

*Montreal Water Works
Final Estimates*

7119-01-01-01

Thos. C. Keefer

1852-1870

169-10-01

Aqueduc de Montréal

Devis estimatifs.

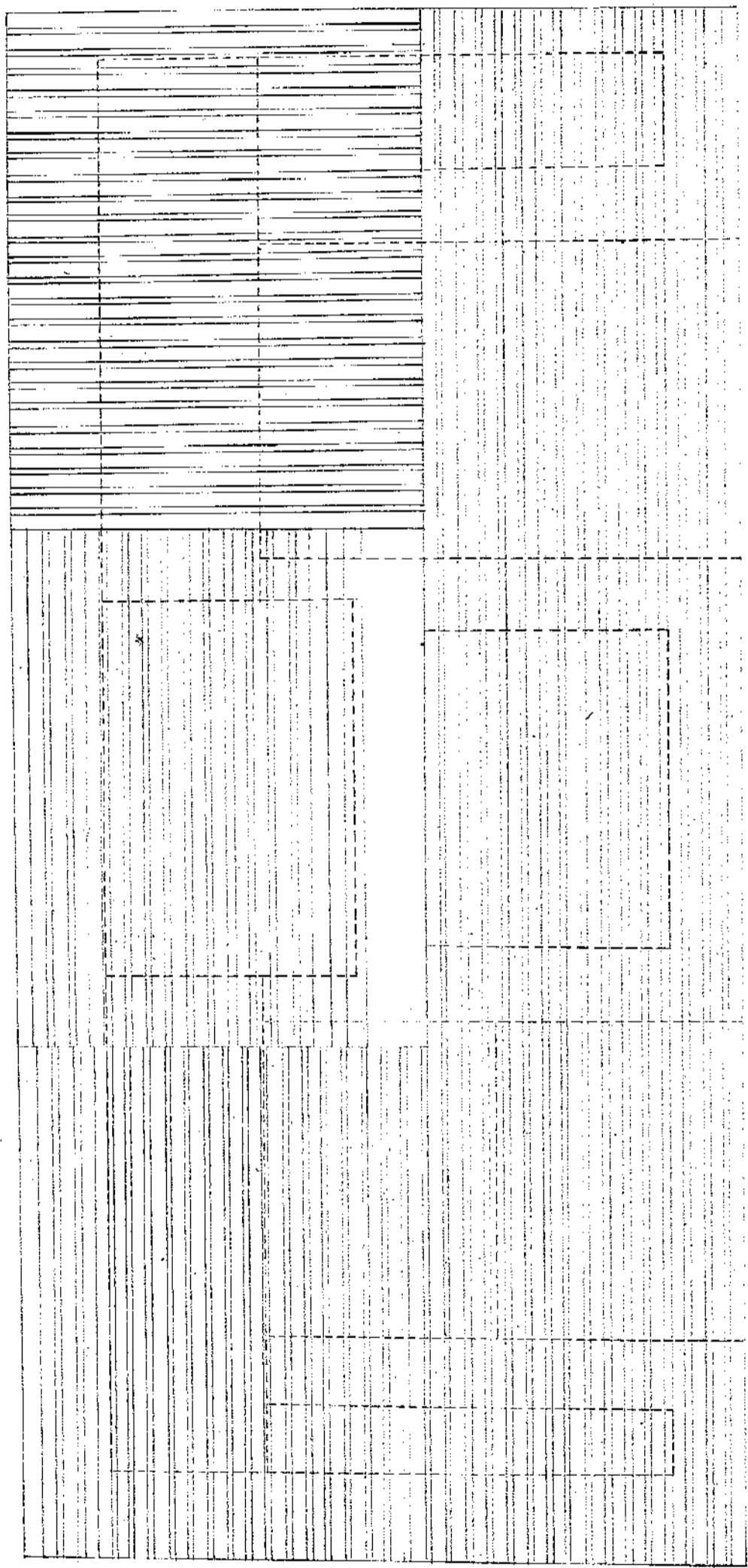
Travail préparé par M. Thomas C. Keefe,
grand-père du soussigné, lequel a bien
voulu confier ce précieux document
aux Archives municipales de
Montréal, le mercredi, 8 nov. 1933.

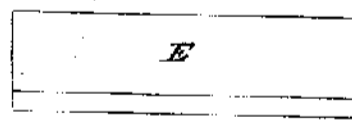
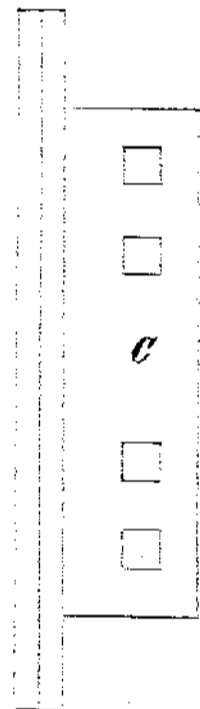
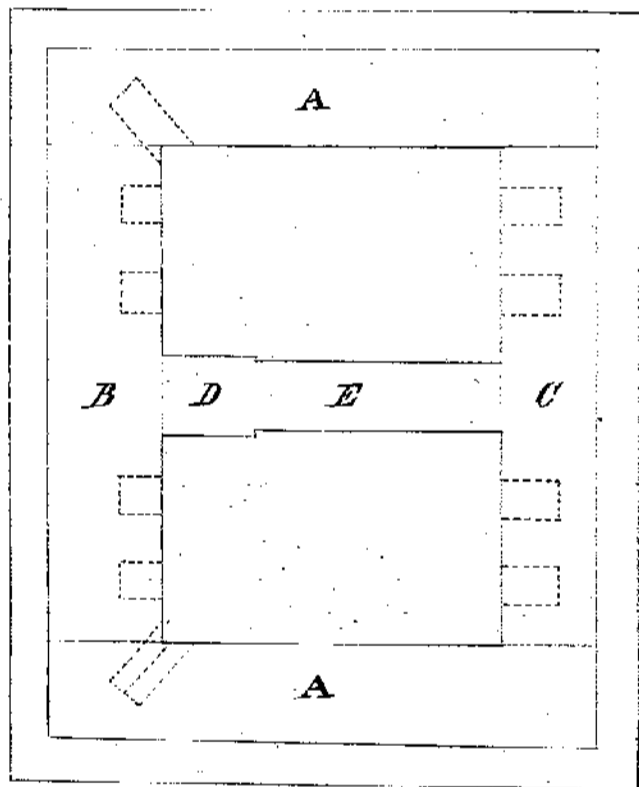
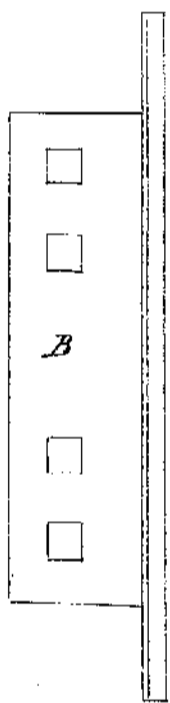
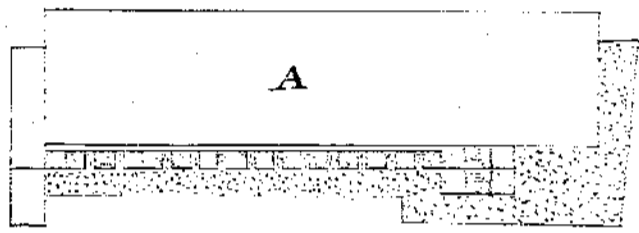
T.C. Keefe

