassware			6.21			12.27
Kitchen utensils			6.46			11.15
Soap			8.27			12.54
Scouring material			7.76			16.04
Brooms	9	.255	2.30	4	.283	1.05
Brushes	7	.082	.58	2	.10	.20
Laundry			89.79			95.43
Range Coal	12	6.453	77.50			
Toilet articles			3.28			1.75
Miscellaneous			21.15			20.35
TOTAL			\$244.25			\$231.17
Less cash discounts			.55			.86
			\$243.70			\$230.31

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Details of Mate's Supplies Account

	AMN'T	PRICE	1901	AMN'T	PRICE	1902
Flags and private signals		¢	¢		¢	¢
Canvass Deck etc			9.64			.54
Kerosene Oil	796 gal	.115	92.00	321 gal	.120	38.83
Rope etc	1,316 lbs	.101	133.80	3,100 lbs	.138	429.46
Chimneys and Globes			24.05			14.48
Lamps, Lanterns and burners			19.03			18.71
Scouring material			7.94			6.74
Soap			9.65			14.10
Rags	85 lbs	.057	4.90	57 lbs	.061	3.52
Hardware and Tools			8.23			7.61
Brushes	19	.484	9.20	13	.423	5.50
Brooms	42	.259	10.83	32	.318	10.20
Candles			20.40			20.40
Hose						
Miscellaneous			14.10			34.60
T O T A L			\$363.81			\$604.69
Less Cash Discounts						9.59
			\$363.81			\$595.10

S T E A M E R C H O C T A W

Details of Paints Purchased

	1 9 0 1			1 9 0 2		
	QUANTITY	PRICE	AMOUNT	QUANTITY	PRICE	AMOUNT
White Lead	75 lbs	\$.06- $\frac{1}{4}$	\$ 4.69	150 lbs	\$.06	\$ 9.00
Red Lead	550 "	.071	39.25	100 "	.06	6.00
Boiled Oil	102 gal	.66	67.57	65 gal	.68	44.30
Turpentine	26 "	.56	14.50	17 "	.60	10.20
Tinted Lead	100 lbs	.06- $\frac{1}{2}$	6.50	300 lbs	.06- $\frac{1}{2}$	18.75
Hull Paint (black)				1 gal	1.10	1.10
Princess Brown	153 lbs	.04	6.12	414 lbs	.038	15.73
Maroon Enamel Paint				2 gal	1.50	3.00
Miscellaneous			27.71			11.55
T O T A L			\$166.34			\$119.43
Less cash discount						.29
			\$166.34			\$119.14

S T E A M E R C H O C T A W

Details of Engineer's Supplies

	AMOUNT	PRICE	1901	AMOUNT	PRICE	1902
Tools and Hardware		\$	\$ 19.19		\$	\$ 26.51
Lamps and Wicking			4.03			9.34
Scouring Material			5.11			5.50
Soap			5.25			8.00
Rags and Waste	50 lbs	.056	2.80	60 lbs	.055	3.30
Hose	25 ft	.471	11.79	62 ft	.469	29.10
Brooms	6	.25	1.50	5	.34	1.70
Brushes	2	.15	.30	14	.242	3.40
Squirt Cans and Fillers			.35			
Water Glasses			.90			2.15
Fittings and Pipings			2.00			8.27
Valves			14.41			29.46
Gaskets			.24			
Packing	117 lbs	.372	43.61	97 lbs	.535	56.71
Miscellaneous			11.07			48.43
Total			\$122.55			\$231.87
Less cash discount						10.33
			\$122.55			\$221.49

S T E A M E R C H O C T A W

F U E L P U R C H A S E D F O R T W O S E A S O N S

G R A D E	1901				1902			
	TONS	PER CENT	AVERAGE PRICE	TOTAL COST	TONS	PER CENT	AVERAGE PRICE	TOTAL COST
LUMP	575- 400	24.6	\$2.499	\$1,437.33	840- 200	33.1	\$3.763	\$2,320.79
RUN OF MINE	1,679-1200	71.8	2.392	4,016.37	1,699- 300	66.9	2.415	4,102.96
NUT	83-1300	3.6	2.250	188.21				
SLACK								
T O T A L	2,338- 900	100.0	\$2.413	\$5,641.91	2,539- 500	100.	\$2.529	\$6,423.75

STEAMER CHOCTAW

STATEMENT OF GENERAL AND EXTRAORDINARY REPAIRS-----ELABORATED

Total cost of Repairs was \$621.57	MACH. REPAIRS	BOILER REPAIRS	HULL REPAIRS	DECK REPAIRS	CABIN REPAIRS	BUL- WARKS & RAIL REPAIRS	MISC. REPAIRS
Repairing stem damaged by being jammed into the dock	\$	\$	\$ 22.84	\$	\$	\$	\$
Repairing engine room deck, new floor in engine room, new combing in engine room, new combing around engine hatch, etc				153.44			
Four new line checks							98.81
New fore and aft hatch bar, 8 new hatch wrenches, and stud bolts renewed in hatch combings				17.80			
Building flour bin in pantry, repairing door, etc,					12.79		
New timber head on port side (ford.							37.71
New stanchion sockets						20.25	
Repairing binnacle & range (lamps)							7.35
New kitchen range with connections							100.82
Repairing fender strake on starboard side			11.16				
Repairing kitchen sink					4.40		
Renewing kitchen range smoke-stack					5.80		
Repairing clocks							3.42
Hooks & bolts for hatch covers				11.51			
Repairing bearing indicator							.75
Screen for protection of pilot-house while fueling					1.65		
Repairing damage to kitchen range caused by breaking loose from fastenings							18.80
Glazing					2.75		
Repairing fire hold tools, etc		1.87					
Paints purchased during season							119.14
	\$	\$ 1.87	\$ 33.50	\$ 122.25	\$ 26.89	\$ 20.25	\$ 386.81
Less amount received for anchor sold "CADILLAC"							30.00
T O T A L S	\$	\$ 1.87	\$ 33.50	\$ 122.25	\$ 26.89	\$ 20.25	\$ 356.81

Total cost of paints purchased during season of 1900 was \$377.61

" " " " " " " " 1901 " 186.34

The total cost of paints used by engineers department in season of 1902 was \$8.77

S T E A M E R C H O C T A W

STATEMENT SHOWING TIME DISCHARGING ORE CARGOES

NAME OF DOCK	NO. CARGOES	1901						1902					
		AVERAGE TIME AT DOCK		AVERAGE TIME AT DOCK DISCHARGING		AVERAGE TIME ACTUALLY AT WORK		AVERAGE TIME AT DOCK		AVERAGE TIME AT DOCK DISCHARGING		AVERAGE TIME ACTUALLY AT WORK	
		DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS
T & O C Toledo	1	1	11	1	11		18						
C L & W Lorain								3	3	17	1	6	18
C T & V Cleveland								1	3		1	16	18
N Y P & O "	3	3	20	3	3		22	1	3		1	3	33
C & P "	8	3	11	1	12		19						
ANGELINE Ashtabula	2	1	12	1	10		22						
M & S "	3	3	1	1	22		19						
E & P Erie	1	3	12	1	9		22	1	1	6	1	6	16
D L & W Buffalo	1	3	23	3	23		22						
MINNESOTA "	3	6	11	2	12	1	3	1	1	15	1	4	20
LEHIGH VAL. "								12	3	5		20	18
WEST SHORE "								3	3	14	2	14	33
GRAND AVERAGE	21	3		1	23		21	20	3	23	1	6	20

STEAMER CHOCTAW

GENERAL DATA

Total number of crew (including Master and Engineer) ...	19
Length over all	280 Feet
Keel	266 "
Beam	38 "
Depth	23 "
Net tonnage	1256 "
Gross tonnage	1573 "
Ore Capacity	2823 "
Coal Capacity	2558 "
Engines	17, 29, 47 X 36
Boilers	2 Scotch, 11 X 12
Steam	160
Horse Power	800
Pitch of Wheel	13'6"
Average revolutions of wheel per minute, loaded	81
" " " " " " light	85
Number of hatches	7
Average miles per hour, light	11.70
Average miles per hour, loaded	10.86

S T E A M E R A N D A S T E

G E N E R A L O P E R A T I O N S

The Steamer ANDASTE sailed from the port of Cleveland, O., on first trip of season 1902 on April 12th, and finished discharging last cargo at Marquette, Mich., on December 8th, having been in commission 241 days.

This vessel traveled a total of 38,074 miles during the season, having made 23 trips. The cargoes carried were distributed as follows:

9 cargoes iron ore from Marquette to Lake Erie Ports
13 " " " " Ashland " " " "
2 " coal to Marquette.

The average rate of freight received on all cargoes carried during the season was \$.7430 per ton, as compared with \$.6804 during the previous year. The actual operating expenses per ton were \$.5345 in season of 1902 and \$.4717 per ton in season 1901. The average net earnings per ton, therefore, are \$.2085, as compared with \$.2087 in preceding year.

S T E A M E R A N D A S T E

GENERAL REPAIRS

The Extraordinary and General Repair Account of this Steamer amounted to \$954.80. There are no items of importance, the repairs being of the usual annual character.

Matters that should have attention in the Hull Department before the ship goes to sea another season are not many, being in line of the usual character.

The ice box on this boat is located just along the starboard side of the ship, the hull making a portion of the ice box. The box should be sufficiently removed from the side of the hull to allow a man to get at the plate to paint same. The present box is in bad shape, but only temporary repairs will be made, with a view of putting in a new ice box at the end of next season.

The water closet for the deckhands and firemen is badly situated, it being located right over the galley, and, with the sort of care given it by this class of men, there is a constant overflow of water running down into the galley, which is the cause of much friction. This closet should be removed from its present location and placed in the coal bunker, aft of the entrance to the fire hold.-the same location as the closet kept for the use of this class of men on the CHOCTAW.

Engine Department: A new smokestack will be required, as the present one has come through in several places.

Chief Engineer Kelley's report on the boilers of this Steamer is that repairs must be made in the way of patching cracks in some of the rings before going to sea again, but that such repair will only be of a temporary nature, as these boilers should be given a general overhauling by the end of next season, probably necessitating the removal of the entire insides of the boilers.

S T E A M E R A N D A S T E

A C C I D E N T S # 1

MAY 25TH The Andaste, while making the turn into the slip at the Lehigh Valley Dock, Buffalo, rubbed against the side of the dock, breaking three pine stringers, displacing one splice and shoving some of the dock decking out of place. The damage was settled with the Dock people for \$38.60, which we paid.

