

*154
carbon paper*

154 T

Telephone No. 1577.

W. H. HAMER,

M. Inst. C.E.,

Engineer to the Board.

Auckland Harbour Board.

Engineer's Office,

Auckland, N.Z.

*Cont
Cont*

- Richardson McCabe & Co Auckland
- Andersons Ltd Auckland
- Booth & Co Auckland
- J. Burns & Co. "
- J. J. Niven & Co. "
- J. Chambers & Son "
- Auckland Gas Co. "
- A. D. Riley & Co. "

29th July 1921

190

*Out by hand to Mr. Hoffman
of N.Z. Marine Trust, 29.7.21
copy handed to Mr. Cory. Weight 6.8.21.*

GAS ENGINE AND SUCTION GAS PRODUCER

Please quote for the following plant delivered d.i.f. & c., and duty and all charges paid, on what Auckland, and state when delivery can be guaranteed. Plant to be British manufacture.

A One Gas Engine capable of developing continuously 150 Brake Horse Power when working on Suction Gas. Engine to be complete with automatic starting gear, high tension electric ignition, flywheel or wheels, driving pulley for belt drive, and all necessary parts and accessories.

Please state:

- Makers name
- Diameter and number of cylinders
- Length of stroke
- Revolutions per minute
- Type of starting gear
- Type of ignition
- Number, diameter, and weight of flywheels
- Diameter, and width of driving pulley

If possible, supply also blueprints of engine.

B Suction Gas Producer suitable for above engine when working at full power, complete with scrubber, fan, expansion box, and all pipes and accessories.

Plant to be capable of working satisfactorily either on coke or lignite.

Quotation to be accompanied by print or photograph of the plant offered.

Please state:

- Makers name
- Maximum horsepower available
- Quantity of coal or coke required per B.H.P. of engine per hour.

Quotations for second-hand plant in excellent working condition would be considered.

Yours truly,

*28 for Cambridge Road
for J. J. Niven & Co.*

MEMBER TO THE BOARD.

154
another paper

154 T

Auckland Harbour Board.

Engineer's Office,

Auckland N.Z.

Telephone No. 1577.

W. H. HAMER,
M. Inst. C.E.,
Engineer to the Board.

Cont
Cont

- Richardson McCabe & Co First Church
- Andersons Ltd
- Booth & Co Auckland
- J. Burns & Co. "
- J. J. Niven & Co. "
- J. Chambers & Son "
- Auckland Gas Co. "
- A. D. Riley & Co. "

29th July 1922

190

*copy handed to Mr. Higgins
of N.Z. Finance Trust, 29.7.21
copy handed to Mr. Corp. Wright 6.8.21.*

GAS ENGINE and SUCTION GAS PRODUCER

Please quote for the following plant delivered c.i.f. & c., and duty and all charges paid, on wharf Auckland, and state when delivery can be guaranteed. Plant to be British manufacture.

A One Gas Engine capable of developing continuously 160 Brake Horse Power when working on Suction Gas. Engine to be complete with automatic starting gear, high tension electric ignition, flywheel or wheels, driving pulley for belt drive, and all necessary parts and accessories.
Please state:

- Makers name
- Diameter and number of cylinders
- Length of stroke
- Revolutions per minute
- Type of starting gear
- Type of ignition
- Number, diameter, and weight of flywheels
- Diameter, and width of driving pulley

If possible, supply also blueprint, or photograph, of engine.

B Suction Gas Producer suitable for above engine when working at full power, complete with scrubber, fan, expansion box, and all pipes and accessories.
Plant to be capable of working satisfactorily either on coke or lignite.

Quotation to be accompanied by print or photograph of the plant offered.
Please state:

- Makers name
- Maximum horsepower available
- Quantity of coal or coke required per B.H.P. of engine per hour.

Quotations for second-hand plant in excellent working condition would be considered.

Yours truly,

ENGINEER TO THE BOARD.

W. D. MITCHELL & Co.
 W. CHAMBERS & Co.
 W. H. ASH & Co.
 W. G. BROWN & Co.
 W. J. HARRISON & Co.

Harbour Board.

Engineer's Office,

Auckland, N. Z.

W. H. HAMER,
 M. Inst. C.E.,
 Engineer to the Board.

Order L28 + L18

190

Cambridge Production

1. To be made for the following parts...
 1. To be made for the following parts...
 1. To be made for the following parts...

2. To be made for the following parts...
 2. To be made for the following parts...
 2. To be made for the following parts...

3. To be made for the following parts...
 3. To be made for the following parts...
 3. To be made for the following parts...

4. To be made for the following parts...
 4. To be made for the following parts...
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5. To be made for the following parts...
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7. To be made for the following parts...
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 7. To be made for the following parts...

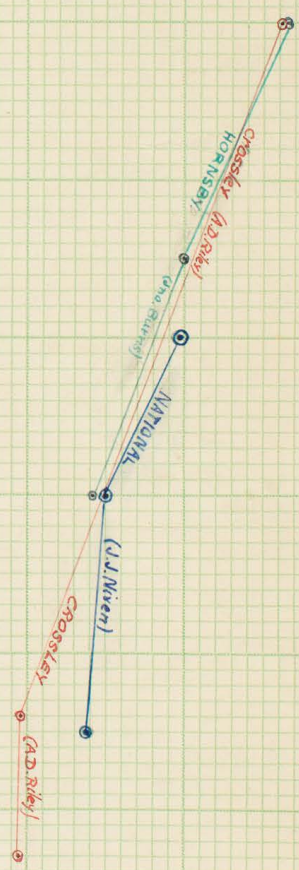
L28 for Cambridge Production
 L18 for engines Wankel & Co.

2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000

Wells Gold Mining Co.
1911-1912
(Gold and Silver)

180
170
155
151
140
135
125
121
117

SUNSHINE COMPANY



Wells Gold Mining Co.
(Gold and Silver)

Henry
Joe Sumner & Co

2 cpl mals 170 RHP
water 195

220 RPM
K318

155/8HP
130
K2592
Air temp out K 5002

140/151
230 RPM
K2582
130
K2712
Air temp set

Gravity

A.D. Riley etc

S226 2 cpl
K12 & 11W & 10
170 RHP
190 RPM
K3043-14-0

198 RPM
Air temperature out
K285-10-0
K3309-5-0
K159-5-0
Gravity Product 200 HP

S223 2 cpl
125/8HP
R.P.M. 210
K2218-0-0

125/8HP
117/50 RHP
12 PM 180
Air temperature out
K2220
K2483-10-0
K50
Gravity Product 2333-10-0

150 RHP
2473-10-0
750-0-0
K3223-10-0
Gravity Product 150 RHP

Hydraulic

9 of Water etc
RHP water-5
Z D Single Cyle 150 RHP 14-00
171 Water
150 RPM

2-piston Valve Receiver Box
Temperature Fluctuation
At Starting Station

K2700
290
Gravity Product 1100
290
200
Gravity Product 1100
K2592
170 RPM
200 RHP 125/8HP
K138

Starting out
K4200
290
290
K2460
290
290

Car Hill (inflator)

120 RHP with
K1000 on side
Hydraulic Receiver

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY

Waihi Gold Mining Coy Ltd.
60 Shortland Street.
Auckland.

1 Aug. 1921

The Engineer,

Auckland Harbour Board.

AUCKLAND.

Dear Sir,

SECONDHAND GAS ENGINE.

AUCKLAND HARBOUR BOARD
AUG 4 1921
Engineer's Department

Further to our recent conversation, I now beg to offer you, subject to sale, the following

One Secondhand horizontal 2-cylinder 180HP (on producer gas) Crossley Gas Engine Type ZA2 with opposed cylinders each 18 $\frac{1}{2}$ " diam by 27" stroke. 170 revs per minute, electric ignition. With extension shaft, friction clutch and rope pulley 7'4" diam 8 grooves.
The engine lacks 2 magnetos.

Price- £600 (Six Hundred Pounds) net f.o.r. Waikino.

The engine is in firstclass order, and every facility will be given for inspection. It ran for about 5 years, and was shut down on the introduction of hydro-electric power. The engine is offered for sale in present condition on a basis of inspection by purchaser. Waihi Coy will dismantle and load into railway trucks at Waikino free of cost.

A representative of the purchaser shall be present during dismantling and be responsible for the ^{marking} ~~making~~ of parts. We have a quantity of spare parts for this engine, which we can offer at attractive prices.

Yours faithfully,

J. H. Stephens.
Attorney

16th August 1921

The Managing Director,
Poverty Bay Farmers Meat Co. Ltd,
GISBORNE.

Dear Sir,

"CROSSLEY" GAS ENGINES

I understand that your Company recently purchased from the Waihi Gold Mining Co. and installed one or more secondhand 180 B.H.P. "Crossley" opposed cylinder gas engines.

The remaining engine has been offered to me, but before purchasing I would very much appreciate an expression of opinion from your Engineer as to the condition in which the plant was found to be, whether a large amount of alteration or repair work was necessary, and whether it is now giving you entire satisfaction.

The price at which the remaining engine is offered to me appears reasonable, but of course the amount which may require to be spent upon it might make it appear less favourable.

Thanking you in anticipation,

I am,

Yours truly,

ENGINEER TO THE BOARD.

All Communications to be addressed to the
General Manager.

Postal Address:
Private Bag,
Gisborne

Office Phones: 1090 General Manager
1091 Secretary
1092 Stock Clerk
After Hours 1090 Gen. Manager's (Res.)
1091 Secretary (Res.)
1092 Stock Clerk (Res.)

The Poverty Bay Farmers' Meat Company, Ltd.

WAIPAOA
Gisborne, N.Z.



Registered Office and Works:
WAIPAOA, GISBORNE, N.Z.
Telegraphic and Cable Address:
"ICEBERG"
Codes Used: A B C 5th. Edition
Western Union.

22nd. August 1921.

Chief Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

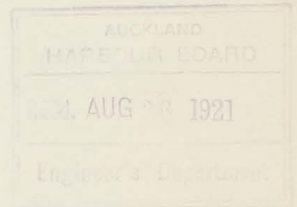
"CROSSLEY" GAS ENGINES"

I have your letter of the 16th instant handed to me by our Managing Secretary for attention and reply.

We installed here last year two Crossley Gas Engines, one 180 B.H.P, two Cylinder and one 360 B.H.P. four Cylinder both ~~applied~~^{of} applied type. These Engines were in very fair order, but for my own benefit and future good running I completely overhauled them, this being done by our own staff. I had to fit new gudgeon pins in some of the pistons. These engines are now giving entire satisfaction.

We have also two other Engines of the same type you intend to purchase, also from the Waihi Gold Mining Company. These plants were put in about 1917, and they are running very satisfactory.

These Engines are run with Suction Gas from Cambridge producers, and in consequence, we do not require or develop full



Chief Engineer, (2)

power with them.

Another point about these Engines if you purchase at all, is the crankhead. These are Gun metal bearings, and are very difficult to get in good running order. This trouble I have eliminated, and I would strongly advise you to do the same. That is to turn out the original brasses and remetal with Richards Plastic Metal, then, if carefully fitted, they will give entire satisfaction. These Engines here I run through the year, which is pretty heavy during the season and with exception of ~~wiant~~ cleaning valves they have only the one refit.

As regards alteration - that only depends on the drive you require. The engines we have, all had a very heavy clutch gear, extension shaft, bearings, and rope pulley. This can be altered to belt drive for a moderate amount.

Trusting this information will be satisfactory.

I am,

Yours faithfully,

George D. Lidgett

Chief Engineer,

26th August 1921

Mr G.D.Lidgett,
Chief Engineer,
Poverty Bay Farmers Meat Co,
Waipaea, GISBORNE.

Dear Sir,

"CROSSLEY" GAS ENGINES

I beg to acknowledge receipt of yours of 22nd, containing your opinion of the above engines purchased from the Waihi Gold Mining Company.

Your experience appears to be favourable, and we are sending down to have the engine offered to us, inspected.

With renewed thanks for your courtesy.

Yours truly,

ENGINEER TO THE BOARD.

26th August 1921

Mr H.W.Hopkins,
Manager,
N.Z.Mines Trust,
60 Shortland Street,
AUCKLAND.

Dear Sir,

180 H.P. "CROSSLEY" GAS ENGINE

Re yours of 1st August.

I would be glad if you would arrange for our Mr Batey to make a detailed inspection of the above on Tuesday or Wednesday, 6th or 7th of September.

Can you let me have drawings showing particulars of the foundation bolts of this engine.

Yours truly,

ENGINEER TO THE BOARD.

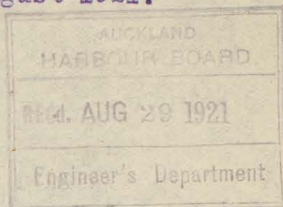
PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY.

11/228

N.Z.M.C. Agency & Trustee Coy., Ltd.

60 SHORTLAND STREET,
AUCKLAND.

27 August 1921.



The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

180 H.P. CROSSLEY GAS ENGINE.

Yours of 26th inst., duly received. I have written to our Waihi office asking them to prepare the Engine for inspection. They will draw the piston so as to allow all parts to be examined.

I have also asked them to forward a blue print of the Engine, or if this is not available, a dimensioned sketch of the foundations.

The Engine is at Waikino, but if your Engineer stays the night ~~at Waikino~~ he will have to stop at Waihi. If you will advise me exactly when he is going, we will telegraph and arrange for a room to be reserved for him.

Yours faithfully,

J. W. Hopkins
Manager,

Auckland Harbour Board.

MEMORANDUM.

FROM

M. W. Batey

To

Sept 8th 192

THE ENGINEER.

Gas Engine at Waikino

I inspected the 180 BHP Crossley Gas Engine at Waikino. Briefly described the engine is of the horizontal two cyl opposed type 18" dia 27" stroke, the connecting rods from each cyl coupled to one crank, keyed to the crank shaft is a flywheel, & on the end the female part of a Hayward & Bridges expanding clutch, adjoining this is an extension shaft with the male part of the clutch, & a pulley 7'4" dia with 8 grooves for a wire rope drive.

The pistons were drawn, & I found two cracks in one of the cylinder liners, although this may not be very serious I would recommend a new one be fitted, this cyl is also slightly oval.

One of the pistons is broken, the strip between the grooves being broken out for about 12" of the circumference, this would certainly be to renew, also new piston rings throughout.

The crank shaft is very badly grooved on the crank pin, & of course the gun-metal brasses. As this is a very important bearing, & difficult to adjust, I suggest if it is considered advisable to purchase, the company be asked to substitute a spare crank shaft they have, in place of the existing one, & new brasses could be cast or the existing ones bored out & white metallised. All the gas, exhaust, & air valves will require skimming up, also the seats for same.

I understand this engine has been out of commission about 8 years, & there are a few small parts missing, & some of the lubricators, having been stolen or lost, these they state they might be able to replace.

*Regr. coll. 2/50
new piston 5.50
new rings 2/5
crank pin brasses 2/60
spare
see list on next page
parts missing 2/25*

*100
Cotton*

Auckland Harbour Board.

MEMORANDUM.

FROM

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To

THE ENGINEER.

I checked the foundation bolts on an adjacent bed for the same type of engine, with the blue-print & they are correct. The Engineer was unable to supply any running costs for a single unit, but he estimates the consumption for this engine at 1 1/2 lbs per hr per BHP.

I examined the spare parts mentioned in their letter, & for some of the bearings there are no spares, including the crank-pin brasses, & in other cases what are termed spares have been in use & taken out for various reasons.

The spare spirals for the cam shafts, also for the crank-shaft have nearly all been used. There are a miscellaneous lot of alleged spare valves, also piston rings all of doubtful value & utility, most of these having been in use.

For starting purposes it will be necessary to instal^{an} engine driven compressor & receiver. Also the two magnetos mentioned in their letter. I estimate the repairs mentioned, & general overhaul of the engine will be £200. & of course the drive will have to be altered to suit our conditions

Compressor £200
Magnetos 2 @ £100
Rely quotes 22/10/11 ca on 30/9/11

£ 500 + freight
500
Say £600 for engine
+ 600 repairs etc
£ 1200

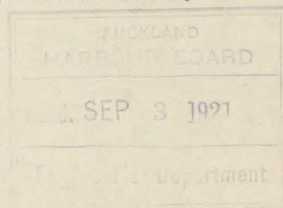
C. M. Batey

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY

Waikato Gold Mining Coy Ltd.
60 Shortland Street.
Auckland.

2 September 1921.

The Engineer,
Auckland Harbour Board,
AUCKLAND.



Dear Sir,

180 H.P. GAS ENGINE.

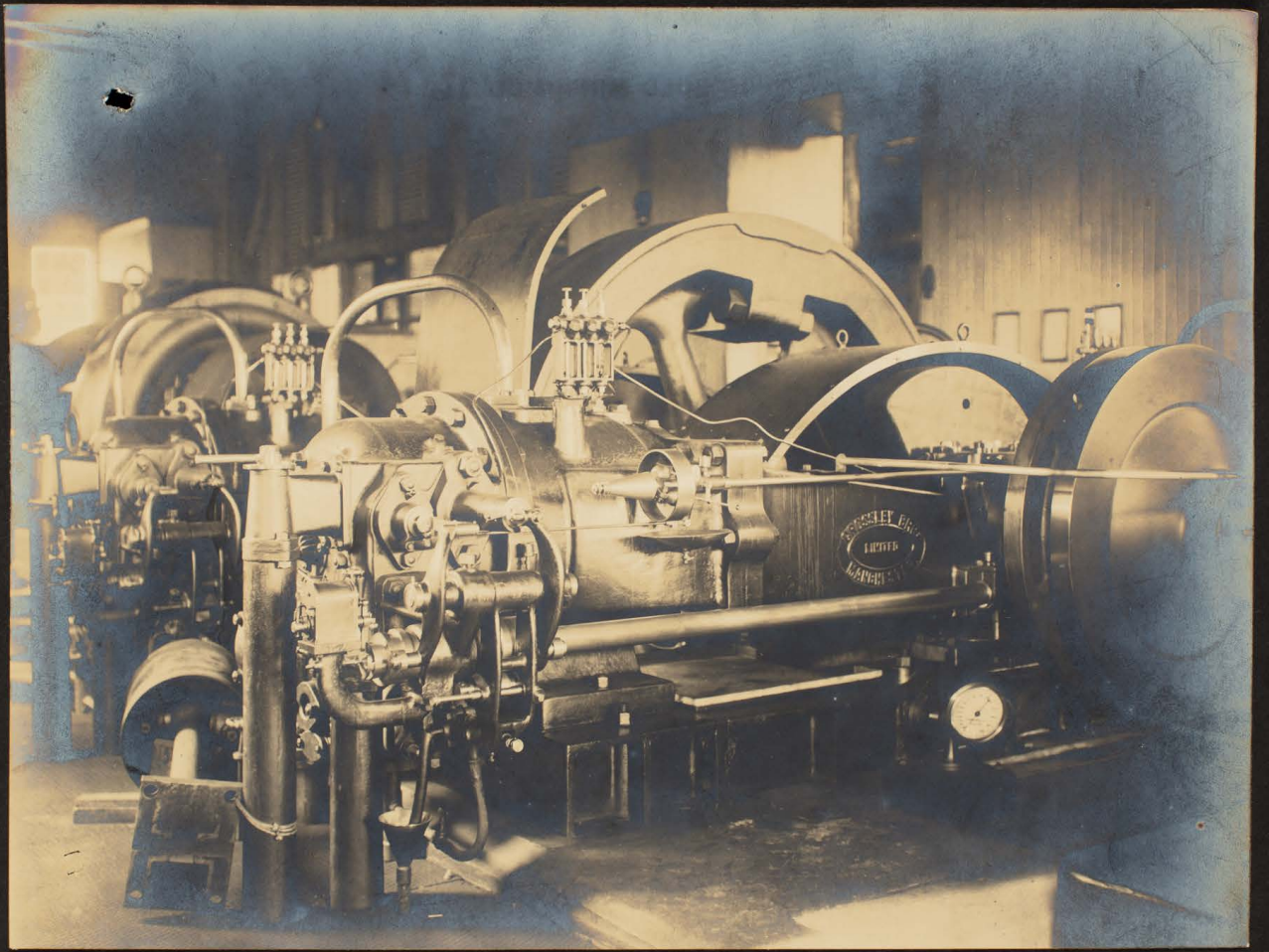
Enclosed I send you Blue-print of foundations for the Engine quoted to you. Should you decide not to purchase, kindly let me have the drawing back.

Yours faithfully,

J. W. Stephens

Attorney.

Keeps for Mr. Baber



24
WAIHI GOLD MINING CO., LTD.

260 ~~260~~ Brassley Horizontal Engine

Opposite side from view!

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY

Waihi Gold Mining Coy Ltd.
60 Shortland Street.
Auckland.

20 Sept. 1921

*order sent
22/9/21*

The Engineer,

Harbour Board, AUCKLAND.

Dear Sir,

180 HP CROSSLEY ENGINE.

AMENDED QUOTATION.

AUCKLAND HARBOUR BOARD
REC. SEP 21 1921
Engineer's Department

*new
order
22/9/21*

Further to our recent conversations. In view of the fact that inspection has shown that the engine offered you on 1 August will require some overhaul before use, we are willing to amend our offer and accept the sum of £500 (Five hundred Pounds) net for the Engine as it stands, Waihi Coy to dismantle and load into railway trucks at Waikino, free of cost.

We will also substitute one of the unused spare crankshafts for the crankshaft belonging to the engine.

I regret that we are not willing to throw in the spare parts free of cost, as suggested by you. You will easily gather from the attached schedule that these spares represent a very considerable expenditure, the amount being, I understand, somewhere in the neighbourhood of £1500. Even at scrap metal prices, there is considerable value in them. Should you, however, wish to purchase any of these spares, we would be prepared to meet you in a reasonable spirit.

I shall be sending you to-morrow a list of pulleys of

Auckland Harbour Board.