Nov 8th 1933

11933-11-08-01

*Plan of Timber foundation of Mill House
and Pump Room.*

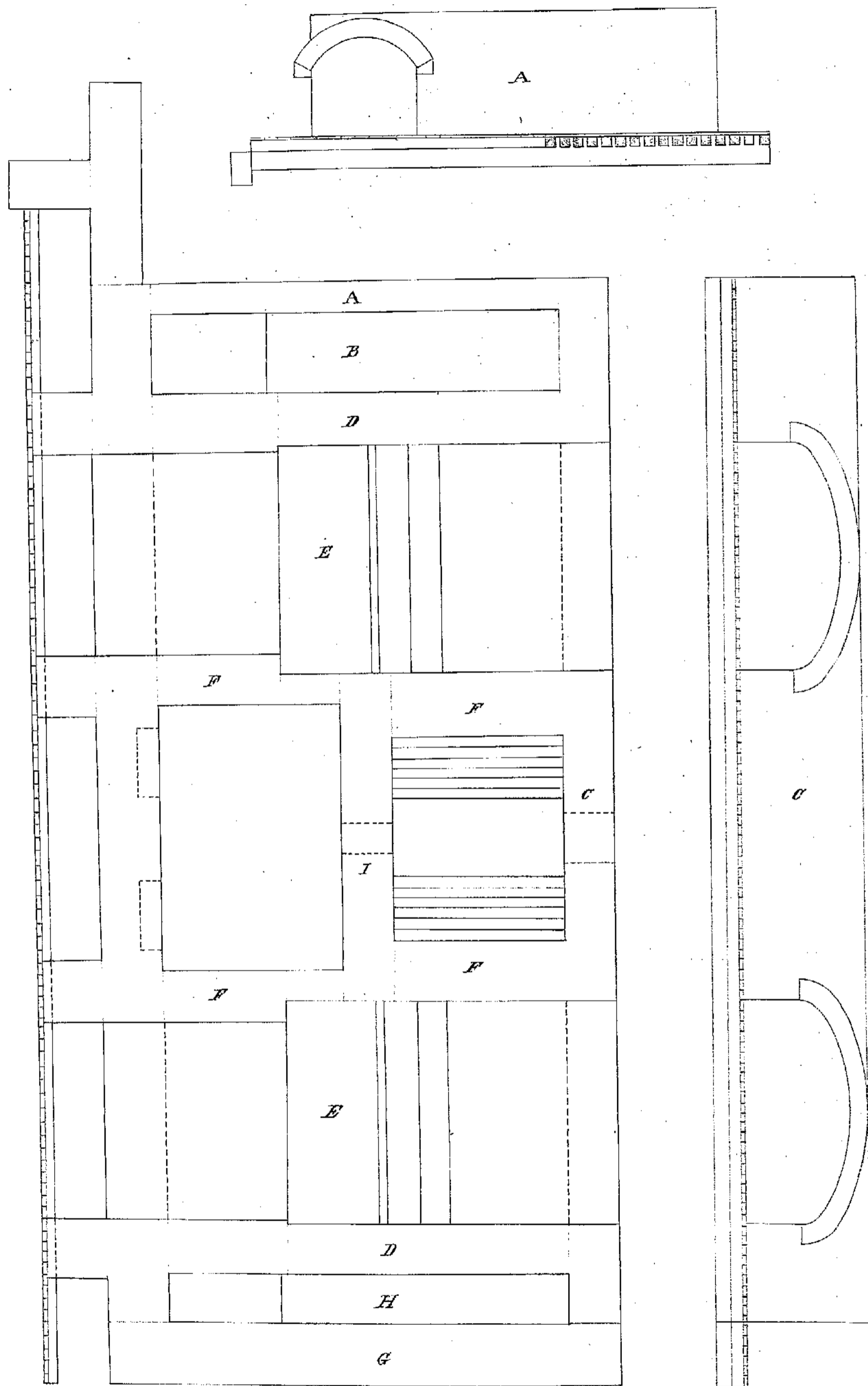




Wheel House

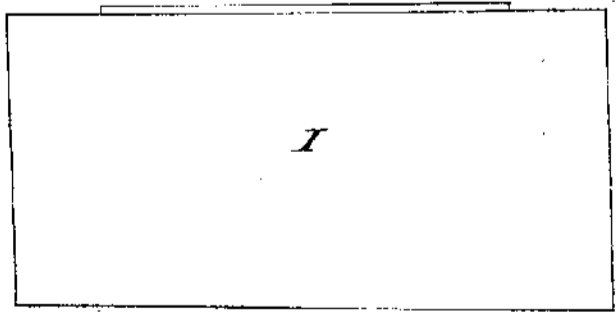
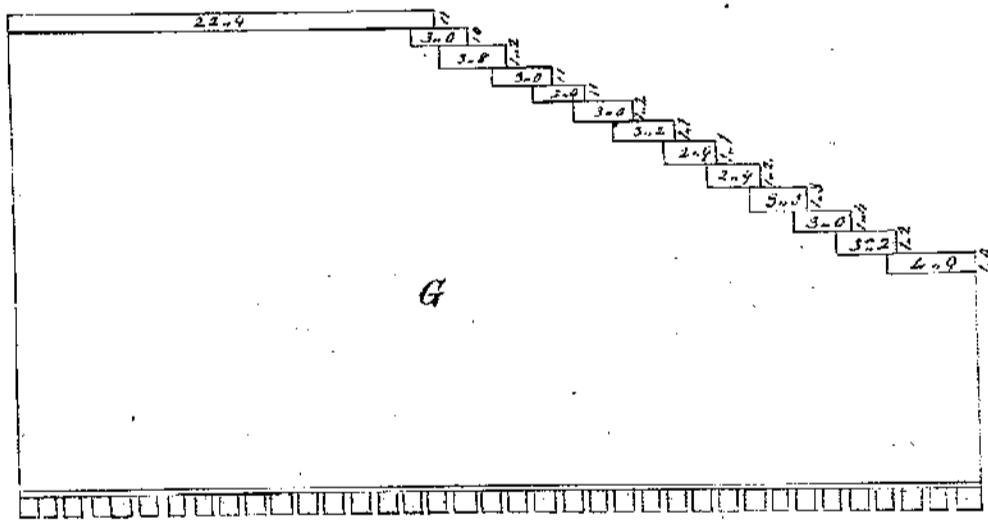
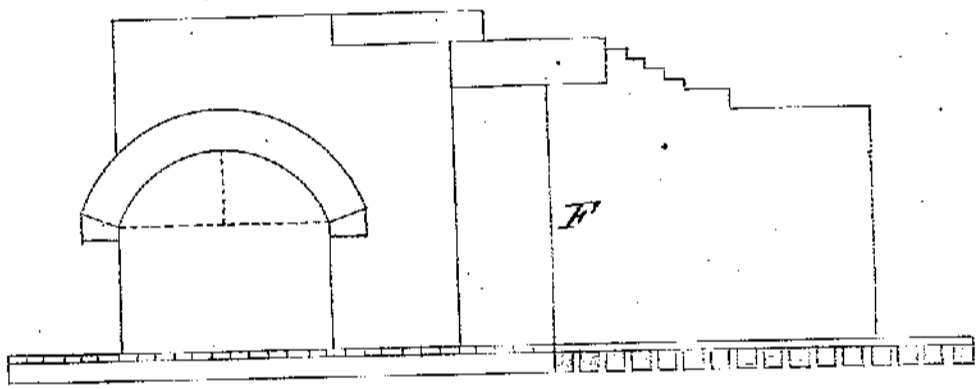
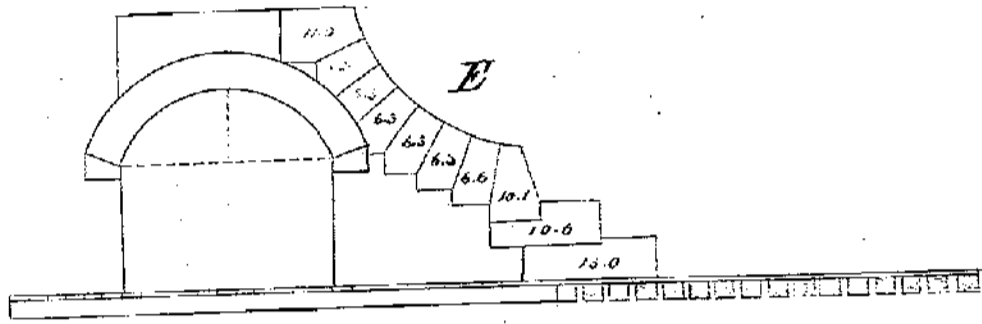
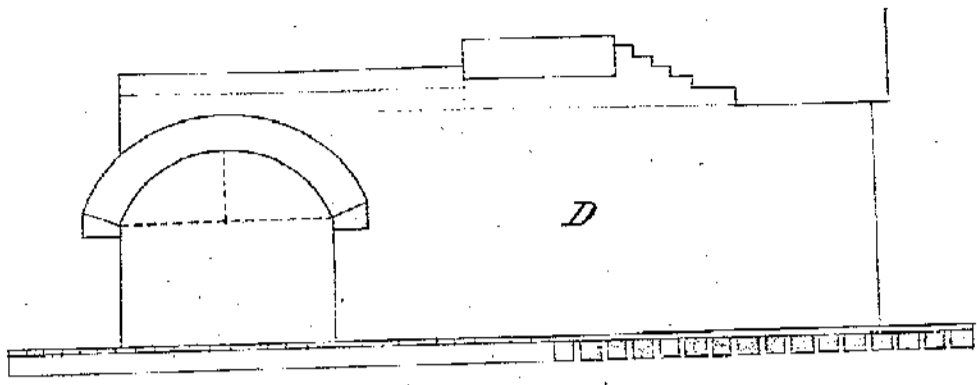
Pump Room

	No.	Length	Width	Height	Contents	
A	4	5.0	3.0	1.4	80.0	Dimension Stone
B	2	4.0	6.0	1.6	72.0	"
"	1	4.4	5.0	1.6	32.6	"
"	3	4.0	5.0	1.6	90.0	"
"	1	4.6	4.0	1.6	27.0	"
"	1	3.0	4.0	1.6	18.0	"
C	1	4.0	5.0	1.3	25.0	"
"	2	3.0	3.0	1.3	22.6	"
"	1	3.0	3.6	1.3	13.2	"
"	2	3.6	3.0	1.6	25.0	"
"	1	3.3	3.0	1.4	12.0	"
"	1	3.0	3.6	1.3	13.2	"
"	1	3.6	4.0	1.6	21.0	"
"	1	2.6	4.0	1.6	15.0	"
"	1	3.0	4.0	1.6	18.0	"
"	1	3.9	4.0	1.6	22.6	"
					509.10	Cube feet Dimension Stone
A	2	29.0	5.0	7.0	3030.0	Ashlar faced Masonry
B	1	26.0	6.0	7.0	1092.0	
C	1	26.0	5.0	7.0	910.0	
D	1	6.0	4.0	7.0	168.0	
					4200.0	
					509.10	Dimension Stone deducted
					3690.2	Cube feet Ashlar faced Masonry
15	36.0	1.0	7.0	540.0	Pine Timber	
1	36.0	4.6	3.0	486.0	St. bed for Pumps	
				1026.0	Cube feet of Square timber	
1	36.0	20.6	0.3	2214.0	Feet B.M. pine planking	
1	40.0	20.6	1.6	1280.0	Concrete	
12	36.0	0.6	1.0	216.0	"	
1	40.0	11.6	1.6	690.0	"	
1	40.0	6.0	2.6	600.0	"	
1	40.0	1.6	3.6	330.0	"	
1	40.0	2.0	6.6	520.0	"	
2	29.0	2.6	6.6	754.0	"	
1	36.0	4.6	0.3	40.6	"	
				4350.6	Cube feet Concrete	
B	1	18.0	3.6	1.0	63.0	Middle Wall
"	1	18.0	3.0	4.3	229.6	"
"	2	12.0	2.0	4.0	112.0	End Walls
				404.6	Cube feet Dimension Stone	



Wheel House

No.	Length	Width	Height	Contents		
A	1	3.0	^{area} 37.0	111.0	Arches opening	
"	1	11.4	3.0	6.7	223.10	Square do
					334.10	
"	1	19.0	3.0	2.0	114.0	Cube feet hammer dressed Arch
"	1	40.0	3.0	12.0	1440.0	Rubble Wall
B	1	28.8	8.0	6.7	1509.9	"
					2949.9	
					448.10	Opening and Arch
					2501.0	Cube feet Rubble Masonry
C	2	5.0	^{area} 82.0	820.0	Chipse opening	
"	2	22.0	5.0	5.6	1210.0	Square do
					2030.0	Cube feet openings to be deducted
"	2	26.0	5.0	2.0	520.0	Best stone Arches
"		102.0	5.0	12.0	6120.0	Rubble Wall
					2550.0	Openings and Arches deducted
					3570.0	Cube feet Rubble Masonry
	16	108.0	1.0	1.0	1728.0	Pine Timber
	21	41.0	1.0	1.0	861.0	"
	25	29.0	1.0	1.0	725.0	"
	1	116.0	1.0	1.0	116.0	Timber for sheet piling
	2	108.0	1.0	1.0	216.0	do Platform
					3646.0	Cube feet pine timber
	1	108.0	22.0	0.3	7128.0	Planking floor
	2	36.0	29.0	0.3	6264.0	"
	1	108.0	12.0	0.3	3888.0	Sheet piling
	1	36.0	12.0	0.1	432.0	Buttens for do
	1	108.0	6.0	0.3	1944.0	Platform floor
	12	22.0	0.6	0.6	792.0	Chords - four sets of Bentons
	1	252.0	0.6	0.4	504.0	Bones
	12	26.0	0.11	0.2	572.0	Kibs
	32	5.6	0.6	0.4	352.0	Standards
	4	26.0	5.0	0.14	650.0	Sheeting
					3490.0	Bentons for pipe Arch
					26016.0	Sheet B.M.
	176	1.6	0.3	0.3	176.0	Wedges (Hard wood)

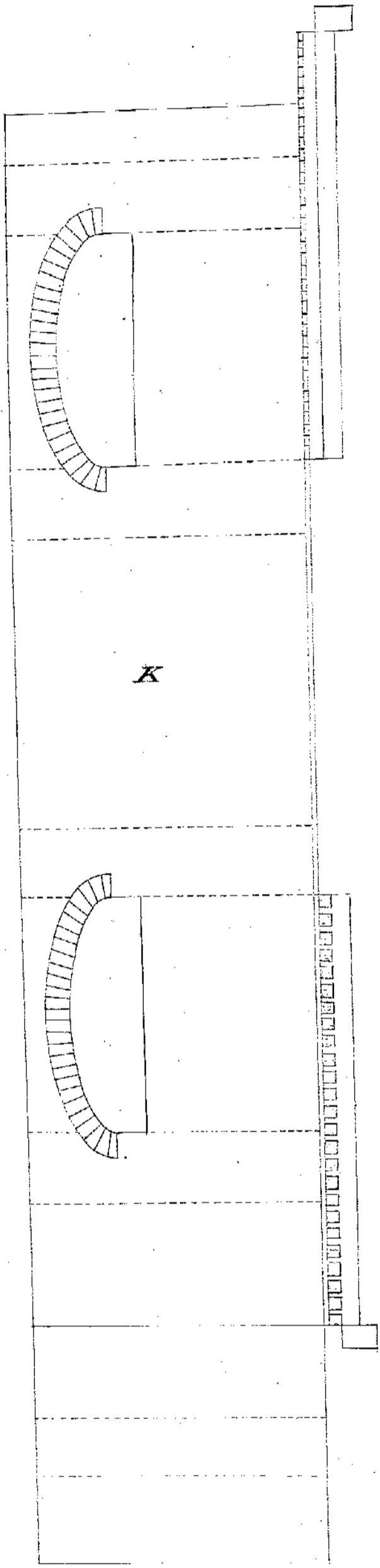


Wheel House

	N ^o	Length	Width	Height	Contents	
D	2	5.0	Area 37.0		207.0	Arch opening
"	2	11.4	5.6	6.7	820.9	Square do
					1227.9	Cube feet openings
"	2	19.0	5.6	2.0	418.0	Cube feet hammer dropped rocks
"	2	2.0	5.6	1.4	29.4	But Stone under plummer block
"	2	4.0	3.6	1.10	51.4	"
"	13	Stones measuring			204.5	Bolt hole stones
"	2	16.6	5.6	1.0	181.6	Spacing between wall & plummer block
"	2	4.0	7.3	.7	33.10	Steps from floor to plummer block
					500.8	Cube feet dimension stone
"	2	28.8	5.0	12.0	3440.0	Ashlar faced wall
"	2	7.0	5.0	2.6	175.0	"
"	2	8.0	5.0	1.6	120.0	"
"	2	6.6	5.2	2.3	151.2	"
"	2	11.4	5.6	14.8	1828.5	"
					5714.7	
					2146.5	Deduction Openings, Arch & Dimension Stone
					3568.2	Cube feet Ashlar faced Masonry
E	2	19.0	19.0	2.0	1482.0	Cube feet hammer dropped rock
"	2	22.6	Area 80.9		3633.9	Wheel quadrants & foot courses
"	2	11.0	9.0	1.0	198.0	Cube feet dimension stone, bed for cisterns
"	2	22.0	8.3	6.0	2178.0	Rubble Masonry
"	2	22.0	9.0	3.3	1287.0	"
					3465.0	
					198.0	Deduction dimension stone
					3366.0	Cube feet rubble masonry
F	2	5.0	Area 37.0		370.0	Arch opening
"	2	11.4	5.0	6.7	756.0	Square do
					1116.0	Deduction openings
"	2	19.0	5.0	2.0	380.0	Cube feet hammer dropped rock
"	10	Stones measuring			196.0	Under plummer blocks stones
"	17	Stones			257.0	Bolt hole stones
"	2	4.0	7.3	.7	33.10	Steps from floor to plummer blocks stones
					486.10	Cube feet dimension stone

Wheel House

	N ^o	Length	Width	Height	Contents	
						Continued
F						
"	2	17.0	5.0	12.0	2040.0	Asklar faced
"	2	9.6	5.0	1.6	142.6	"
"	2	2.0	5.0	2.3	15.0	"
"	2	5.6	3.0	16.0	528.0	"
"	2	12.6	5.0	18.0	2250.0	"
					5005.6	
					1982.10	Deduction, Openings Arch Dimension Stone
					3022.8	Cube feet Asklar Masonry
"	2	17.0	3.0	12.0	1224.0	Cube feet rubble Masonry
G	1	4.0	Area 6.2.0		248.0	Cube feet Dimension Stones, Steps Landings
"	1	22.9	6.0	18.0	2457.0	Asklar faced
"	1	28.3	6.0	11.6	1949.3	"
					4406.3	
					248.0	Steps Landings
					4158.3	Cube feet Asklar faced Masonry
"	1	51.0	6.0	7.0	2142.0	Rubble
H	1	40.0	5.0	6.7	1316.8	"
					3658.8	Cube feet Rubble Masonry
I	1	24.0	4.0	1.6	144.0	Roofing
"	1	38.0	1.3	1.0	37.4	St Under
					181.6	Dimension Stone
"	1	32.0	5.0	12.0	1920.0	Asklar faced
"	1	32.0	2.0	3.6	448.0	"
					3368.0	
					181.6	Dimension Stone deducted
					2187.6	Cube feet Asklar faced Masonry
	4	8.0	2.0	2.3	288.0	Plummer Block Stones
	2	8.0	3.0	1.6	72.0	Blank shafts do
					360.0	Cube feet