JULY 14TH The Andaste was discharging cargo at the West Shore Dock, Buffalo. The rig working in the forward hatch swung the bucket forward over the windlass room and against the starboard lamp screen. This was done repeatedly until the screen was completely demolished. Also, in swinging the light bucket back to the hatch, the spar was struck several times, the runners and top bracket which support the headlight screens being broken, also inflicting several bad bruises on the spar. They then dropped a loaded bucket on the deck, making two large dents in the plate. The repairs were made and the bill, amounting to \$14.97, settled by the West Shore Dock Co.

JULY 22ND The Andaste on this date stopped twenty minutes at the Government Pier, Buffalo, to allow the Steamer WESTERN STATES to wind at Watson Elevator and pass out. While lying at the Pier, the Steamer PENNSYLVANIA in passing, rubbed her port paddle wheel box against our port side amidships. As far as the ANDASTE'S Captain could see, no damage was done to the PENNSYLVANIA, and none was sustained by the ANDASTE.

JULY 30TH We received notice from the Government officials at Duluth that on July 30th, the ANDASTE collided with the revetment at the

S T E A M E R A N D A S T E

ACCIDENTS #2

upper end of Lily Pond, Portage Lake Ship Canals, Mich., on both the West and East sides, breaking several timbers. The Captain of the ANDASTE disclaimed all knowledge of this accident,--stated that at the time they made the turn from Lily Pond into the north section of the canal, it was very dark, and though the fenders rubbed the west revetment, he did not consider they struck hard enough to do the damage. However, as Government employes testified that the ANDASTE did the damage, and we admitted that we had rubbed along the revetment, the Government claimed that they were satisfied that our Steamer did the damage, and therefore they would look to us for payment. The case was finally adjusted, after correspondence, by our paying the Government \$75.00.

AUGUST 4TH As the Andaste was coming into Buffalo and when about a mile from the breakwater, the Tug I. W. BABCOCK, of the Great Lakes Towing Co., steamed alongside the ANDASTE, in the usual manner, to ask for a tow. Her Captain held close to, until sparks from her stack set fire to the ANDASTE'S deck awning, burning a large hole in same. Then the BABCOCK in dropping astern, collided with the ANDASTE on her port quarter, breaking the fender strake. The damage was repaired at Buffalo, and the bill, amounting to \$6.80, paid by the Great Lakes Towing Co.

AUGUST 17TH While the Andaste was crossing Lake Huron this date, at about 3:45 A. M., the propellor wheel struck a boom stick. On arriving at the Soo on the 18th an examination showed that one blade on the wheel was broken, probably done when she struck the

S T E A M E R A N D A S T E

A C C I D E N T S # 3

boom. She proceeded to Ashland, where a new blade was put on. As the amount of this damage does not amount to the deductable average for this boat, no claim is made on the Steamer's Underwriters.

SEPT. 5TH While the Andaste was going up the Buffalo River, and when near the Main Street slip, she rubbed against the dock belonging to the Dakota Elevator Co. This dock had been more or less damaged by boats frequently rubbing against it, and the damage the Andaste did only consisted of opening up some old breaks, as was acknowledged by the Dakota Elevator Co., who wanted \$75.00 in settlement of same, but finally agreed to accept \$25.00, which, under the circumstances, the Captain of the Andaste thought it best to pay.

SEPT. 25TH About 10:00 P. M. the Andaste was being transferred from the Dakota Elevator to the D. L. & W. Docks in charge of the Tugs "GEE" and "ERIE". When near the Life Saving Station, she met the Steamer "SONORA" bound in. The Steamer PLANKINGTON was tied to the D. L. & W. Dock and the ANDASTE was just passing her, when the SONORA sheered to port, striking the ANDASTE on the port bow, breaking three stanchion sockets and two fender cleats. The Captain of the ANDASTE holds that the Tugs were responsible for this, from the fact that they pulled the ANDASTE alongside of the PLANKINGTON, knowing that two loaded vessels should not attempt to pass there. However, the owners of the Tugs, the Great Lakes Towing Co., were of a different opinion, and as the damage was very slight, it was thought best to drop the matter, and let the

S T E A M E R A N D A S T E

ACCIDENTS #4

ANDASTE stand the expense of repair, which only amounted to \$9.97.

SEPT. 30TH While the Andaste was crossing Lake Huron, at about 3:00 A. M. the propellor wheel struck a log or something of that nature with such force as to be noticeable on all parts of the ship. The engines were stopped and then started slowly to determine the condition of the wheel, after which she proceeded on to the Soo. On arrival at the Soo, it was found that a piece had been broken off three blades of the propellor wheel. When the vessel arrived at Ashland, two of the broken blades were replaced from extra blades kept aboard, one of them being new and the other with a small piece broken off. Four new blades were ordered and were placed on board the Andaste on next trip down, costing \$217.10. As this amount is not large enough to be an insurance claim, the boat will have to bear the expense.

OCTOBER 22ND As the Andaste was backing out from the Pittsburg Coal Dock into the main river, Cleveland, the Steamer CITY OF DETROIT was coming into the harbor, near the Lake Shore Bridge. She blew two blasts of her whistle, indicating she was going on up the river, which the Andaste answered. Accordingly the ANDASTE'S helm was put to port and the engines worked ahead in order to stop her stern way and make room for the DETROIT to pass. However, instead of doing so, she headed into the River Bed. The ANDASTE'S helm was put to starboard and the boat steadied, but she had no room

S T E A M E R A N D A S T E

A C C I D E N T S # 5

to back up, and as the DETROIT came ahead, the ANDASTE came in contact with the DETROIT between #1 and #2 hatches on the star-board side, cutting the wood fender strake on the ANDASTE in two. No damage was sustained by the CITY OF DETROIT. The damage was very slight and will be repaired when the ANDASTE lays up this winter.

S T E A M E R A N D A S T E

	1 9 0 1		1 9 0 2	
	DAYS	PERCENT	DAYS	PERCENT
Time in commission in port,	97	44.9	88½	36.7
Time Sailing,	103	47.7	141	58.5
Time lost by bad weather, fog and low water,	6¼	2.9	7	2.9
Time lost waiting at Soo Canal and River,	2-¾	1.3	4½	1.9
Time lost by accidents	7	3.2		
<u>TOTAL TIME IN COMMISSION</u>	216	100.0	241	100.0
Number of trips made,	21		23	
Number of cargoes carried,	27		24	

PERCENTAGES OF TIME IN COMMISSION IN PORT

Season	1900	46.5
"	1901	44.9
"	1902	36.7

A N D A S T E

R E C E I P T S	TONS	AMOUNT	PER GROSS TON FREIGHT CARRIED
9 Cargoes iron ore from Marquette,	26,112	\$18,278.40	\$.7000
13 Cargoes iron ore from Ashland,	38,605	30,884.90	.8000
2534-200 net tons @ 30 ¢			
2 Cargoes coal to Marquette	4,445	2,226.51	.5009
2443-1600 " " " 60 ¢			
24	69,162	\$51,388.91	\$.7430
<u>D I S B U R S E M E N T S</u>			
Extraordinary and General Repairs,	\$ 954.80		
Ship Keeping and Winter Dockage,	40.88		
Fitting Out,	800.41		
Wages and Captain's Salary,	8,766.64		
Captain's Expense account,	118.85		
Tug Services,	121.63		
Handling Cargoes,	12,319.19		
Taxes,	338.64		
Marine Insurance,	3,261.64		
Freight List Insurance,	52.24		
Mate's Supplies,	323.26		
Provisions,	1,569.04		
Steward's Supplies,	127.82		
Fuel,	7,035.60		
Engineer's Lubricants,	137.55		
Engineer's Supplies,	131.08		
Boiler Repairs,	84.24		
Machinery Repairs,	16.90		
General Expenses (Telegrams, Dues Lake Carriers Assn. etc)	139.05		
Laying Up,	624.15	36,963.61	.5345
<u>NET EARNINGS FOR SEASON</u>		\$14,425.30	\$.2085
Less amount not allowed by Insurance Co. in adjustment of claims,		768.57	
MAKING TOTAL NET GAIN FOR SEASON, 1902		\$13,656.73	

Note:

The cost per ton to operate, after eliminating extraordinary and General Repairs account is ¢ .5208

A N D A S T E
Comparisons

	1 9 0 1	1 9 0 2
Days in commission,	216	241
Number of miles traveled,	27,928	38,074
Number of trips made,	21	23
Number of cargoes freight carried,	27	24
Gross tons freight carried,	69,317	69,162
Average rate freight per gross ton,	\$.6804	\$.7430
Average cost to carry per gross ton freight,	.4717	.5345
Net earnings per ton freight carried,	\$.2087	\$.2085
Cost per ton to operate after eliminating Extra and Gen. Repairs,	\$.4589	\$.5206
Gross Receipts,	\$47,163.38	\$51,388.91
Gross Expenditures,	32,694.01	36,963.61
Net earnings,	\$14,469.37	\$14,425.30
Percentage of operations to earnings,	69.3	71.9
Gross earnings per mile traveled,	\$ 1.6828	\$ 1.3497
Operating expenses per mile traveled,	1.1707	.9708
Net earnings per mile traveled,	\$.5181	\$.3789
Gross earnings per day,	\$ 218.35	\$ 213.23
Operating expenses per day,	151.36	153.38
Net earnings per day,	\$ 66.99	\$ 59.85
Expenses per day excluding cargo handling costs,	\$ 97.39	\$ 102.26
Cost provisions per man per day (Excluding extra meals)	\$.312	\$.359
Average tons coal consumed per mile steamed,	151/2000	147/2000
Average cost coal consumed per mile steamed,	\$.1821	.1781
Average tons coal consumed per hour steamed,	1708/2000	1658/2000
Average cost oil consumed per mile steamed,	\$.00393	\$.00361
Average cost oil consumed per hour steamed,	\$.0444	\$.0407
Average wages paid per day while in commission,	\$ 29.25	\$ 30.35
Average ore cargo from Lake Superior,	2,893	2,942
Average draft water on ore cargoes from Lake Superior,	17'2"for'd 17'8"aft	17'3"for'd 17'11"aft
Average mean draft water on cargoes from Lake Superior,	17'5"	17'7"