(2)

various sorts which we have for sale, including some grooved pulleys which might run in connection with the 180 HP Gas Engine.

Yours faithfully,

J. W. Stephens

Attorney.

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY.

N.Z.M.C. Agency & Trustee Coy., Ltd.

60 SHORTLAND STREET,
AUCKLAND.

21 Sept. 1921

The Engineer,

Auckland Harbour Board,

AUCKLAND.



Dear Sir,

RE SECONDHAND PULLEYS.

We have much pleasure in forwarding you some lists of secondhand pulleys we have for disposal on behalf of the Waihi G.M.Coy., N.Z.Crown Mines Coy., and the National Bank Refinery.

We are selling the castiron pulleys at 30/- p.cwt. loaded into railway trucks, and we will forward you later the prices for the steel pulleys. In the meantime, we shall be pleased to quote you for any of these that may meet your requirements.

Yours faithfully,

J. W. Harris
Manager.

SPARE PULLEYS.

I	cast iron	split pulley	42" x 11" x 3 $\frac{1}{2}$ "
I	do	solid pulley	39" x 12" x 2 $\frac{7}{8}$ "
I	do	do	35 $\frac{1}{2}$ " x 13" x 2 $\frac{1}{2}$ "
I	do	do	35 $\frac{1}{2}$ " x 13" x 4"
I	do	do	29 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "
I	do	do	2 0" x 6" x 2" Berden Pan.

N E CROWN MINES COMPANY LTD?

List of pulleys not in use.

I

I Wrought iron	84" x 32" x 6"	3 rows of spokes	16 in each
I do	72" x 32" x 6"		do
I cast iron	72" x 18" x 5 $\frac{1}{2}$ "	Six spokes	
do	54" x 15 $\frac{1}{2}$ " x 6"		do
do	54" x 12 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "		do
" 54" x 10"	54" x 10 $\frac{1}{2}$ " x 3"		do
do	54" x 13 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ "		do
do	48" x 9" x 2 $\frac{1}{2}$ "		do
do	42" x 10" x 3 $\frac{1}{2}$ "		do
do	48" x 11" x 4 $\frac{1}{2}$ "		do
do	56" x 4 $\frac{1}{2}$ " x 2"		do
do	30" x 6" x 2"		do
do	60" x 14 $\frac{1}{2}$ " x 5 $\frac{1}{2}$ "		do

GROVED PULLEYS

3 Cast Iron 40" diameter 3" bore depth of grove 2"
inside width of grove 1 $\frac{1}{2}$ "

WAIHI GOLD MINING COMPANY LTD

PULLEYS.

Qty	Size	Material	Face	Bore
12 only	10"	Split steel pulleys	3 $\frac{1}{2}$ "	2"
12	10"	do	3 $\frac{1}{2}$ "	2"
8	10"	do	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "
2	10"	do	3 $\frac{1}{2}$ "	2"
1	15"	do	6"	2"
1	16"	do	7"	3"
1	18"	do	6"	2 $\frac{1}{2}$ "
2	10"	do	3 $\frac{1}{2}$ "	3"
2	10"	do	3 $\frac{1}{2}$ "	3"
2	10"	do	4 $\frac{1}{2}$ "	3"
1	10"	do	6 $\frac{1}{2}$ "	3"
1	16"	do	6 $\frac{1}{2}$ "	3"
2	14"	do	6"	2"
1	44"	steel spoked pulleys in halves	14"	3"
1	25"	C I pulley in halves	15 $\frac{1}{2}$ "	5"
1	27"	do	18"	4"
4	18"	split steel pulleys	13"	3"
1	10"	do	4 $\frac{1}{2}$ "	2"
1	10"	do	3 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "
1	18"	do	13"	3"
1	16"	do	7"	3"

WAIHI GOLD MINING COMPANY LTD.

1/3/21

List of pulleys at Waihi Battery,

revised to 12/1/21

Dia	Face	Bore
3' 6"	6"	3" one cracked spoke
3' 6"	15 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "
3' 6"	15 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "
3' 2 $\frac{1}{2}$ "	12"	2 $\frac{1}{2}$ "
3'	10 $\frac{1}{2}$ "	3 $\frac{1}{8}$ " lagged with wood to 3 $\frac{3}{8}$ "
3' 6"	15 $\frac{3}{8}$ "	6 $\frac{3}{4}$ "
3' 6"	14 $\frac{1}{2}$ "	3"
3' 6"	15"	4 $\frac{7}{8}$ "
3' 6"	15 $\frac{1}{2}$ "	6 $\frac{3}{8}$ "
2' 2"	13 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "
4'	6"	2 $\frac{1}{2}$ "
2' 10 $\frac{3}{4}$ "	5 $\frac{3}{4}$ "	2 $\frac{7}{8}$ "
5'	8 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "
3'	6 $\frac{3}{4}$ "	4 $\frac{1}{8}$ " bushed to 2 $\frac{3}{16}$ I6
3'	9 $\frac{3}{8}$ "	2 $\frac{7}{8}$ "
2' 11"	6 $\frac{1}{2}$ "	4 $\frac{1}{8}$ "
3'	9"	5"
2' 8"	14 $\frac{1}{4}$ "	3"
3 $\frac{1}{2}$ ' 10 $\frac{1}{4}$ "	9 $\frac{3}{8}$ "	3 $\frac{3}{8}$ " bushed to 2 $\frac{3}{8}$ " 1 cracked spoke
4 $\frac{1}{2}$ ' 2" 4'	12 $\frac{1}{4}$ "	4"
2' 11"	6 $\frac{3}{8}$ "	3 $\frac{1}{4}$ "
3' 6"	15"	4 $\frac{7}{8}$ "
4' 7"	13 $\frac{3}{4}$ "	4 $\frac{1}{4}$ "
4' 7"	13 $\frac{3}{4}$ "	4 $\frac{1}{4}$ "
2' 6"	12"	4" bushed to 2 $\frac{7}{8}$ "
3' 6"	15 $\frac{1}{2}$ "	5 $\frac{7}{8}$ "
2' 2"	11 $\frac{1}{8}$ "	4 $\frac{5}{16}$ I6
4'	6 $\frac{1}{2}$ "	3 $\frac{1}{4}$ "
2' 6"	6 $\frac{1}{4}$ "	2"
4'	6 $\frac{1}{2}$ "	3 $\frac{1}{2}$ "
3' 2 $\frac{1}{2}$ "	15 $\frac{3}{4}$ "	5 $\frac{7}{8}$ "
3'	14 $\frac{1}{2}$ "	8"

Over Lanner Room Floor

	Dia	Face	Bore
<i>Inner Open Wheel</i>	3' 3"	15 $\frac{1}{2}$ "	5 $\frac{3}{4}$ " <i>lagged to 3' 7 1/2</i>
	4'	12 "	4 $\frac{3}{8}$ "
	4'	12"	5 $\frac{7}{8}$ "
	4'	12"	4 $\frac{3}{8}$ "
	3' 6"	10 $\frac{3}{4}$ "	3"
	3' 6"	10 $\frac{3}{4}$ "	3"
	2' 2"	11 $\frac{1}{2}$ "	3"
	2' 2"	11"	4 $\frac{7}{8}$ " <i>bushed to 3 "</i>
	10"	6 $\frac{1}{2}$ "	3 $\frac{7}{8}$ "
	10"	6 $\frac{3}{8}$ "	3 $\frac{7}{8}$ "
<i>Outside Fitting Flange</i>	10"	8 $\frac{1}{2}$ "	3 $\frac{7}{8}$ "
	21"	10 $\frac{1}{4}$ "	2 $\frac{3}{8}$ "
	13"	10"	2 $\frac{1}{8}$ "
	21"	10 $\frac{3}{4}$ "	2 $\frac{3}{8}$ "
	21"	10 $\frac{1}{2}$ "	3 $\frac{1}{8}$ "
	14"	13"	1 $\frac{1}{2}$ "
	21"	10 $\frac{1}{2}$ "	3 $\frac{1}{8}$ "
	21"	6 $\frac{1}{2}$ "	2 $\frac{3}{4}$ "
	20 $\frac{3}{4}$ "	11"	4"
	21"	5 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "
<i>By Ball Hopper</i>	18"	16"	2" <i>lagged to 2"</i>
	24"	8 $\frac{1}{2}$ "	3"
	16 $\frac{1}{2}$ "	7"	2 $\frac{1}{8}$ "
	21"	10 $\frac{1}{2}$ "	2 $\frac{1}{2}$ "
	21"	10 $\frac{1}{2}$ "	2 $\frac{3}{8}$ "
	21"	5"	2 $\frac{3}{8}$ "
	6' 3" X	24"	6"
	6' 3"	24"	6"
	18"	20"	1 $\frac{1}{2}$ "
	3' 11"	13"	3"
4' 6"	9"	3"	
16 $\frac{1}{2}$ "	9"	4 $\frac{1}{4}$ "	
17 $\frac{3}{8}$ "	10 $\frac{1}{2}$ "	3 $\frac{1}{2}$ " <i>bushed to 2 "</i>	
15 $\frac{3}{4}$ "	14 $\frac{3}{8}$ "	2"	

	Dia	Face	Bore
	18"	20"	3"
	17½"	15½"	2"
	14½ 14"	21"	3"
	7' 8"	24"	6½"
	10'	2' 1"	5½"
	3' 2½"	9½"	5½"
Battery	3' 6"	15"	6" bushed to 5½"
	11' 4"	25 "	6½"
	10"	25"	6½"
	7'	21½"	5½"
	7' 8"	25"	6½"
	6' 10½"	24 "	5½"
	2' 10"	12½"	5½"
	8' 6"	25½"	Fits onto a large cone
	7'	14"	5½"
	6' 2"	11"	4½"
Tubel shell Room	6' 2"	11"	4½"
	6' 2"	11"	4½"
	6' 2"	11"	4½"
	6' 2"	11"	4½"
	6' 2"	11"	4½"
	6' 2"	11"	4½"
	6' 2"	14	4½"
	6' 2"	14"	4½"
	6' 2"	11"	7½" bushed to 5"
	6' 3"	13½"	4½"
	6' 3"	12½"	7"
	3'	24"	23"
	4' 6"	22"	4½"
Mixer Block	3'	9"	1½"
	4' 11"	8½"	3"
	6' 10"	11½"	4½"
	6' 3"	13"	4"
	4' 7"	24"	4½"
	6' 1"	14"	4½"
	6' 9"	11½"	4½"

Dia

Face

Bore

Dia	Face	Bore
4'	13"	3 1/8"
4'	19"	3 1/8"
10'	21"	5 7/8"
4' 2"	12"	4"
7' 6 1/2" *	26"	5 1/8"
6' 3" ?	19 1/2"	6"
10'	15 1/2"	5 7/8"
7'	19 1/2"	5 3/4"
4' 8"	24"	4"
3' 6"	14 1/2"	3"
6' 2"	24"	6" note
6' 2"	26"	6"
6' 2"	26"	6"
3' 6"	15"	5 1/2"
3' 10"	6 1/2"	3"
3'	19"	5 3/4"
3' 10"	12 1/2"	5 1/4"
4' 8"	10 1/4"	4"
4'	8 1/2"	3"
4'	7 1/2"	3"
4'	5"	3"
3' 6"	7"	3"
3' 6"	6"	3"
4'	5"	3" one cracked spoke
4'	6 1/2"	3"
3' 6"	12"	4"
15"	12"	3"
20 1/2"	6 1/2"	2 1/8"
2' 6"	5"	2 3/8"
3' 6"	15 1/2"	6 1/2"
5'	6 1/2"	3"
3' 2 1/2"	15 1/4"	4 1/2" bushed to 3"
21"	16"	3"
24"	7"	2"

Shore Plank

Side of

Joist

Shore

Sample
Kobin

+

note

one cracked spoke

bushed to 3"

Rope Pulleys.

Diameter Ft. In.	Bore Ins.	Grooves	Diameter of Rope	Remarks
15 6	7	7	1 1/2	Split machined for stakes patched
8 2 1/8	7 11/16	8	1 3/8	Split, Patched do not machine in grooves or bore
8 2 3/8	6 1/2	8	1 1/2	
8 0	6 3/4	5	1 3/8	Solid machined for stakes
7 4 1/2	8 1/4	8	1 1/4	Solid
5 0	5 1/2	7	1 1/4	do
4 6	4	5	1 1/4	do

ROPE JOCKEY PULLEY.

- 2 5' 8" dia 5 1/4" bore for 1 1/4" rope shaft and angle bearing to suit
8 grooved pulley.

WIRE ROPE GUIDE PULLEY.

- 4 2' 1 1/2" dia 2 1/2" bore fitted with axle & I eye bearing for 1" dia rope
1 1' 10 3/8" 1 3/4" do " " 1" dia rope
3 4' 3" "3 1/2" do suitable for driving pulleys 2" dia rope

BELT PULLEYS.

NO	Inches dia	Bore	Face	Remarks
I	72	2 7/8	12 1/2	Cast iron
I	60	2 1/2	8 1/2	do
I	60	2 5/16	6	do
I	60	6	20 1/2	wrought iron
I	55 1/2	7	14	cast iron
I 1/2	53	4 1/2	13 1/2	wrought iron
2	48	2 1/4	13	cast iron
I	48	2 3/8	13	"
I	48	2 1/4	8 1/2	"
I	47 1/2	3 3/8	8 1/2	"
I	47 1/2	3 3/8	8 1/2	do. cracked spoke

PULLEYS & C. AT WAIKINO. CONTD.

NO	INCHES DIA.	BORE	FACE	REMARKS
I				
I	45	3 $\frac{7}{8}$	10 $\frac{1}{2}$	cast iron
I	42	2 $\frac{1}{2}$	8 $\frac{1}{2}$	do
I	42	3 $\frac{1}{2}$	6	do
I	41 $\frac{1}{2}$	5 $\frac{7}{8}$	10	do
I	40	6	10 $\frac{1}{2}$	do
2	38 $\frac{1}{2}$	2 $\frac{1}{2}$	7 $\frac{1}{2}$	do
I	35 $\frac{1}{2}$	3	12	do
I	36	3 $\frac{1}{2}$	9 $\frac{1}{2}$	do
I	36	3 $\frac{3}{16}$	8 $\frac{3}{4}$	do
I	36	5 $\frac{1}{2}$	7	do
I	33	5	5 $\frac{1}{2}$	do
2	29 $\frac{1}{2}$	2 $\frac{3}{4}$	6	do
I	26	6 $\frac{7}{8}$	15	do
I	24	2 $\frac{1}{2}$	13	do
I	21	3 $\frac{3}{8}$	10 $\frac{1}{2}$	do
I	19 $\frac{1}{2}$	6 $\frac{1}{2}$	5	do
I	18	2 $\frac{1}{2}$	8 $\frac{1}{2}$	do
I	1 $\frac{3}{4}$	2 $\frac{1}{2}$	6	do

22nd September 1921

Messrs. The Waihi Gold Mining Co,
60 Shortland Street,
AUCKLAND.

Dear Sirs,

180 H.P. "CROSSLEY" ENGINE

Re your amended quotation of 20th September, please find enclosed Order No. LL8 for this engine, free on rails at Waikino with one unused spare crankshaft, for the sum of £500.

This purchase is made on the understanding that the engine will prove to be in good working condition after the various defects disclosed by the recent examination have been remedied, failing which the sale will be void.

Please dismantle at once.

We will send a representative to Waikino to supervise the marking when you are ready.

All small parts are to be carefully protected and boxed.

Yours truly,

ENGINEER TO THE BOARD.

22nd September 1921

Messrs. A.D.Riley & Co,
High Street,
AUCKLAND.

Dear Sirs,

GAS ENGINE

With reference to our recent enquiry for "Crossley" gas engine, I have to inform you that we have purchased from the Waihi Gold Mining Co. a second-hand two cylinder 180 B.H.P. "Crossley" Gas Engine, Type ZA2, with opposed cylinders 18½" diameter x 27" stroke, 170 revolutions per minute.

This engine requires two magnetos, and I will be glad if you will quote me at once for these, stating earliest possible delivery.

Will you please quote me also for one auxiliary compressed air starting set complete, suitable for the above engine.

The price included in your recent offer was considerably higher than other offers received.

Yours truly,

ENGINEER TO THE BOARD.

S. CORY-WRIGHT, B.Sc. (Eng) A.M.I.C.E.
M. N.Z. SOC. C.E.

CORY-WRIGHT & SALMON ENGINEERS

C. W. SALMON, A.M.I.C.E.
M. N.Z. SOC. C.E.

BRANCH OFFICE
AUCKLAND
SMEETON'S BLDGS. 77 QUEEN ST.

WELLINGTON NEW ZEALAND AUCKLAND

HEAD OFFICE: WELLINGTON
ROUTH'S BUILDINGS
FEATHERSTON STREET
POSTAL ADDRESS: G.P.O. Box 1230
TELEPHONE No. 3956

POSTAL ADDRESS:
G.P.O. BOX 1650
TELEPHONE No. 1094A
TELEGRAPHIC ADDRESS:
"CORYWRIGHT," AUCKLAND

CABLE AND TELEGRAPHIC ADDRESS:
"CORYSAL," WELLINGTON
CODES USED:
BENTLEY'S PHRASE
WESTERN UNION (UNIVERSAL)
ABC 5TH EDITION

WHEN REPLYING PLEASE QUOTE

MEMBER OF



P.O. Box 1650, AUCKLAND.

16th August 192.

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Order L. 28

Dear Sir,

TENDER NO. CW 100 FOR
"CAMBRIDGE" GAS PRODUCER OF 150 H.P.

We have much pleasure in offering you a "Cambridge" Gas Producer made by Messrs. J. J. Niven & Co. Ltd., for the suction gas engine plant required for Rangitoto in accordance with your specification and enquiry of the 29th July.

ONE only 150H.P. size "Cambridge" Patent Improved Gas Producer Plant in accordance with the attached specification.

PRICE £750.0.0
(SEVEN HUNDRED AND FIFTY POUNDS)
delivered f. o. b. Auckland.

The plant would be complete with necessary Generator, Scrubber, Centrifugal Washer and Expansion Box, together with the necessary inter-connection pipes between the Generator and Expansion Box.

We also include for Hand Blower for starting purposes, together with 10-feet of Vent pipe from the Generator; also for necessary bricks for lining the Generator, but we do not include for Coke for the Scrubber.

You will note that attached to the specification is a table showing the average calorific values of gases from N.Z. coals. We also attach a list, showing a number of users of Cambridge plants in N.Z.

In the event of your requiring any further information, our Auckland Branch, or Messrs Niven & Co., the makers of the producer, will be very glad to supply this on hearing from you to this effect.

We trust we can be of service to you in connection with this plant, and we remain,

Yours faithfully,
FOR CORY-WRIGHT AND SALMON.

ENCL: Illustration,
Description,
Table of calorific values,
List of users.

Same as previous list papers. C. W. Salmon

Telegrams: "NIVENCO"

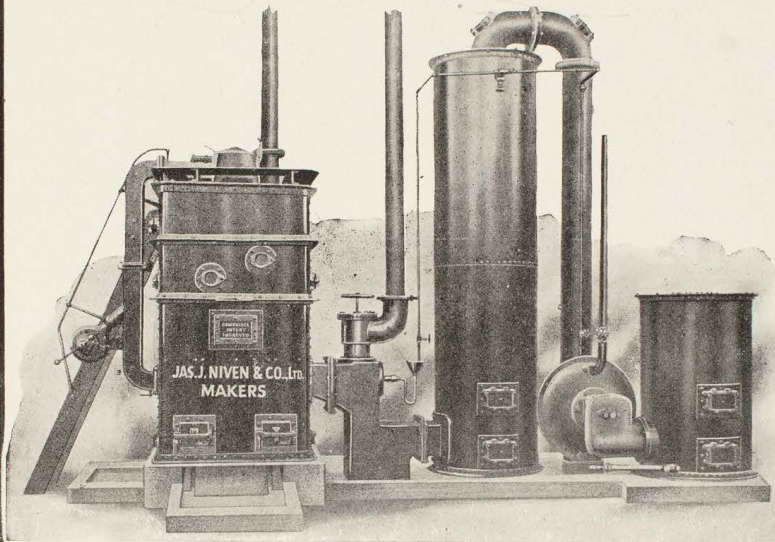
Cut Down Costs

A word to all Power Users

You can reduce your fuel account by using

CAMBRIDGE PRODUCERS

10,000 Horse Power installed in New Zealand during the past 5 years, establishing a record



A PRODUCER that burns bituminous coal, lignite, wood, cocoanut husks, etc.

The CAMBRIDGE will give you what NO other Producer will give:

FREEDOM FROM TAR

CONTINUOUS RUNNING (*24 hours a day, seven days a week as long as you require it*).

Compared with other plants it has a wider range of fuel, and gives a gas of **HIGHER CALORIFIC VALUE.**

JAS. J. NIVEN & CO., LTD.

ENGINEERS

AUCKLAND, HAMILTON, GISBORNE, WAIROA H.B., NAPIER,
PALMERSTON NORTH, WELLINGTON, CHRISTCHURCH,
and LONDON



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 WESTERN UNION, LIEBER'S, MARCONI, 2 IN 1, BENTLEY'S,
 WATKIN'S, SCOTT'S 10TH.

HEAD OFFICE, WELLINGTON. P.O. BOX 513. PHONE 1917
 BRANCHES:
 AUCKLAND. P.O. BOX 218. PHONE A696
 CHRISTCHURCH. .. 51. .. 1061
 DUNEDIN. ... 511. .. 2103

ARTHUR D. RILEY & CO., LTD.

ENGINEERS - CONTRACTORS - IMPORTERS

CORNER HIGH STREET AND DURHAM STREET EAST,
 AUCKLAND, NEW ZEALAND.

26th September 1921.

W.H. Hamer Esq., Memb Inst E.C.
 Engineer,
 Auckland Harbour Board.
Auckland.