Wheel House

West Wall

No.	Length	Width	Height	Quantity	Description
K 2	Area 60.0	4.8		560.0	Ellipse opening
" 2	19.0	4.8	2.6	255.0	Square do
				1015.0	Openings to be deducted from rubble masonry
" 3	23.0	2.8	2.0	429.0	Cube feet cut stone Elliptical Arches
" 2	21.0	6.0	1.6	378.0	Sills in submerged passage
" 4	3.0	2.6	9.6	255.0	Jacobs do do
				663.0	Cube feet dimension stone
" 5	Stone measuring			105.0	Stone for Iron Beams
" 12	do	do		223.6	" " bolts
				328.6	Cube feet dimension stone
" 1	36.0	6.0	25.0	5400.0	Abular faced
" 4	6.0	6.0	3.6	504.0	Top of Counterforts
				5904.0	
				928.6	Deduction dimension stone
				5575.6	Cube feet Abular faced
" 1	36.0	6.0	25.0	5400.0	Rubble Masonry
" 1	30.0	6.0	25.0	4500.0	"
" 4	6.0	6.0	20.6	2952.0	Counterforts
" 1	20.0	5.0	24.0	2400.0	Wall with end in Embankment
" 1	8.0	5.0	24.0	960.0	Counterfort do
				16212.0	
				2107.0	Openings, Arches, & dimension stone deducted
				14105.0	Cube feet rubble Masonry
" 1	328.0	2.0	3.0	3726.0	Concrete
" 2	36.0	29.0	1.6	3132.0	"
" 1	108.0	7.6	1.0	810.0	"
" 1	36.0	9.6	1.0	342.0	"
" 1	29.0	12.0	1.0	348.0	"
" 2	10.0	10.0	1.0	200.0	Set of Pump Pits
" 1	18.0	14.0	1.0	252.0	"
" 1	108.0	35.0	.2	630.0	Cement under bed of Timbers as concrete
				9440.0	Cube feet Concrete

Wheel House

Abstract of Measurements

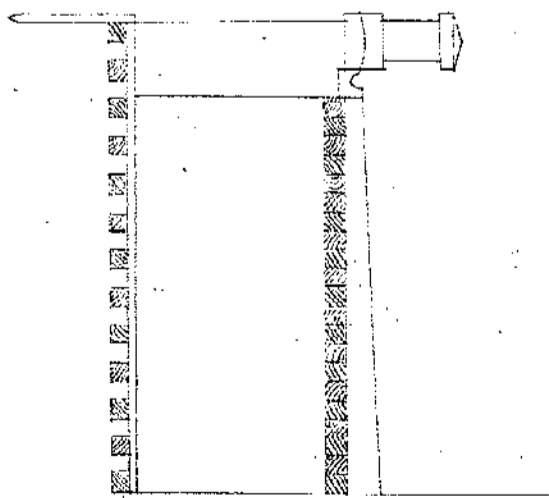
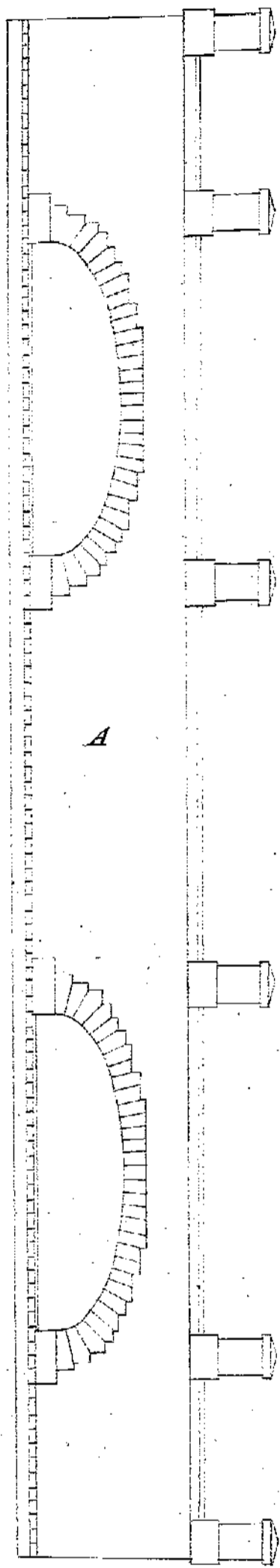
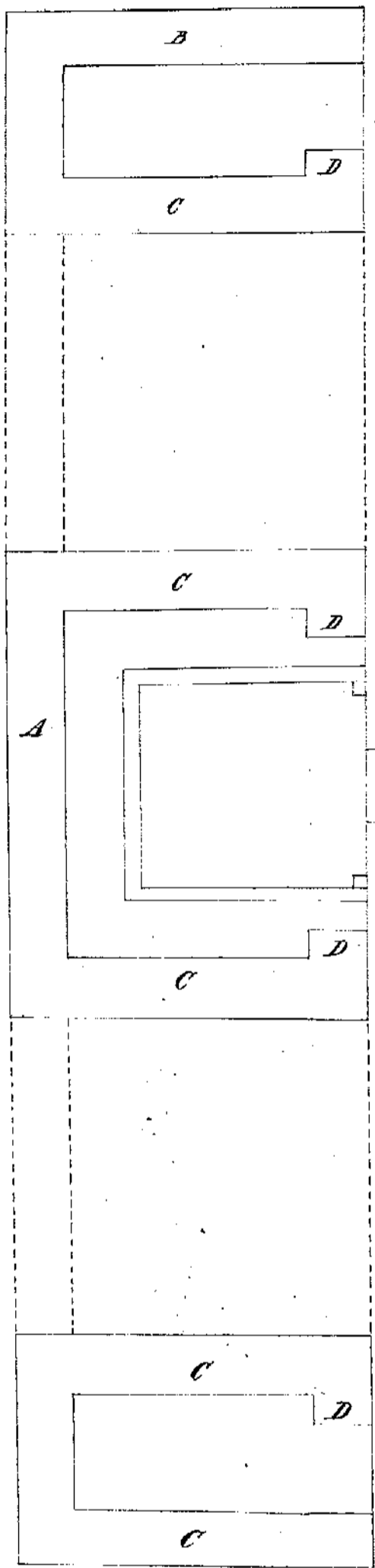
Page	Arch face Masonry	Reble Masonry	Dimension Stone	Elliptical Arch cut stone	Arch cut stone	Wheel cut stone	Aluminum Band St. Grand Shaft stones	Amoite	Stone Cubic	Working in Foundations B. M.	Pages for Notes
1	3690.2		529.10 204.6					4350.0	1026.0	2214.0	
2		2501.0 3570.0		520.0	114.0				3646.0	2606.0	176
3	3508.2	3366.0	500.8		415.0	3639.9					
"			198.0		1482.0						
"			486.0		380.0						
4	3022.8	1224.0	248.0				360.0				
"	4158.2	3488.8	181.6								
"	2187.6										
5	5575.6	14105.0	063.0	429.0				9440.0			
"		1968.0	328.6								
<i>6. 1/4</i>	22202.3	30192.8	3520.10	949.0	2394.0	3633.9	360.0	13790.0	4672.0	28230.0	176
<i>6. 1/4</i>	882 ²⁷ / ₂₇	1118 ²⁷ / ₂₇	130 ²⁷ / ₂₇	35 ²⁷ / ₂₇	88 ²⁷ / ₂₇	134 ²⁷ / ₂₇	15 ²⁷ / ₂₇	510 ²⁷ / ₂₇	<i>B. Feet</i> 4672.0	28230.0	176

Measurement of Stone (cut) supplied by the Contractors, but not built included in the above Abstract

Page	Net	Length	Width	Thickness	Volume	Description	
A	1	2	12.0	2.0	4.0	192.0	Dimension Stone
B	"	1	18.0	3.0	4.3	229.6	"
"	"	1	18.0	3.6	1.0	63.0	"
D	3	1	17.6	5.6	1.0	96.3	"
"	"	1	18.0	5.6	1.0	99.0	"
F	"	2	16.0	3.0	2.3	216.0	"
"	"	4	4.0	7.0	0.7	67.8	Steps
B	"	3	11.0	9.0	1.0	198.0	Under Cisterns
I	"	1	24.0	1.9	0.6	21.0	Bas pump room Wall
					1182.5	Cubic feet	
					43 ²⁷ / ₂₇	Cubic yards dimension stone	
F	3	3	8.0	6.0	1.3	120.0	Arch
D	"	2	8.0	5.0	1.3	100.0	"
B	"	3	16.0	3.0	1.3	120.0	"
					340.0	Cubic feet	
					14 ²⁷ / ₂₇	Cubic yards Arch face Masonry	