STEAMER ANDASTE
COMPARISON OF ITEMS OF DISBURSEMENT

	1901	1902	+ OR -	REMARKS
Extraordinary and General Repairs,	\$ 831.41	\$ 954.80	+ \$ 73.39	
Ship Keeping and Winter Dockage,	97.09	40.88	- 56.21	In 1902 paid no wages to shipkeeper or watchman. At N. Y. P. & O.
Fitting out,	971.96	800.41	- 171.55	
Wages and Captain's Salary,	7,640.72	8,766.64	+ 1,125.92	A longer season in 1902.
Captain's Expense account,	84.78	118.85	+ 34.07	
Tug Services,	421.17	121.83	- 299.34	On account of Tug Men's strike in 1902 could not always obtain services of tugs.
Handling Cargoes,	11,879.28	12,219.19	+ 339.91	Carried 3,960 tons more ore in 1902 than in 1901.
Taxes,	331.00	338.64	+ 7.64	
Marine Insurance,	3,419.32	3,261.64	- 157.68	Insurance rate decreased from 3.20 in 1901 to 2.95 in 1902.
Freight List Insurance,	84.15	52.24	- 31.91	
Mate's Supplies,	287.21	323.26	+ 36.05	Kerosene oil purchased in 1902 exceeded 1901 cost by \$26.00
Provisions,	1,222.33	1,569.04	+ 346.71	Based on increased cost of \$.047 per man per day.
Steward's Supplies,	94.22	127.82	+ 33.60	In 1902 Laundry cost \$21.30 more than in 1901.
Fuel,	5,027.61	7,035.80	+ 2,008.19	Based on decreased consumption of four pounds per mile.
Engineer's Lubricants,	109.72	127.55	+ 17.83	Based on decreased consumption of \$.00022 per mile.
Engineer's Supplies,	44.15	131.03	+ 86.88	A longer season in 1902 necessitated purchase of more supplies.
Boiler Repairs,	56.88	84.24	+ 27.36	
Machinery Repairs,	29.76	16.90	- 12.86	
Auxiliary Machinery Repairs,	23.29	-	- 23.29	
General Expenses,	165.72	139.05	- 26.67	
*Laying Up,	383.42	624.15	+ 240.73	In 1902 Vessel laid up at Marquette, Mich. and traveling expenses of crew were paid from that port. This expense exceeds 1901 cost by \$244.16

* The machinery on this steamer was practically fitted out for 1903 while laying up in 1902. No fitting out was done while laying up in 1901.

S T E A M E R A N D A S T E

Captain's Expense Account

	1 9 0 1	1 9 0 2
Telegrams and Telephones	\$ 38.20	\$ 61.45
Postage	17.53	17.10
Railway Fares	11.40	11.35
Customs	8.40	8.60
Stationery	3.00	4.67
Express		1.00
Exchange	5.09	1.95
Miscellaneous	2.51	16.00
T O T A L	\$ 86.13	\$122.12

S T E A M E R A N D A S T E

Details of General Expense

	1901	1902
Telegrams etc	\$ 18.14	\$ 22.51
Stationery	4.70	12.45
Trimmings and buttons	24.55	10.50
Travelling Expenses		206.61
Dues Lake Carriers Association	37.63	37.63
Amount paid Robert Logan, for investigating and Reporting on Engine Indicator Cards	10.00	10.00
Marine Reporting	15.65	22.80
Board Bills of Captain and Engineer while fitting out and laying up	19.50	79.16
T O T A L	\$130.22	\$401.71

S T E A M E R A N D A S T E

P R O V I S I O N A C C O U N T

	1 9 0 1			1 9 0 2		
	QUAN.	PRICE	AMOUNT	QUAN.	PRICE	AMOUNT
Sugar	1,097 lb	\$.055	\$ 60.58	1,198 lb	\$.051	\$ 61.82
Tea	37 "	.324	12.00	57 "	.302	17.22
Coffee	127 "	.136	17.33	161 "	.127	20.55
Spices & Vinegar			5.25			8.64
Extracts	15 bt	.213	3.19	14 bt	.243	3.40
Baking Powder	51-1/2lb	.180	9.29	64 lb	.232	14.91
Bread & Crackers			20.54			26.52
Butter & Butterine	481 "	.151	72.71	602 lb	.224	155.31
Lard & Cotoline	176 "	.098	17.35	240 "	.101	24.38
Cheese	45 "	.149	6.71	82 "	.146	12.19
Fresh Milk	248 gal	.205	50.82	311 gal	.177	37.51
Condensed Milk	38 can	.091	3.47	117 can	.096	11.26
Pickles			9.77			11.25
Sauce			3.00			12.95
Eggs	261 dz	.181	47.37	296 dz	.213	62.98
Flour	10-6 bbl	4.56	48.34	12 bbl	4.483	53.86
Buckwheat Graham & Corn Meal	162 lb	.028	4.30	111 lb	.332	3.69
Farinaceous Foods	50 "	.046	2.33	117 "	.045	5.38
Canned Fruits	65 can	.223	14.54	109 can	.147	16.08
Canned Vegetables	218 "	.076	21.16	429 "	.082	35.58
Dried Fruits	115 lb	.092	10.63	242 lb	.090	21.79
Dried Vegetables	56 "	.066	3.74	163 "	.054	8.85
Fresh Fruit			31.41			26.74
Fresh Vegetables			40.41			52.03
Potatoes	104 bu	.901	94.23	131 bu	.754	98.85
Dried Onions	9-1/2 pk	.413	3.92	15 pk	.392	5.88
Fresh Fish	202 lb	.075	15.25	100 lb	.085	8.58
Salt Fish	21 "	.097	2.03	94 "	.088	8.32
Fresh Meat	3,885 "	.112	435.46	5,195 "	.106	555.04
Salt Meat	160 "	.060	97.03	1,302 "	.094	123.43
Molasses & Syrup	10 gal	.69	6.90	11 gal	.276	3.04
Ice	433 cwt	.165	71.44	430 cwt	.196	84.67
Miscellaneous			2.70			
TOTAL			\$1,245.20			\$1,592.70
Less Cash discounts			12.87			23.66
			\$1,232.33			\$1,569.04

Average consumption of meat per man per day in 1901 was 1.04 lbs

" " " " " " " " " 1902 " 1.49 lbs

S T E A M E R A N D A S T E

D E T A I L S O F S T E W A R D ' S S U P P L I E S

	AMN'T	PRICE	1901	AMN'T	PRICE	1902
Table linen, towelling etc		¢	¢ 8.50		¢	¢ 13.25
Bed linen, blankets etc			6.40			15.30
Cutlery and Spoons			8.79			2.76
Crockery and glassware			7.75			9.39
Kitchen utensils			2.18			8.99
Soap			12.63			13.39
Scouring material			6.34			8.26
Brooms	4	.275	1.10	6	.30	1.80
Brushes	5	.122	.61	2	.175	.35
Laundry			72.70			91.26
Range Coal						
Toilet articles			2.76			3.71
Miscellaneous			3.78			15.54
TOTAL			\$133.54			\$184.00
Less cash discounts			.53			.65
			\$133.01			\$182.35

S T E A M E R A N D A S T E

Details of Mate's Supplies Acc't

	AMN'T	PRICE	1901	AMN'T	PRICE	1902
Flags and private signals		¢	¢		¢	¢
Canvass Deck etc			1.82			5.50
Kerosene Oil	537 gal	.118	63.40	728 gal	.124	90.43
Rope etc	2,449 lbs	.111	272.46	1,504 lbs	.140	210.81
Chimneys and Globes			12.83			8.51
Lamps, Lanterns, and burners			8.01			13.15
Scouring material			3.40			9.17
Soap			12.00			12.25
Rags	85 lbs	.071	6.05	55 lbs	.08	4.45
Hardware and Tools			19.72			12.90
Brushes	30	.246	7.40	22	.425	9.35
Brooms	35	.279	9.78	36	.277	10.00
Candles			4.36			26.20
Hose	1- $\frac{1}{2}$ ft	.666	1.00	50 ft	.30	15.00
Miscellaneous			45.25			17.35
T O T A L			¢467.53			¢445.57
Less Cash Discounts						10.59
			¢467.53			¢434.98

S T E A M E R A N D A S T E

Details of Paints Purchased

	1 9 0 1			1 9 0 2		
	QUANTITY	PRICE	AMOUNT	QUANTITY	PRICE	AMOUNT
White Lead	100 lbs	\$.06- $\frac{1}{4}$	\$ 6.25	175 lbs	\$.06	\$ 10.52
Red Lead	525 "	.068	34.75	475 "	.069	33.62
Boiled Oil	91 gal	.65	58.71	92 gal	.637	58.64
Turpentine	8 "	.50	4.00	11 "	.60	6.60
Maroon Enamel Paint				2 "	1.50	3.00
Tinted Lead	300 lbs	.065	19.50	200 lbs	.06- $\frac{1}{4}$	12.50
Hull Paint (red)				51 gal	.80	40.80
Princess Brown	605 lbs	.04	24.20	362 lbs	.037	13.58
Miscellaneous			12.80			5.45
T O T A L			\$160.21			\$183.71
Less discount						.27
			\$160.21			\$183.44

S T E A M E R A N D A S T E

Details of Engineer's Supplies

	AMOUNT	PRICE	1901	AMOUNT	PRICE	AMOUNT
Tools and Hardware		¢	¢ 7.82		¢	¢ 32.86
Lamps and Wicking			7.13			11.40
Scouring Material			5.78			6.27
Soap			8.40			7.50
Rags and Waste	50 lbs	.054	2.70	115 lbs	.056	6.55
Hose	17 ft	.42	7.14	50 ft	.24	12.00
Brooms	11	.22	2.43	7	.264	1.85
Brushes	5	.15	.75	4	.222	.90
Squirt Cans and Fillers			2.15			
Water Glasses			.60			1.92
Fittings and Pipings			19.51			23.21
Valves			38.50			48.09
Gaskets			7.83			5.86
Packing	108 lbs	.604	65.27	84 lbs	.718	60.34
Miscellaneous			21.72			35.25
T O T A L			\$197.73			\$254.00
Less cash discount						4.28
			\$197.73			\$249.72

S T E A M E R A N D A S T E

F U E L P U R C H A S E D F O R T W O S E A S O N S

G R A D E	1 9 0 1				1 9 0 2			
	TONS	PER CENT	AVERAGE PRICE	TOTAL COST	TONS	PER CENT	AVERAGE PRICE	TOTAL COST
LUMP	493- 500	23.3	\$2.451	\$1,309.12	490- 300	16.9	\$2.550	\$1,249.54
RUN OF MINE	1,551- 700	73.4	2.400	3,733.24	2,415-1300	83.1	2.400	5,786.06
NUT	69	3.3	2.250	155.25				
SLACK								
TOTALS	2,113-1200	100.0	\$2.407	\$5,087.61	2,905-1600	100.	\$2.421	\$7,035.60