Dear Sir;

Gas Engine.

We beg to thank you for yours of the 22nd inst. informing us that you have purchased a 2nd hand Crossley gas engine from the Waihi Gold Mining Co.

With reference to the two magnetos required for the above engine, we shall be pleased to quote for same. To enable us to quote, we shall be obliged if you will furnish us with the Makers number of the engine. (In addition to the type Z.A. 2 which you have already furnished.)

We will forward prices for a Crossley Auxiliary compressed Air starting set complete within the next few days.

Thanking you for your esteemed enquiry.

We are,
 Yours faithfully,
 ARTHUR D. RILEY & CO LTD.,

per..... *Riley*

*Discussed this by phone
 number of engine not known
 required DR 28.9.21.
 RLW.*

A.M./R.U.

S. CORY-WRIGHT, B.Sc. (ENG) A.M.I.C.E.
M. N.Z. SOC. C.E.

BRANCH OFFICE
AUCKLAND
SMEETON'S BLDGS. 77 QUEEN ST.

POSTAL ADDRESS:
G.P.O. BOX 1650

TELEPHONE No. 1094A

TELEGRAPHIC ADDRESS:
"CORYWRIGHT," AUCKLAND

WHEN REPLYING PLEASE QUOTE

REFERENCE LETTER No. CW /

CORY-WRIGHT & SALMON
ENGINEERS

WELLINGTON AUCKLAND
NEW ZEALAND

MEMBER OF



C. W. SALMON, A.M.I.C.E.
M. N.Z. SOC. C.E.

HEAD OFFICE: WELLINGTON
ROUTH'S BUILDINGS
FEATHERSTON STREET
POSTAL ADDRESS: G.P.O. BOX 1230
TELEPHONE No. 3956

CABLE AND TELEGRAPHIC ADDRESS:
"CORYSAL," WELLINGTON
CODES USED:
BENTLEY'S PHRASE
WESTERN UNION (UNIVERSAL)
ABC 5TH EDITION

33 Smeeton's Bldgs.

P.O. Box 1650, AUCKLAND.

23rd September

1921

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

GAS ENGINES AND STONE CRUSHING PLANT.

AUCKLAND HARBOUR BOARD
REC'D. SEP 24 1921
Engineer's Department

We thank you for your favours of the 20th and 22nd September, advising us that you have been unable to accept our offers for the gas engine and stonebreaking plant for Rangitoto and that you have accepted more favourable offers else-where.

We note with much pleasure that you are entrusting to us the supply of your gas producer for which we are enclosing confirmation of order, and we shall give this matter our most careful attention.

Yours faithfully,

FOR CORY-WRIGHT AND SALMON.

SCW/WM

CORY-WRIGHT, B.Sc. (Eng) A.M.I.C.E.
M. N.Z. SOC. C.E.

BRANCH OFFICE
AUCKLAND
SMEETON'S BLDGS. 77 QUEEN ST.

POSTAL ADDRESS:
G.P.O. BOX 1650

TELEPHONE No. 1094A

TELEGRAPHIC ADDRESS:
"CORYWRIGHT," AUCKLAND

WHEN REPLYING PLEASE QUOTE

REFERENCE LETTER No. CW/100

CORY-WRIGHT & SALMON

ENGINEERS

WELLINGTON - - - - - AUCKLAND
NEW ZEALAND

C. W. SALMON, A.M.I.C.E.
M. N.Z. SOC. C.E.

HEAD OFFICE: WELLINGTON
ROUTH'S BUILDINGS
FEATHERSTON STREET
POSTAL ADDRESS: G.P.O. Box 1230
TELEPHONE No. 3956

CABLE AND TELEGRAPHIC ADDRESS:
"CORYSAL," WELLINGTON

CODES USED:
BENTLEY'S PHRASE
WESTERN UNION (UNIVERSAL)
ABC 5TH EDITION

MEMBER OF



33 Smeeton's Bldgs.

P.O. Box 1650, AUCKLAND.

23rd September

1921.

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

STONE CRUSHING PLANT.
150 B.H.P. "CAMBRIDGE" Gas Producer.
Your order No. 28 L.

We have pleasure in acknowledging receipt of your valued order as above for

ONE 150 B.H.P. "Cambridge" Gas Producer, complete in terms our tender No. CW 100 to your Board dated 16th. August.

Delivered f.o.b. Auckland. 2750.0.0
(Seven Hundred and Fifty Pounds)

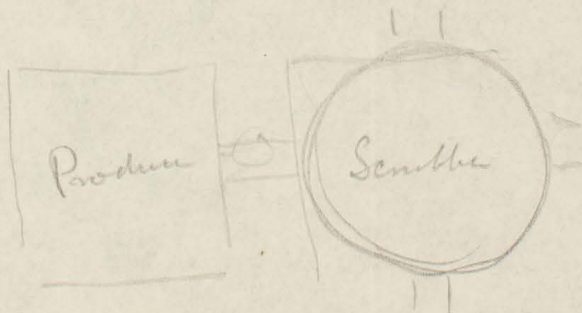
We are putting this order in hand at once and would ask you kindly to let us have a sketch or drawing showing the desired arrangement of connecting pipes, etc., at your early convenience so that we can hand same on to the works. In the meantime, we will ask Messrs. Niven & Co., for their drawings.

Yours faithfully,

FOR CORY-WRIGHT AND SALMON.

Clayton Wright

SCW/WM



28th September 1921

Messrs. Cory-Wright & Salmon,
Smeatons Buildings,
AUCKLAND.

Dear Sirs,

150 B.H.P. "CAMBRIDGE" GAS PRODUCER

Yours of 23rd instant to hand.

I am at present unable to give you the relative positions of engine and producer and the connecting pipes, but will do so as soon as full particulars of the engine are available.

In the meantime please supply me with blueprint giving full dimensions of the producer you are supplying.

Yours truly,

ENGINEER TO THE BOARD.

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY

Waihi Gold Mining Coy Ltd.
60 Shortland Street.
Auckland.

23 Sept 1921

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

SECONDHAND 180 HP CROSSLEY ENGINE

I have to thank you for yours of the 22nd inst. with order for the above.

I have written to our Waihi Office inquiring when they can start dismantling, and will advise you when they will be ready for your representative to mark the parts.

Yours faithfully,

J. M. [Signature]
Attorney.

P.S. Electric Betonator. Have written our Supt: re these, & will advise you if available or not as soon as I hear from him

J. M. [Signature]



CABLE AND TELEGRAPHIC ADDRESS: "RILIB."
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HEAD OFFICE, WELLINGTON, P.O. BOX 513 PHONE 1917
 BRANCHES:
 AUCKLAND, P.O. BOX 218, PHONE A696
 CHRISTCHURCH, .. 51, .. 1061
 DUNEDIN, .. 511, .. 2103

754

ARTHUR D. RILEY & CO., LTD.

ENGINEERS - CONTRACTORS - IMPORTERS

CORNER HIGH STREET AND DURHAM STREET EAST,
 AUCKLAND, NEW ZEALAND.

29th September 1921.

W.H. Hamer Esq., N Inst C.E.
 Auckland Harbour Board,
 Auckland.

180 BHP Crossley Gas Engine

Dear Sir;

With reference to your enquiry for two magnetos suitable for fitting to the Crossley gas engine Type Z.A.2 purchased from the Waihi Gold Mining Coy. we have pleasure in quoting you as follows:-

Bosch, Low Tension

2 Magnetos fitted with tripping levers and spring ready for fitting to the above engines delivered Auckland with in one month from date of order £22-10-0 each.

The above price is for supplying the magnetos springs and trip levers only, and does not include fitting same.

Trusting to be favoured with your esteemed commands.

*Impoverished
 Please send order
 to these. M*

L. 119

We are,
 Yours faithfully,
 ARTHUR D. RILEY & CO LTD.,

Quills

per.....

R.S.W./R.B.U.

S. CORY-WRIGHT, B.Sc. (ENG) A.M.I.C.E.
M. N.Z. SOC. C.E.

BRANCH OFFICE
AUCKLAND
SMEETON'S BLDGS., 77 QUEEN ST.

POSTAL ADDRESS:
G.P.O. BOX 1650

TELEPHONE No. 1094A

TELEGRAPHIC ADDRESS:
"CORYWRIGHT," AUCKLAND

WHEN REPLYING PLEASE QUOTE

REFERENCE LETTER No. CW/

CORY-WRIGHT & SALMON

ENGINEERS

WELLINGTON AUCKLAND
NEW ZEALAND

MEMBER OF



C. W. SALMON, A.M.I.C.E.
M. N.Z. SOC. C.E.

HEAD OFFICE: WELLINGTON
ROUTH'S BUILDINGS
FEATHERSTON STREET

POSTAL ADDRESS: G.P.O. Box 1230
TELEPHONE No. 3956

CABLE AND TELEGRAPHIC ADDRESS:
"CORYSAL," WELLINGTON

CODES USED:
BENTLEY'S PHRASE
WESTERN UNION (UNIVERSAL)
ABC 5TH EDITION

P. O. Box 1650, AUCKLAND.

5th October

1921.

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

150 B.H.P. "CAMBRIDGE" GAS PRODUCER.

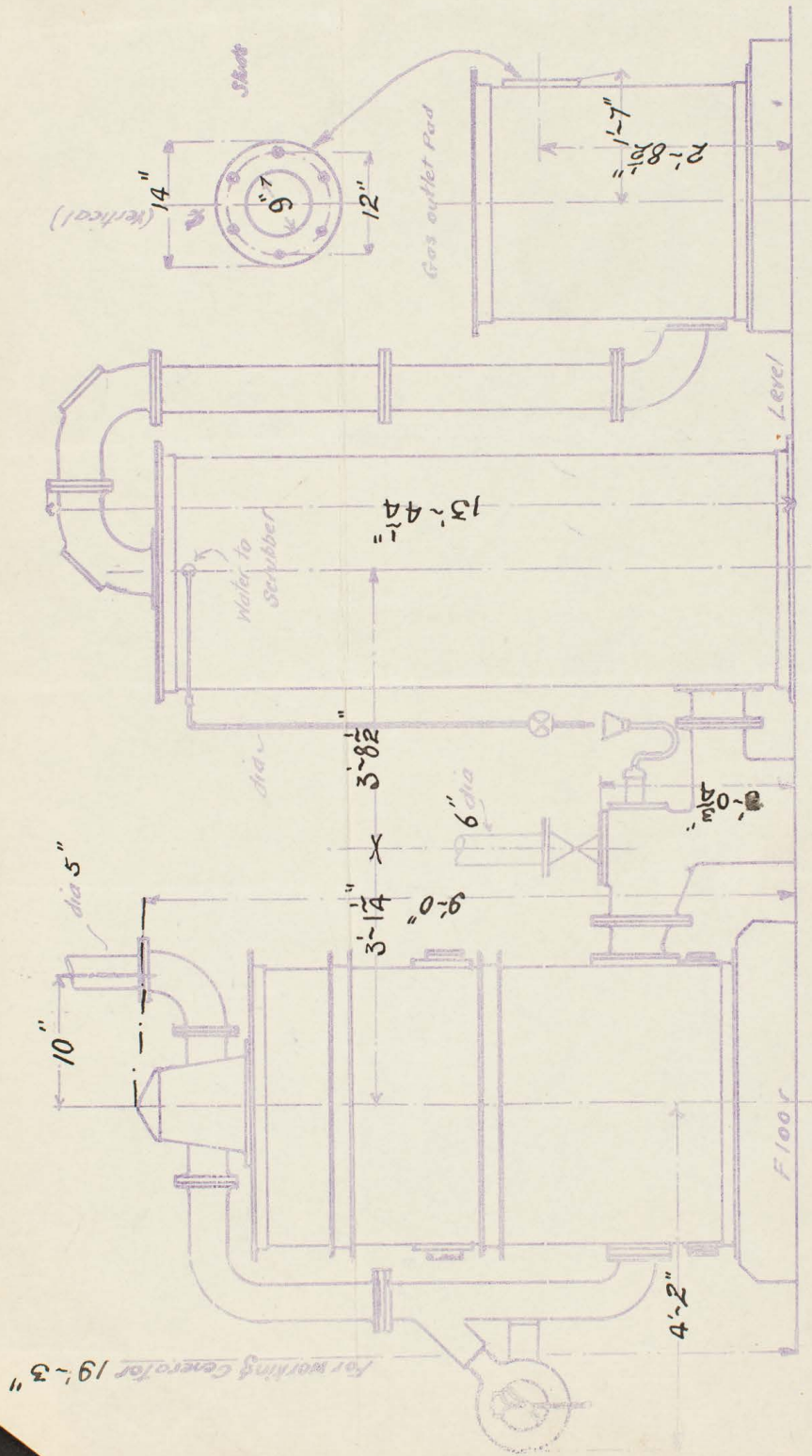
Further to our letter of yesterday handing you foundation plans of the above producer, we have now received from Messrs. J. J. Niven & Co., the attached sketch with additional dimensions. We think this will somewhat amplify previous information and we pass it on to you in the hope that it will be of use to you.

Yours faithfully,

FOR CORY-WRIGHT AND SALMON.

Enclosed:
1 Sketch.

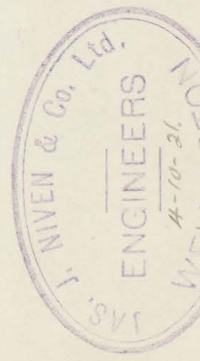
SCW/WM



Outline Sketch 150 HP Cambridge Producer

Not to Scale

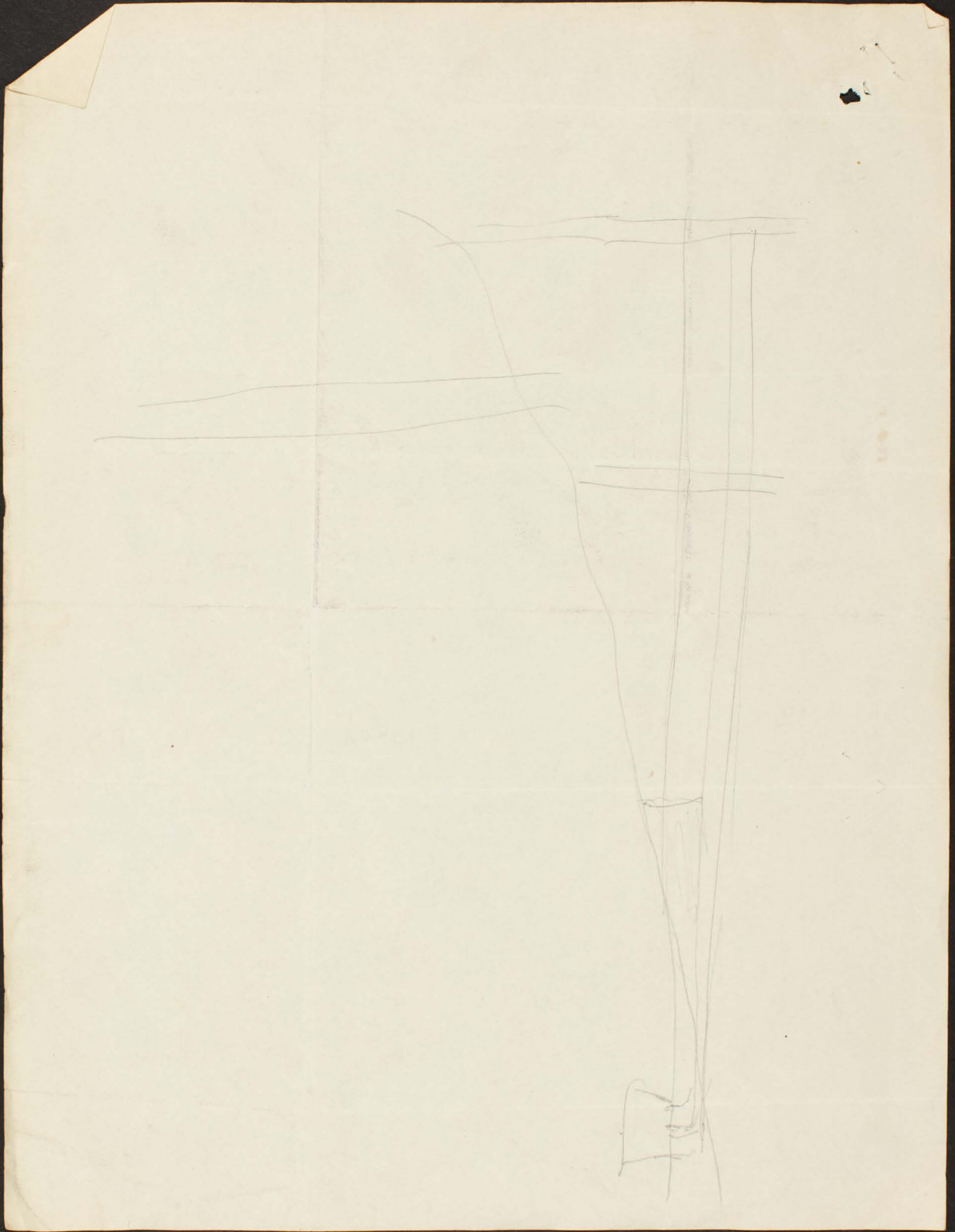
Not Correct to Detail - for forms only



CORY-WRIGHT & SALMON

Engineers 5/10/21

P.O. Box 1230 Wellington N.Z.
and P.O. Box 1650 Auckland



12th October 1921

Messrs. Cory-Wright & Salmon,
33 Smeatons Building,
AUCKLAND.

Dear Sirs,

ORDER NO. 128
150 P.H.P. "CAMBRIDGE" PRODUCER

With reference to your recent enquiry as to the most suitable arrangement of gas outlet, I have looked into the matter and find that the expansion box should be in position marked "Alternative No.2" in Messrs.J.J.Niven's standard foundation plan Drawing No.1-3, Sheet 1a.

The gas outlet should be at position marked "G" in same plan.

This should give you all the information necessary for the completion of the order.

Yours truly,

ENGINEER TO THE BOARD.

CORY-WRIGHT & SALMON
Engineers

P.O. Box 1230 Wellington N.Z.
and P.O. Box 1050 Auckland

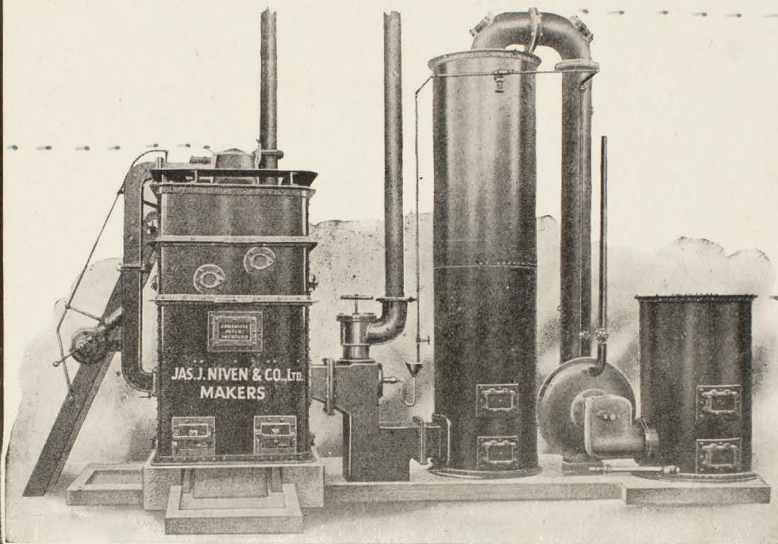
Cut Down Costs

A word to **Power Users**

You can reduce your fuel account by using

CAMBRIDGE PRODUCERS

10,000 Horse Power installed in New Zealand during the past 5 years, establishing a record



A PRODUCER that burns bituminous coal, lignite, wood, cocoanut husks, etc.

The CAMBRIDGE will give you what NO other Producer will give:

FREEDOM FROM TAR

CONTINUOUS RUNNING (24 hours a day, seven days a week as long as you require it).

Compared with other plants it has a wider range of fuel, and gives a gas of HIGHER CALORIFIC VALUE.

JAS. J. NIVEN & CO., LTD.

ENGINEERS

AUCKLAND, HAMILTON, GISBORNE, WAIROA H.B., NAPIER,
PALMERSTON NORTH, WELLINGTON, CHRISTCHURCH,
and LONDON

EXCEL PRESS, AUCKLAND.

Approx. Dimensions of 150 H.P. size

about 6' head-room required.

8'6"

about 3' head-room required.

13'9"

3'6"

N.Z.M.T. Agency & Trustee Coy., Ltd.

60 SHORTLAND STREET,
AUCKLAND.

26 Oct. 1921

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

180 HP CROSSLEY ENGINE

Our Waikino office advise that they hope to have this ready for shipment by the end of the present week.

Will you kindly instruct us as to how you wish it forwarded ?

Yours faithfully,

J. W. Stopmins.
Manager.

Terms - T. O. R. Waikino

27th October 1921

Messrs. The N.Z.Mines Trust Ltd,
60 Shortland Street,
AUCKLAND.

Dear Sirs,

180 H.P."CROSSLEY" ENGINE

Re yours of 26th instant.

Please forward the above by rail to eastern side of Queens
Wharf, and advise when leaving Waikino.

Yours truly,

ENGINEER TO THE BOARD.

27th October 1921

The Traffic Manager,

A. H. B.

180 H.P. "Crossley" Engine

The N.Z.Mines Trust are sending an engine from Waikino for us.

They have instructions to send it by rail to east side of Queens Wharf, where "Mahua" will effect the lifts and place on Quay Street Landing, where it must lie for some little time.

ENGINEER TO THE BOARD.



Auckland Harbour Board.

MEMORANDUM.

FROM

THE TRAFFIC MANAGER.

187D

↓
Co

27th October 1921.

The Engineer,
A. H. B.

Re Crossley Engine.

Please instruct master of "Mahua" to make enquiries as to the most suitable position on breastwork for above.