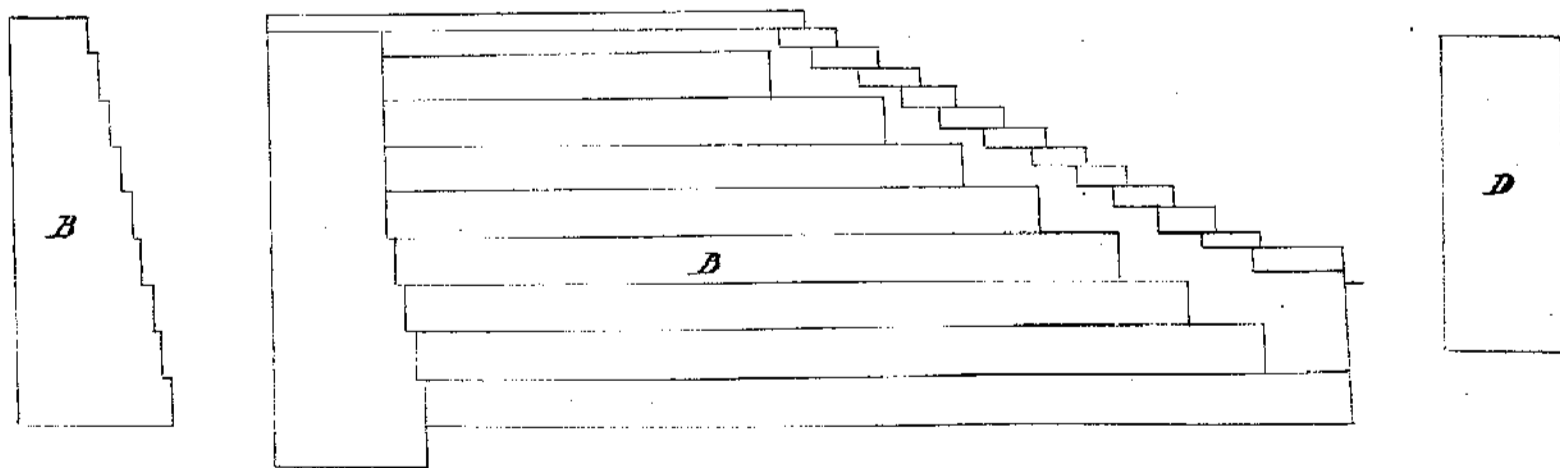
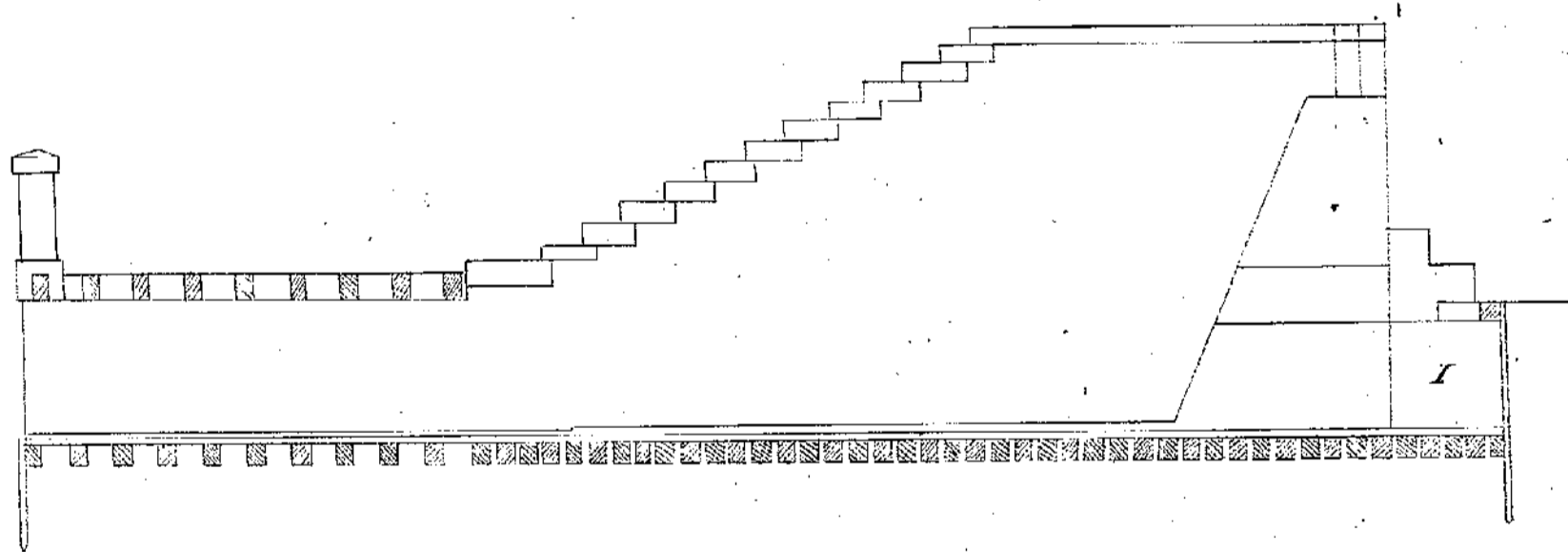
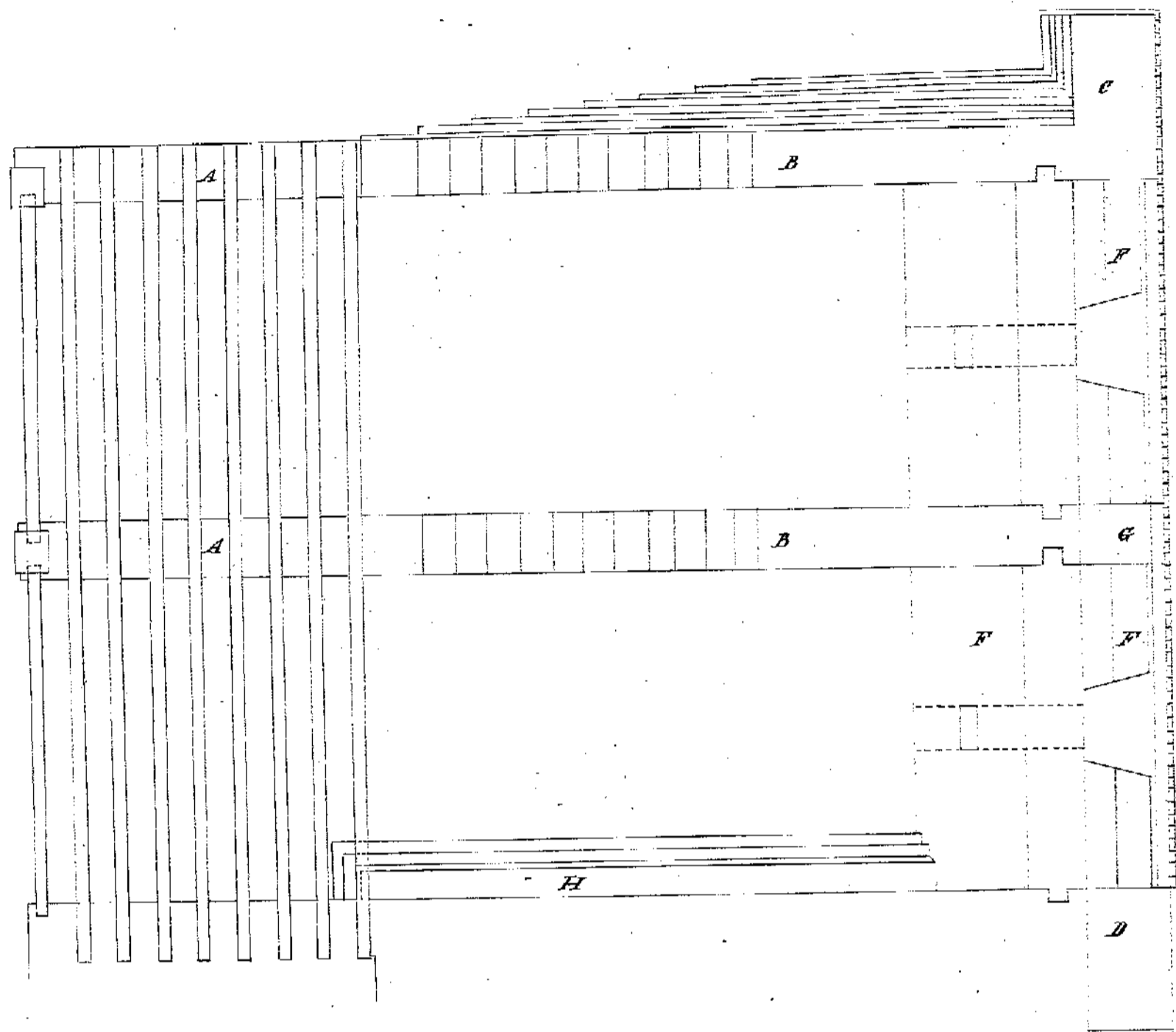
Iron Work at Wheel Horse

8 Bolts 5".0 long 1 round	= 105.20
16 Nuts	10.00
10 Bolts 3.0 " 1 "	87.67
20 Nuts	20.00
5 Bolts 2.0 " 2 1/2 "	329.60
10 Nuts	50.00
5 Plates 3.0 " 3 1/2" X 1"	176.55
6 Bolts 7.0 " 2 1/2 round	692.16
6 Nuts	30.00
6 Heads 8" X 4" X 2 1/2"	134.60
	<u>1641.78</u>



Tail Races

No	Length	Width	Height	Remarks		
2	4.0	Area 82.0		656.0	Arch openings	
2	23.0	4.0	1.8	293.4	Square feet do	
				949.4	Cubic feet deducted	
4	2.8	4.0	1.0	42.8	Wet stone Arches	
4	2.4	4.0	3.2	118.3	" " "	
4	2.0	4.0	3.0	96.0	" " "	
4	1.8	4.0	2.10	75.7	" " "	
4	10.0	4.0	1.10	293.4	" " "	
				625.10	Cubic feet	
				23 ²⁷ / ₂₇	Cubic yards Wet Arches	
A	1	108.0	4.0	10.11	4716.0	Ashlar faced Masonry
B		21.0	4.0	10.9	903.0	" " "
				5619.0		
				1575.2	Arches Arch openings deducted	
				4043.10	Cubic feet	
				149 ²⁷ / ₂₇	Cubic yards Ashlar faced Masonry	
C	5	31.0	4.0	9.3	3885.0	Rubble Masonry
D	4	4.0	3.0	9.3	444.0	" " "
				4329.0	Cubic feet	
				160 ²⁷ / ₂₇	" yards Rubble Masonry	
1	40.6	2.6	1.0	226.3	Opening on front wall	
6	3.0	2.6	2.0	40.0	Bases	
6	2.6	2.0	3.0	40.0	Pillars	
6	3.0	2.6	1.0	45.0	Steps	
				451.3	Cubic feet	
				16 ²⁷ / ₂₇	" yard dimension stone	
1	108.0	1.6	1.0	162.0	Cubic feet	
				6	" yards Channel course	
3	108.0	1.0	1.0	324.0	Pine timber in foundation	
20	42.0	1.0	1.0	840.0	" " "	
				1164.0	Cubic feet pine Timber	
1	54.0	21.0	1.1	22932.0	Cedar platform front of Wheel House	
7	16.0	1.0	1.0	1944.0	" sleepers on boat bunker	
1	50.0	7.0	1.0	4200.0	Sides Bunks " "	
2	9.0	1.0	1.0	216.0	Posts " "	
				28692.0	Feet B.M. Cedar	
1	108.0	4.0	0.3	1296.0	Pine Plank	
2	42.0	21.0	0.3	5292.0	" " "	
2	22.0	38.0	0.2	3344.0	" " 2nd floor	
1	16.0	14.0	0.3	672.0	" " Boat bunker	
1	108	6.0	0.3	1944.0	Sheet piling	
				1435.0	Centres for Arches	
				13983.0		