STEAMER ANDASTE

STATEMENT OF GENERAL AND EXTRAORDINARY REPAIRS-----ELABORATED

Total cost of repairs was \$1,085.47	MACH. REPAIRS	BOILER REPAIRS	HULL REPAIRS	DECK REPAIRS	CABIN REPAIRS	BUL- WARKS & RAIL REPAIRS	MISC. REPAIRS
Overhauling & repairing boiler feed pump	\$ 42.58						
Extra sea cock placed in vessel leading to cold water pump							6.42
Renewing & repairing floor ceiling in hold				46.42			
Renewing & repairing about 75 feet fender capping			48.57				
Expert examination of water bottom as to sea-worthiness			30.52				
Overhauling & repairing stern bearing							58.13
Patching & repairing port and starboard boilers		341.41					
Wages of men scraping and painting in hold			133.12				
Renewing and repairing ash chute	22.68						
Renewing & repairing stanchion sockets & etc						25.70	
New fittings on after scuttle hatch				7.88			
Plumber repairing bath tub pipes, speaking tube etc					9.94		
Iron ladder from windlass room to fore peak							8.51
Repairing sea cocks to ballast tanks							7.73
Repairing deck ladder							2.10
Repairing Marine glasses							5.00
Repairing lamp screens							4.00
Repairing lead pipe to ice box, kitchen sink, etc					5.27		
Strengthening deck under ballast pump in engine room				4.78			
Overhauling & repairing anchor crane							22.89
Repairing stern light pole which rolled out while going up Lake Huron							15.37
Repairing kitchen range							26.29
Glazing					5.10		
Repairing lamps & lanterns							7.35
Repairing fire hold tools		3.15					
Repairing steering gear	11.14						
Paints purchased during season							133.44
T O T A L S	\$ 76.40	\$344.66	\$212.21	\$ 59.06	\$ 20.31	\$ 251.70	\$347.23

Total cost of paints purchased during season of 1900 was \$257.34

" " " " " " " " 1901 " 160.21

The total cost of paints used in Engineers department in season of 1902 was \$3.60

S T E A M E R A N D A S T E
 STATEMENT SHOWING TIME DISCHARGING ORE CARGOES

NAME OF DOCK	NO. CARGOES	1901						1902							
		AVERAGE TIME AT DOCK		AVERAGE TIME AT DOCK DISCHARGING		AVERAGE TIME ACTUALLY AT WORK		AVERAGE TIME AT DOCK		AVERAGE TIME AT DOCK DISCHARGING		AVERAGE TIME ACTUALLY AT WORK			
		DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS		
C H & D Toledo	1	1	8		20		20								
C H V & T "								1	1	16	1	5			17
MINNESOTA Ashtabula	8	3	8	1	18		18			3	6	3			22
M & S "	3	2	17	1	22		18								
P Y & A "	2	2	19	1	9		15								
ANGELINE "								1	2	13	2	8			20
P & E Erie	3	2	21	2	12	1	1								
BUFF.ICE CO Buffalo	2	2	11	1	11		21								
E & P Erie	1	2	12	2	9		15								
MINN. Buffalo	1	2		1	7		16	1	1	15	1	7			16
WEST SHORE "								4	2	1	1	13			26
LEHIGH VAL. "								13	2	23		22			18
D L & W R'y "								1	2	21	1	8			20
GRAND AVERAGE	21	2	20	1	18		19	22	2	16	1	6			20

STEAMER ANDASTE

GENERAL DATA

Total number of crew (including Master and Engineer) ...	19
Length over all	230 Feet
Keel	266 "
Beam	33 "
Depth	23 "
Net tonnage	1256 Tons
Gross tonnage	1574 "
Ore Capacity	2838 "
Coal Capacity	2875 "
Engines	17, 29, 47 X 36
Boilers	2 Scotch, 11' X 12'
Steam	160
Horse Power	800
Wheel	13'6" pitch
Average revolutions of wheel per minute, loaded	80
" " " " " " light	87
Number of hatches	7
Average miles per hour, light	12.21
" " " " loaded	10.81

S C H O O N E E R C H A T T A N O O G G A

GENERAL OPERATIONS

The Schooner CHATTANOOGA sailed from the port of Cleveland, O., on first trip of season 1902 on April 14th, and arrived at Cleveland ready to lay up on November 26th, having been in commission 226 days.

This vessel was towed by the Steamer PIONEER during the entire season, having made 18 round trips, carrying cargoes of iron ore from Marquette, Mich., to Lake Erie ports.

The average rate of freight received on all cargoes was \$.7000 per ton, as compared with \$.7284 in 1901. The actual operating expenses per ton, were \$.5758 and \$.6251 in 1901. The average net earnings per ton, therefore, are, \$.1242, as compared with \$.1033 per ton during the preceding year.

S C H O O N E R C H A T T A N O O G A

GENERAL REPAIRS

There was, of course, during the past year the usual work necessary to keep up a wooden boat in the way of replacing defective timber in various places.

During the last trip the rudder began to show some defects,-apparently becoming loose. The vessel was accordingly docked at the end of her trip and repairs made to her rudder pintle and the shoe rebushed.

While in the dock, an examination was made of her bottom and wherever defective places were found, engraving pieces were put in. Some of the bad places were found just about ten feet forward of the stern post on the port side, between #9 and #10 hatches; between #2 and #3 hatches; on the port bilge, about abreast of the foremast; on garboard strake abreast of mainmast on the port side; on the starboard side trimmed up braces on the heel, calked all the butts under the bottom, at the turn of the bilge and on the ends. Bored out what bad nuts there were and put in plugs. This work, together with the dry dock bill, cost \$552.75.

The principal expenditure for next season will be the replacing of the floor ceiling. This ceiling will have to be entirely renewed. This repair will probably cost about \$1,200.00. Other than this item, it is expected the repairs will only be those of vessels of this character.

S C H O O N E R C H A T T A N O O G A

ACCIDENTS #1

MAY 4TH On this date the Schooner CHATTANOOGA bound up, just off Ballard's Reef, passed the Schooner JOHN MINER on the port side bound up, and the Steamer ROSEMONT on the starboard side bound down. When both were directly abreast of the CHATTANOOGA they swung in on her, both striking at the same time, the contact, however, being slight. No damage was sustained by the CHATTANOOGA.

JUNE 5TH We received a bill from the L. S. & I. Dock, Marquette, amounting to \$2.76, for damage alleged to have been done to the dock by the CHATTANOOGA. On taking this up with the Captain of the CHATTANOOGA, the following was learned: The damage was supposed to have been done June 5th. The Chattanooga was in the hands of the Tug Schenck. The Captain's attention was called to the fact that some little damage had been done to an upright on the dock, which was thought to be out of plumb. The Captain of the Chattanooga went to look at it, accompanied by the Captain of the Pioneer, also by the Captain of the Tug, and none of them could see that any damage had been done. After repair was made, they went over again to see what had been done, and could see nothing except that one piece of plank, 12" & 18" fastened with four spikes.

Under these circumstances we refused to entertain the bill for repairs and the matter was dropped.

JULY 24TH The Chattanooga was coming into Cleveland Harbor in charge of the Tugs Lutz and Alva B, the Lutz having the stern line. While coming up the river, in some manner or other,

S C H O O N E R C H A T T A N O O G A

A C C I D E N T S # 2

the Lutz ran into the Chattanooga, cutting the planksheer and one plank. The damage was repaired and settled for by the Great Lakes Towing Co., amounting to \$6.87.

JULY 24TH While the Chattanooga was coming up the river, as above, in the hands of the tugs Alva B and Lutz, the tugs pulled her over against the Steamer SONORA, striking her on the starboard bow, doing some damage to plates. This was reported to the Great Lakes Towing Co., and they stated they would make an examination of the Sonora and look after the damage.

SEPTEMBER 4TH The Chattanooga was rounding to under the breakwater at Cleveland in charge of two tugs, and in some manner got foul of the jib-boom of the Schooner THEO. VOGES, breaking same. No claim has been made by the VOGES, and as the matter was very slight, it is thought nothing more will come of it.

SEPTEMBER 4TH The Chattanooga had finished unloading and was coming down the Old River Bed, Cleveland, when she rubbed against the anchor of the Steamer FRANK W. HART, inflicting a bruise one inch deep and about two feet long abreast of the fore-rigging, about three feet from the light water mark. Will not require repair.

SEPTEMBER 14TH The Chattanooga while entering the port of Cleveland, and just when making the turn from the main river into the River Bed, went aground. The Tug Sprangle came alongside

S C H O O N E R C H A T T A N O O G A

A C C I D E N T S # 3

to pull astern and while doing so, ran into the Chattanooga, cutting a fender strake in two and making a bruise about four feet long. This is a small matter and no claim will be made.

SEPTEMBER 21ST The Chattanooga was loading at the PRESQUE ISLE Dock, Marquette. The spout in No.10 hatch caught on the coaming in some manner and damaged it slightly. The damage is of so trivial a nature that no claim will be made.