R. Eden
TRAFFIC MANAGER.

to Bailey
J. W. 15/11/21

4
FROM THE
WAHAI GOLD MINING COMPANY,
LIMITED

Waikino 2nd Novr 1921.

Memo. for The Chief Mechanical Engineer,
Harbour Board, AUCKLAND.

Dear Sir,

GAS ENGINE PARTS

We have forwarded to you by post this day under separate cover, two (2) levers for ignition gear for 180 H.P.ZA2 Type Crossley Gas Engine.

These levers had to be made at Waikino and were not quite ready when Engine was shipped on 31st Octr.

T. B. Watters

Yours faithfully,

*Sent to Mr Batey
3/11/21*

8th November

21.

Messrs The N. Z. Mines Trust Ltd.
60 Shortland Street,
AUCKLAND.

Dear Sirs,

180 H. P. " CROSSLEY " ENGINE.

We have received various parts of Gas Engine from Waikino, and are putting necessary repairs of cylinders etc in hand.

We do not propose to open the cases of the small parts until we erect the whole machine at Rangitoto and will then be able to check against inventory.

I trust this method will be satisfactory to you.

Yours truly,

ENGINEER TO THE BOARD.

Waihi Gold Mining Coy. Ltd.

WAIKINO, 21st October 1921.

AUCKLAND HARBOUR BOARD
RECD: NOV 1 1921
Engineer's Department

The Engineer,
AUCKLAND HARBOUR BOARD,
AUCKLAND.

Dear Sir,

GAS ENGINE 130 H.P.

We have forwarded to you to-day by rail, 2A2 Type Gas Engine 130 H.P., in two trucks, as follows:-

Truck UB 665	Nett weight	21 tons 10 cwt 0 qrs
" L 7262	" "	4 tons 4 cwt 1 qr

Full details of contents of each truck are enclosed.

Yours faithfully,

For The WAIHI GOLD MINING Coy Ltd.,

T. Swatters

Engineer.

[Handwritten signature]

Inst. to Balay 15/10/21
Voucher £500 paid 11/11/21

All communications to be addressed
to the "SUPERINTENDENT."

Waikato Gold Mining Coy Ltd.

Waikato 20th October 1921

The Engineer

Auckland Harbour Board

A U C K L A N D.

Dear Sir,

Your representative who supervised the dismantling of the 180 H.P. Crossley Gas Engine purchased from Waikato was supplied with particulars of a rope pulley 8ft. 2½" diam. which we have for sale.

If this pulley interests you we can offer same for £55 f.o.r. Waikato.

Yours faithfully

E G Banks

Superintendent.

E G Banks

213 R.P.M.
with 7' 4½"

20/9/21

WAIHI GOLD MINING COMPANY LIMITED

SPARES FOR ZAS TYPE 200 HP CROSSLEY GAS ENGINE AT WAIKINO

CRANKSHAFTS-

3 Crankshafts		3	Unused	X
Crankshaft Bearings	7 $\frac{1}{2}$ " dia	11 sets	Used	
do.	8 $\frac{1}{4}$ " "	1 set	Used	
do.	8 $\frac{1}{2}$ " "	1 set	Unused	
Outboard bearings		5	Used	
Wedges for adjusting Crankshaft bearings		8	Used	
B end Crank Brasses		2 sets	Used	
" do. Bolts		12	Used	
A " do. Bolts		2	Used	

CLUTCHES-

Clutch & shell complete		2	Unused	X
Brass clamps for clutches, with trunnion		3	Used	
do. without "		2	Used	
Brass Adjusting nuts for Clutches		7 pairs	Used	
Cast Iron Caps for Clutches		5	Used	
Screws for adjusting clutches (with levers)		2	Used	
Shipping Sleeve	"	3	Used	
Lever for Screws	"	1	Used	
Arms for Shipping sleeve	"	4	Used	

EXHAUST VALVES-

Exhaust valve guides		14	Used	
do. springs		5	Used	
do. Clips & Bolts for water service		11 pairs	Unused	X
do. water fittings without pipes		7	Used	
do. adjusting screws		9	Used	
do. adjusting nuts		3	Used	
do. rollers for cams		12	Used	
do. rings	a number		Used	
do. reseating tool			Used	

AIR VALVES-

Air Valve Levers (not machined)		13	Used	
do. Cages		31	Used	
do. Rollers for cams		5	Used	
Air Valves		13	Used	

GAS VALVES-

Gas Valves complete with cages		4	Unused	X
Gas Valve Pecker Dies		18	Used	
Gas Valves		5	Used	
Gas Valve Peckers		14	Used	

GUDGEON PINS-

Gudgeon Pins		1	Used	
Gudgeon Pin Brasses		3 pairs	Used	
do. Adjusting Screws		2	Used	
do. Set Screws		6	Used	
do. Wipers for lubricating		1	Unused	X

GOVERNOR SHAFT PINIONS

9 Unused X-2

GAS COCKS

3 Used

Gas Cock Shell 1 Used

GEAR WHEELS Split 8 $\frac{1}{4}$ " dia bore

4 Unused X

do. Solid 7 $\frac{1}{2}$ " " 5 Unused X

do. for valve shaft 8 Unused X

PISTON RINGS

60 Unused

Lubricating Manifolds (3 feeds)

6 Unused X

" Force Pumps 1 Used

" Cup shaped glasses for 9 Unused X

Steel Collars 1 $\frac{1}{4}$ " bore x 1 $\frac{3}{4}$ " dia x 1" wide

66 Unused X

Assorted Pins for gas, air & exhaust valves

50 Used

Rubber Packing: an assortment prepared packings

Starting valves

5

CASTINGS made at Waikino not machined

2 Air Valve Cages

3 Exhaust Valve Guides

2 sets castings (centre and arms only) for clutches

Immi

WAIHI GOLD MINING COMPANY LIMITED.

WAIKINO 31st October 1921.

CROSSLEYS ZAS TYPE GAS ENGINE, 180 H.P.

Sold to AUCKLAND HARBOUR BOARD.

On Truck UB 665 Nett weight 21 tons 10 cwt 0 qr

Contents

- 1 Flywheel
- 1 Grooved Pulley with extension shaft and male part of clutch attached.
- 2 Cylinders with bolts for side frames.
- 2 Side Frames *with crank shaft brasses in place.*
- 1 Crankshaft
- 3 Plummer Blocks
- 4 Silencers
- Clutch shipping gear with hand wheel
- Exhaust Valve re-seating tool
- 2 Exhaust Valve Chests
- 3 Stanchions for hand rails
- Turning gear shaft with pinion and bracket with paul attached
- 2 Cooling Water Outlet pipes for Cylinder
- 2 " " Inlet " " "
- 1 Air Starting Inlet pipe with Cock
- 2 pieces of hand rail
- 1 Female part Clutch

Truck L 7262 Nett weight 4 tons 4 cwt 1 qr

- 2 Camshafts with brackets and cams attached
- 2 Exhaust Bends
- 1 Mandrell for lining bearings
- 2 Air Bends
- 2 Gas Bends
- 1 Soleplate for centre of Engine
- 1 Crank Cover
- 2 Pistons with connecting rods attached (in casks)
- 5 Cases, contents as follows:-

(See over page)

*Copies of list to Bailey
1/11/1921*

Case A

Half time wheel "A" Engine
" " "B" "
Sparking Box "A" Engine
" " "B" "
2 Oil gauge Main Bearings
2 Worm adjusting gear air inlet
2 Glass Lubricators
2 Firing Gear Levers
2 Firing Gear Springs
Aluminium Cover Crankshaft end
2 Retarding Levers
Air Starter Spring
Refacing Tool Spark Plugs
2 Crankcase Lubricators
6 Oiling Rings
Box Spanner

Case B

2 Magneto Brackets
Mixing Valves "A" Engine
" " "B" "
1 Air Starting Valve
Regulating Cock "A" Engine
" " "B" "
Gas Valve "A" Engine
" " "B" "
Air Valve Levers "A" Engine
" " " "B" "
Gas Valve Levers "A" Engine
" " " "B" "
Oil Tray
~~1 Key Grooved Pulley~~

Case C

1 complete Crank Brass "A" Engine
1 " " " "B" "
Exhaust Valve & Casing "A" Engine
" " " "B" "
1 Clutch Collar complete
2 Crank Guard Brackets
2 Water Connection Boxes
Exhaust Valve Levers "A" Engine
" " " "B" "
1 Oil Tray
1 Clutch Bracket
1 Hand Bearing Wheel
1 Air Starting Lever
Gudgeon Pin adjusting Spanner
Connecting Rods Firing Gear
8 Studs for Exhaust Chests

Case D

4 Dowels for Side ~~shafts~~ *shafts*
4 Studs
8 Bedplate Bolts
2 Flywheel Keys
1 Grooved Pulley Key
1 Worm Wheel Crankshaft

Case E

Governor Shafts and Pushrods.

-----00000-----

J.H.W.

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY

Waikato Gold Mining Coy Ltd.
60 Shortland Street.
Auckland. 10 Nov. 1921

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir, 180 HP CROSSLEY GAS ENGINE.

YOURS OF 8th NOV.

Further to our conversation of this morning on the telephone, I understand the position to be that it will not be convenient to you to check the small parts against the schedule supplied by us for some ten days or a fortnight, and until then you will not be able to satisfy yourself that the engine as supplied is as inspected at Waikato by your Engineer.

We are agreeable to the matter standing over for the period you suggest, but in the meantime would be glad to know that the cases A to E advised by our Waikato office as having been shipped have duly reached you, - as also the separate items loaded into trucks U.B. 665 and L 7262

Yours faithfully,

J. W. Stephens
Attorney.

Invoice in duplicate enclosed.

Inv. 15466 to Bailey to check

AUCKLAND HARBOUR BOARD

No 29382

Memorandum.

From ..

INSPECTOR at

Machinery

To

THE ENGINEER

Nov 12 1921

I beg to report that

Crosby Gas Engine.
The contents of the Cases A to E +
the separate items in trucks U B 665
+ L 726 have been checked + are
correct according to inventory

Signature

W. B. Batey

15th November 1921

Messrs. The Waihi Goldmining Co.Ltd,
60 Shortland Street,
AUCKLAND.

Dear Sirs,

180 HP "CROSSLEY" GAS ENGINE

In reply to yours of 10th instant re checking the contents of cases etc., I have had this done, and my Inspector reports that the separate items in cases and trucks are correct according to your list, and I am therefore passing your account today for £500.

Yours truly,

ENGINEER TO THE BOARD.

N.Z.M.C. Agency & Trustee Coy., Ltd.

60 SHORTLAND STREET,

AUCKLAND.

15 Nov. 1921

The Engineer,

Auckland Harbour Board,

AUCKLAND.

Dear Sir,

180 H.P. CROSSLEY ENGINE.

I am much obliged for yours of 15th inst., and was pleased to hear that everything had come to hand safely. I hope the engine when erected will give every satisfaction.

If we can assist you further in this matter, we shall be pleased to do so.

Yours faithfully,

J. W. Stopnino

Manager.

669A

23rd December 1921

Mr H.W.Hopkins,
N.Z.M.T. Agency & Trustee Co.Ltd,
60 Shortland Street,
AUCKLAND.

Dear Sir,

SECOND HAND PULLEYS

Yours of 21st September re the above.

I will be glad if you would obtain for me at the earliest possible moment full particulars of the following pulleys quoted in the list supplied by you on the above date:-

- (a) Diameter 6'3", Face 24", Bore 6", mentioned on page 2 of list of pulleys at Waihi battery, and situated by coal hopper.
- (b) Diameter 7'6½", Face 26", Bore 5½", mentioned on page 4 of same list, and situated at Slimes plant

The particular information which I require is:-

- 1 Diameter of boss
- 2 Width of boss
- 3 Number of spokes
- 4 Shape of spokes (straight or curved)
- 5 Section of spokes (template or sketch should be supplied)
- 6 Weight of pulley

I wish to determine whether these pulleys are capable of transmitting the full horse power of the Crossley Gas Engine purchased from you recently, and whether the latter will stand boring out to 8½" diameter, which is the size of existing main extension shaft.

An early reply will reply. *oblige*

Yours truly,

ENGINEER TO THE BOARD.

Memorandum.

From

INSPECTOR at

Machinery

To

THE ENGINEER

5/7/22


191

180 H.P. Crossley Gas Engine.

I beg to report that Please ask the Works Co to send the two Gudgeon Pin Lubricator troughs which were dismantled & not sent. Also two Tee pieces for Governor back Rod these were of aluminium & new ones were being made in brass. The Piston Lubricators are short of the spindle pulley & belt, & one Pressure Lubricator for exhaust valves is missing, ask if there are to be made. The split coupling for clutch the two halves supplied are not a pair, consequently don't fit when put together ask for these to be replaced, or if they have patterns

Signature

Memorandum.

From 

INSPECTOR at

To

191

THE ENGINEER

I beg to report that

From their spare list, I think the only things of value would be the four worn exhaust valve springs, the worn gear wheels for valve shaft (8), + the four 8" bore + the four 7" bore gear wheels for crankshaft. We also should have spare valve springs, which this boat appear to have. They have three spare crank shafts, perhaps we should get one of these. I recommend you to send to Crossley for a complete set of brasses for the engine N^o 51403.

} 2 of each only

Signature



Waihi Gold Mining Coy Ltd.
60 Shortland Street.
Auckland.

7 Jan. 1922

J.H.G. Banks, Esq
Waihi G.M. Coy. Ltd.
WAIKINO.

Copy

Dear Sir, 180 HP CROSSLEY ENGINE SOLD TO AUCKLAND HARBOUR BD

One or two small matters in connection with the recent sale require arranging, and Mr. Gauvain and I had a talk with the Engineer of the Board yesterday.

✓ Sliding Sleeve for Haywood & Bridges Clutch. The two halves of the above sent up do not seem to make a pair, and as it is difficult to explain what is the matter, we have arranged for the sleeve to be returned to Waikino per Paeroa steamer. Will you please get Mr. Waters to examine it and have a complete sleeve sent up- if available

Missing Parts- The following parts of the engine (not on your schedule) have not been received:

- 2 Gudgeon-pin lubricator troughs; ✓
- 2 T-pieces for governor track rods; ✓
- Spindle & pulley of piston lubricator; ✓
- 1 lubricator for exhaust valve spindle. ✓

Please supply the above, if available.

Spares. Will you please forward to the Harbour Board at Auckland a complete set of spare brasses, if available, that is, for all crankshaft bearings, big-end bearing and gudgeon pin bearing. Send the best you have. These will be ~~ent~~ a matter for special arrangement

Waikino

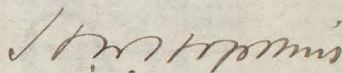
(2)

with the Harbour Board, should the Board decide to purchase.

Kindly communicate direct with the Engineer of the Harbour Board, and let me have copies of your letters.

Will you please ascertain from Mr. Malyon, and advise the Harbour Board what clearance we adopted on the big-end brasses. Mr. Gauvain thinks it was ~~1.5~~ $\frac{1.5}{1000}$ of an inch per inch of crank pin diameter.

Yours faithfully,



Attorney.

Waihi Gold Mining Coy. Ltd.

WAIKINO, 13th January 1922.

The Engineer,
AUCKLAND HARBOUR BOARD,
AUCKLAND.

Dear Sir,

130 H.P. GROSSLEY ENGINE

Our Auckland Office has communicated with us in reference to one or two matters in connection with the above engine which we sold to your Board.

Sliding Sleeves for Clutch. There was no clutch sleeve on the engine and a split one was supplied. The two halves are not a pair, but we understood your representative to say that they could be machined at the Board's workshops. As soon as the sleeve comes to hand our engineer will take it in hand.

Unfortunately we have not got another split sleeve on hand, but can supply a solid sleeve as originally supplied with the engine. We will await instructions.

Missing Parts. 2 gudgeon-pin lubricator troughs, and 2 T pieces for governor track rods. These will be forwarded. Spindle and pulley of piston lubricator and one lubricator for exhaust valve spindle. These were missing when the engine was sold and we understood from your representative that probably a sight-feed lubricator would be used for the piston lubrication.

Our engineer suggests that it would be a much simpler matter for you to have the parts made than for us to attempt to make them now that the engine is away.

Send pattern
X

Waihi Gold Mining Coy. Ltd.

130 H.P. CROSSLEY ENGINE 18/1/22

(2)

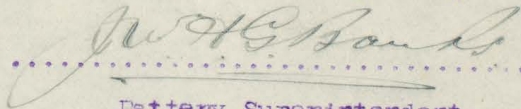
Spares. We have a set of "D" end bearing brasses only, and although somewhat knocked about, are servicable: no gudgeon pin brasses on hand.

We have two sets of brasses for short end of crank shaft - these, with the B end brasses, will go forward.

Clearance for big end brasses. So far as we can ascertain the clearance was 20/1000; this is equivalent to $\frac{2.5}{1000}$ per inch of crank pin diameter. Mr Gauvain will communicate with you on this matter.

Yours faithfully,

For the WAIHI GOLD MINING Coy Ltd.,



.....
Battery Superintendent.

24th January 1922

The Battery Superintendent,
Waihi Gold Mining Co,
WAIKINO.

Dear Sir,

160 H.P. "CROSSLEY" ENGINE

Re yours of 13th instant.

I note that you have not got another split sleeve on hand.

I understand however that you have suitable patterns, and if you are unable to match the set which was returned to you, I would be glad if you could lend me the patterns to enable me to get a new split sleeve cast.

Missing parts & spares - I note that you are forwarding the lubricator troughs and governor parts, and also certain spare brasses. I will have the parts of piston lubricators made up locally.

The clearance for big end brasses viz. 20/1000 appears somewhat high, but Mr Gauvain explained that you found it necessary to run these fairly slack.

I will be glad to hear whether the split sleeve patterns is available, as the re-erection of the engine is now nearly completed and I want to get this part ready.

Yours truly,

ENGINEER TO THE BOARD.

WELLINGTON:

ROUTH'S BUILDINGS
144 FEATHERSTON STREET
POSTAL: G.P.O. BOX 1230
PHONE No. 3956
TELEGRAMS & CABLES:
"CORYS" WELLINGTON

CORY-WRIGHT & SALMON
ENGINEERS

WELLINGTON AUCKLAND
NEW ZEALAND

PRINCIPALS } S. CORY-WRIGHT, B.Sc. (ENG.), A.M.I.C.E., M. N.Z. SOC. C.E.
OF FIRM } C. W. SALMON, A.M.I.C.E., M. N.Z. SOC. C.E.

Codes Used: Bentley's Phrase
Western Union (Universal & 5 Letter)
A B C (5th Edition)

G.P.O. Box 1650,
AUCKLAND, N.Z.

AUCKLAND:

SMEETON'S BUILDINGS
77 QUEEN STREET
POSTAL: G.P.O. BOX 1650
PHONE: No. 1094A
TELEGRAMS & CABLES:
"CORYWRIGHT" AUCKLAND



When replying
please quote
Our Reference
No.

CW./.....

23rd January 1922

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

GAS PRODUCER FOR RANGITOTO.

We beg to advise that the gas producer being constructed by Messrs. Niven & Co., is now ready for shipment and will be despatched on your instructions tomorrow.

We are taking the liberty of enclosing our statement of account and would ask you to pass same for payment at your convenience in due course.

Yours faithfully,
FOR CORY-WRIGHT AND SALMON.

S. Corywright

Best first.

*Pay 75% of £750
say £560 on a/c.
W.H.H.
24/1/22*

Director passed for £500

SCW/WM

22nd February 1922

The Battery Superintendent,
Waihi Goldmining Company,
WAIKINO N.Z.

Dear Sir,

SPLIT SLEEVE FOR CLUTCH - 180 HP "Crossley" Engine

Further to my letter of 24th ult.

I would be much obliged if you would inform me whether the pattern for split sleeve is available, and how delivery can be obtained, as I am now urgently requiring it.

Thanking you in anticipation,

Yours truly,

ENGINEER TO THE BOARD.

 FROM THE
WAHAI GOLD MINING COMPANY,
LIMITED

Waikino 24th Feby 1922

Memo. for The Engineer,

Auckland Harbour Board, AUCKLAND.

Dear Sir,

180 H.P. CROSSLEY ENGINE

In reply to yours of 22nd inst.

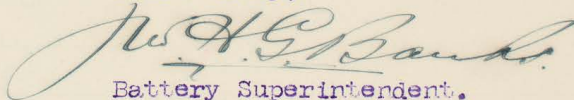
the pattern for split sleeve and it will be forwarded per
rail this day.

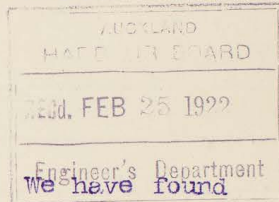
We will also forward under same cover the following:-

2 lubricator troughs

3 small fittings for governor rods.

Yours truly,


Battery Superintendent.



25th February 1922

The Battery Superintendent,
Waihi Gold Mining Co,
WAIKINO.

Dear Sir,

180 HP "CROSSLEY" ENGINE

I have to thank you for yours of 24th instant stating that you are forwarding pattern and other small parts of engine.

The package has arrived, and I am having castings made at once.

I wish to thank you for the manner in which you have dealt with my many enquiries, and for the assistance which you have given me at all times.

Yours truly,

ENGINEER TO THE BOARD.

S. CORY-WRIGHT, B.Sc. (Eng) A.M.I.C.E.
M. N.Z. SOC. C.E.

BRANCH OFFICE
AUCKLAND
EETON'S BLDGS. 77 QUEEN ST.

POSTAL ADDRESS:
G.P.O. BOX 1650

TELEPHONE No. 1094A

TELEGRAPHIC ADDRESS:
"CORYWRIGHT," AUCKLAND

WHEN REPLYING PLEASE QUOTE

REFERENCE LETTER NO.