Waste Weir

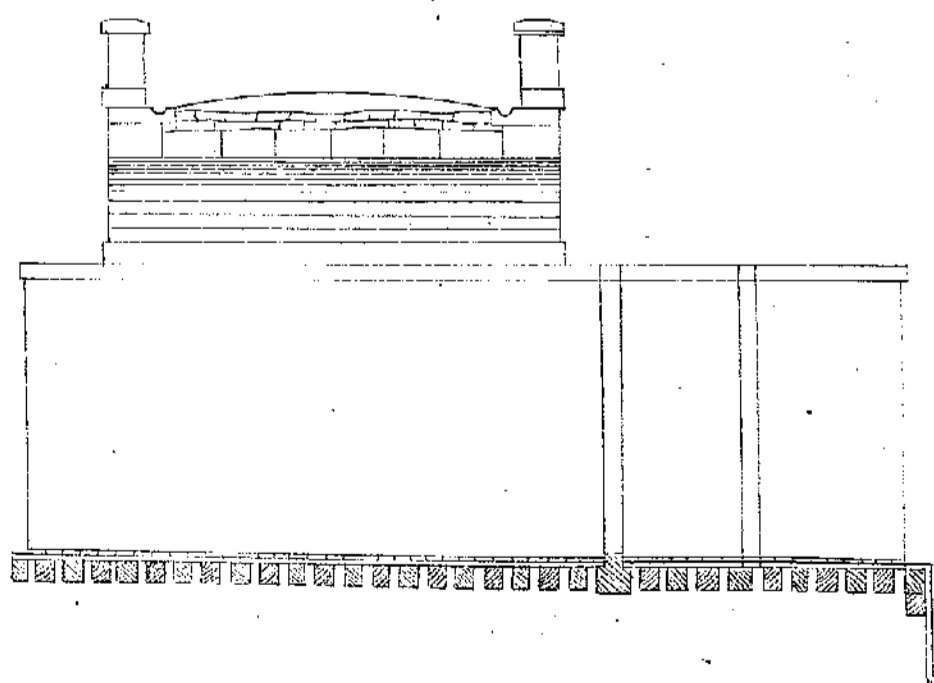
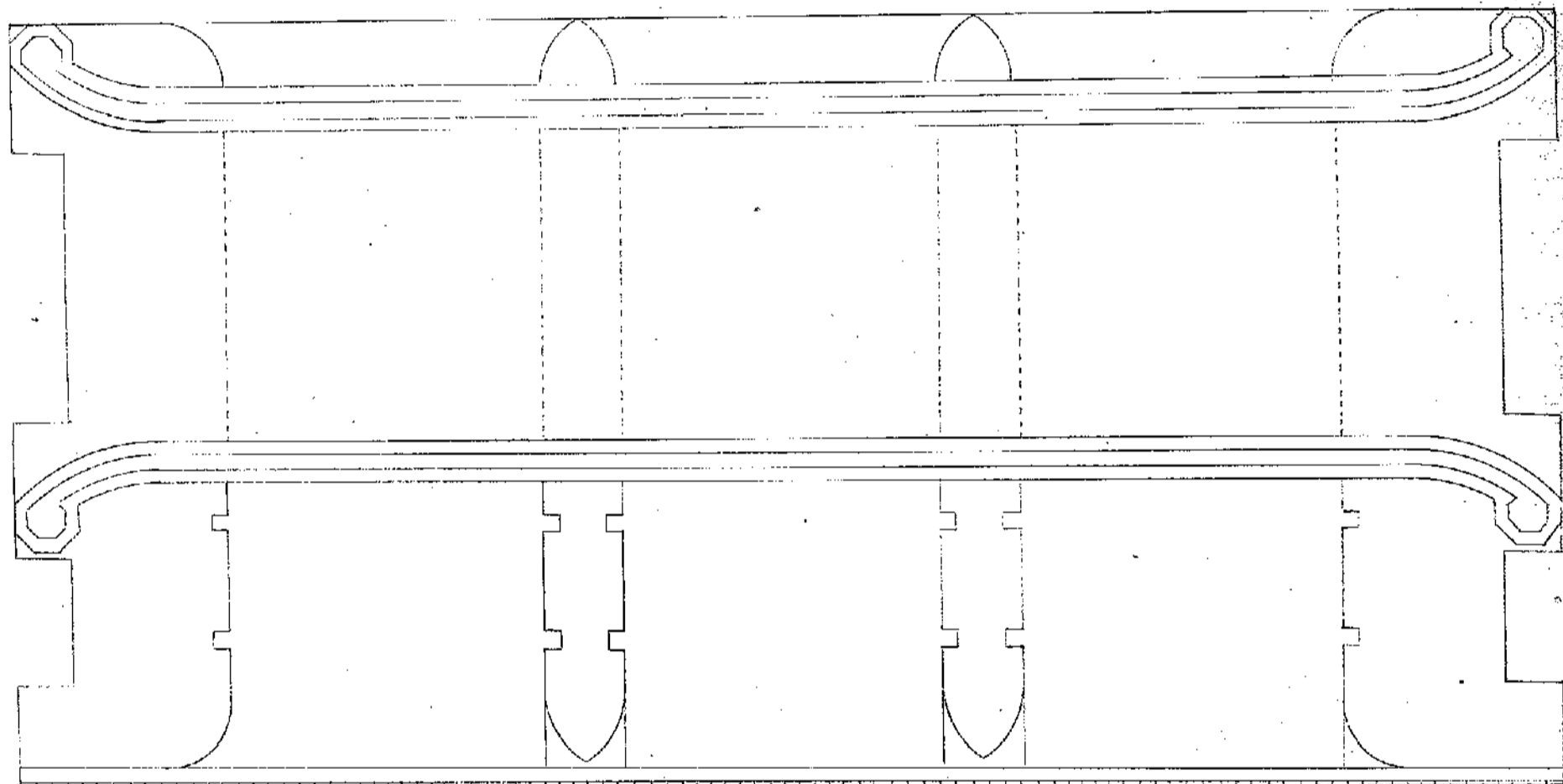
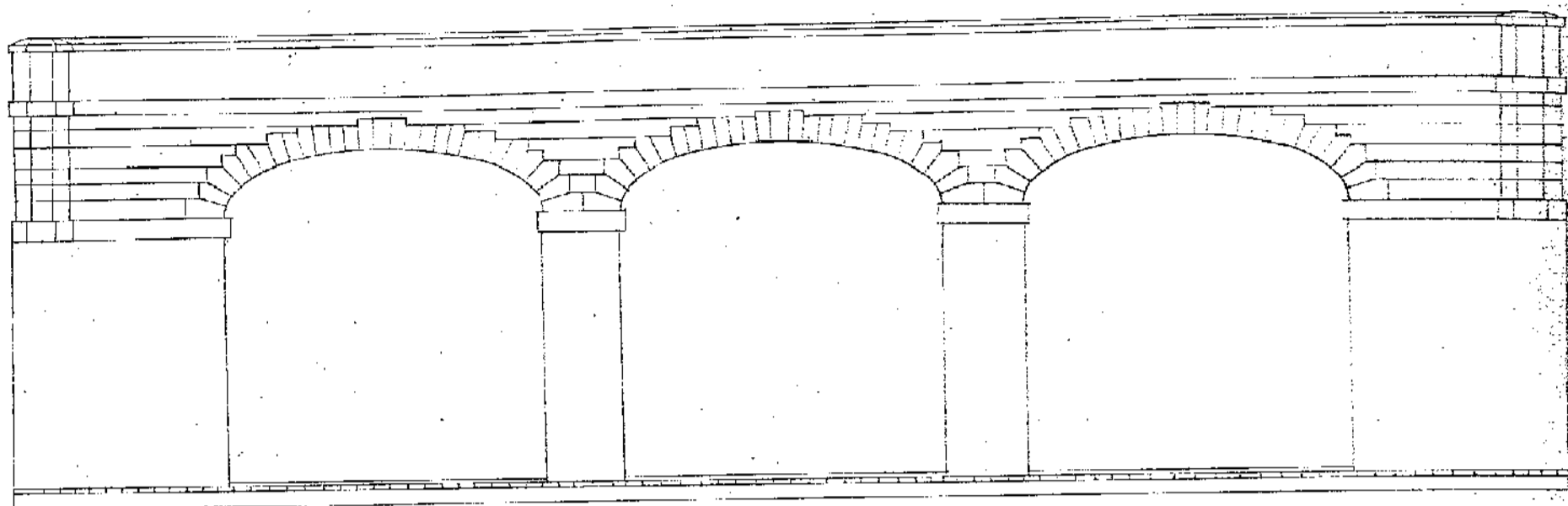
No	Length	Width	Height	Contents		
2	4.0	62.0		496.0	Steps Landings	
2	3.0	2.6	2.0	30.0	Basin	
2	2.6	2.0	3.0	30.0	Pillars	
2	3.0	2.6	1.0	15.0	Steps	
3	6.0	4.0	3.0	216.0	Step log stones	
				787.0	Cubic feet	
A	2	35.0	4.0	7.9	1550.0	Ashlars faced Masonry
B	1	23.0	2.0	20.0	920.0	Do offsets back of Wall
"	1	23.6	2.0	2.6	117.6	"
"	1	19.6	1.9	2.6	85.3	"
"	1	16.0	1.6	2.6	60.0	"
"	1	11.6	1.3	2.6	35.11	"
"	1	7.6	1.0	2.6	18.9	"
"	1	5.6	0.9	2.6	10.3	"
"	2	41.0	4.0	8.0	2624.0	"
"	2	31.0	14.0	10.0	2480.0	"
"	2	25.0	4.0	3.0	552.0	"
C	1	6.0	1.0	10.0	60.0	"
"	1	12.0	6.0	21.0	1512.0	"
D	1	10.6	6.0	3.0	189.6	"
E	1	50.0	8.0	18.0	7200.0	"
F	4	8.6	4.3	3.0	433.6	"
"	4	9.0	2.0	2.0	144.0	"
G	1	6.0	4.0	14.6	348.0	"
H		41.6	3.3	3.7	483.3	
				18823.5		
				216.0	Step Log stones deducted	
				18607.5	Cubic feet Ashlar Masonry	
I	1	50.0	6.0	7.0	2100.0	Rubble
D	1	10.6	6.0	13.6	852.6	"
C	1	6.0	6.0	2.0	72.0	"
				3022.6	Cubic feet Rubble Masonry	
	1	40.0	4.0	5.0	800.0	Concrete Waste Weir
	1	18.0	5.0	5.0	450.0	"
	2	41.6	2.0	0.6	83.0	"
	4	65.0	1.0	0.6	130.0	"
	4	42.0	1.0	0.6	84.0	" Tail race
	1	20.0	18.0	2.0	720.0	"
				3267.0		

Waste Weir (Continued)

Qty	Length	Width	Height	Contents	
25	58.0	1.0	1.0	2610.0	Pine timber
10	54.0	1.0	1.0	540.0	" "
1	50	1.0	1.0	50.0	" "
				3200.0	Cubic feet Pine timber in foundations
1	58.0	57.0	0.3	9918.0	Planking in foundations
1	53.0	25.0	0.3	4125.0	" "
1	53.0	33.0	0.5	8745.0	" 3 rd floor
2	23.0	31.0	0.2	2852.0	" "
1	58.0	12.0	0.3	2088.0	Sheet piling
1	14.0	12.0	0.1	228.0	battens for do
1	55.0	6.0	0.3	990.0	Sheet piling
1	52.0	4.0	0.3	984.0	" "
1	60.0	6.0	0.3	1080.0	" "
				31010.0	Sheet P. in foundations
4	24.0	0.8	0.6	384.0	Pine Timber in Rails
2	24.0	0.6	0.4	192.0	" "
4	5.0	0.9	0.6	90.0	" " Posts
144	3.0	0.2	0.2	144.0	" " Banisters
9	54.0	1.4	0.11	648.0	" " Beams
1	54.0	25.1	0.3	4050.0	" " Floor
				11340.0	Sheet P. (W. Pine) in Bridge
1	93.6	0.8	0.6	374.0	Rails
1	93.6	0.6	0.4	187.0	Do
170	3.0	0.2	0.2	170.0	Banisters
				731.0	Sheet P. in Pine Railing front of Wheel House
2	58.0	1.0	1.0	116.0	Pine timber in platform
1	58.0	6.0	0.3	1044.0	Sheet P. W. floor of Do

Tail race and Waste Weir
Abstract of Measurement

Page	Shalar faced Masonry	Brick Masonry	Dimensional Stone	Best Stone in Crystalline	Channel Stone	Concrete	Pine Timber Cubic	Planking in foundations B. M.	Pine in Bridges & B. M.	Shalar in Bridges B. M.
8	2043.0	4329.0	451.3	625.10	162.0		1164.0	13983.0		28692
9	18607.5	3022.0	787.0			2267.0				
10							3200.0	31010.0	11340.0	
							116.0	1044.0	731.0	
	22651.5	7351.0	1338.3	625.10	162.0	2267.0				
	839	27277	4977	23	6	84	4580.0	46057	12171.0	28692



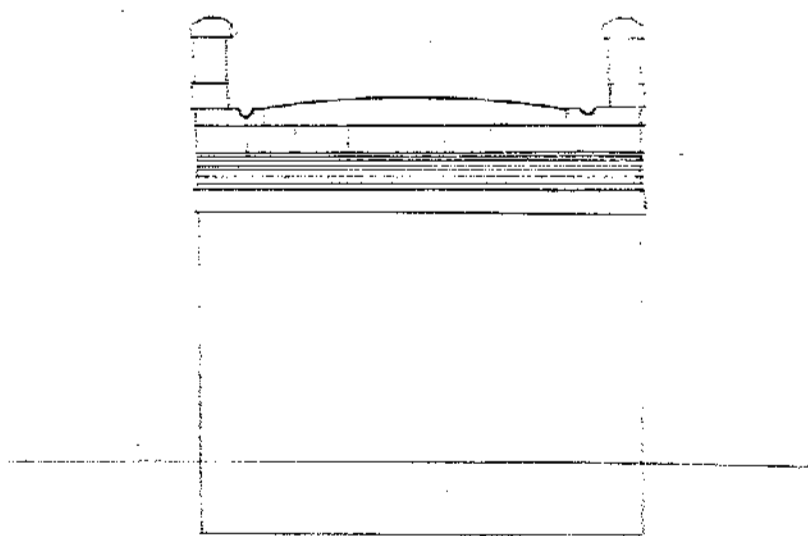
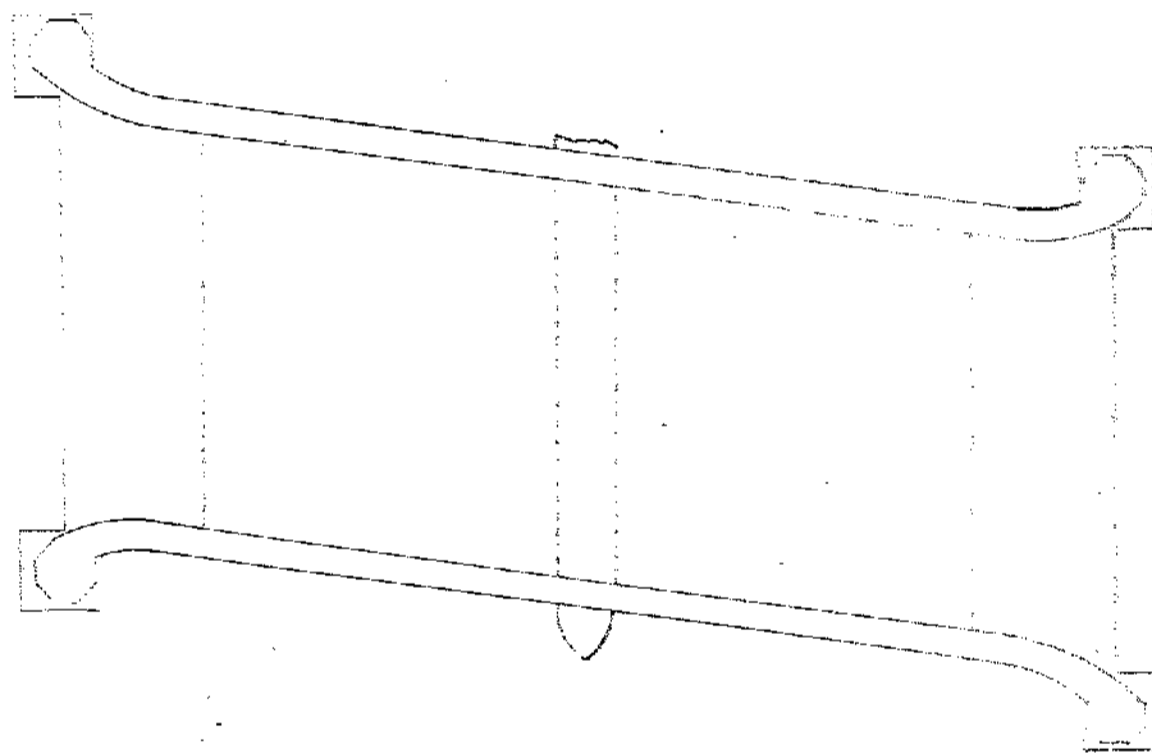
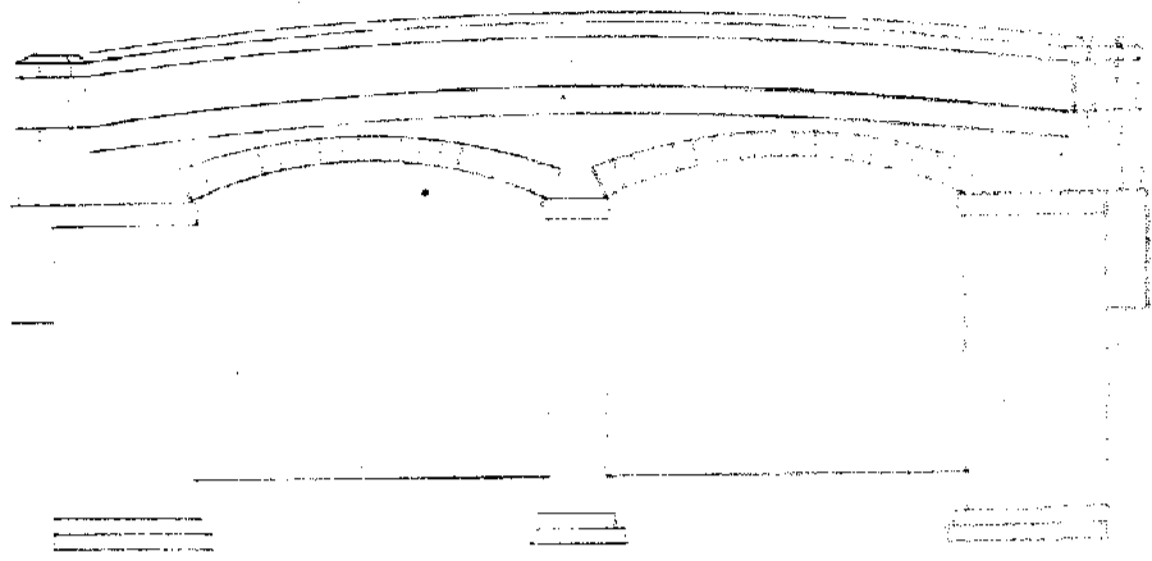
Entrance Bridge