S C H O O N E R C H A T T A N O O G A

	1901		1902	
	DAYS	PERCENT	DAYS	PERCENT
Time in commission in port,	74½	37.1	90	39.9
Time Sailing,	93	46.3	116	51.3
Time lost by bad weather, fog and low water,	21½	10.7	12½	5.5
Time lost waiting at Soo Canal and River,	4½	2.2	4½	2.0
Time lost by accidents,	7½	3.7	3	1.3
<u>TOTAL TIME IN COMMISSION</u>	201	100.0	226	100.0
Number of trips made,	15		18	
Number of cargoes carried,	15		18	

PERCENTAGE OF TIME IN COMMISSION IN PORT

Season	1899	39.2
"	1900	35.6
"	1901	37.1
"	1902	39.9

C H A T T A N O O G A

R E C E I P T S	Tons	Amount	Per Gross Ton Freight Carried
18 Cargoes Iron Ore from Marquette,	69,973	\$48,981.10	\$.7000
<u>D I S B U R S E M E N T S</u>			
Extraordinary and General Repairs,	\$ 907.79		
Ship Keeping and Winter Dockage,	92.50		
Fitting out,	405.55		
Wages and Captain's Salary,	3,627.58		
Captain's Expense account,	28.62		
Pioneer 12,245.27			
Towing	14,720.68		
Tugs 2,475.42			
Handling Cargoes,	15,743.89		
Taxes,	199.08		
Marine Insurance,	2,710.30		
Freight List Insurance,	59.08		
Mate's Supplies,	472.65		
Provisions,	585.16		
Steward's Supplies,	44.26		
Fuel,	255.61		
Engineer's Lubricants,	8.95		
Engineer's Supplies,	18.53		
General Expense (Telegrams, Dues Lake Carriers Assn. etc.)	125.76		
Laying up,	225.06	40,291.66	.5758
<u>NET EARNINGS</u>		\$ 8,689.44	\$.1242
Less amount not allowed by Insurance Co. in adjustment of claims,		194.40	
MAKING TOTAL NET GAIN FOR SEASON 1901		\$ 8,495.04	

Note:

The cost per ton to operate, after eliminating extraordinary and General Repairs account is \$.5627

S C H O O N E R C H A T T A N O O G A
C o m p a r i s o n s

	1 9 0 1	1 9 0 2
Days in commission,	201	226
Number of miles traveled,	18,810	23,106
Number of trips made,	15	18
Number of cargoes freight carried,	15	18
Gross tons freight carried,	58,483	69,973
Average rate freight per gross ton,	\$.7284	\$.7000
Average cost to carry per gross ton freight,	.6251	.5758
Net earnings per gross ton freight carried,	\$.1033	\$.1242
Cost per ton to operate, after eliminating Extra and Gen. Reprs.	\$.5870	\$.5627
Gross Receipts,	\$42,601.30	\$48,981.10
Gross Expenditures,	\$36,557.50	\$40,291.66
Net earnings,	6,043.80	8,689.44
Percentage of operations to earnings,	85.8	82.2
Gross earnings per mile traveled,	\$ 2.2648	\$ 2.1199
Operating expenses per mile traveled,	1.9435	1.7438
Net earnings per mile traveled,	\$.3213	\$.3761
Gross earnings per day,	\$ 211.94	\$ 216.73
Operating expenses per day,	181.88	178.28
Net earnings per day,	\$ 30.06	\$ 38.45
Expenses per day excluding cargo handling costs	\$ 116.19	\$ 108.62
Cost provisions, per man per day(excluding extra meals)	\$.303	\$.320
Average wages paid per day while in commission,	\$ 11.89	\$ 11.87
Average ore cargo from Lake Superior,	3,899	3,887
Average draft water on ore cargoes from Lake Superior,	{ 17'9"for'd	17'9"for'd
	17'9"aft	17'8 ¹ / ₂ " aft
Average mean draft water on ore cargoes from Lake Superior,	17'9"	17'8 3/4"
Total time of Chattanooga waiting for Pioneer,	13 da 9hrs	10da 2 hrs
Chattanooga's percentage of time waiting for Pioneer,	6.65	4.46

SCHOONER CHATTANOOGA

COMPARISON OF ITEMS OF DISBURSEMENT

	1901	1902	+ OR -	REMARKS
Extraordinary and General Repairs,	\$ 2,226.92	\$ 907.79	- \$1,319.13	In 1901 repaired floor ceiling. New iron timber heads and steering gear installed.
Ship Keeping and Winter Dockage,	91.34	92.50	+ 1.16	
Fitting out,	381.12	405.55	+ 44.43	
Wages and Captains Salary,	3,274.86	3,627.53	+ 352.67	A longer season in 1902.
Captain's Expense account,	27.21	28.62	+ 1.41	
Tug Services,	1,801.13	2,475.42	+ 674.29	Vessel made three more trips in 1902; also towing rate at Soc increased, and because of Tug Men's strike had to use independent tugs at lower Lake ports which charged higher rates than regular tariff.
Handling Cargoes,	13,202.85	15,742.89	+ 2,540.04	In 1902 carried three cargoes more than in 1901.
Taxes,	190.86	192.02	+ 1.16	
Marine Insurance,	2,626.12	2,710.30	+ 84.18	Rate decreased from 3.95 in 1901 to 3.85 in 1902 but in 1901 vessel received rebate of \$167.22 because of lateness in starting on first trip.
Freight List Insurance,	63.90	52.02	- 11.88	
Mate's Supplies,	886.06	472.85	- 413.21	An extra tow line purchased in 1901.
Provisions,	427.51	525.16	+ 97.65	Based on increased cost of \$0.017 per man per day.
Steward's Supplies,	63.06	44.86	- 18.20	
Fuel,	253.86	255.61	+ 1.75	
Engineer's Oil,	8.35	8.95	+ .60	
Engineer's Supplies,	10.00	16.53	+ 6.53	
Machinery Repairs,	8.93		- 8.93	
General Expenses,	112.45	125.76	+ 13.31	
Laying up,	159.67	226.02	+ 66.35	In 1902 cost \$126.36 to tow vessel from Lorain, to Cleveland, to lay up. This item more properly belongs to "Towing".

S C H O O N E R C H A T T A N O O G A

Captain's Expense Account

	1 9 0 1	1 9 0 2
Telegrams and Telephones	¢ 8.80	¢ 8.40
Postage	4.86	5.83
Railway Fares	4.10	2.55
Customs	6.00	7.20
Stationery	.45	
Express	1.00	
Exchange	.95	5.04
Miscellaneous	1.50	.35
T O T A L	¢ 27.66	¢ 29.37

S C H O O N E R C H A T T A N O O G A

Details of General Expense

	1901	1902
Telegrams etc	\$ 2.43	\$ 2.17
Stationery	4.33	12.45
Trimmings and buttons	4.80	4.50
Travelling Expenses		
Dues Lake Carriers Association	90.64	90.64
Marine Reporting	15.25	16.00
T O T A L	\$117.45	\$125.76

S C H O O N E R C H A T T A N O O G A

P R O V I S I O N A C C O U N T

	1901			1902		
	QUAN.	PRICE	AMOUNT	QUAN.	PRICE	AMOUNT
Sugar	431 lb	\$.059	\$ 25.66	507 lb	\$.051	\$ 26.35
Tea	12 "	.30	3.60	12 "	.284	3.41
Coffee	49 "	.135	6.62	62 "	.116	7.23
Spices & Vinegar			2.70			2.95
Extracts	7 bt	.213	1.60	6bt	.205	1.23
Baking Powder	27 lb	.165	4.47	22 lb	.180	3.98
Bread & Crackers			2.13			3.13
Butter & Butterine	188 "	.141	26.57	158 "	.164	26.14
Lard & Cotoline	115 "	.099	11.43	140 "	.121	16.94
Cheese	32 "	.16	4.54	40 "	.157	6.28
Fresh Milk	53 gal	.190	10.12	62 gal	.193	12.01
Condensed Milk	55 can	.094	5.20	78 can	.095	7.41
Pickles			2.69			1.08
Sauce			.15			.75
Eggs	73 dz	.174	12.76	77 dz	.200	15.42
Flour	4.3 bbl	4.835	21.28	4-2/5 bbl	4.427	19.48
Buckwheat Graham Corn Meal	50 lb	.021	1.07	74 lb	.032	2.42
Farinaceous Foods	35 "	.054	1.89	60 "	.048	2.93
Canned Fruit	2 can	.21	.42	10 can	.314	3.14
Canned Vegetables	153 "	.076	11.72	172 "	.085	14.62
Dried Fruits	85 lb	.086	7.33	115 lb	.092	10.62
Dried Vegetables	26 "	.059	1.54	83 "	.058	4.83
Fresh Fruit			11.79			9.59
Fresh Vegetables			22.44			29.71
Potatoes	53 bu	.958	50.80	61 bu	.790	48.20
Dried Onions	9 pk	.35	3.18	14 pk	.375	5.26
Fresh Fish	86 lb	.083	7.20	8 lb	.08	.64
Salt Fish	33 "	.08	2.64	33 "	.08	2.64
Fresh Meat	1,732 "	.087	151.83	1,641 "	.109	180.49
Salt Meat	510 "	.106	54.47	1,157 "	.084	98.78
Molasses & Syrup	2-1/2gal	.456	1.14	5 gal	.312	1.68
Ice	111 cwt	.184	20.41	119 cwt	.175	21.02
Miscellaneous			.10			.08
TOTAL			\$ 491.49			\$ 590.44
Less cash discounts			3.98			5.28
			\$ 487.51			\$ 585.16

Average consumption of meat per man per day in 1901 was 1.39 lbs

" " " " " " " " " 1902 " 1.54 lbs

S C H O O N E R C H A T T A N O O G A

DETAILS OF STEWARD'S SUPPLIES

	AMNT.	PRICE	1901	AMNT	PRICE	1902
Table linen, towelling etc			2.07			1.50
Bed linen, blankets etc			.90			6.50
Cutlery and Spoons			1.74			
Crockery and glassware						1.37
Kitchen Utensils			4.03			3.05
Soap			3.87			2.56
Scouring material			1.21			2.08
Brooms	1	.28	.28	1	.25	.25
Brushes	2	.065	.13	4	.107	.43
Laundry			17.60			20.02
Range Coal	6	6.56	39.38	3	6.75	20.25
Toilet Articles						.29
Miscellaneous			5.58			32.09
TOTAL			\$ 76.79			\$ 90.39
Less cash discounts			.42			.18
			\$ 76.37			\$ 90.21

S C H O O N E R C H A T T A N O O G A

Details of Mate's Supplies Account

	AMN'T	PRICE	1901	AMN'T	PRICE	1902
Flags and private signals		\$	\$		\$	\$
Canvass Deck etc			2.80			1.64
Kerosine Oil	105 gal	.117	12.35	72 gal	.123	8.84
Rope etc	786 lbs	.111	868.89	3,997 lbs	.127	508.48
Chimneys and Globes			2.45			3.25
Lamps, Lanterns, and burners			.61			3.08
Scouring material			2.55			.60
Soap			2.92			5.75
Rags	15 lbs	.056	.85	5 lbs	.07	.35
Hardware and Tools			2.34			6.81
Brushes	4	.537	2.15	5	.78	3.90
Brooms	30,	.246	7.38	24	.260	6.24
Candles			3.60			4.52
Hose	50 ft	.28	14.00	50 ft	.31	15.50
Miscellaneous			13.90			3.60
T O T A L			\$936.79			\$572.57
Less cash discounts			.06			.17
			\$936.73			\$572.40