CORY-WRIGHT & SALMON

ENGINEERS

WELLINGTON AUCKLAND
NEW ZEALAND

MEMBER OF



C. W. SALMON, A.M.I.C.E.
M. N.Z. SOC. C.E.

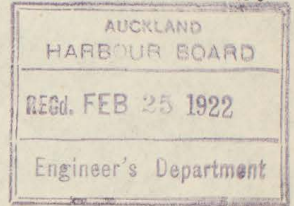
HEAD OFFICE: WELLINGTON
ROUTH'S BUILDINGS
FEATHERSTON STREET

POSTAL ADDRESS: G.P.O. BOX 1230
TELEPHONE No. 3956

CABLE AND TELEGRAPHIC ADDRESS:
"CORYSAL," WELLINGTON
CODES USED:
BENTLEY'S PHRASE
WESTERN UNION (UNIVERSAL)
ABC 5TH EDITION

P.O. Box 1650, Auckland.

22nd February 1922.



The Engineer,
Auckland Harbour Board,
A U C K L A N D.

Dear Sir,

RE 150 H.P. GAS PRODUCER.

We have now received a statement of account from Messrs. J.J.Niven & Co.Ltd., the makers of the Gas Producer supplied to you for Rangitoto, for the extra length of vent pipes supplied with this producer over and above the length supplied in the specification.

We are accordingly taking the liberty of enclosing herewith our account for this small extra, which we trust you will find in order.

We remain,
Yours faithfully,
For CORY-WRIGHT & SALMON.

S. Cory Wright

Principal.

This is as arranged

*In Cont Book p 164
bill etc passed*

Encl:

(CWS/MT.)

WELLINGTON:
 ROUTH'S BUILDINGS
 144 FEATHERSTON STREET
 POSTAL: G.P.O. Box 1230
 PHONE NO. 3956
 GRAMS & CABLES:
 "CORAL" WELLINGTON

CORY-WRIGHT & SALMON

ENGINEERS

WELLINGTON AUCKLAND
 NEW ZEALAND

PRINCIPALS } S. CORY-WRIGHT, B.Sc. (ENG.), A.M.I.C.E., M. N.Z. Soc. C.E.
 OF FIRM } C. W. SALMON, A.M.I.C.E., M. N.Z. Soc. C.E.

Codes Used: Bentley's Phrase
 Western Union (Universal & 5 Letter)
 A B C (5th Edition)

G.P.O. Box 1650,
 AUCKLAND, N.Z.

AUCKLAND:
 SMRETON'S BUILDINGS
 77 QUEEN STREET
 POSTAL: G.P.O. Box 1650
 PHONE: NO. 1094A
 TELEGRAMS & CABLES:
 "CORYWRIGHT" AUCKLAND



When replying
 please quote
 Our Reference
 No.
 CW
/.....

22nd March 1922

The Engineer,
 Auckland Harbour Board,
 AUCKLAND.

Dear Sir,

150 H.P. GAS PRODUCER.

We are taking the liberty of asking you to be kind enough to authorise the payment of the balance of our account for delivery to you of the 150 H.P. Gas Producer for Rangitoto, for which we have, up to the present, only received progress payment of 75%. We understand that the terms of our contract with you, are for payment within a reasonable time after delivery so that we think you should not hold up the payment of the balance to us, now that the producer has been erected.

In the event of your wishing to retain a percentage until the whole plant is in operation, we suggest that 5% would be ample for this purpose and that we would ask you now to pay us 20%.

The balance outstanding is as follows:

Contract price	~750.0.0
Extra vent pipes in accordance with our account 22nd February...	£ 2.10.0
Total ...	<u>£752.10.0</u>
Less progress payment	<u>560. 0.0</u>
Balance outstanding	<u>£192.10.0</u>

Thanking you for your kind attention to this matter.

Yours faithfully,
 FOR CORY-WRIGHT AND SALMON.

S. Cory-Wright

SCW/WRM

25th March 1922

Messrs. Cory-Wright & Salmon,
Smeetons Buildings,
QUEEN STREET.

Dear Sirs,

150 H.P.GAS PRODUCER

In reply to yours of 22nd March.

A voucher for £192-10-0 was passed by me on March 7th, and payment may be had by your calling on our Treasurer on Monday, 27th instant.

Yours truly,

ENGINEER TO THE BOARD.

18th July 1922

Messrs. J.J.Niven & Co,
Palmerston Buildings,
QUEEN STREET.

Dear Sirs,

CAMBRIDGE GAS PRODUCER

I would be glad if you would supply me with card of instructions and diagrams illustrating the working of Cambridge Patent Improved Gas Producer for use at Power House, Rangitoto.

Thanking you in anticipation.

Yours truly,

ENGINEER TO THE BOARD.

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY.

754
Waihi Gold Mining Co. Ltd.
60 Shortland Street.
Auckland. 30 Oct. 1923

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

EXHAUST VALVE FOR 180 HP CROSSLEY ENGINE.

At the request of your Mr. Robertson, we beg to quote you as follows-

One Secondhand Exhaust Valve without casing

Price- 25/- (Twenty-five Shillings) f.o.r. Waikino.

One Secondhand Exhaust Valve with casing

Price- 50/- (Fifty Shillings) f.o.r. Waikino.

Our Superintendent reports that only the valve will require overhaul, and he estimates that the cost of this would be between £3 and £4. His shops are pretty busy just now, and he would prefer that you should have the overhaul done in town.

Yours faithfully,

J. W. Stopkin
Attorney.

order 31/X/23

H158

31st October 1923

Messrs. Waihi Gold Mining Co. Ltd,
60 Shortland Street,
AUCKLAND.

Order H158

Dear Sirs,

EXHAUST VALVE FOR 180 H.P. ENGINE

Please deliver as soon as possible one second-hand valve with casing for 50/- at Waikino, in accordance with your letter of 30th October.

Please advise as soon as you have delivered it to our Electrician's workshop, Shed No.14 Queens Wharf.

Yours truly,

ENGINEER TO THE BOARD.

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY.

38

Waikato Gold Mining Coy Ltd.
60 Shortland Street.
Auckland.

November 1st 1923.

The Engineer.

Auckland Harbour Board

AUCKLAND.

Dear Sir,

Your letter of Oct 31st to hand enclosing order for Exhaust Valve with casing for which we thank you.

The Valve will be forwarded as soon as possible to Auckland and delivered at Shed No.14 Queens Wharf as requested.

Yours faithfully,

J. H. J. Stephens
Attorney.

PLEASE ADDRESS ALL CORRESPONDENCE TO THE COMPANY.

Waikato Gold Mining Coy Ltd.
60 Shortland Street.
Auckland. 8 November 1923.

The Engineer,
Auckland Harbour Board,
AUCKLAND.

Dear Sir,

EXHAUST VALVE FOR 180 H.P. ENGINE.

Referring to your letter of 31st ult., We have to advise that the case containing Exhaust Valve with casing was delivered to the Electrician's Workshop, Shed No.14, Queens Wharf, to-day.

Yours faithfully,

J. W. Stoddart

Attorney.

Memorandum.

From . .

INSPECTOR AT

To

THE ENGINEER

*Machinery**W. T. Saunders**Exhaust Valve for 180 HP Gas Engine**I beg to report that**Your memo of 27th date re. above received**The valve ~~assembly~~ & cage were received yesterday afternoon & have been examined to-day & so far as can be judged by personal observation are all right.*

Signature

A. L. Robertson

McGABE & CO.
LIMITED.

ADDRESS: "DREDGER" WELLINGTON.
P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. March 8th

1922

CER/EA.

766

with pencil sketch
March 27/22
DONALD

AUCKLAND HARBOUR BOARD
RECD. MAY 10 1922
Engineer's Department

Sir,

Re Rownson, Drew & Clydesdale's
Portable Stacking Machines.

In your letter of March 4th you suggest that we should ask our Principals to put us in a position to quote for their Stackers and all other types of machinery.

With regard to Stackers, we are in a position to quote these, and believing that it may be of service to you meanwhile we submit the following quotation for Stackers as per illustration 5 on page 9 of Rownsons Gravity Conveyor Catalogue, viz:-

- 1 Portable Stacker manufactured by our Principals - Messrs Rownson, Drew & Clydesdale - capable of stacking to a maximum height of 20 ft. and having slat width of 18" complete with 3 H.P. Motor and Starter for 460 volts D.C. Price.....£350.0.0.

The above price is nett, and includes for delivery c.i.f. & e. duty paid, Auckland.

The price of the machine as above, but without Motor and Starter is.....£250.0.0.

You will note that the Stacker has a hinged jib and is therefore suitable for working at various heights.

We have the honour to be,
Sir,

Your obedient servants,
RICHARDSON McCABE & CO. LTD.

Richardson
MANAGING DIRECTOR.

W.H.Hamer Esq.,
Harbour Engineer,
Auckland.

200/6/22 351
Smith

McCABE & CO.

LIMITED.

CER/TM

Address: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z.

22nd May,

2.

192

Sir,

We have this morning received from our Principals Messrs. Rowson Drew & Clydesdale Ltd., their latest sectional pamphlets Nos. 9, 10, 11 and 12 and also a loose leaf catalogue, under the title of "ELEVATING & CONVEYING MACHINERY" just issued by the Company, which we think will be interesting to you at the present time, and the above pamphlets and catalogue are going forward to you under separate cover today. We shall be obliged if you will cancel the catalogues previously sent.

If after perusing the above there are any points upon which you would like further information we shall be obliged if you will let us know.

You will find on pages 1F/5F. some interesting illustrations of the Donald Patent Portable Elevator Conveyor, which we hope to be in a position to quote you shortly on receipt of a cable from the Works.

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.,

C. W. Richards

MANAGING DIRECTOR.

W. H. Humer, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND. N.Z.

Encls; Catlgs.

27th July 1922

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

MESSRS. ROUNSON & DREW'S CARGO HANDLING MACHINERY

Referring to yours of 21st instant.

I beg to thank you for the information you have obtained regarding "Donald" elevators.

My report on an Export Wharf and machinery was referred to a special committee by the Board yesterday.

I will then put your letter before the members, and communicate with you again.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

E RN. NW

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. 28th April 1922

766

"Donald" Elevator

Sir,

We enclose herewith catalogue of Gravity Runway manufactured by our Principals, Messrs. Rownson Drew & Clydesdale Ltd. which we think may be of interest to you.

We have already supplied to the Wellington and Bluff Harbour Boards a quantity of this Runway and we understand that they found the Runway entirely satisfactory.

The type of Runway we are offering is a new type which shows considerable improvement on the older type. This Runway consists of 2 1/2" Drawn Steel Rollers assembled into angle iron side frames 2 x 2 x 1/4 with either Roller or Ball Bearing, and may be had in various pitches to suit the class of goods to be handled, but from past experience we have found that the 14" x 6" pitch is the most generally useful.

The following are the prices of the different types of Runway.

Rownson Drew & Clydesdale Roller Bearing Gravity Runway 14" x 6" pitch, in 8 ft. lengths
Price 14/- per ft.

90° Roller Bearing Bends for above
Price £6/10/- Each

Rownson Drew & Clydesdale Ball Bearing Gravity Runway 14" x 6" pitch, in 8 ft. lengths
Price 16/- per ft.

90° Ball Bearing Bends for above
Price £7/15/- Each.

Should you be interested we would be glad if you would let us know the class of material you would be most likely to use this Runway for. We would then go into the question and would be very glad to make suggestions.

We have the honour to be,

Sir,

Your obedient servants.

RICHARDSON McCABE & CO. LTD.

R. Richardson

EN GINSENG DEPT.

The Engineer.
Auckland Harbour Board.
AUCKLAND N.Z.

*Accepted by
6/21/22
69766*

1st May 1922

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

(Donald Elevator)
MESSRS. ROWNSON, DREW & CLYDESDALE

I beg to thank you for the pamphlet re gravity conveyors etc.

As you know this Board does not itself handle shipping, and private interests have not developed very much in modern methods.

There has, however, recently been an awakening, and nine months ago I advocated that the Board should provide one or two special plants, which would at least demonstrate modern methods of handling cargo.

A difficulty in unloading general cargo here is that except in special instances no two pieces are alike in size, shape, or weight.

We are now considering a special export wharf, where in loading from store to ship these special appliances could be used to advantage. I would therefore be obliged if you would give me an idea of the price of a "Donald" Elevator:

- (a) with canvas slings
- (b) with open hooks on belt chain

suitable for loading into ship refrigerated carcasses of mutton, lamb, beef, butter boxes, cheese, etc, applicable to such a vessel as the "Athenic" :

- (1) when light at high water
- (2) when nearly loaded at low water

rise and fall of tide being 12 feet, and the quay being 6 feet above high water.

I enclose a sketch showing these conditions.

The elevator would have to be in the centre of hold of such a

(2)

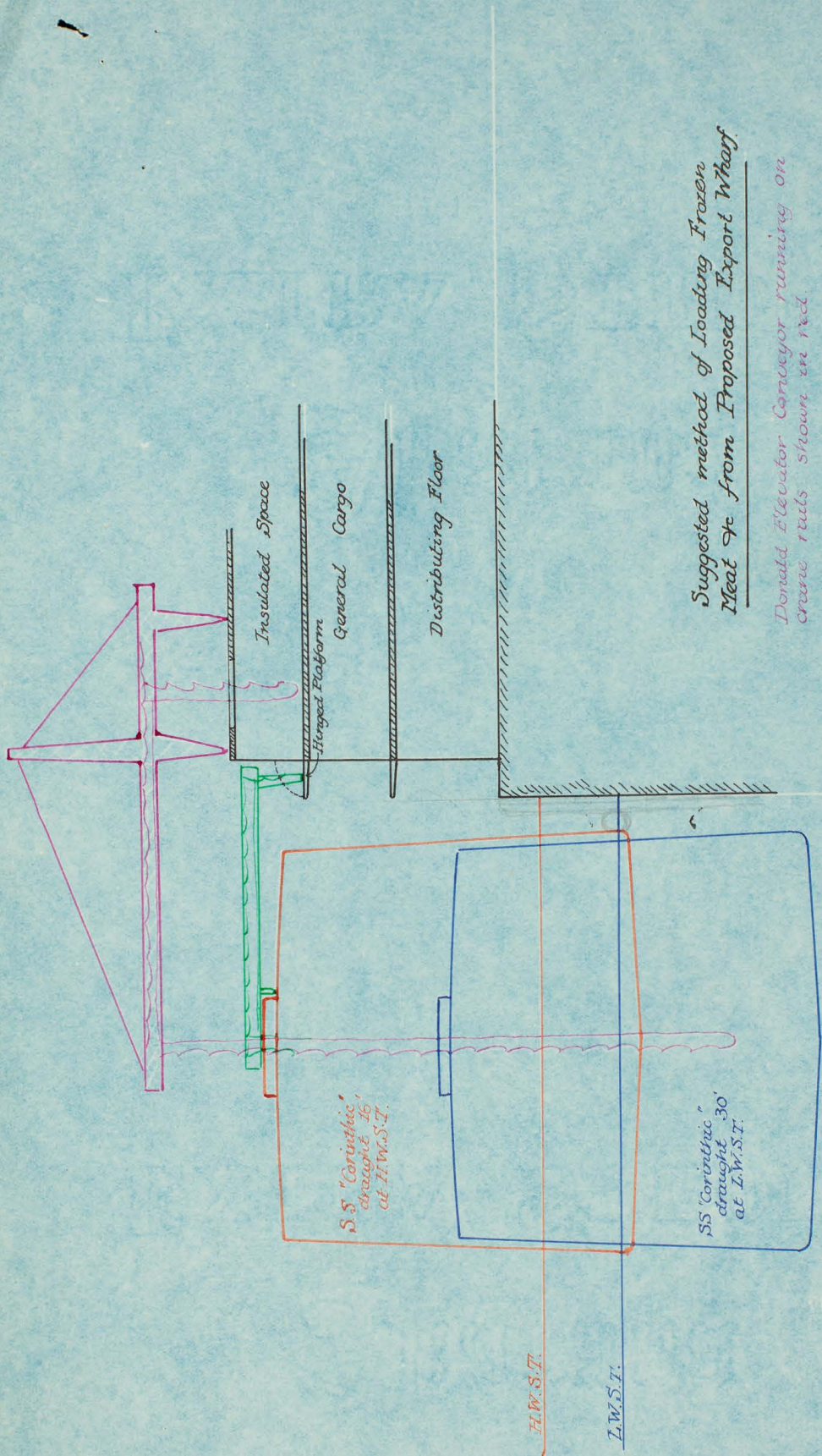
vessel when six feet off the face of the quay, and would have to project say sixteen feet on to the quay.

At present I only want an approximate indication of the cost. I would also like to consider a telpherage system for carrying sides of beef such as is shown in figure 8 of Messrs. Rowson's catalogue.

Yours truly,

ENGINEER TO THE BOARD.

P.S. I have also shown in green on the plan a "Donald Portable Elevator", which would lie across the deck of the ship and discharge all loaded^s over side on to the quay, and I would be glad to have an approximate price delivered here as soon as possible.



Suggested method of Loading Frozen Meat to from Proposed Export Wharf.

Donald Elevator Conveyor running on crane rails shown in red.

Alternative - Portable Conveyor shown in green.

Scale 20' to 1"

(1894/10/16)

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 888.

11 GREY STREET,

Wellington, N.Z.

May 2nd

1922

Sir,

Rownson, Drew & Clydesdale Ltd.

We are very much obliged for your valuable enquiry of May 1st, and regret that it is not possible for us, from the particulars in our possession, to give you the preliminary information you desire.

We think the best course to follow, which we hope will meet with your approval, will be to submit your letter and drawing to our Principals requesting them to cable us the approximate price for each of the 3 plants referred to in your letter.

With regard to the Donald Elevator Conveyer for placing on the deck of a ship and shown in green on your sketch, we note the projection over the ship's side is approximately 11 ft. and this there will be no difficulty in arranging for.

Regarding the telpherage system, after the style of Fig. 8, we are anxious to submit a proposal for this but we are afraid there will be difficulty in doing so without further particulars as to the work to be done.

The writer, when he was in London, saw the plant at the Royal Albert Docks, as illustrated on pages 19 to 21, in operation, but it occurs to us that the position in the case of Auckland will be simpler because there will be no question of weighing, counting and sorting to marks, as is necessary at the Albert Docks.

We would suggest your sending us a rough outlined sketch showing the relative position of the vessel and the source from which the beef will be loaded, which we presume will be railway wagons in a siding or on the wharf.

Perhaps you will be able to give us this information in time to get away on the 9th by the 'Frisco mail.

In any case we will send the enquiry for the other two Elevators and should have Messrs Rownson's cabled quotation within six weeks, which we trust will be sufficiently early to suit your requirements. If however, you are unable to keep back your estimates so long, we will cable for an approximate price and think that we could make it clear to our Principals by our cable what is required.

Thanking you very much for the enquiry,
We have the honour to be, Sir,
Your obedient servants,
RICHARDSON McCABE & CO. LTD.

C. Richardson
Managing Director.

W.H. Hamer Esq.,
Harbour Engineer,
Auckland.

P.S. We understand the Electric energy available is direct current at 220 volts.

460

Sketch shown in drawing refer to table page 766

in Rownson's catalogue
Rownson's catalogue A

4th May 1922

Messrs. Richardson McCabe & Co.Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

.....
"DONALD" ELEVATORS

Re yours of the 2nd with further pamphlets from Messrs.Rownson Drew & Clydesdale, I regret that your principals do not keep you informed sufficiently to give us at least immediate approximate prices of their gear.

Please therefore forward our sketch to them, and let me know as soon as possible ^{within 7 days} by cable.

The sketch accompanying my letter of 1st instant shows the portable elevator in green for our proposed Export Wharf(not yet built), which gives as you say about eleven feet from the side of the ship, but what I had in mind at the moment for the portable elevator was to deal with our present condition at the wharves, which is shown on the accompanying sketch, where our quay carries two lines of railways between the ship and the shed, and I proposed to have the shore limb of the elevator between the two lines of railway trucks(that is a space five feet wide), or alternatively just over the ship's side as shown dotted.

This elevator would either load or unload suitable cargo, but in the case of the proposed Export Wharf it would be for loading only, out of store into vessel.

Regarding telpherage system, I have decided not to proceed with this at present as we will be loading, and not unloading, carcasses from our Export Wharf.

You might perhaps ask Messrs.Rownson Drew & Clydesdale to put you in a position to quote for their stackers, and all other types of machinery.

(2)

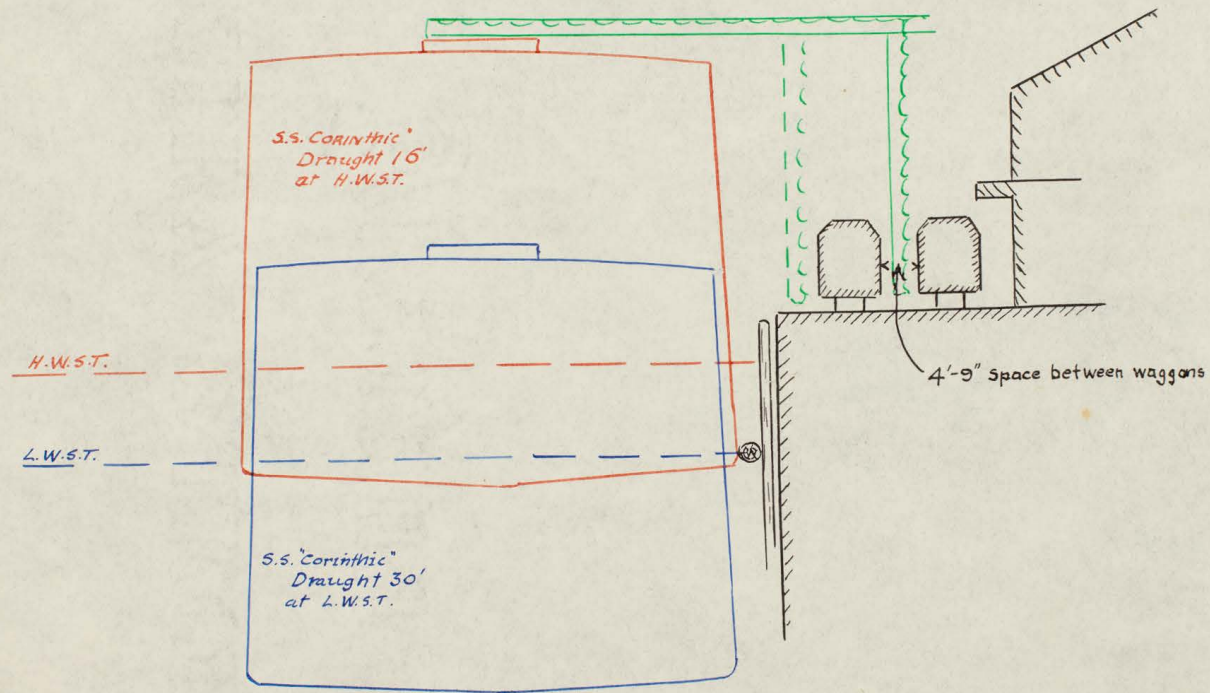
The question of economically handling cargo is receiving considerable attention at present, and it is unfortunate that we have to wait long periods for information as to price.