No.	Length	Width	Height	Contents	
3	24.4	Area 62.10		4587.0	Arch openings to be deducted
12	2.6	2.0	1.1	65.0	Space stones of Arches
12	2.5	2.0	1.2	70.0	"
12	2.6	2.0	1.1	65.0	"
24	2.5	2.0	1.0	120.0	"
12	2.0	2.0	1.0	40.0	"
12	2.0	2.0	1.1	44.0	"
12	1.10	2.0	1.1	40.4	"
12	1.10	2.0	3.8	161.4	"
12	2.6	2.0	3.0	180.0	"
3	20.4	24.8	1.10	2758.6	Sheeting of Arches
				3544.2	Cubic feet
				191.7	" Yards of Arches
2	46.6	10.0	15.6	14415.0	Abutments
4	8.0	3.6	15.6	1708.0	Counterforts
2	5.0	3.6	15.6	542.6	Gr
2	46.0	5.0	15.6	7130.0	Piers
2	24.6	10.0	1.3	612.4	Abutments impoat
2	24.6	5.6	1.3	336.10	Piers do
4	8.0	2.0	1.3	160.0	Pillars & Counterforts do
4	4.3	1.0	1.3	21.3	Curved Angles do
1	90.0	24.4	6.8	14600.0	Spring of Arches to underside of Belt Course
4	4.3	1.0	6.8	113.4	Curved Angles
4	8.0	3.6	6.8	746.8	Pillars & Counterforts
				40386.1	
				8131.1	Arch & Arch Opening deducted
				32255.0	Cubic feet
				1194.7	Cubic Yards Ashlar faced Masonry
4	4.0	4.0	1.3	80.0	Base of Pillars
4	3.6	3.6	3.0	147.0	Shaft do
4	4.0	2.0	0.9	48.0	Steps do
2	93.0	2.3	1.3	523.1	Belt Course
2	93.0	2.0	3.0	1116.0	Parapet
2	93.0	3.6	0.9	348.9	Coping
				2262.10	Cubic feet
				83.7	" Yards Parapet &c
1	90.0	16.0	0.9	1080.0	
				40.0	Cubic Yards Macadamizing

Entrance Bridge (Continued)

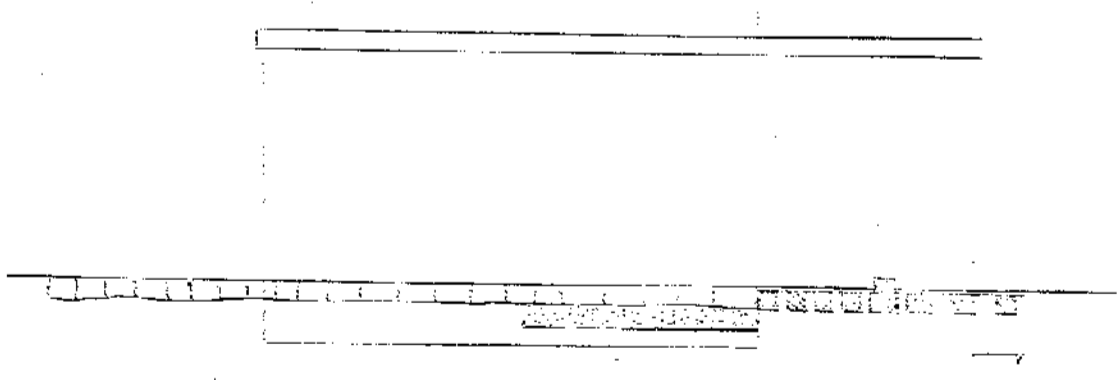
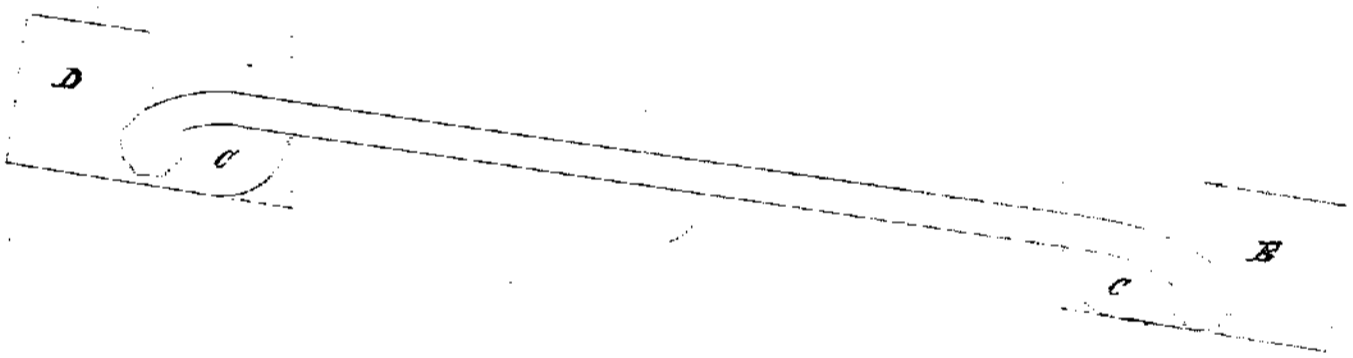
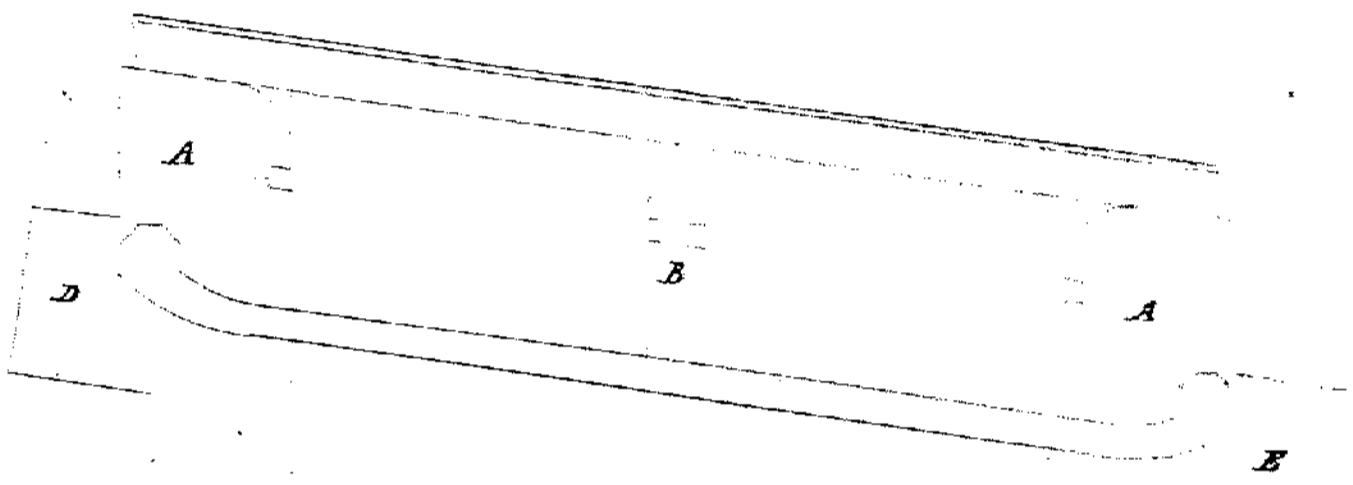
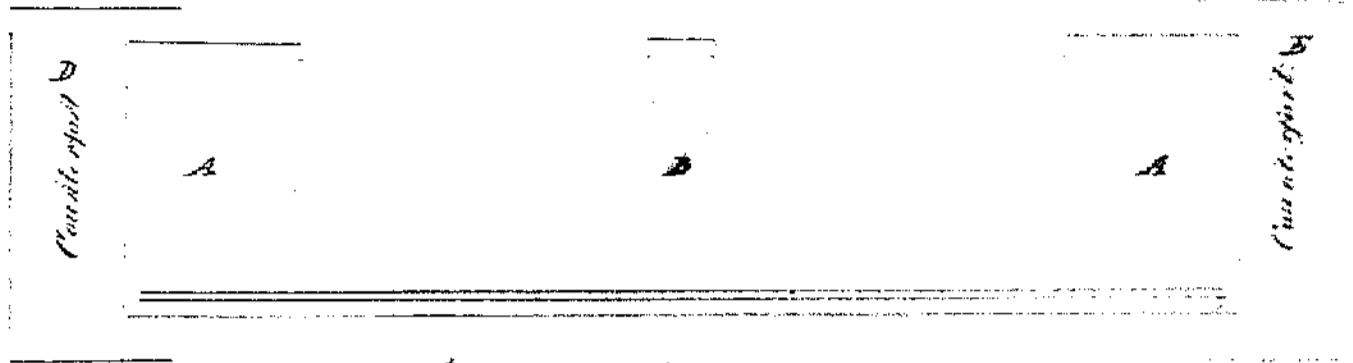
No. Length Breadth Thickness Contents

1	45.0	1.6	1.9	249.6	Cubic feet Oak Timber
31	97.0	1.0	1.0	3007.0	Pine
1	97.0	1.3	1.4	161.7	do
				<u>3168.7</u>	Cubic feet square pine in foundations
1	97.0	48.6	.3	14113.6	Pine floor
3	20.0	48.0	.2	5820.0	2 nd 2 nd Dr
1	97.0	6.0	.3	1746.0	Sheet piling
				<u>21679.6</u>	Sheet B. No. pine in foundations
6	20.0	.6	.5	300.0	boards
21	28.0	.6	.4	840.0	do
15	24.0	.6	.4	864.0	Striking Plates
135	16.0	.6	.6	6480.0	supports
1	270.0	.6	.3	245.0	Braces
1	190.0	.5	.3	237.0	do
27	24.0	1.0	.2	1296.0	Kibs
3	24.0	24.0	1 $\frac{1}{4}$	2160.0	Covering Boards
				<u>12582.0</u>	Sheet B. No. Centring
81	1.0	.3	.3	81	Pairs Oak Wedges
90	1.0			237	lbs Iron bolts for steps logs



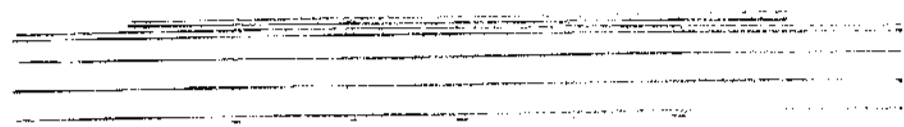
Saint Pierre Bridge

No	Length	Width	Height	Contents
2	23.1	^{Area} 24.10		<u>1145.4</u> Arch openings
2	20.0	23.0	1.8	<u>1533.4</u> Cubic feet
				<u>56 ²⁴/₁₀₀</u> " yards in Arches
2	26.2	8.3	0.9	323.10 Footings of Abutments
2	25.5	7.4	0.4	292.6 Do "
2	26.5	7.3	15.0	5256.3 Abutments up to impost
2	24.8	7.6	1.0	370.0 Do impost
1	28.0	5.0	0.9	105.1 Footings Pier
1	37.6	4.0	0.9	82.6 Do "
1	27.0	3.0	15.0	1215.0 Pier up to impost
1	37.5	3.6	1.0	95.4 Do impost
4	3.0	4.0	6.0	280.0 Counterforts for Pillars
1	52.6	23.2	2.3	3840.0 Mortar Spring of Arch to extrados at Abutments
1	^{Area} 55.0	23.2	-	1274.2 Segment to Extrados
2	60.0	3.6	0.9	315.0 Channel Course
1	3.0	1.0	3.0	9.0 Curved Angles
	4.0	1.6	3.0	18.0 Do do
4	3.6	3.6	3.0	147.6 Pillars up to belt
				<u>12652.5</u>
				<u>3675.8</u> Deduction Arch & Arch opening
				<u>9956.9</u> Cubic feet
				<u>368 ²⁴/₁₀₀</u> " yards Ashlar faced Masonry
4	3.6	3.0	1.0	59.0 Pillar bases
4	3.0	3.0	2.6	90.0 Do shafts
4	3.6	3.6	1.1	44.11 Do caps
2	53.0	1.9	2.6	463.9 Belt
2	53.0	1.6	2.6	397.6 Parapet
2	53.0	2.0	1.1	144.4 coping
				<u>1239.6</u> Cubic feet
				<u>45 ²⁴/₁₀₀</u> " yards, Pillars, Parapet &c
1	53.0	16.0	1.4	636.0 Concrete on course of Arch
				<u>23 ²⁴/₁₀₀</u> Cubic yards
1	63.0	16.0	6	306.0 Cubic feet
				<u>18 ¹⁵/₁₀₀</u> Cubic yards Macadamizing
				<u>3002.6</u> Feet B.M. Centring
20	1.0			<u>40.0</u> Feet linear inch square Iron Bramps
				76 lbs
				126 bolts for stop logs
				<u>203</u> - Total