S C H O O N E R C H A T T A N O O G A

Details of Paints Purchased

	1 9 0 1			1 9 0 2		
	QUANTITY	PRICE	AMOUNT	QUANTITY	PRICE	AMOUNT
White Lead	125 lbs	\$.06- $\frac{1}{4}$	\$ 7.81	175 lbs	\$.057	\$ 10.06
Boiled Oil	55 gal	.612	33.66	66 gal	.629	41.52
Turpentine	5 "	.50	2.50	3 "	.60	1.80
Red Metallic Paste	300 lbs	.03 $\frac{3}{4}$	11.59	530 lbs	.03- $\frac{1}{4}$	17.22
Tinted Lead	100 "	.06- $\frac{3}{4}$	6.75			
Hull Paint (black)				3 "	1.25	3.75
Miscellaneous			3.90			3.90
T O T A L			\$ 66.21			\$ 78.25

SCHOONER CHATTANOOGA

STATEMENT OF GENERAL AND EXTRAORDINARY REPAIRS-----ELABORATED

Total cost of repairs was \$1,081.30	MACH. REPAIRS	BOILER REPAIRS	HULL REPAIRS	DECK REPAIRS	CABIN REPAIRS	BUL- WORKS& RAIL REPAIRS	MISC. REPAIRS
New chock on starboard side ford.	¢	¢	¢	¢	¢	¢	\$ 36.79
Renewing & repairing hatch combings				68.40			
Renewing & calking deck				86.85			
Repairing steering gear	56.60						
Labor of men brining & salting in hold			15.00				
Dry docking vessel to renew & calk outside of hull, repair rudder etc			559.10				
New smoke stack for Kitchen range							14.60
Repairing foresail, mainsail, and staysail							79.49
Repairing clock							2.00
Repairing water closets					3.94		
New main gaff							17.41
New ventilator for after cabin					4.45		
Glazing					.90		
Renewing & repairing floor in hold				25.74			
Repairing kitchen range							3.58
Renewing & repairing deck around hatches				27.05			
Repairing kitchen utensils							1.15
Paints purchased during season							76.25
T O T A L S	¢ 56.60	¢	\$574.10	\$208.04	¢ 9.29	¢	\$233.27

The total cost of paints purchased in season 1900 was \$131.82

" " " " " " " " 1901 " 66.21

S C H O O N E R

C H A T T A N O O G G A

STATEMENT SHOWING TIME DISCHARGING ORE CARGOES

NAME OF DOCK	NO. CARGOES	1901						1902							
		AVERAGE TIME AT DOCK		AVERAGE TIME AT DOCK DISCHARGING		AVERAGE TIME ACTUALLY AT WORK		AVERAGE TIME AT DOCK		AVERAGE TIME AT DOCK DISCHARGING		AVERAGE TIME ACTUALLY AT WORK			
		DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS	DAYS	HOURS		
HURON DK Co Huron	1	2	23	2	3	1	1								
G L & W Lorain	4	2	20	1	22		18	1	2	22	1	23			20
C & P Cleveland	3	3	20	2	8		19	3	3	18	2	1			22
N Y P & O "	1	3	4	3	3	1									
C T & V "								1	2	3	2	1			23
ANGELINE Ashtabula								1	2	13	3	2			25
MINNESOTA "	2	3	6	2	4		21	11	3	3	1	17			18
M & S "								1	4	6	2	4			26
E & P Erie	3	3	4	2	14		24								
MINNESOTA Buffalo	1	3	7	1	15	1	11								
GRAND - AVERAGE	15	3	5	2	6		22	18	3	5	1	22			20

SCHOONER CHATANOOGA

GENERAL DATA

Total number of crew (including Master).....	8
Length over all	308 Feet
Keel	295 "
Beam	45 "
Depth	25 "
Net tonnage	2286 "
Gross tonnage	2339 "
Ore capacity	3891 "
Coal Capacity	2962 "
Boilers	(One upright submerged tube boiler 6' X 8')
Steam	160
Number of Hatches	10

STEAMER FALCON

GENERAL OPERATIONS

The Steamer FALCON sailed from the port of Cleveland on first trip of season 1902, on April 13th and arrived at Cleveland to lay up on November 29th, having been in commission 231 days.

This vessel made 16 round trips for the season, carrying coal on upbound trips to various ports. The cargoes delivered at Lake Erie ports consisted of 8 cargoes iron ore from Marquette, 5 cargoes pig iron from Marquette, and 3 cargoes pig iron from Elk Rapids, the total freight aggregating 30,856 gross tons.

The average rate of freight received was \$.6010 per ton, as compared with \$.6725 in 1901. The average cost per ton for carrying freight was \$.5935, as against \$.5549 in previous year. The average net earnings per ton, therefore, were \$.0075, as compared with \$.1176 in preceding year.

This Steamer had a contract with the Superior Charcoal Iron Co. for the season to carry pig iron from Marquette and Elk Rapids to Lake Erie ports, not East of Erie, at a rate of 85¢ from Marquette and 75¢ from Elk Rapids, with 10¢ additional when the boat went to Buffalo, all rates free of handling cost to the Steamer, except trimming. The Superior Charcoal Iron Co., however, was able to furnish but eight down cargoes of the sixteen she carried, and consequently, she had to go into the open market for such cargoes as she

S T E A M E R F A L C O N

GENERAL OPERATIONS #2

might obtain. Iron ore cargoes were all that were obtainable, and as the rate was but 70¢ from Marquette, her earnings on such trips, carrying coal up, were but little more than operating cost.

The repairs placed on this Steamer (referred to more generally elsewhere) were \$2,573.84 in excess of this item for the preceding year, being much more than normal. If this be conceded, then, and there be added our claim against the Superior Charcoal Iron Co. of \$1,958.73, on account of their failure to furnish cargoes as per contract, which claim we believe will be allowed, the operations of this boat would have shown a profit of \$4,524.51, instead of a loss of \$13.06.

S T E A M E R F A L C O N .

GENERAL REPAIRS #2

a made up one, composed of a principal keelson and two sister keelsons. This form of keelson exposed a good deal of surface to the wear and tear of loading pig iron and so it was consequently determined to build up the two sister keelsons to the height of the principal keelson, and cover the entire keelson with half inch iron. This was done at a cost of \$84.25 for lumber and labor; and the half inch plate cut, shaped, punched and counter-sunk \$90.00; labor installing, bolts, etc. \$21.04; making the total cost \$202.29.

PLANK SHEAR: Was found to be rotten at the boiler house. This was accordingly repaired wherever found necessary at a cost of \$80.00.

COAL BUNKERS: The bunkers had been splintered and broken handling pig iron. This was repaired at a cost of \$76.10.

TIMBER HEADS: The FALCON never had anything to make fast to at the after end of the boat, and two timber heads were accordingly put in at a cost of \$39.45.

During the winter of 1901-02 the FALCON was put in dry dock to make repair on account of an insurance claim, and while in dry dock, opportunity was taken to make the following repair: The fore-foot was much rotted and it was found that the stem did not hold fast. Accordingly the old fore-foot was taken off and replaced with a new one and the stem refastened. The stem iron had been too short, only reaching to the edge of the fore-foot, so this was removed and a new piece welded on, and all replaced on the boat.

The rudder for this boat was made for her to load to a draft of fourteen feet, but with the increased depth of water, she has been load~~ed~~ to sixteen feet and over. The rudder,

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GENERAL REPAIRS #3

therefore, did not have sufficient area for such deep loading, consequently it was decided to fill out this rudder at the top about twelve inches. This extension was carried down about three feet. The shoe was of the old wooden pattern with an old style turn post which extended from the shoe to the transom between the rudder and the wheel, which did not allow the putting of a counter-balance on the rudder. This stern post was taken out and some counter balance put on the rudder. This required a new iron shoe, such as is in use on all boats.

The sea cock in the way of the engine room was leaking. It was found that there was a crack in the pipe about one and a half inches long: also a hole in the bottom of the copper pipe which comes from the outside inboard.

The fore-mentioned work was covered by American Ship Building Company's bill aggregating \$632.31.

While the Steamer was in dry dock, opportunity was taken to recalk the bottom of the vessel. The Insurance Company agreed to stand one-fifth of the cost of calking by reason of the stranding at Elk Rapids. The cost of this work was \$429.03.

The stern bearing was badly worn and it was necessary to take the bracket off the stern post so as to cent some for drilling anchor holes to hold babbitt metal. In doing this work the outboard shaft had to be disconnected and coupled up again and a new copper sleeve required to make this job complete. The total cost of the stern bearing repair was \$166.40.

The mainmast was decayed so that it had to be removed. To do this work in the most economical manner, the

STEAMER FALCON.

GENERAL REPAIRS

The General Repairs on this Steamer were very considerable this past year, as intimated would be necessary in the annual report of 1901.

Among the more important of the unusual repairs, may be mentioned the following:

DECK REPAIR: In carrying pig iron, the hatch coamings and decks immediately at the sides of the main deck hatches were so much splintered and worn, that it was found necessary to put considerable repair on them. All coamings on the main deck hatches were taken out and replaced with new all around. These coamings were bolted securely to the beams. Wherever the decking around these hatches was defective, it was renewed with new timbers. In order to protect the wood work in the way of these hatches, strips of quarter inch iron was spiked to the timbers and on the port side, iron 18" wide and a quarter inch thick was bolted to the deck. The cost of this repair was \$327.17.

FLOOR CEILING: Under each of the hatches the ceiling had become much worn and in some places broken through. An examination was made and it was deemed advisable, rather than to attempt to put in an entire new ceiling at this time, to cover the floor ceiling with two inch ceiling, placed athwartship. This ceiling extends just forward of the forward hatch aft to the first stanchion under the boilers, and cost \$456.68.

KEELSONS: The damage for the protection of the keelson was found to be much knocked to pieces and a considerable repair was required. The style of keelson on this boat is

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GENERAL REPAIRS #4

mainmast was taken out and cut down for a new mizzen. This work cost \$57.93.

The boiler on the Steamer had been covered with Keasbey & Mattison Magnesia Sectional Covering, but had only been wire wrapped. It had consequently fallen off in some places. This was repaired at a cost of \$24.13, and the whole was covered with #26 Gauge Galvanized iron, painted on both sides. This iron was brought down two-thirds of the way around the boiler, and extends across the after end and carried down even with the sectional covering, -all fastened with bands and angle irons extending under the boilers. This work was done at a cost of \$42.00, or a total cost of \$66.13 for the boiler covering.

The donkey boiler was entirely worn out and was accordingly replaced with a new one, the boiler being an upright submerged type, 42" diameter, 6' high, 2" tubes, with cast iron grate bars and all necessary openings and flanges, to carry a pressure of 150#. This boiler, together with proper smokestack, cost \$285.00.

The repairs necessary before going into commission another season will only be of the usual character.