You might point out that prominent American conveyor firms are very anxious to get our business, and keep us well informed, but we desire everything to be British.

Please also supply me with length, width, and weight of both portable and crane elevators.

Yours truly,

ENGINEER TO THE BOARD.



SUGGESTION FOR DONALD ELEVATOR IN GREEN
(WITH ALTERNATIVE POSITION DOTTED)

AT
WHARVES, AUCKLAND N.Z.

Scale 20ft to 1 inch

file 766.

4th May 1922

Mr Richardson,
c/o Messrs. Richardson McCabe & Co.,
11 Grey Street,
WELLINGTON.

Dear Mr Richardson,

see attached memo letter
.....
"DONALD" ELEVATORS

The Sydney Harbour Trust wrote us yesterday enquiring about the above.

They wanted detail as to unloading carcasses from the portable elevator when down the ship's hold.

I gave our Secretary the information, as per attached copy, explaining that these elevators had self-tipping arrangements.

I thought you might like to have this information, and if necessary communicate direct with the Sydney Harbour Trust.

Yours faithfully,

ENGINEER TO THE BOARD.

2nd May 1922

The Secretary

"DONALD" ELEVATORS

The "Donald" Elevator has been largely used for handling carcasses to and from ships holds.

If the canvas belt system is used, men in the hold take the carcasses from the elevator as it slowly passes, or there is an automatic arrangement which tips the carcasses on to a discharging board placed at required grade.

If however the hook system is used instead of the canvas belt system, the hooks in descending pass between projecting fingers on ~~to~~ a discharging board placed at sufficient angle to allow the carcasses to run down the board to the men who are handling the cargo.

These elevators are very suited to boxes, barrels, cheese, carcasses etc.etc. up to about 2 cwt. when there are large quantities of one kind of cargo, but would not be suitable for general cargo where the sequence of the pieces was of all kinds, shapes, sizes, and weights.

I have seen these appliances in docks doing admirable work, where the water is maintained at one level. It becomes a little more complicated when there is a rise and fall of tide.

It is difficult to make clear without photographs, but I would recommend the Sydney Harbour Trust to refer their case to Messrs. Rowson Drew & Clydesdale of 225 Upper Thames Street, London, E.C.4, who are the makers of the "Donald" Elevator.

As this Board does not handle cargo, it has no such appliances though they are now under consideration, and were recommended in my report of June 7th 1921.

Letter returned herewith.

ENGINEER TO THE BOARD.

5th May 1922

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

.....
"DONALD" ELEVATOR

In writing to you yesterday I omitted to state that our
voltage for power current is 460 D.C.

Yours truly,

ENGINEER TO THE BOARD.

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z.

May 5th

192²

CER/EA.



Sir,

Donald Elevators.

We are obliged for your letter of May 4th and quite understand your surprise that we are not kept sufficiently well informed by Messrs Rowson, Drew & Clydesdale as to be able to give you the information you desire without delay.

We thank you very much for allowing us time to submit your two sketches to the Works. We are making full code arrangements to enable them to reply to us fully on receipt of our letter, and you may be sure that we shall lose no time in giving prices and other particulars you require to you as soon as they are available.

Regarding the telpherage system, we note the position and no doubt at some later time you may care to go into this again. We shall get such information as we can meanwhile hoping that it may be of some service.

We have the honour to be,

Sir,

Your obedient servants,
RICHARDSON McCABE & CO. LTD.

MANAGING DIRECTOR.

W.H.Hamer Esq.,
Harbour Engineer,
Auckland Harbour Board,
Auckland.

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.
P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. July 21st 1922

GBB/EA.

*Seen by GBB
27/7/22.*

Sir,

Rowson Drew & Clydesdale Ltd.
Cargo-handling Machinery.

Referring again to the correspondence that we had with you some time ago in connection with the above, we duly communicated with our Principals, passing forward your sketches to them, and we are pleased to inform you that we have now received from them by cable quotations for the two types of Elevator Conveyors in which you are interested.

With regard to the fixed type of plant running on crane rails as shown in red on the sketch accompanying your letter of May 1st, we quote as follows:-

- 1 - Fixed Type Elevator Conveyor, suitable for your proposed Export Wharf.
- Price (a) with Canvas Slings.....£5080. 0. 0.
- Price (b) with open hooks & belt chain.....£5850. 0. 0.

The above machine would be suitable for loading refrigerated carcasses of mutton, lamb, beef, butter boxes, cheese etc. into a vessel of the "Athenic" class under all variations of draught and tide.

With regard to the arrangement shown in green on the sketch accompanying your letter of May 4th, we quote as follows:-

- 1 - Donald Elevator Conveyor, approximately 35 ft. in length, and weight 6½ tons, equipped with canvas slings, suitable for handling mutton, butter boxes, cheese etc.
 - Price.....£1630. 0. 0.
- Corrected to 4½ tons with ballast which of a ton or more removed by lifting*
- £1410 as revised 3/2/22*
- £1285*
- if a 28H conveyor would be*

Our Principals state that it would not be possible to equip this portable elevator with hooks or trays, as the machine would then be too cumbersome to be portable. They also mention that this portable machine would not be suitable for handling sides of beef.

Our above quotation for both the Crane type and Portable Elevating Conveyor include for motors and other electrical equipment suitable for 460 volts D.C. and the motors offered would be manufactured by the General Electric Co. and the starters by the Igranic Electric Co. in the case of the Crane type machine.

The motors for the portable machine would be manufactured either by the British-Thomson-Houston or the General Electric Co.

Delivery of the two machines for shipment could be given in approximately 17 and 12 weeks from date of order respectively.

The prices quoted above include for delivery c.i.f.e.duty paid Auckland, and these prices are subject to cabled confirmation from the Works on receipt of order.

RICHARDSON, McCABE & CO.

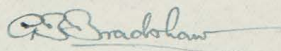
LIMITED.
WELLINGTON, N.Z.

Continuation of Letter to W.H.Hamer Esq.,

(2).

In their cable to us our Principals mention that they are mailing their confirmation of their quotation, and we have no doubt that this mailed confirmation will give full particulars, drawings and specifications covering the machines offered, which we shall pass forward to you as soon as same come to hand.

We have the honour to be,
Sir,
Your obedient servants,
RICHARDSON McCABE & CO.LTD.


ENGINEER.

W.H.Hamer Esq.,
Engineer,
Auckland Harbour Board,
Auckland, N.Z.

RICHARDSON, McCABE & CO.

LIMITED.

GBB/TM

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. 28th August, 1922.

W.H. Hamer, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND. N.Z.

*See appended
price
New letter of
3/1/22*

Sir,

Referring again to our letter of July 21st., in which we gave you quotations for both fixed and portable Elevator Conveyors, we have now received from our Principals Messrs. Rowson Drew & Clydesdale Ltd., their mailed confirmation of their quotation for a Donald Portable Elevator. So far as the fixed elevator is concerned we understand that our Principals quotation for this is covered in a separate letter which has not come down by the lastmail, but which no doubt will be to hand very shortly. Messrs. Rowsons write to us as follows -

"We enclose herewith typical drawing No. 6161, which outlines this machine. As you will see the slings are arranged at intervals of 2'6" pitch, the chain centres being 5'9" and the capacity of the machine 1920 slings per hour.

"The whole machine, the boom of which is 35' long instead of 28'6" as shown on the drawing would be slung by means of the ship's derricks, the necessary shackles for this chain sling being provided, the hold bight then being lowered to its required position, and the quayside bight also lowered, together with the feed boot. The discharge gear being provided on the hold bight, and supported by means of a pair of manilla ropes from the over-hanging boom.

*weight 4 1/2 tons
with
derricks
bolts*

"Balance weights are also provided in order to keep the feed and discharge boots from rising as the chain is running. The driving gear, which consists of a set of spur reduction gearing, and a silent chain drive, together with the electric motor, is arranged on the top of the framing of the elevator conveyor, together with a drum type controller which can be operated from the hold by means of a rope.

"Awning supports are arranged for the elevator conveyor in order that same may be worked in any weather. The supports consist of bent piping to which the canvas is securely fixed. The hand winches for operating both the bights and the supplementary gear, are arranged one on either side of the framing, and are operated by hand.

"This machine would be suitable for the "ATHENIC" class of vessel.

"The motors will either be of the British Thomson Houston manufacture or the General Electric Company's make.

"The weight of this machine would be about 6 1/2 tons complete.

"With regard to delivery, we beg to say we can effect this F.O.B. London in twelve weeks from date of receipt of instructions.

*Corrected
to 4 1/2 tons
letter 3/1/22*

Machine referred to in above letter is 35'0" between centres instead of 28'6" as shown on drawing. The dimension of 45'0" with ship's hold will probably be correspondingly increased. The ship in drawing is shown in position at light draught - HWST, whereas we have to allow for light draught - LWST (at low water) & it is necessary to allow for the height of the hold - the clearance it might be necessary)

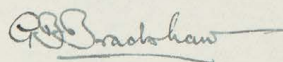
"We regret we cannot arrange this machine with
"hooks or trays, as it would become in every way too
"cumbersome. In fact it is not possible to get a
"horizontal run of trays on a portable machine, owing
"to the supplementary gear."

We are enclosing a copy of Messrs.
Rownsons drawing which you will note shows a plant
arranged for 28'6" centres. We understand that what
our Principals are putting forward is all similar to
this drawing, except that the boom is 35' long.

Trusting that the enclosed information
is of interest to you and that we may receive your
Board's order in due course,

We have the honour to be

Sir,
Your obedient servants,
RICHARDSON McCABE & COY. LD.


ENGINEER.

W.H. Hamer, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND. N.Z.

Encl; Drg.

31st August 1922

Messrs. Richardson McCabe & Co.Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATORS

I beg to thank you for your letter, and drawing No.61.61
re above.

I will consider the question, and bring it before the
special committee that has been appointed to deal with our Export
Wharf.

Yours truly,

ENGINEER TO THE BOARD.

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

GBB/EA.

11 GREY STREET,

Wellington, N.Z. Sept. 13th 1922

Donald's

ack 20/9/22

Sir,

Rownson's Elevator Conveyors.

Further to our letters of July 21st and August 28th, we have now received from our Principals details of the Elevator Conveyors which they have put forward against your enquiry.

We now have pleasure in enclosing copies of our Principals' drawings Nos. 6464, 6467 & 6029, and also copies of their specifications covering the machines illustrated in these drawings.

Drawing 6464 covers an Elevator Conveyor which our Principals have put forward as an alternative to the portable plant for which we have already quoted you, this machine being suitable for unloading ships and delivering between the two rails on your wharf.

The prices of these machines would be the same as that of the machine to drawing 6467, viz:-

- (a) With Canvas Slings.....£5080. 0. 0.
- (b) With open hooks and belt chain.....£5850. 0. 0.

} as per letter 21/7/22

In sending these drawings and specifications our Principals write:-

"The machine to drawing and specification 6467 is for traversing along the Quay on the roof of the store, and consists of a structural steel jib containing the chain and necessary driving gear and take-up, this jib being traversed back on a travelling carriage by the same electric motor as traverses the whole along the roof.

The Elevator would be fitted with push button control in the hold, and along jib and carriage. The whole jib would be sheeted in, and provided with gangways. The hanging chain bights are drawn back by supplementary gear, and also stowed in jib..

The Plant as shown on drawing 6464 would consist of a hinged structural steel jib mounted on a structural steel gantry, the whole being free to traverse along the Quay, the hoisting of the Jib and the traversing along quay being controlled by one set of electrical equipment with push button control, while the driving of the Elevator is by means of a separate electrical equipment with push button control. The whole would be housed in the control cabin situated on the gantry. The hanging bights of chain are drawn back by supplementary gear, and stowed. Attention is drawn to the fact that the Railways would have to be shifted further apart, in order to accommodate our chain bight, and the proposed Conveyor.

(2).

Both the machines are made for traversing on rails.

With regard to the Hooks, we propose using swing trays, as we have found that this is the most efficient method of handling the beef.

With regard to delivery, we beg to say we would ship either of these machines in seventeen weeks from date of receipt of instructions.

We beg to say the makers of the Motors on the plants put forward, would be the General Electric Company, and for the Starters, the Igranic Electric Company.

We also enclose our drawing No. 6029, showing a typical arrangement of the plant similar to that put forward by us - this is just for detail purposes.

With regard to the TELPHER SYSTEM, we propose our 'Ardee' Overhead Runway, which consists of a special rolled steel track supported at intervals of about 2'0" by brackets, to a rolled steel joist, and would be similar to that shown in our Catalogue Page 3B, the only difference being that the lattice girder supporting the track may be substituted by the Rolled Steel Joist.

The price per foot, c.i.f. Auckland would be approximately, £2.0.0. per foot.

and would include for switches etc., but no supporting trestles, and the trolleys for same would be:-

Approximately £1.5.0. each, c.i.f. Auckland.

We think the above details, when read in conjunction with drawings and specification, will be clear to you."

We trust that the above gives you sufficient information for your present purpose, and we have no doubt that when you are definitely in the market for this plant you will give us the opportunity of cabling to our Principals for firm up-to-date prices.

We have the honour to be,
Sir,

Your obedient servants,
RICHARDSON McCABE & CO. LTD.

A. B. Bradshaw
ENGINEER.

W. H. Hamer Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND, N.Z.

OF

DONALD'S PATENT ELEVATOR

CONVEYOR "AKDON"

FOR

AUCKLAND HARBOUR BOARD.

General.

The Donald's Patent Elevator Conveyor will be generally in accordance with Drawing No.6464 and will consist of two endless Steel Pitched Chains, to which are attached every 3'4", Gas Tube Cross Bars. On these Bars, Canvas Slings are arranged into which the goods to be conveyed are fed.

Alternatively, built up Steel Trays can be fitted in the place of the Canvas Slings.

The Chains will run at a speed of 66ft. per minute, when handling Beef, thus giving a maximum capacity of 1200 sides of Beef per hour.

For other Goods, the speed will be 100ft. per minute, with a maximum capacity of 1800 per hour.

The Chains ^{are} will be mounted on suitable Cast Iron Sprockets attached to the main Frame.

The Feed Bight will be lowered, as shewn on Drawing No.6464 between the two lines of Trucks on the Quay. On the Drawing, the distance between the Trucks is shewn as 6'0",^x as the distance of 4'9" as shewn on the original sketch is not sufficient to work in.

The Discharge Bight will be lowered into the Ship's hold and can be adjusted to suit the height of the

(contd.)

Ship by means of a Take-up Gear in the main Structure.

The main Structure will be generally as shewn on Drawing No.6464 and will be built up of rolled steel Sections heavily braced to form a rigid structure.

Motor driven Bogies will be arranged in the leg on the edge of the Quay and in the Frame supported by the ledge projecting from the side of the Building.

The Ship end of the Conveyor Chain will be supported by a hinged Boom projecting from the main Structure over the Ship's deck. This Boom will be raised by means of a Motor driven Winch when the machine is not in use.

All Motors and Control Gear will be arranged on top of the Structure, in a covered-in Motor house.

The Motor house, the hinged Boom and the top portion of the main Structure will be covered with Corrugated Iron Sheeting.

Chain.

The Chain will be of the Steel Pitched type.

Sprockets.

All Sprockets will be of Cast Iron, specially designed for use with the above Chain.

Shafts.

All Shafts will be of Mild Steel of suitable diameter.

Bearings.

All Shafts will be fitted with Cast Iron Bearings with necessary lubricating device.

Structure.

All Structure will consist of rolled Steel Sections, of suitable size, heavily braced and rivetted to ensure rigidity.

(comtd).

Motors.

All Motors will be Totally enclosed, compound wound, of General Electric Co.'s make.

Starters.

All Starters will be of "Igranic" make with remote Control by Push Button.

ROWNSON DREW & CLYDESDALE LTD.
225, UPPER THAMES STREET,
LONDON, E.C.4.

7/7/22.

ORIOUS BOND



BRITISH MADE

SPECIFICATION
OF
DONALD'S PATENT ELEVATOR
CONVEYOR "AKHBD"
FOR
AUCKLAND HARBOUR BOARD.

The Donald's Patent Elevator Conveyor will be generally in accordance with Drawing No.6467. The operation of the Machine will be similar to that of the Elevator Conveyor "AKDON".

The whole will be arranged on the roof of the Building and the Feed Bight lowered through a hole in the roof.

The Conveyor Frame will be built up of rolled Steel Sections, heavily braced and rivetted, arranged to carry the necessary Motor, Gearing, etc.

This Frame will be mounted on Rollers, fitted on the Undercarriage for the purpose of running back over the Roof, when the Machine is not in use.

The built up Under carriage will be mounted on Motor driven Travelling Wheels running on Steel Rails arranged on the Roof.

The Conveyor Frame will be covered with Corrugated Sheetting.

The Motors and materials used, will be of the same type as those used on Conveyor "AKDON".

ROWNSON DREW & CLYDESDALE LTD.
225, UPPER THAMES STREET,
LONDON, E.C.4.

7/7/22.



Auckland Harbour Board.

TRAFFIC MANAGER'S OFFICE.

Queen's Wharf, 18th, Sept, 1922.

23771

Donald Elden

The Engineer,

A. H. B.

With reference to Donald Portable Elevator Conveyor, I should be glad if we could ascertain from Messrs Richardson McCabe & Co., definite information as to whether in addition to the shortening necessary to compensate for the gradual filling of the hold and difference in size of ships; this conveyor is also capable of being shortened to allow for rise and fall of tide, which in our case may be twelve feet. It is also essential that the shortening necessary for tide should be quickly and easily performed, because with say an ebb tide at its maximum run, it would require shortening nearly two feet per hour.

I should be glad to know if this conveyor would take crates of cheese, weighing about 170 lbs measurement 18" X 30" approximately.

Can the weight of the machine be brought down to five tons? I notice these people catalogue numbers of them at two to three tons; anything over five tons would not be workable economically.

It would be an advantage if the makers could advise us as to the best means of distribution from the foot of elevator in hold.

To get efficient work with our small railway waggons it would be necessary to have band conveyors on wharf; do these people recommend 80 feet lengths complete with power, or a number of short lengths connected to one with power?

Can automatic counters be fitted to these elevators?

D. Elden

TRAFFIC MANAGER.

21st September 1922

Messrs. Richardson McCabe & Co. Ltd.,
11 Grey Street,
WELLINGTON.

Dear Sirs,

ROWNSON'S ELEVATOR CONVEYORS

Re yours of 13th with blueprints, I beg to thank you for the information supplied.

I will now be in a position to consider these drawings, and communicate with you again.

Meanwhile please accept my appreciation of your courtesy.

Yours truly,

ENGINEER TO THE BOARD

21st September 1922

The Traffic Manager

CONVEYORS

Please find herewith further information re conveyors, and let me have same back at your convenience.

I have not yet personally had time to look at them.

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

GBB/EA.

11 GREY STREET,

Wellington, N.Z. November 3rd 1922

W.H.Hamer Esq.,
Engineer,
Auckland Harbour Board,
Auckland, N.Z.

AUCKLAND HARBOUR BOARD
NOV 4 1922
Engineer's Department

To Mr Hamer
Secy 17/11/22
✓ by books Committee 20/11/22

Sir,

Rownson, Drew & Clydesdale Ltd.

Further to the conversations that the writer recently had with you, we duly cabled our Principals asking them for a quotation on the 28'6" centres Conveyor as shown on drawing No.6161.

We have now received from them in reply a cable in which they quote a price for this machine, and also an amended price for the 35ft. centres Portable Elevator Conveyor referred to in our letters of July 21st and August 28th.

In our cable to our Principals we made it clear that the excessive weight of the 35 ft. machine was an objection, and they now inform us that the weight of 6½ tons mentioned for the 35 ft. machine was given in error. This figure should be 4½ tons, the weight of the 28 ft.6" centres machine being 4 tons.

Our Principals further mention that by lifting separately the detachable balance weights which are attached to either bight of the elevator, the weight of each machine can be reduced by half a ton, so that this would mean a 4 ton lift for the 35 ft.centres machine, and a 3½ ton lift for the 28 ft.6" centres.

We quote as follows:-

- 1 - Rownson, Drew & Clydesdale Portable Donald Elevator Conveyor, 35ft. centres, with canvas slings, complete with electrical equipment, weight complete 4½ tons.
Price.....£1410. 0. 0.

Alternatively:-

- 1 - Rownson, Drew & Clydesdale Donald Portable Elevator Conveyor, 28 ft. 6" centres, generally as drawing No.6161, complete with electrical equipment, weight 4 tons.
Price.....£1285.0.0.