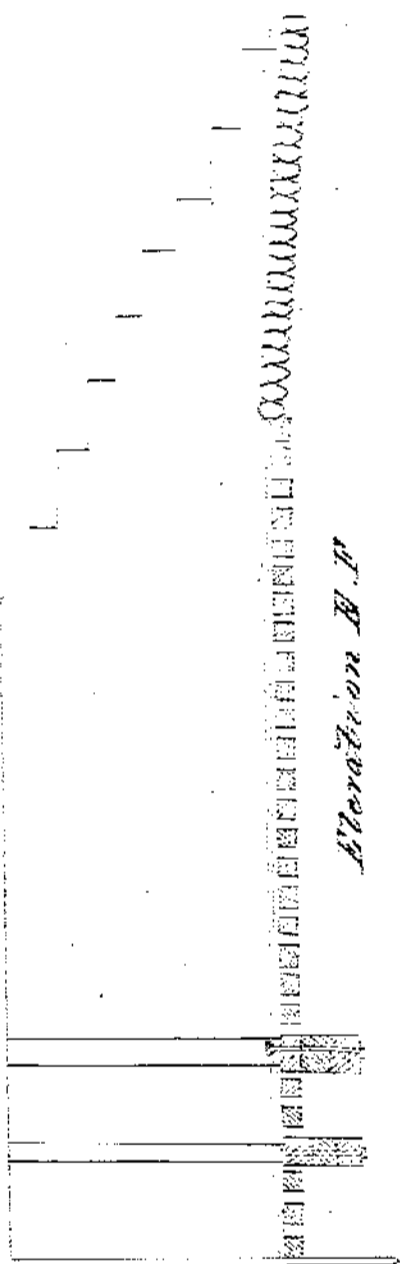


Saint Pierre Bridge, Chopin Locks 1/4

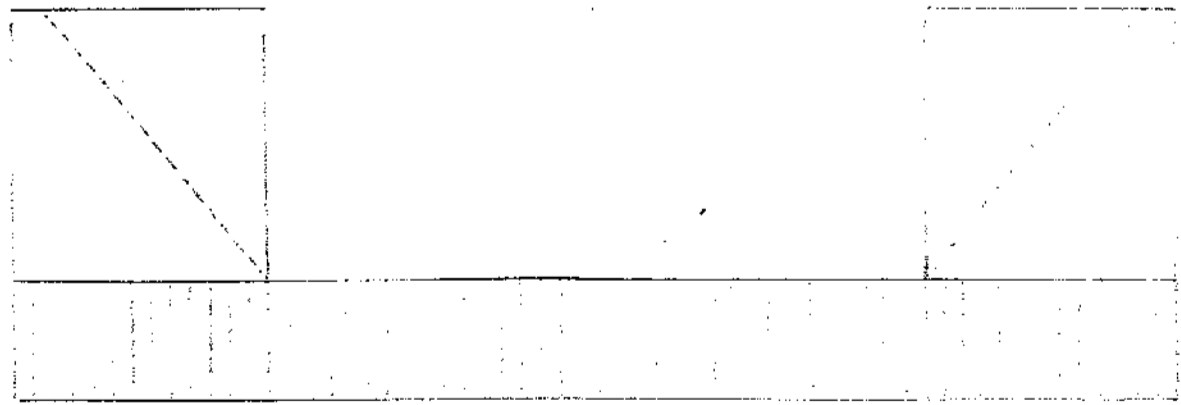
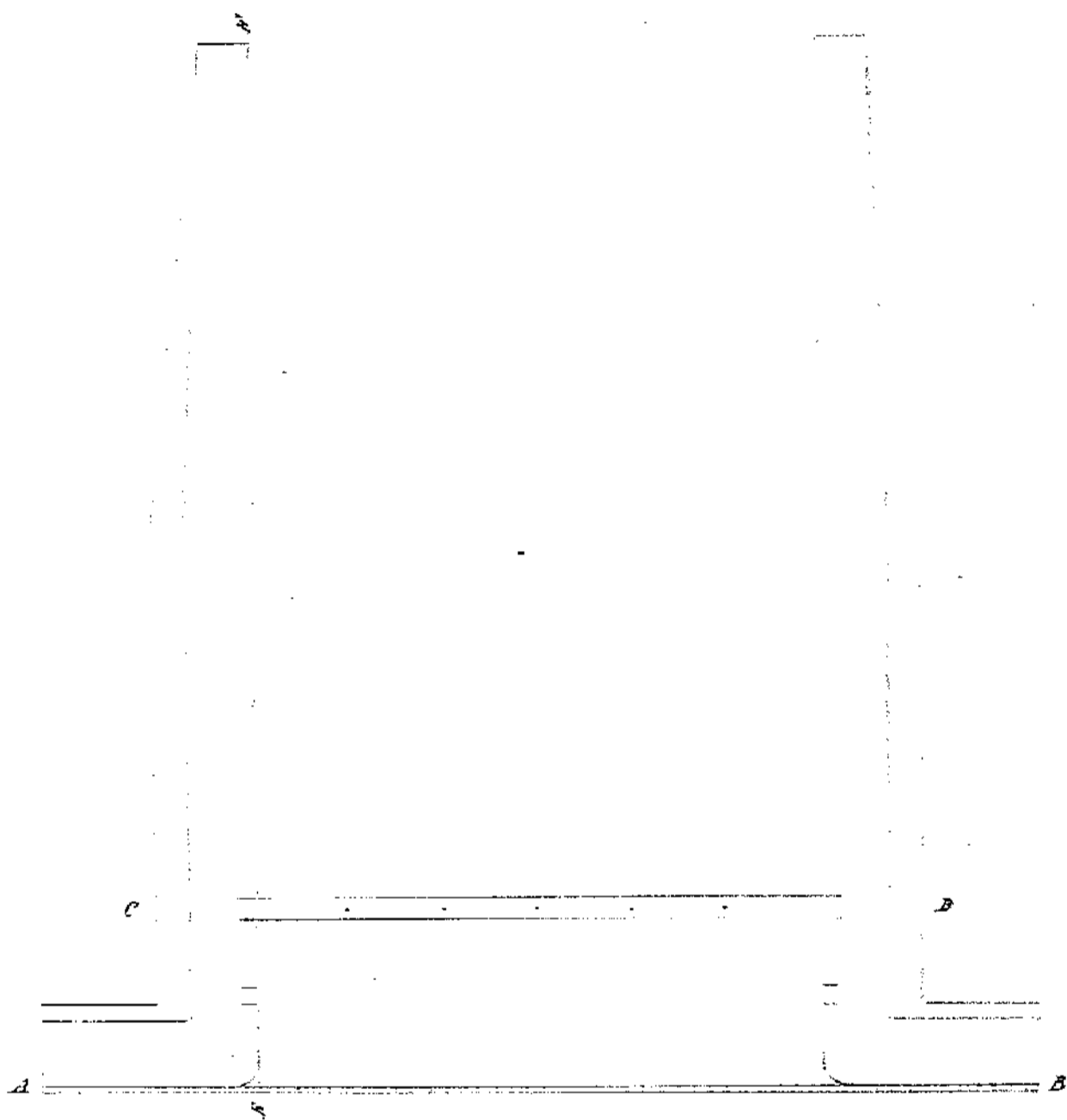
No.	Length	Width	Height	Contents		
A	2	11.0	5.0	12.0	2112.0	Abutments West side
	2	11.5	5.3	1.0	185.8	Gr coping
C	2	6.0	6.0	12.0	864.0	Gr East side
"	2	6.5	6.5	1.0	78.1	Gr coping
D	2	8.6	7.0	18.0	2142.0	Counterforts Centre band
E	2	7.6	7.0	18.0	1898.0	Gr North "
D	1	5.0	1.0	13.0	65.0	Additional backing West Abutment
B	1	11.0	3.0	12.0	396.0	Pier
	1	11.5	3.6	1.0	39.6	Gr coping
	2	5.0	2.0	.9	30.0	Extended channel course
					7802.0	Cubic feet
					284	Yards Ashlar faced Masonry
	1	5.0	2.0	3.9	525.0	Brick wall at sheet piling
					19 3/4	Cubic yards
	4	26.0	3.0	13.6	2838.0	Slope wall in cement
					104	Cubic yards rubble wall
	4	26.0	1.3	10.0	1500.0	Dry Masonry in slope walls
	2	3.0	3.0	2.3	47.3	" "
	2	3.0	8.0	2.3	114.9	" "
	2	30.0	25.0	1.0	1500.0	" " in bottom
	2	37.0	18.0	1.0	1360.0	" " " "
					4331.0	Cubic feet
					160 3/4	Yards Dry wall in slopes
	2	18.0	12.0	1.5	555.0	Concrete
	1	37.0	1.0	1.0	37.0	"
					640.6	Cubic feet
					23 3/4	Yards Concrete
	7	58.0	1.0	1.0	342.0	Pine
	1	56.0	1.0	1.0	126.0	Gr
					518.0	Cubic feet square pine in foundation
	1	58.0	12.0	.3	2016.0	Floor
	1	56.0	2.0	.3	475.0	Sheet piling
					3658.0	Cut B. No. pine in foundation



Section C.D



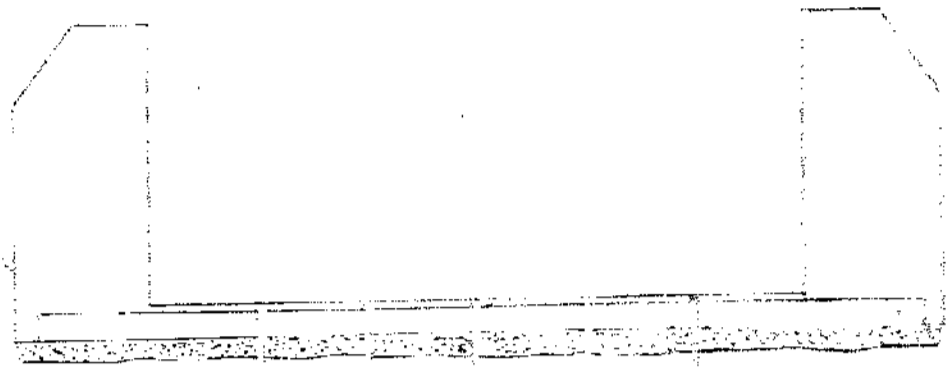
Elevation H.H



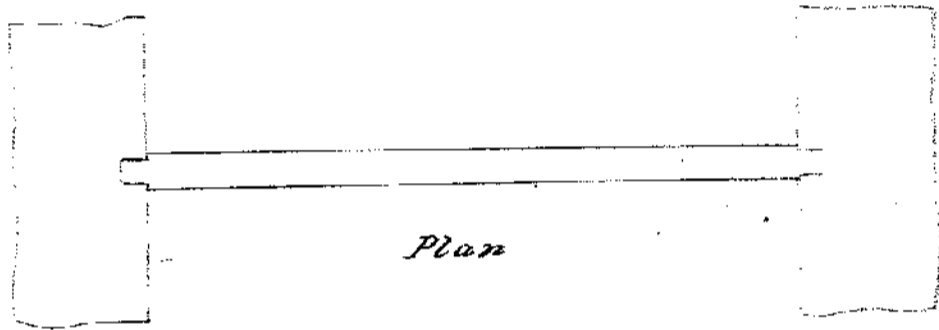
Elevation A.B

Trop Lock at Settling Pond

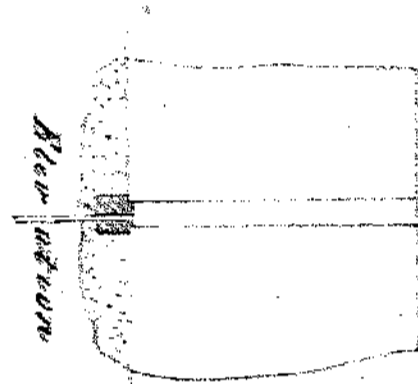
No.	Length	Width	Height	Contents
2	34.0	1.0	9.0	3672.0 Side Walls
2	34.0	5.0	5.0	1700.0 " "
2	10.0	5.6	9.0	990.0 " "
2	10.0	2.6	2.6	225.0 " "
2	7.0	5.0	9.0	630.0 End "
2	8.0	2.6	5.0	360.0 " "
			<u>7577.0</u>	Cubic feet
			<u>288 3/4</u>	Yds Ashlar faced Masonry
2	18.0	4.3	2.0	306.0 Dry Stone Wall
2	14.0	4.5	1.0	178.0 "
2	10.0	2.3	1.9	156.2 "
2	8.0	2.3	1.9	119.0 "
2	6.0	2.3	1.3	69.1 "
			<u>828.9</u>	Cubic feet
			<u>30 3/4</u>	Yds rubble Masonry and dry
1	46.0	1.9	1.10	<u>147.7</u> Cubic feet Oak timber
3	60.0	1.0	1.0	180.0 Pine
23	46.0	1.0	1.0	1058.0 "
1	46.0	1.4	3.0	366.8 "
1	46.0	1.6	3.4	<u>296.0</u> "
			<u>1774.8</u>	Cubic feet pine in foundations
1	42.0	26.0	.5	5796.0 Pine floor
2	6.0	7.0	.5	252.0 "
1	60.0	6.0	.5	1800.0 Sheet piling
1	42.0	34.0	.2	<u>2856.0</u> Second floor
			<u>9084.0</u>	Pct B. No. pine in foundations
11	5.6			<u>55.0</u> Structural 1 1/2 inch round Iron bolts
			336	lbs
10				<u>30</u> Heads & Nuts
			350	lbs