S T E A M E R F A L C O N

A C C I D E N T S # 1

APRIL 13TH While the Steamer FALCON was going out of the port of Cleveland, she ran into the Schooner MINERAL STATE under the following circumstances:

The Falcon was going through the draw of the inner bridge with the engine working ahead. In an attempt to make the turn at the bridge the Captain signalled the Engineer to go ahead strong, but after seeing it was impossible to make the turn, gave one whistle to stop, then two whistles to back, and finally one long whistle to back strong. The Steamer started to back, and in so doing swung over against the Mineral State, which was lying at the dock. The Falcon struck the Mineral State with the bluff of her starboard bow, breaking the main rail, splitting the inside stringers and doing some damage to the covering board. The Mineral State was loaded with coal and had a deck load almost to the top of the Schooner's rail, and to make repair it would have been necessary to remove this, which would have added to the cost of repair. Consequently a settlement was effected with the Captain for \$60.00, thus closing the matter.

APRIL -- While taking off the old tiller rope on the FALCON at Buffalo, one of the wheelmen, Gust Sigren, scratched his hand in some manner. It became inflamed and swollen, and the Captain decided to send him to the Marine Hospital in Milwaukee, which he did, and the Doctor of the Hospital advised him to stay a few days. He fully recovered and joined the boat at Toledo. Shortly after this he was afflicted with a severe attack of rheumatism, necessitating his removal from the boat.

STEAMER FALCON

ACCIDENTS #2

He was sent to the St. Vincent's Hospital, Toledo, and has not been heard of since.

JUNE 9TH The Falcon was unloading pig iron at the Minnesota Dock, Buffalo, when one of the rigs working in #1 hatch, swung the bucket against the deck engine, breaking the drum flange. This was repaired and the bill, amounting to \$6.35, paid by the Minnesota Dock Co.

JULY 24th The Falcon was shifting from the front end of the Presque Isle Dock back to the rear end. There were two boats lying abreast of each other at the dock and the Falcon in shifting around them got her stern on the sandy bottom. Lines were immediately gotten out and she hove off. No damage was sustained.

JULY 24TH The Steamer Falcon, at about 8:30 in the evening of July 24th was making ready to load iron ore at Presque Isle Dock and the Mate with some of the crew, was engaged in removing the hatch covers and strong backs, preparatory to letting in the spouts. The strong back on hatch #3 was a piece of oak, 7feet long and 6" X 4" and laid across the hatch. Through the center of the strong back an eye bolt was run and from the under side of it, is suspended a bumper of sheet iron about $\frac{1}{4}$ " thick and $4\frac{1}{2}$ ' X 3' in size. At the time of the accident, the injured man, Wm. Rogers, and the mate of the vessel, each had hold of the opposite ends of the strong back by the rope loops provided for lifting the same. They had

S T E A M E R F A L C O N

ACCIDENTS #3

just succeeded in getting it out of the notches in which it had rested, when Rogers suddenly left go of his end and fell back against the deck house just forward of the hatch, and from there he seemed to rebound and fell face down into the hold. He was immediately carried out and an ambulance summoned from Marquette, and he was taken to St. Mary's Hospital, Marquette. He remained there until recovered, when he was taken by the Falcon down to some Lake Erie port. A settlement was effected with Rogers for the sum of \$25.00. No responsibility rested with the boat or her officers, as the appliances furnished were safe and the man, of course, was assuming the risk of his employment in working about the strongback.

JULY 25TH July 30th after the Falcon was unloaded at Ashtabula, the Captain discovered that the iron strap on the stem was broken at about the six foot mark. This was probably done when entering the Soo Canal July 25th. The backset of water from flooding the lock caused the Falcon to sheer and the bow touched the south pier, probably hitting a rock extending out from the pier. The damage will not amount to much and can be repaired this winter.

SEPTEMBER 2ND The Falcon was unloading pig iron at the B. & O. Dock, Sandusky. A bucket of pig iron was dropped on the spar deck abreast of No.3 hatch, breaking eight deck planks and bruising the main rail; also bruising the outside of hull abreast of No.2 hatch. This was repaired at a cost of \$18.70, and settled for by the B. & O. Dock.

SEPTEMBER 4TH The Falcon was shifting from Pickands Mather & Co's

S T E A M E R F A L C O N

ACCIDENTS #4

coal dock to the breakwater in charge of the tug E. E. RICE. The tow line parted when about twenty feet from the breakwater and at the same time the Falcon's stem rubbed on some obstruction below the water line, forcing the outside piece on the stem over to port about an inch, and starting a small crack in the stem. As this slight damage did not interfere with the running of the boat in any way, it will be repaired this winter.

OCTOBER 16TH The Falcon was lying at the Angeline Dock, ore laden, with her stern 240 feet from the knuckle in the dock at the turn. The McDougall was lying outside of the Falcon, made fast to her. The bow of the Falcon came up to about the McDougall's fore-mast, and the stern of the McDougall extended down below the Falcon's about 130 feet, which would bring the McDougall's stern to about 110 feet from the knuckle. The river at that point is about 350 feet wide, so that there was about 250 feet of water between the McDougall and the dock on the other side of the river. The Steamer Presque Isle lay at the dock about 150 feet above the Falcon. They were the only boats in the vicinity. About 5:30 o'clock in the evening, the Falcon started to shift up the dock to a point within 40 or 50 feet of the Presque Isle, and the McDougall was notified of this, and let go her headline. The Falcon kept her lines on the dock and shifted them along the dock as she moved. The engines of the Falcon were started ahead and worked under check for two or three minutes. Just before this, the Devereaux had been noticed a little above, but no attention was paid to her. The Falcon moved ahead about 100 feet in all. The McDougall moved

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ACCIDENTS #5

ahead about the same distance, keeping alongside of the Falcon. Subsequently it was learned that the Devereaux had been passing down the river at the time the McDougall and Falcon were shifting, and that she had swung around across the river with her bow into the Hanna slip and her stern over on the rocks on the Falcon's side of the river, breaking her quadrant, shoving her rudder up through her hull, and doing some other damage. The Captain of the Devereaux claimed that this was caused by the working of the wheel of either the Falcon or the McDougall, or both, which he said produced a current and threw his stern around to starboard against a hard-a-port wheel.

As to the question of legal liability: No blame can be attached to the Falcon, as she has a perfect right to move her wheel for the purpose of shifting up the river, and if any other vessel found herself inconvenienced or endangered thereby, it was her duty to have requested the Falcon by signal or otherwise to stop her engines. The Devereaux gave no such signal, and made no such request.

S T E A M E R F A L C O N

	1 9 0 1		1 9 0 2	
	DAYS	PERCENT	DAYS	PERCENT
Time in commission in port,	116	56.9	137	54.9
Time Sailing,	80 $\frac{1}{4}$	39.3	94	40.7
Time lost by bad weather, fog and low water,	2-3/4	1.3	6 $\frac{1}{2}$	2.8
Time lost waiting at Soo Canal and River,	1	.5	2	.9
Time lost by accidents,,	4	2.0	1 $\frac{1}{2}$.7
<u>TOTAL TIME IN COMMISSION</u>	204	100.0	231	100.0
Number of trips made,	13		16	
Number of cargoes carried,	25		32	

PERCENTAGES OF TIME IN COMMISSION IN PORT

Season	1901	56.9
"	1902	54.9

FALCON

RECEIPTS	GROSS TONS	AMOUNT	PER GROSS TON FREIGHT CARRIED
8 Cargoes iron ore from Marquette,	7,947	\$ 5,562.90	\$.7000
5 Cargoes pig iron from Marquette,	4,927	4,480.65	.9094
3 Cargoes pig iron from Elk Rapids,	2,971	2,328.30	.7837
10 Cargoes coal to Marquette, (10,499-1800 net tons @ 35 ¢)	9,375	3,699.62	.3946
1 Cargo coal to Milwaukee, (1,034-100 " " " 40 ¢)	914	409.70	.4482
1 Cargo coal to Elk Rapids, (1,030-1000 " " " 50 ¢)	920	515.25	.5601
1 Cargo coal to Racine, (1,044-1300 " " " 50 ¢)	932	522.32	.5601
3 Cargoes coal to Detour, { 2,073-1550 " " " 30 ¢	2,870	1,026.09	.3575
{ 1,141-1000 " " " 35 ¢			
33	30,856	\$18,544.83	\$.6010
<u>DISBURSEMENTS</u>			
Extraordinary and General Repairs,	\$3,234.60		
Ship Keeping and Winter Dockage,	113.41		
Fitting out,	404.59		
Wages and Captain's Salary,	6,192.54		
Captain's Expense account,	65.85		
Tug Services,	56.50		
Handling Cargoes,	2,159.43		
Cargo commissions,	25.00		
Taxes,	70.93		
Marine Insurance,	871.33		
Freight List Insurance,	46.94		
Mate's Supplies,	122.93		
Provisions,	1,012.05		
Steward's Supplies,	46.59		
Fuel,	3,247.55		
Engineer's Lubricants,	105.22		
Engineer's Supplies,	72.76		
Boiler Repairs,	37.57		
Machinery Repairs,	38.86		
Auxiliary Machinery Repairs,	7.25		
General Expenses (Telegrams, Dues Lake Carriers, Assn. etc.)	90.72		
Laying up,	294.00	18,314.62	.5935
<u>NET EARNINGS</u>		\$ 230.21	\$.0075
Less amount not allowed by Insurance Co. in adjustment of claims,	\$ 181.32		
Less amount paid on account Legal expenses,	61.95	243.27	
<u>MAKING NET LOSS ON SEASONS OPERATIONS,</u>		\$ 13.06	
Note:	The cost per ton to operate, after eliminating extraordinary and General Repairs account, is \$.4827		