In cabling to our Principals we did not ask them about the question of loading cheese crates as we are satisfied that even if it is too heavy on the machine to put a crate in each sling, the machine can quite well carry them in alternate slings, which would still give a capacity of nearly 1000 crates per hour.

(2).

With regard to the Band Conveyors which you require to work in conjunction with the above machine, we are quoting you for our Principals' standard 25 ft. lengths, both with and without power.

Conveyors

It has been found from experience that in most cases 25 ft. is the most convenient length in which to handle Conveyor, as longer lengths are inclined to become somewhat cumbersome.

We quote as follows:-

Rownson's 25 ft. Portable Conveyors, generally as illustrated and described on pages 16 & 17 of Rownson's catalogue No. 11. with belt 24" wide, complete with electric motor and switchgear.
Price each 25 ft. length.....£250. 0. 0.

Rownson's Band Conveyors as above, but without electric power unit, suitable for driving from another power driven length of conveyor.
Price each 25 ft. length.....£210. 0. 0.

If the above length conveyors are not suitable for your purpose, we will be pleased to obtain by cable from our Principals quotations for longer lengths.

Piler

With regard to the Portable Piler for handling butter boxes etc. we quote:-

1 - Rownson No. 2 Portable Piler, generally as illustrated on pages 4 & 5 of Rownson's Catalogue No. 11. Capable of piling up to a height of 25 ft. with slats 24" wide, complete with electric motor and switchgear.
Price.....£250. 0. 0.

Revised to £300. 0. 0 see letter dated 29.XI.22.

We may say that we have quoted our Principals' standard price for this Piler, but we do not think that there will be any difficulty in arranging this to be reversible, or that this will entail any additional price.

We understand that in connection with the Portable Piler, you will be requiring some lengths of Gravity Runway, and we accordingly have pleasure in quoting you as follows:-

Rownson, Drew & Clydesdale's Ball Bearing Gravity Runway in 8 ft. lengths, 14" wide by 6" pitch of rollers.
Price per ft.....16/-

The above is the standard width and pitch of runway which is used for all general purposes, but if this is not answerable for your purpose, we should be pleased to quote for runway 18" or 24" wide as required.

RICHARDSON, McCABE & CO.

LIMITED,
WELLINGTON, N.Z.

Continuation of Letter to..... Auckland Harbour Board.

(3).

Our above quotations all include for delivery c.i.f.e. duty paid Auckland, for payment by demand draft against shipping documents.

In the event of receiving your orders for the above equipment, we would cable same to the Makers and would expect to make delivery here within about 4 to 5 months of date of receipt of order.

Holding ourselves at your disposal for any further information that you may require,

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON McCABE & CO.LTD.

A. B. Backhouse
ENGINEER.

PHONE NO. 2504A, QUEEN'S WHARF.
295B, KING'S WHARF.



Auckland Harbour Board.

TRAFFIC MANAGER'S OFFICE.

Queen's Wharf, 9th, November, 1922.

23771

The Engineer,

A. H. B.

*Seen by Clerk
17/11/22
J. J. Walker
Committee
20/11/22*

I have studied the question of Elevator Conveyors from about every angle and have decided that we should require a length of anything from 30 to 35 feet to meet all requirements.

Our most difficult ships at present are the "Corinthic" class whose measurements are :-

Beam extreme	63	feet	7	inches
Beam moulded	63	"	4	"
Width from hatch coamings to rail	23	"	8	"
Distance from rail to edge of wharf	4	"	9	"

(Average) for a total distance of 28 feet 5 inches to be cleared.

As our quays are unfortunately too narrow to permit of the outside line of rails being used as shown in drawing, it will be necessary to work the inner line, in which case a somewhat longer conveyor will be an advantage.

Messrs Richardson McCabe & Co have not yet made it clear as to whether this conveyor can be quickly shortened for rise and fall of tide, also what is the nearest measurement to the "stowed" position in which it can be operated; subject to the foregoing being satisfactory I would recommend that one Elevator Conveyor be purchased for demonstration purposes.

Regarding Band Conveyors to feed this Elevator, I would recommend the purchase of six 25 foot lengths with sufficient electric power to operate them, motors to be reversible.

R. E. Eden
TRAFFIC MANAGER.

21st November 1922

The Chairman

"DONALD" ELEVATORS & CONVEYORS

This matter has been before the Committee since May last. After lengthy consideration the Traffic Manager considers that for the "Corinthic" class of vessels, he would require "Donald" Portable Elevators and Conveyors from 30 to 35 feet in length. The approximate cost would be about £3000.

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

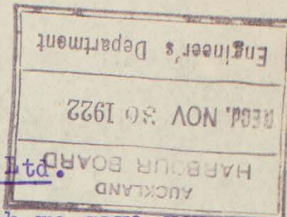
TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 663

11 GREY STREET,

Wellington, N.Z. November 29th 1922

GBB/EA.



Sir,

Rownson, Drew & Clydesdale Ltd.

Further to our letter of Nov.3rd in which we gave you our quotation for Cargo-handling Equipment, we beg to inform you that we have now received an amended price for the Rownson No.2.Portable Piler, for which we quoted you, and we would be glad if you would substitute the figure of £300.0.0. for £350.0.0. as quoted on page 2 of our letter of Nov.3rd.

During our recent interviews, Mr.Golden appeared to be somewhat doubtful as to the possibility of adapting the Rownson Portable Elevator Conveyor to large variations of loading and tide.

We accordingly referred this question to our Principals and have now received a cable from them in which they state that the Conveyor Belt is made in sections 2 ft.6" long, and where required any number of these sections can readily be taken out or put back. They further state that this is a procedure that has frequently been adapted in other parts of the world.

We are communicating this information to Mr.Golden and are sure that he should now be satisfied that there will be no trouble in working one of these machines satisfactorily under all conditions.

We have the honour to be,

Sir,

Your obedient servants,
RICHARDSON McCABE & CO.LTD.

R. B. Shaw
ENGINEER.

W.H.Hamer Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND.

29th November 1922

Messrs. Richardson McCabe & Co.Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATORS

Re previous correspondence, this matter has been before the Board, and we are compelled by Act to advertise.

We propose to advertise in a local paper once only.

As I have altered one or two dimensions, I would like to know whether you can quote at once without referring to London, or if not, what period of time you require to quote in.

I have specified tenders to be returned on 6th February 1923, but if you can quote earlier than this, I will amend the date before advertising as the matter is urgent.

P.S. Specification with spare schedule and tender form enclosed.

As tenders will not be advertised until advice from you reaches us, please return specification with your reply.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

GBBE/EA.

11 GREY STREET,

Wellington, N.Z. December 4th 1922

W.H.Hamer Esq.,
Engineer,
Auckland Harbour Board,
Auckland, N.Z.

ansd 5/1/22

Sir,

Contract No.765.
Elevator Conveyor & Band Conveyor.

We have to acknowledge with thanks, receipt of your letter of November 29th enclosing copy of your above specification, to which we have given careful consideration.

We note that you desire to have this matter underway as soon as possible, and after carefully looking through your specification we have decided that by sending a week end cable to our Principals we should be able to get from them all the information that you require in order to be in a position to put forward our tender.

With this in view we would draw attention to the following points raised in your specification:-

Clause 3. DRAWINGS ETC.

We should not be able to submit any further drawings beyond those with which we have already supplied you.

CLAUSE 6. ELEVATOR CONVEYOR (a).

In cabling our Principals we would specify that the machines shall be capable of loading either from the wharf to ship or unloading from ship to wharf.

(b) We note that the dimensions of 36 ft. which you give is not taken in quite the same way as the lengths given by Rownsons of 35 ft. and 28 ft.6" respectively in the case of those conveyors which we have quoted for. Scaling your drawing No.6161 it appears to us that to give the clearance you require, the length of the boom of the machine should be approximately 29 ft.6", and accordingly we would cable these figures to our Principals.

(c) We would cable the maximum figure of 28 ft. from ships ~~coamings~~ or rail to wharf.

(d) We would ask our Principals to cable this information with their quotation.

(e) In our cable we would mention the figure of 45 ft. below hatch ~~coamings~~ and would ask our Principals in their reply to state the minimum depth below ~~coamings~~ at which the loading or discharging could be done.

(f) As the 35 ft. centres machine complete weighs $4\frac{1}{2}$ tons, it seems to us that it would not be possible to keep the 39 ft.6" machine down to the same weight without running the risk of making the machine too light for safety. We propose therefore to specify that the weight of machine, excluding detachable balance weights, shall not exceed $4\frac{1}{2}$ tons.

(2).

(g, h, i & j). The points raised in these clauses have already been dealt with in our previous correspondence and we would not propose to refer these matters again to our Principals.

(k). We would ask for a quotation for the automatic counters required.

7. PORTABLE BAND CONVEYORS.

These are all in accordance with our Principals standards and we would cable for their latest quotation.

If the above is all satisfactory to you we would propose to cable our Principals during the coming week end, and would require to get our cable away on Friday, December 8th. In this case we would expect to receive our Principals' quotation in reply about the end of the next week, say Dec. 16th.

We will therefore expect to be in a position to submit our quotation any time after December 19th, and would suggest your making a day for closing tenders some time during the week before Xmas. If you decide to do as we suggest we would be glad if you would let us know by wire as early as possible the date tenders are to close, and we will arrange to send forward our cable to our Principals before the end of this week. Unless you state otherwise, we shall understand that the plant to be quoted for is to be all in accordance with the specification which we are returning.

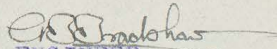
Awaiting your reply with interest,

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON McCABE & CO. LTD.


ENGINEER.

5th December 1922

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

CONTRACT NO. 765 - "Donald" Elevator Conveyor etc.

Re yours of 4th.

Owing to the Board adjourning over Christmas, there will now be no particular advantage in getting a quotation before noon on 6th February 1923.

I have therefore taken advantage of the mail closing tonight to forward specification and letter, as per copy enclosed, to Messrs. Rowson, Drew & Clydesdale.

Clause 3 We will accept the drawing you have already submitted, figured dimensions to be increased to our requirements.

Clause 6, paragraph "b" There is clearly a typographical error in your figure 29'6". You obviously mean 39'6" as per your paragraph "f", but we scale it 39'9".

I return herewith the specification and the spare schedule and tender form, which you may wish to keep before you and use in tendering.

Yours truly,

5th December 1922

Messrs. Rowson, Drew, & Clydesdale,
225 Upper Thames Street,
LONDON.

Dear Sirs,
CONTRACT NO. 765- "Donald's" Patent Elevator Conveyor, & 6
Band Conveyors.

I enclose herewith specification and diagram of above.
Messrs. Richardson McCabe & Co. of Wellington have been in close
touch with us on this matter, and I am taking advantage of outgoing mail
today, which they would be unable to catch.

They will be sending you cable concerning same, and I would be
glad if you will put them in a position to lodge formal tender here with
us not later than noon on February 6th 1923.

Yours truly,

ENGINEER TO THE BOARD

5th December 1922

The Secretary

.....
CONTRACT NO.765

Please advertise Contract No.765 "Donalds Patent Elevator
Conveyor", returnable noon on 6th February 1923.
One advertisement will be sufficient.

ENGINEER TO THE BOARD

Auckland Harbour Board.

MEMORANDUM.

FROM

Engineer's Office.

25th January 1923 191

To

The Chairman

TRANSLATION OF CABLE FROM ROWNSON, DREW & CLYDESDALE
Received 15th January 1923

"Donald" patent elevator conveyor, your specification contract 765, price £1372.
Three portable band conveyors 25 feet x 24 inches with motors complete £651.
Three portable band conveyors 25 feet x 24 inches passive complete £486.
All prices C.I.F. & Duty Paid, delivered Auckland 4 months.
Tender despatched today (12th)

The above is a tender from the makers of the "Donald" Elevator.

Tenders for this close on 6th February.

ENGINEER TO THE BOARD

ESTABLISHED 1819.

ROWNSON, DREW & CLYDESDALE, L^{TD}.

225, UPPER THAMES STREET, LONDON, E.C.4.

The Chairman,
Auckland Harbour Board,
Auckland,
NEW ZEALAND.

TELEPHONES: CENTRAL 1070 (8 LINES).

CABLES: ROWNSON (CENT.) LONDON.

CODES: BENTLEY'S PRIVATE.
A.B.C. (5TH) AND LIEBER'S.

Your REF _____ OUR REF. Eng.Sales 1750. 12th January, 1923.

HEAD OFFICE:
225, UPPER THAMES STREET,
LONDON, E.C.4.

BRANCH OFFICES:

BRISTOL: WATER LANE, TEMPLE.
BIRMINGHAM: 10, D. COMMON LANE, WASHWOOD HEATH.
LEEDS: 14, VERNON STREET.
LIVERPOOL: C.S.D., QUEEN'S DRIVE, WALTON.
GLASGOW: 1552, GT. WESTERN ROAD, ANNIESLAND.

FOREIGN OFFICES:

ROUMANIA: 12, STRADA VASILE BOERESCU, BUCHAREST.
PARIS: 68, RUE DES MARAIS.
HOLLAND: MALIEBAAN 89, UTRECHT.
LORRAINE: FISCHBACH STRASSE 109, SAARBRUCKEN.
NEW YORK: 80, WALL STREET.
NORWAY: CHRISTIANIA: STORTINGSGATEN 14.
SWEDEN: GOTHENBURG: SODRA, HAMNGATAN 13.
S. AFRICA: JOHANNESBURG: P.O. BOX 3762.
NEW ZEALAND: WELLINGTON: 11 GREY ST.

ENGINEERING WORKS:
MAIDEN LANE WORKS,
YORK ROAD,
KING'S CROSS,
LONDON, N.7.

QUOTATION.

Dear Sir,

CONTRACT NO. 765.
DONALD PATENT ELEVATOR CONVEYOR AND SIX BAND CONVEYORS.

We are in receipt of your valued Tender of the 5th December in connection with the above Plant, and have much pleasure in enclosing herewith Tender Form duly completed, together with a Schedule of prices.

The prices contained herein are C.I.F.Auckland, and also include the ad valorem duty of 20%. We beg to confirm the prices contained in the Schedule as follows :-

- 1 - Donald Patent Portable Elevator Conveyor, complete, generally as shown on Drawing No.6944 herewith, and to the specification attached.

Price ... £1,372 : 0 : Od.

- 3 - Portable Band Conveyors, each 25'0" Centres, Motor driven, as shown on Drawing No.5749 herewith, and as per specification attached.

Price ... £217 : 0 : Od each.

Total Price for 3 :- £651 : 0 : Od.

- 3 - Portable Band Conveyors, each 25'0" Centres, without Electric Motors, but with chain drive

CONDITIONS OF CONTRACT.

Unless otherwise stated, the following Conditions of Contract shall apply to this quotation, and the English Law shall alone be applicable to the Contract on any matter or dispute arising thereout.

EXTENT OF CONTRACT.—The work covered is clearly specified and shall be carried out according to the Specification, and all materials and workmanship shall conform thereto. Any parts of the work which though not described in the Specification are obviously intended to be included, shall be provided by the Contractors, but otherwise the Contract shall include only such material, accessories, and work as are specified therein, and any additional work or materials, or any alterations in the performance of the plant and machinery, shall only be carried out at an extra charge as may be arranged.

ILLUSTRATIONS, etc.—Photographs, descriptions, and illustrations or advertisement matter supplied and contained in catalogues, price lists, etc., are intended merely to represent the general idea of the goods described, and shall not be taken as necessarily representing the goods, the subject of the tender, nor shall they form part of the Contract.

ORDERS.—No order shall be binding on the Contractors until it has been accepted in writing from the head office of the Contractors.

DELIVERY.—The delivery shall be at purchaser's works, or such other place as may be specified, if within the free delivery radius of railway or carrier company, otherwise it shall be at the nearest station within such radius.

The time given for delivery shall be subject to any delay taking place in approval of drawings and submission of necessary data to enable the work to proceed. Also to any delay through labour disputes, strikes, lock-outs, fire, accidents, non-delivery of material or parts by other manufacturers, faulty castings or forgings, or other causes beyond the control of the Contractors.

TERMS OF PAYMENT.—When the Contract includes for delivery only, payment of the full amount shall be due on the 10th of the month following delivery, unless otherwise stated.

If delivery takes place in portions the Contractors shall be entitled to 80 per cent. of the value of the work as and when delivered, 10 per cent. one month afterwards and the balance on the 10th of the month following complete delivery.

If the purchasers cannot take delivery when the plant or parts thereof are completed and ready for delivery, then the time when the plant or parts thereof are ready shall count as the delivery date, and payment shall be due accordingly. If acceptance of delivery is delayed beyond 14 days after notification that the goods are ready for despatch, the Contractor shall be entitled to make a charge for storage at the rate of 2s. per ton per week until the goods are despatched.

GUARANTEE.—The Contractors guarantee that the plant and machinery included in the Contract shall be of the best materials and workmanship of their respective classes, and to replace any parts that may prove defective in either of the above respects (fair wear and tear excepted) within six calendar months from the date of delivery, but shall not be responsible for direct or consequential damages arising from such defects, nor shall they be responsible for damage due to negligent or improper handling by the Purchasers or their employees, or to causes beyond the control of the Contractors. All faulty parts to be sent carriage paid to the Contractors works for inspection.

GOODS DAMAGED IN TRANSIT.—Packages and goods should be examined on receipt, and Purchasers should sign carrier's receipt note "Goods not examined." If goods are found to be damaged or missing a claim in respect thereof must be made by the Purchasers against the carrier immediately, as usually unless such a claim is made within three days of receiving the goods no compensation can be obtained from the carrier; nor can the Contractors accept any liability.

PACKING.—All packing cases, drums, &c., are charged extra, and must be paid for unless returned carriage paid to Contractor's works within one month of receipt.

GOODS FOR SHIPMENT.—All plants, machinery, or other goods or export shall be inspected at the Contractors' works before despatch. No claims of any description can be entertained by the Contractors after delivery on board ship, such delivery being the completion of the Contract and the end of the Contractors' responsibility. Payment for export goods shall be "Cash, free alongside," unless otherwise stated.

ERECTION (WHEN INCLUDED).—Any erection included for in the quotation is exclusive of any builders', masons', joiners' work or electrical wiring, and is conditional on suitable foundations, buildings, cranes, lifting tackle, scaffolding, etc., being ready and free for use when required, and that satisfactory means of access to the site, with a clear passage for all parts, are provided by the Purchaser. If the Contractors are prevented from proceeding with the work, or the men have to be withdrawn and sent back to complete the work, by causes beyond their control, a charge will be made to cover the additional expense incurred.

Erection, unless otherwise stated, includes for the services of one skilled erector, all rough labour to be supplied by the Purchasers.

Any rough labour supplied by the Purchasers shall remain in the employ of the Purchasers, who undertake all liability in respect of claims made under Workmen's Compensation Act, Employers' Liability Act, or other similar claims.

PAINTING.—Painting, after erection is not included for in the Contract, unless specially mentioned in the quotation.

INSURANCE.—All plant, machinery, insurance, and third party claims are at the risk of the Purchaser during erection.

PAYMENTS WHEN ERECTION OF PLANT INCLUDED—When the quotation includes for erection the payment shall be as follows:—

80 per cent. of the value of the work or parts thereof, as and when delivery is effected, or if delivery cannot be made as when the machinery is ready for delivery.

10 per cent. on completion of erection or setting to work.

10 per cent. one month later.

Overdue payments to bear interest at 1 per cent. above the current bank rate.

TIME OF TAKING OVER.—The plant shall be deemed to have been taken over by the Purchasers when erection is completed, or on completion of tests on site when included, or one calendar month after it shall have been put into commercial use (whichever may be the earlier), provided that in any case the plant shall be deemed completed one calendar month after notice has been given in writing to the Purchasers to that effect, unless in the meantime, tests shall have been made showing that it is not complete.

The time of taking over shall not be delayed on account of additions, minor omissions, or defects which do not materially affect the commercial use of the plant.

ARBITRATION.—Should any dispute arise in relation to or in connection with the Contract, the same shall be referred to an Arbitrator to be appointed by the President for the time being of the Institute of Mechanical Engineers, whose decision shall be final, neither side to appear before the Arbitrator by solicitor or counsel.

for driving from the above Conveyors, generally as shewn on Drawing No.6043 herewith, and specification attached.

Price ... £162 : 0 : 0d each.

Total for 3 :- £486 : 0 : 0d.

TOTAL PRICE FOR THE ABOVE PLANT £2,509 : 0 : 0d.

C.I.F. AUCKLAND & DUTY PAID.

With regard to Delivery to Auckland, we beg to say we could effect this in four months from date of receipt of instructions.

With regard to the Donald Elevator Conveyor, we beg to say that the weight of this machine complete with balance weights and electrical gear, in working condition on the steamer, would be 5 tons, but for the purpose of lifting aboard the ship by means of the Crane, the balance weights could be removed, and the weight required to be lifted, would be 4 tons.

In connection with the length of the hold and shore bights, a distance of 33'0" or so can be accommodated by means of the supplementary gear in the Elevator boom. When a greater length of bight is required than controlled by the supplementary gear, spare lengths of chain and canvases will have to be inserted. This alteration in the bight can be easily effected, as the chain is made with joint links every 2'6", and the spare chain can be inserted at any particular link. This method is frequently adopted, and in fact on some Portable Elevator Conveyors, has to be arranged for every boat unloaded.

The speed of the Elevator Conveyor has been fixed at 80'0" per minute, as have also the Band Conveyors. This gives a capacity of 1920 sling per hour. When however, you are handling the crates of cheeses, it would be best, as you suggest, to fill every alternate sling in order to reduce the Horsepower required.

In connection with the above prices, we beg to quote you for the Canvas Awning shewn on the Drawing No.6944, and also for the Travelling Carriage, as we think you would be prepared to consider the purchase of same.

Necessary Canvas Awning to cover the Donald Elevator Conveyor, generally as shewn on Drawing No. 6944, complete with Tube, Hoops, Clips, and all the necessary fastenings.