Section



Plan



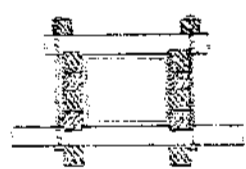
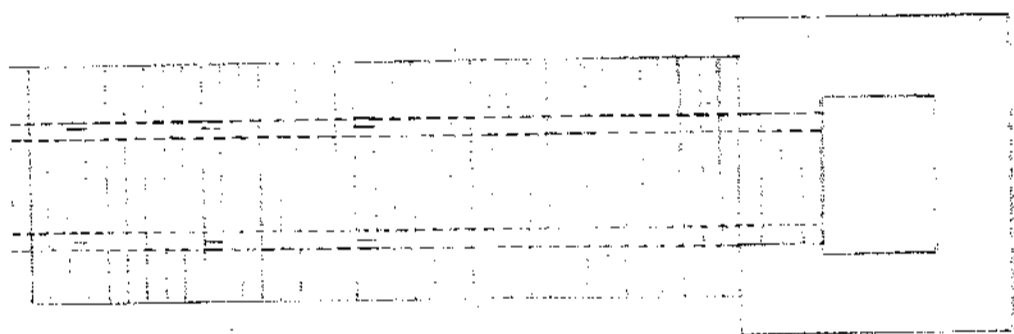
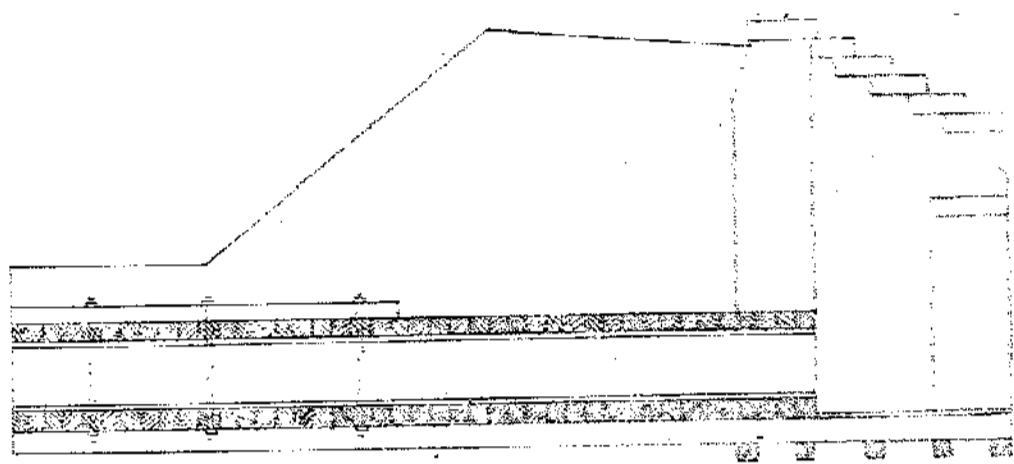
Section

Stop Lock at Station 22

No. Length Width Height Contents

1	15.6	7.0	12.7	1363.3	Wall north side
1	14.0	5.0	3.5	239.2	St
1	15.6	7.0	11.3	1220.7	St south
1	14.0	5.0	4.9	332.6	St
				<u>3157.6</u>	Cubic feet
				<u>117</u>	" yards Ashlar faced Masonry
1	48.0	13.0	2.0	1248.0	Concrete
				<u>46</u>	Cubic yards concrete
1	16.6	1.4	1.10	147.7	Cubic feet Oak Timber
5	6.0			<u>30.0</u>	Feet lineal 1 1/2 inch round Iron bolts
				<u>180.0</u>	Lbs

Plan and Sections of half-Culvert



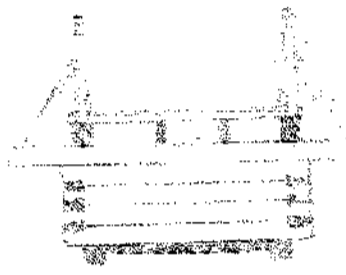
Culvert at Station 26+300

<i>No.</i>	<i>Length</i>	<i>Width</i>	<i>Height</i>	<i>Contents</i>	
4	16.6	4.0	15.3	3616.0	<i>Sides Masonry</i>
4	10.9	4.0	1.0	172.0	"
4	8.10	4.0	1.0	141.6	"
4	6.10	4.0	1.0	109.6	"
4	4.6	4.0	1.0	72.0	"
4	3.2	4.0	1.0	51.8	"
2	8.0	4.0	12.0	768.0	<i>Ends</i>
2	8.0	3.6	2.10	158.8	"
2	8.0	4.0	10.6	672.0	"
				<u>5560.0</u>	<i>Cubic feet</i>
				<u>206.0</u>	<i>" Gards Rubble Masonry</i>
16	3.0	3.6	1.0	168.0	<i>Coping</i>
2	14.6	3.6	1.0	101.6	"
4	2.3	3.6	1.0	31.6	"
4	3.0	4.0	1.0	48.0	"
				<u>349.0</u>	<i>Cubic feet</i>
				<u>13</u>	<i>" Gards Coping</i>
2	40.0	1.0	.9	60.0	<i>Top strings</i>
84	8.6	1.0	1.0	714.0	<i>Top Sills</i>
8	84.0	1.0	1.0	672.0	<i>Sides</i>
84	12.0	1.0	1.0	1008.0	<i>Sills</i>
2	80.0	1.0	1.0	168.0	<i>Mud Sills</i>
16	16.0	1.0	1.0	160.0	<i>St</i>
32	14.0	1.0	1.0	308.0	<i>Floor of Wells</i>
				<u>3090.0</u>	<i>Cubic feet square feet in foundation</i>
2	34.0	.3	4.6	2268.0	<i>Pine Planking</i>
2	50.0	.3	5.0	1512.0	"
2	4.0	.3	4.0	46.0	"
2	16.0	.3	10.0	960.0	"
				<u>4836.0</u>	<i>Foot B.M. in foundation</i>
12	8.0	1/4		345	
24				24	<i>Nests</i>
100	2.0	1 1/4		672	<i>Ragged Posts</i>
				<u>1091</u>	<i>As Iron Work</i>
1	40.0	6.0	.4	150.0	
				<u>657</u>	<i>Cubic yards concrete</i>

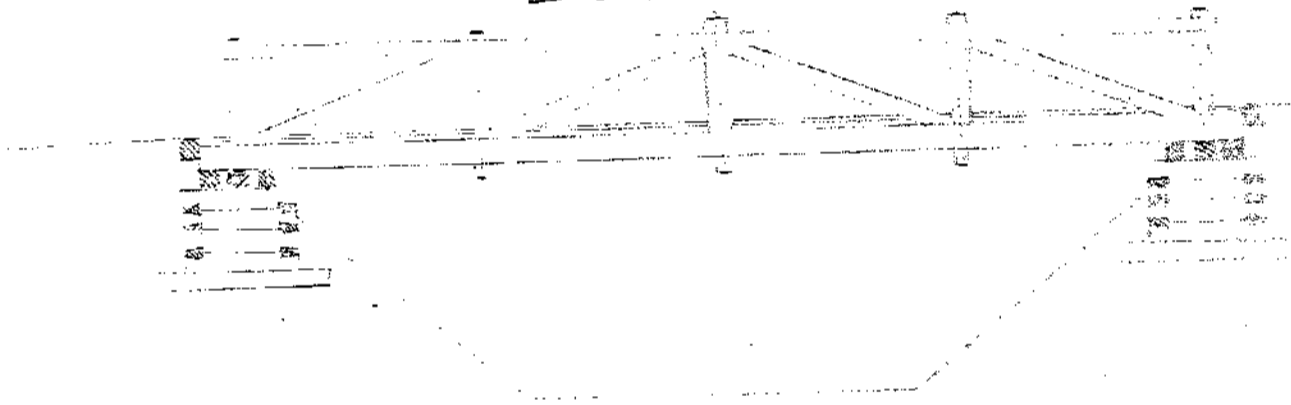
Section au Centre



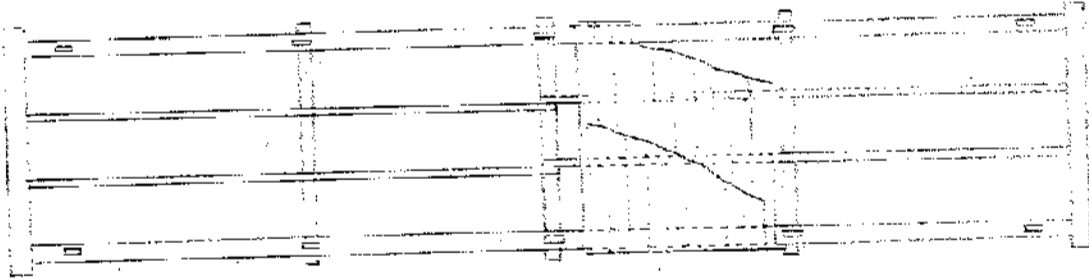
Section au Bord



Elevation



Plan



Farm Bridges 10 in Number

No.	Length	Breadth	Thickness	Contents	
2	12.6	1.0	1.0	25.6	Elm end pieces
				250.0	Soft Birch Elm in ten Bridges
1	12.6	1.0	.8	100.0	Pine cross piece
2	12.6	.9	.6	112.6	Do "
3	55.0	1.3	.10	1375.0	Shooks
4	27.4	1.4	.4	585.0	Do intermediate
8	12.6	.9	.6	450.0	Braces
2	4.9	1.0	.6	57.0	King post
8	4.9	.10	.6	140.0	Posts
2	49.6	1.0	.3	297.0	Water Boards
1	54.0	12.0	.3	1944.0	Floor
1	54.0	12.0	.3	1396.0	Do second
3	50.6	.8	.6	484.0	Top rails
4	4.0	.4	.3	18.0	Braces
				6826.6	Soft B. No. pine in one Bridge
				68275.0	" B. No. pine in ten Bridges
16	10.6	1.0	1.0	2016.0	Bedars in One
16	6.0	1.0	1.0	1152.0	" "
4	9.6	1.0	1.0	432.0	" "
2	8.6	9.0	.6	918.0	" "
2	11.0	1.0	1.0	432.0	" "
4	13.6	1.0	1.0	600.0	" "
				5550.0	Soft B. No. in one Bridge
				55500.0	Do " ten Bridges
				100	Oak Washers
2	8.0			16.0	
4	7.9			51.0	
4	6.9			29.0	
	.8			74.0	Soft lineal 1 1/2 round Iron Bolt
				325	Do
10				15	" Heads & nuts
				343	One Bridge
				3430	Do in ten Bridges

Aqueduct - General Abstract of Measurement of Mechanical Works

G. F. McDonald, Est. Builders

	Page	Aslar face Masonry	Walls Masonry	Dimension Stone	Masonry in cut-stones	Masonry in hammer-dressed blocks	Masonry in Wheel Drums	Hammer block & crank shaft stones	Walls Masonry Laid dry	Concrete	Masonry	Square feet on foundations	Price plank on foundations	Two Plank and Lumber in Bridges	Cedar in Bridges	Oak timber	Two Key Bridges for lining	Oak Walkers for Bridges	Square feet top logs	Iron Work
		sq. yds	sq. yds	sq. yds	sq. yds	sq. yds	sq. yds	sq. yds	sq. yds	cu. yds	sq. yds	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.	sq. ft.	
Wheel House	7	522.8	1118.6	150.11	35.4	88.18	134.46	13.4		170.20		4672.0	25230.0							1042
Waste Weir & Tail Races	10	845.0		29.4	23.0					24.08		4528.0	46037.0	12171.0	25692.0					
" " " "		272.15																		
Entrance Bridge	12 & 13	1194.7			131.7						40.0	3168.7	21679.8			249.6	81		1532.0	237
" " " "		83.25											12582.0							
Saint Pierre Bridge	14 & 15	614.18			56.21					33.15	18.18		3000.0						486.0	202
" " " "		287.0	123.12						160.11	23.19		518.0	2088.0							
Settling Pond - Stop Lock	16	280.7							30.17			1774.8	9984.0			140.6				330
Station 22 - 3 ^r 3 ^r	17	117.0								46.0					140.6					180
" 26+800 Culvert	18	15.0	200.6									3490.0	4836.0							1041
Low furrow Bridges	19													62265.0	53500.0	254.0		100		3630
Total		4332.8	1447.2	180	246.2	88.2	134.2	15.4	191	688	54	17751.3	129036.0	20436	84192.0	780.6	164	100	1818	7132

Residual