STEAMER FALCON
Comparisons

	1901	1902
Days in commission,	204	231
Number of miles traveled,	18,413	21,828
Number of trips made,	13	16
Number of cargoes freight carried,	25	32
Gross tons freight carried,	23,237	30,866
Average rate freight per gross ton,	\$.6736	\$.6010
Average cost to carry per gross ton freight,	.5549	.5935
Net earnings per ton freight carried,	\$.1176	\$.0075
Cost per ton to operate, after eliminating Extra, and Gen. Reprs.	\$.5274	\$.4837
Gross Receipts,	\$16,029.58	\$18,544.83
Gross Expenditures,	13,222.21	18,314.62
Net Earnings,	\$ 2,801.37	\$ 230.21
Percentage of operations to earnings,	82.5	98.8
Gross Earnings per mile traveled,	\$.8706	\$.8496
Operating expenses per mile traveled,	.7168	.8390
Net Earnings, per mile traveled,	\$.1521	\$.0108
Gross Earnings per day,	\$ 78.57	\$ 80.28
Operating Expenses per day,	64.84	79.39
Net Earnings per day,	\$ 13.73	\$.99
Expenses per day excluding cargo handling costs,	\$ 61.00	\$ 69.94
Cost provisions per man per day (Excluding extra meals,)	\$.338	\$.333
Average tons coal consumed per mile steamed,	119/3000	119/3000
Average cost coal consumed per mile steamed,	\$.1502	\$.1476
Average tons coal consumed per hour steamed,	1136/3000	1145/3000
Average cost oil consumed per mile steamed,	\$.00359	\$.00482
Average cost oil consumed per hour steamed,	\$.0343	\$.0465
Average wages paid per day while in commission,	\$ 21.20	\$ 22.74
Average gross tonnage of iron ore cargoes,	1,025	993
Average draft water on iron ore cargoes,	{ 14'3"for'd 16' aft	{ 14'4"for'd 15'4"aft
Average Gross tonnage of pig iron cargoes,	984	985
Average draft water on pig iron cargoes,	{ 13'11"for'd 15'4" aft	{ 14'3"for'd 15'3"aft
Average net tonnage of coal cargoes,	1,065	1,051
Average draft water on coal cargoes,	{ 14'3"for'd 15'6"aft	{ 14'3 1/2"for'd 15'3" aft

STEAMER FALCON
COMPARISON OF ITEMS OF DISBURSEMENT

	1901	1902	+ OR -	REMARKS
Extraordinary and General Repairs,	\$ 655.76	\$3,234.60	+ \$2,578.84	In 1902 extensive repairs to floor ceiling, keelsons, hatches, etc. (See remarks under General Repairs.)
Ship Keeping and Winter Dockage,		113.41	+ 113.41	In 1901 Vessel layed at Marine City, and was under no expense.
*Fitting out,	541.36	404.59	- 136.77	Vessel fitted out at Marine City in 1901, where a longer time was necessary.
Wages and Captain's Salary,	5,240.40	6,192.54	+ 942.14	A longer season in 1902.
Captain's Expense account,	74.45	85.85	- 11.40	
Tug Services,	45.42	56.50	+ 11.08	
Handling Cargoes,	783.22	2,159.43	+ 1,376.21	In 1902 Vessel carried seven more cargoes of iron ore.
Cargo Commissions,	55.00	25.00	- 30.00	
Taxes,	63.62	70.93	+ 7.31	
Marine Insurance,	928.94	371.33	- 557.61	Rate decreased from 3.95 in 1901 to 3.35 in 1902.
Freight List Insurance,	34.71	46.94	+ 12.23	
Mate's Supplies,	264.11	122.93	- 141.18	
Provisions,	903.75	1,012.05	- 108.30	Based on decreased cost of \$.005 per man per day.
Steward's Supplies,	122.23	46.59	- 75.64	
Fuel,	2,766.69	3,247.55	+ 480.86	Fuel consumption was 119 pounds per mile, both years.
Engineer's Lubricants,	66.14	105.22	+ 39.08	Based on increased cost of \$.00123 per mile.
Engineer's Supplies,	87.18	72.76	- 14.42	
Boiler Repairs,		37.57	+ 37.57	
Machinery Repairs,	121.67	36.86	- 84.81	
Auxiliary Engine Repairs,	5.30	7.25	+ 1.95	
General Expenses,	93.20	90.72	- 2.48	
*Laying up,	366.06	294.00	- 72.06	

* The Machinery on this steamer was practically fitted out for season of 1902, while laying up at end of season 1901. This was also done while laying up at end season 1902.

S T E A M E R F A L C O N

Captain's Expense Account

	1 9 0 1	1 9 0 2
Telegrams and Telephones	\$ 35.64	\$ 41.59
Postage	9.08	6.45
Railway Fares	20.65	3.70
Customs	5.60	7.80
Stationery	2.05	.75
Express	1.35	1.79
Exchange	3.71	3.27
Miscellaneous	4.18	.50
T O T A L	\$ 82.26	\$ 65.85

S T E A M E R

F A L C O N

Details of General Expense

	1901	1902
Telegrams etc	\$ 15.22	\$ 14.36
Stationery	4.33	12.45
Trimmings and buttons	10.55	15.25
Travelling Expenses	10.85	10.80
Express Charges	1.12	
* Dues, Lake Carriers Association	20.30	13.30
Bulletin Board	2.25	
Amount paid Robert Logan for investigating and Reporting on Engine Indicator Cards	10.00	10.00
Marine Reporting	10.60	14.00
Fine (Violating Rule Three in Soc River)	25.00	
Board Bills of Captain and Engineer while fitting out and laying up	41.25	
Advertising (Changing name to Falcon)	4.12	
T O T A L	\$156.09	\$ 90.72

*
Rate per ton reduced from three cents in 1901 to two cents in 1902.

S T E A M E R F A L C O N

P R O V I S I O N A C C O U N T

	1901			1902		
	QUAN.	PRICE	AMOUNT	QUAN.	PRICE	AMOUNT
Sugar	730 lb	\$.055	\$ 40.66	859 lb	\$.054	\$ 46.59
Tea	54 "	.354	19.15	30 "	.341	10.23
Coffee	103 "	.140	14.52	125 "	.123	15.39
Spices & Vinegar			6.07			7.83
Extracts	15 bt	.192	2.88	23 bt	.216	4.99
Baking Powder	58 lb	.226	13.12	44 lb	.167	7.38
Bread & Crackers			21.13			15.71
Butter & Butterine	362 "	.162	58.64	374 "	.158	59.58
Lard & Cotoline	175 "	.107	18.87	160 "	.127	20.30
Cheese	10 "	.142	1.42	46 "	.149	6.77
Fresh Milk	182 gal	.207	37.83	152 gal	.200	30.49
Condensed Milk	61 can	.093	5.67	136 can	.087	11.88
Pickles			7.33			4.83
Sauce						3.23
Eggs	119 dz	.171	20.37	184 dz	.204	37.72
Flour	6-1/2 bbl	4.707	29.42	8 bbl	4.477	35.81
Buckwheat Graham Corn Meal	144 lb	.027	4.06	177 lb	.025	4.47
Farinaceous Foods	46 "	.052	2.38	224 "	.041	9.31
Canned Fruit	32 can	.133	4.26	13 can	.230	3.00
Canned Vegetables	188 "	.076	14.43	280 "	.087	24.01
Dried Fruit	181 lb	.100	18.23	257 lb	.108	26.87
Dried Vegetables	65 "	.056	3.65	131 "	.048	6.27
Fresh Fruit			15.63			13.52
Fresh Vegetables			34.57			38.07
Potatoes	76 bu	.875	66.50	87 bu	.736	64.24
Dried Onions	8 pk	.30	2.40	13 pk	.386	5.02
Fresh Fish	64 lb	.094	6.03	236 lb	.084	20.00
Salt Fish	15 "	.098	1.47	73 "	.091	6.67
Fresh Meat	3,265 "	.097	317.59	2,857 "	.118	336.59
Salt Meat	839 "	.087	73.25	1,229 "	.084	105.17
Molasses & Syrup	4 gal	.432	1.73	7 gal	.314	2.20
Ice	264 cwt	.183	48.43	207 cwt	.188	39.07
Miscellaneous			.30			
TOTAL			\$ 912.02			\$1,023.21
Less cash discounts			8.27			11.16
			\$ 903.75			\$1,012.05

Average consumption of meat per man per day in 1901 was 1.54 lbs

" " " " " " " " " " 1902 " 1.36 lbs

S T E A M E R F A L C O N

D E T A I L S O F S T E W A R D ' S S U P P L I E S

	AMN'T	PRICE	1901	AMN'T	PRICE	1902
Table linen, towelling etc		¢	¢ 13.04		¢	¢ 2.98
Bed linen, blankets etc			29.25			5.80
Cutlery and Spoons			.20			3.63
Crockery and glassware			5.55			2.98
Kitchen utensils			9.60			4.03
Soap			11.84			9.94
Scouring material			4.08			2.85
Brooms	3	.20	.78	4	.222	.90
Brushes	2	.10	.20	1	.08	.08
Laundry			36.31			26.53
Range Coal	7- $\frac{1}{2}$	6.66	50.00			
Toilet articles						.54
Miscellaneous			8.76			14.95
TOTAL			\$168.61			¢ 75.21
Less cash discounts			.75			.33
			\$167.86			¢ 74.88

S T E A M E R F A L C O N

Details of Mate's Supplies Acc't

	AMN'T	PRICE	1901	AMN'T	PRICE	1902
Flags and private signals		\$	\$		\$	\$
Canvass Deck etc			7.00			7.86
Kerosene Oil	361 gal	.127	46.07	232 gal	.124	28.94
Rope etc	726 lbs	.111	103.13	727 lbs	.146	106.19
Chimneys and Globes			23.93			8.70
Lamps, Lanterns, and burners			8.66			4.99
scouring material			2.38			4.60
Soap			4.75			5.75
Rags	40 lbs	.072	2.90	30 lbs	.058	1.75
Hardware and Tools			35.54			9.63
Brushes	10	.307	3.07	9	.405	3.65
Brooms	19	.252	4.92	34	.255	8.60
Candles			7.91			9.05
Hose	50 ft	.356	17.84	50 ft	.31	15.50
Miscellaneous			89.47			14.33
T O T A L			\$357.62			\$230.09
Less Cash Discounts			5.21			2.14
			\$352.41			\$227.95

S T E A M E R F A L C O N

Details of Paints Purchased

	1 9 0 1			1 9 0 2		
	QUANTITY	PRICE	AMOUNT	QUANTITY	PRICE	AMOUNT
White Lead	350 lbs	\$.06- $\frac{1}{4}$	\$ 22.07	100 lbs	\$.057	\$ 5.75
Red Lead	25 "	.06- $\frac{1}{2}$	1.63			
Boiled Oil	48 gal	.685	32.90	64 gal	.619	39.65
Turpentine	21 "	.535	11.45	9- $\frac{1}{2}$ "	.618	5.88
Red Metallic Paste	490 lbs	.03- $\frac{3}{4}$	18.33	505 lbs	.032	16.42
Tinted Lead	300 "	.066	20.00	200 "	.062	12.50
Hull Paint (black)				1 gal	1.40	1.40
Maroon Enamel Paint				1 "	1.50	1.50
Miscellaneous			22.03			11.08
T O T A L			\$128.46			\$ 94.18