Price ... £25 : 0 : 0d. C.I.F. Auckland & Duty Paid.

- 1 - Travelling Carriage, constructed of Steel Sections, amply strong for carrying the above Donald Elevator Conveyor, and mounted upon a pair of large diameter road wheels with widened tread, for moving about the Quay.

Price ... £149 : 0 : 0d. C.I.F. Auckland & Duty Paid.

The above would be delivered with the remainder of the installation.

We trust we may be favoured with your valued instructions to carry out this work for you, and assure you that same at this end would receive our most careful attention.

Our Representatives in New Zealand, Messrs. Richardson, McCabe & Co., of 11 Grey Street, Wellington, have we understand, been in touch with you on the matter in the past, and we have every confidence in saying that your interests at that end would be protected by them.

Yours faithfully,

ROWNSON, DREW & CLYDESDALE LTD.

E. W. Rainer
Director.

JM/ML

S P E C I F I C A T I O N

O F

DONALD PATENT PORTABLE ELEVATOR CONVEYOR

FOR

THE AUCKLAND HARBOUR BOARD.

The machine would be generally as shewn on Drawing No.6944 herewith, and as described very fully in the enclosed Pamphlet No.12. We append a list of the further details called for in Specification :-

- (A). The machine will be reversible, i.e., capable of loading from Wharf to Ship, or unloading from Ship to Wharf.
- (B). The Boom of the Elevator Conveyor will be of such a length that the Horizontal distance between the Shore and Hold Bights will be 36'0".
- (C). The machine will be capable of loading on to, or unloading from the ship at a maximum height above the Wharf level of 28'0".
- (D). The minimum height at which the machine will work above the Wharf level, is 5'6".
- (E). The machine will be capable of unloading from, or loading into a ship at a maximum distance of 45'0" below the level of

(E) Continued :-

the hatch coamings, and the range of vertical adjustment is 40'0", which gives a minimum length of bight of 5'0" from the hatch coamings.

(F). The maximum weight of the machine when complete, and working on the ship is five tons. This weight however, can be reduced by approximately one ton, by the removal of the ship and shore balance weights, which gives a maximum lift to the crane of four tons.

(G). Rapid adjustment is possible, to compensate for rise and fall of tide, or increase or decrease of draught by means of the 10-cwt. hand winch attached to the side of the Elevator Conveyor.

(I). The speed of the Elevator Conveyor has been fixed at 80'0" per minute.

(J). The packages which can be dealt with by this machine are approximately as follows :-

Carcases Mutton, 4'0" long.	Average weight 70 lbs.
Cases Rabbits, 33"x17 $\frac{3}{4}$ "x5 $\frac{1}{4}$ ".	" " 80 "
Boxes Butter, 14"x14"x14"	" " 60 "
Crates of Cheese, 18" dia.30" long.	" " 170 "

The pitch of the slings is 2'6", and the Canvasses are 4'0" wide, whilst the chain centres are 5'8".

Altered by H.H.B. to Canvasses 2'3" wide - chain centres 3'2"

(K). We have not provided Automatic Counters, as although we have experimented largely in this direction, we have not found a counter which is entirely dependable, an error of 2% or 3% always occurring. Should however, you think this percentage immaterial, we shall be pleased to supply you with our best design of counter.

ELECTRICAL EQUIPMENT.

The Electrical Equipment consists of a 5 H.P. Electric Motor to run on a 460 volt D.C. Circuit, of Totally Enclosed Type, and provided with Electro-Magnetic Brake, together with Starting Panel, being fixed to the side of the Elevator. No Plugs or Flexible Wire Cables have been allowed for to take the current from your plugs.

ROWNSON, DREW & CLYDESDALE LTD.
225 Upper Thames Street,
LONDON E.C.4.
ENGLAND.

12/1/23

S P E C I F I C A T I O N

O F

S I X P O R T A B L E B A N D

C O N V E Y O R S

F O R

THE AUCKLAND HARBOUR BOARD.

These Conveyors will be generally as shown on Drawings Nos. 5749 and 6043 herewith, and will consist of both Passive and Power Conveyors.

BELTS.

The Belts will be 24" wide x 4 ply solid woven cotton, impregnated and painted red.

ROLLERS.

The Idler Rollers supporting the Belt between the end Pulleys will be $2\frac{1}{4}$ " o/dia. solid drawn steel tubes, 26" long, spaced at approximately 6" pitch, provided with our Improved Type Ball Bearings, the whole Rollers and Ball Bearings being mounted upon a $\frac{3}{8}$ " diameter steel spindle running in cast iron sockets in the Conveyor Frame.

PULLEYS.

All pulleys will be of wrought iron, of suitable diameter to ensure a good driving grip on the Belt.

SHAFTS.

All shafts will be of Mild Steel, of a diameter necessary for the work.

BEARINGS.

Suitable Bearings will be fitted to all shafts, complete with lubricating devices.

CONNECTING CHAIN DRIVES.

This chain drive will consist of cast iron sprockets and a suitable pintle chain.

TRAVELLING WHEELS.

The travelling wheels will be of wrought iron of large diameter and tread of strong construction, rigidly attached to the framework, ensuring easy movement over rough ground.

FRAMEWORK.

The framework will be of built-up lattice construction, the main booms being 2" x 2" x $\frac{1}{4}$ " angles, with 2" x 2" x $\frac{1}{4}$ " vertical angles and 2" x $\frac{1}{4}$ " flat diagonal bracing.

The frame will be further stiffened by 2" x $1\frac{1}{2}$ " x $\frac{3}{16}$ " angles and $\frac{1}{4}$ " plates, the travelling wheels being fixed in the centre of the frame.

The whole of the frame will be securely rivetted together by $\frac{1}{2}$ " rivets, thus forming a rigid structure.

-: EXTRA TO THE ABOVE FOR POWER CONVEYORS ONLY :-

SPUR GEARING .

The spur gears will be of cast iron, accurately machine cut to ensure smooth working.

CHAIN DRIVE.

The chain drive will consist of cast iron sprockets and a suitable pintle chain.

PULLEYS.

The pulleys will be of wrought iron of suitable diameter over which will run a 3" wide x 4 ply Balata Belt.

MOTORS.

The Motors will be of 3 B.H.P. Totally Enclosed,, to run at

approximately 1420 r.p.m. on a 460 volt D.C. Circuit,
and to be reversible.

Necessary Switch Gear also, to be provided.

ROWNSON, DREW & CLYDESDALE LTD,
225 Upper Thames Street,
LONDON E.C.4.
ENGLAND.

12/1/23.

Auckland Harbour Board.

Contract No. 765

SCHEDULE OF PRICES.

SUPPLY & DELIVERY OF ONE DONALD'S PATENT PORTABLE ELEVATOR

CONVEYOR AND SIX PORTABLE BAND CONVEYORS.

No.	Description.	Clause Referred to.	Item.	Quantity.	Rate.	£	s.	d.
1.	One Donald's Patent Portable Elevator Conveyor as specified - complete		No.	one		£1372	0	0
2.	Three 25 ft. portable motor driven band conveyors, as specified - complete		each	three	£217.	£651	0	0
3.	Three 25 ft. portable passive band conveyors as specified - complete		each	three	£162.	£486	0	0
TOTAL						£2,509	0	0

I/We guarantee to supply and deliver the whole of the above plant complete on wharf Auckland in accordance with Specification No.765 herewith, within sixteen to eighteen weeks from date of signing contract.

SIGNATURE ROBINSON, DREW & CLYDESDALE LIMITED.....
P.F. W. Davies
 Director.
 ADDRESS 225, Upper Thames Street.....
 LONDON E.C. 4. ENGLAND.
 DATE 12th January, 1935.....

Auckland Harbour Board.

TENDER

For Contract No. 765 for

SUPPLY & DELIVERY OF ONE DONALD'S PATENT PORTABLE ELEVATOR CONVEYOR, AND SIX PORTABLE BAND CONVEYORS

November 19 22.

TO THE CHAIRMAN OF THE AUCKLAND HARBOUR BOARD.

Sir,

I, the undersigned, do hereby Tender and offer to execute and perform the several works and provisions named, described, and alluded to in the Specification for the supply and delivery of one Donald's Patent Portable Elevator Conveyor, and six Portable Band Conveyors.

and under and in conformity to the General Conditions stipulated, for the sum of Two Thousand, Five Hundred and Nine Pounds

and we annex hereto the Schedule of Prices upon which this Tender is based and calculated.

We enclose herewith a cheque payable to the Treasurer, Auckland Harbour Board

Should this Tender be accepted I/we undertake to execute a contract and bond embodying the the aforesaid Specifications and Conditions, within three days of the date of acceptance, and take to deposit with the Treasurer of the Auckland Harbour Board a number sum of making a total of

Name Rowson, Drew & Clydesdale Limited, P.D. Director. Address 225 Upper Thames Street, London, England.

The within Tender is accepted by the Auckland Harbour Board, Auckland,

The Common Seal of the Auckland Harbour Board was hereto affixed at a meeting of the Board held on the day of and by two of the members of the Board, in the presence of

Chairman

Members

Secretary and Treasurer A.H.B.

13th February 1923
The Chairman,

A. H. B.

DONALD ELEVATOR AND CONVEYORS.
CONTRACT NO 765.

I recommend that the only tender received from Messrs Rowson Drew & Clydesdale for £ 2,509 C. I. F. & F. and duty paid be accepted.

ENGINEER TO THE BOARD.

February 5th 1923

To the Chairman,
Auckland Harbour Board,
AUCKLAND N.Z.

Sir,

CONTRACT NO. 765

We enclose herewith tender form duly filled in, in connection with the above, and have pleasure in submitting our quotations for Elevator Conveyor and Band Conveyors manufactured by our Principals-Messrs. Rownson, Drew & Clydesdale Ltd.

Our prices are as follows :-

1 - Rownson's Portable Elevator Conveyor in accordance with your specification.	Price	£1372-	0-	0
3 - Rownson's Portable Band Conveyors 24" wide by 25' long, complete with electric motors suitable for 460 volts D.C. and Starters.	Price	£217-0-0.....	651-	0- 0
3 - Band Conveyors as above, but without electric motors.	Price	& £162-0-0.....	<u>486-</u>	<u>0- 0</u>
			<u>£2509-</u>	<u>0- 0</u>

The above prices include for delivery cif. & e. duty paid Auckland, for payment in accordance with your specification.

With regard to delivery, our Principals are able to promise delivery at Auckland within four months of date of receipt of order, subject to there being no freight delays.

With regard to the plant that we are offering, we submit the following information:-

ELEVATOR CONVEYOR:

We enclose herewith copy of our Principals' catalogue No. 12 which gives general particulars of the working of the Rownson's Portable Elevator Conveyor which we are offering.

We would also refer you to the copy of our Principals' drawing No. 6161 which is already in your possession.

The plant which we are offering would be generally similar to that illustrated in the above drawing, but the dimensions would be increased to conform to your specification.

In connection with clause 6 of your specification, we submit the following remarks:-

Sub-clause A.

The Elevator Conveyor will be capable of either loading from wharf to ship, or from ship to wharf as required.

Sub-clause B & C

The Elevator Conveyor will be built to give the required span and reach to wharf.

Sub-clause D

The plant could work satisfactorily when the minimum height of rail or hatch coamings of the ship is 5ft 6" above wharf surface.

Sub-clause E

The Elevator Conveyor will be constructed to give the reach required, and can load or discharge at a minimum depth below hatch coamings or ship's rail of 5ft 0".

Sub-clause F

The total weight of the plant complete in working order will be 5 tons including detachable balance weights, totalling 1 ton. The total load to be lifted therefore, by cranes or derricks when balance weights are detached, will be 4 tons.

Sub-clause G.H.I.& J.

The machine will be built in accordance with this specification and will be suitable for handling any of the articles mentioned. The slings will be arranged at intervals of 2ft 6" pitch, and the chain centres will be 5ft 9", the width of the canvas slings will be seen in the illustrations in the catalogue to be a few inches less than the chain centres.

Sub-clause K

Automatic counters as required would be supplied.

PORTABLE BAND CONVEYORS:

We enclose herewith copy of our Principals' catalogue No.11 and would refer you to pages 16-23 on which a full description of these appliances is given.

As required these Conveyors would be 25ft long with belt 24" wide, and the machines would be capable of handling any of the articles mentioned in clause 6 of your specification.

Arrangements will be made for connecting the power driven conveyors to the passive ones, by means of sprocket wheels and a chain, as shown in the catalogue, so that both conveyors will run at the same speed.

The power driven conveyors would be supplied complete with 460 volt D.C. electric motors and starters, and would be reversible as required.

Hoping to received your Board's valued order in due course, which would have our best attention.

We have the honour to be,
Sir,
Your obedient servants,
RICHARDSON MC.CABE & CO.LTD.

(Signed) G.B.Bradshaw

ENGINEER.

26th February 1923

Messrs. Richardson McCabe & Co,
11 Grey Street,
WELLINGTON.

Dear Sirs,

CONTRACT NO. 765- "Donald" Portable Elevator etc.

On 20th instant, the Board accepted the tender of Messrs.
Rowmson, Drew & Clydesdale for above.

I am writing them regarding construction, and spares required.

Yours truly,

ENGINEER TO THE BOARD

669A

26th February 1923

Messrs. Rowson, Drew & Clydesdale Ltd,
225 Upper Thames Street,
LONDON.

*See this reply
date 4/5/23*

Dear Sirs,

CONTRACT NO. 765
"Donald" Portable Elevator Conveyor, & 3 Motor Driven and 3
Passive Band Conveyors

I received your cable of 12th January 1923, quoting your price for "Donald" Portable Elevator Conveyor etc. The Board accepted this tender on 20th instant. Please effect delivery at the earliest possible moment. We will be glad to have a correct drawing of the plant as soon as possible.
Please supply also at your lowest price:-

One motor, complete with pinion, for elevator conveyor.

We would also be glad to know what spares you would recommend we should have by us to prevent possible interruption due to breakdowns, especially in regard to sprocket chains, wheels etc.

We desire that you shall ensure this conveyor being an absolute success. It will be the first in New Zealand, and is being installed by the Board with a view to effecting real economy and quick dispatch.

As in all other instances of our adopting modern plant, pessimists are already stating that it is not required, and that its adoption in Great Britain has declined, hence our special desire that it shall be a thoroughly practical working machine.

Our Assistant Engineer (Mr D. Holderness) will be in London about June and July, and will advise you when it will be convenient for him to see you.

I will be much obliged if you will shew him your elevators and other machinery at work.

Yours truly,

ENGINEER TO THE BOARD

*(as per
28/4/02)*

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.
P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. March 5th 1923

GBB/EA.



Sir,

Contract No. 765.
Rownson's Elevator Conveyors.

We would refer again to the above contract in connection with which we recently received your Board's acceptance of our tender.

We have now received from our Principals - Messrs Rownson, Drew & Clydesdale Ltd. - a copy of their letter dated Jan. 12th addressed direct to the Chairman of the Auckland Harbour Board. This letter we understand, was in response to the specification which you sent direct to them, and is a direct tender for the plant required.

We have looked carefully through the tender and specifications, and except in one instance, these appear to be all in accordance with our quotation, which has already been accepted by the Board.

There is one point however, to which we would draw attention, and that is the question of automatic counters as called for in Section K of your specification.

You will note that our Principals state that automatic counters have not been provided for as they have found from experience, that these are not altogether satisfactory.

In view of our Principals' remarks, we should be glad to hear from you whether you will require these to be supplied.

We have the honour to be,

Sir,
Your obedient servants,
RICHARDSON McCABE & CO. LTD.

R. B. Baalshaw
ENGINEER.

W. H. Hamer Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND, N.Z.

Prints of Elevator Conveyor
in Drawing Office

File No. B322 a.b.c.

8th March 1923

Messrs. Richardson McCabe & Co,
11 Grey Street,
WELLINGTON.

Dear Sirs,

CONTRACT NO. 765- Elevator Conveyor

Re your letter of 5th March, we would like to have the two counters as per our specification.

We desire these to be the best design which Messrs. Rowson, Drew & Clydesdale can suggest.

We will test them out here against actual conditions, and it seems to us that it ought to be possible to design some simple mechanical means of checking numbers of packages passing over the elevator.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

GBB/TM

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.
P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. 17th April, 1923

AUCKLAND HARBOUR BOARD
RECD, APR 19 1923
Engineer's Department

766

Sir,

In connection with the "DONALD" Elevator Conveyor which we have on order for your Board - we have just received from Messrs. Rowson Drew & Clydesdale a cable in which they suggested sending out an erector with this plant to supervise erection in Auckland.

Messrs. Rowsons however state that if such an erector is sent they would require to have a share of his expenses paid. We may say our own impression is that your engineering staff should be quite capable of erecting this plant and starting it up without any extra assistance, but should you consider that it would be of advantage to have one of Messrs. Rowsons men on the spot we should be interested to hear whether your Board would be prepared to pay a part of the erector's expenses.

As you are no doubt aware the expenses, including return steamer fare to England, would run into between £150 and £200 and we understand that if possible our Principals desire to have half the amount paid. We would suggest, in the event of your Board being prepared to contribute towards an erector's expenses that you should specify a definite sum that you would be prepared to pay.

We shall look forward to receiving a reply to this letter as soon as possible in order that we may cable our Principals advising them accordingly.

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.,

W. B. Bradshaw
ENGINEER.

W.H. Hamer, Esq.,
Engineer,
Auckland Harbour Board.
AUCKLAND, N.Z.

*W. B. Hamer
We can do this ourselves?
5.14.23
Certainly we can
W. B. Hamer*

19th April 1923

Messrs. Richardson McCabe & Co. Ltd.,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD ELEVATOR"

We will not need an erector from Messrs. Rowson Drew & Clydesdale if they will send out a fully marked plan and all necessary particulars.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

GBB/TM

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.
P.O. BOX 663

11 GREY STREET,

Wellington, N.Z.

2nd May,

192³

Sir,

Referring again to the Donald Elevator Conveyor and Portable Conveyors which we have on order for you - we have recently received a communication from our Principals Messrs. Rowson Drew & Clydesdale with regard to the electric motors to be supplied with these machines. In an earlier letter in which they wrote us, a copy of which we passed forward to you in ours of September 13th last year, it was mentioned that the General Electric Coy. motors would be included. Messrs. Rowson now inform us that after looking carefully into the matter they find that the motors the General Electric Coy. manufacture are not suitable as they would take up too much room in the frames, and furthermore the Elevator Conveyor motors would be rather too heavy.

Messrs. Rowson are accordingly arranging to include motors of suitable capacity manufactured by some other first class British maker. So far they have not mentioned who this maker will be but we will send you this information as soon as we receive it from them.

We have the honour to be

Sir,

Your obedient servants,
RICHARDSON McCABE & COY. LD.,

A. Bradshaw
ENGINEER.

W.H. Hamer, Esq.,

Engineer,

Auckland Harbour Board,

AUCKLAND.

N.Z.

ESTABLISHED 1819.

ROWNSON, DREW & CLYDESDALE, L^{TD.}

225, UPPER THAMES STREET, LONDON, E.C. 4.

W. H. Hamer Esq., M.Inst. C.E.,
Auckland Harbour Board,
Engineer's Office,
AUCKLAND.
NEW ZEALAND.



TELEPHONES: CENTRAL 1070 (3 LINES.)
.. 667
CITY 5897-9
CABLES: ROWNSON, (CENT.) LONDON.
CODES: BENTLEY'S PRIVATE.
A.B.C. (5TH) AND LIEBER'S.

YOUR REF. _____ OUR REF. Eng.Sales. 16th April, 1923.
EWB/ML.

HEAD OFFICE:
225, UPPER THAMES STREET,
LONDON, E.C. 4.

BRANCH OFFICES:
BRISTOL: WATER LANE TEMPLE.
LIVERPOOL: 6, FLEET STREET.
GLASGOW: 104, WEST GEORGE STREET.

FOREIGN OFFICES:
AUSTRALIA: 16/20, BRIDGE STREET, SYDNEY.
BELGIUM: RUE CRESPEL 19, BRUSSELS.
DENMARK: JERNBANEGADE 3, COPENHAGEN.
HOLLAND: GLASHAVEN 4, ROTTERDAM.
LORRAINE: FISCHBACH STRASSE, 109 SAARBRUCKEN.
NEW YORK: 65, BROADWAY.
NEW ZEALAND: WELLINGTON: 11 GREY ST.

NORWAY: CHRISTIANIA: STORTINGSGATEN, 14
ROUMANIA: 12, STRADA MAVROGHENI, BUCHAREST.
PARIS: 68, RUE DES MARAIS.
S. AFRICA: JOHANNESBURG: P.O. BOX 3762.
SWEDEN: GOTHENBURG: SODRA HAMNGATAN 13.

ENGINEERING WORKS:
MAIDEN LANE WORKS,
YORK ROAD,
KING'S CROSS,
LONDON, N. 7.

Dear Sir,

CONTRACT NO. 765.
Donald Elevator Conveyor & 6 Band Conveyors.

We have to thank you for yours of the 26th February in connection with the above.

We ask you to accept our assurance that every effort will be made on our part to give you the earliest possible delivery, and in due time correct drawings of the Plant will be forwarded.

We are quoting under separate cover for the Motor complete with pinion, together with such spare parts as we would recommend you to carry.

We shall be glad to see Mr. Holderness when he is in London, and will do our utmost to satisfy him on any points he may raise, and also shew him other machinery of our manufacture at work.

Yours faithfully,

ROWNSON, DREW & CLYDESDALE LTD.,

W. H. Hamer
Director.

ESTABLISHED 1819.

RÖWNSON, DREW & CLYDESDALE, L^{TD.}

225, UPPER THAMES STREET, LONDON, E.C.4.

W. H. Hamer Esq., M.Inst. C.E.,
The Auckland Harbour Board,
Engineer's Office,
AUCKLAND. NEW ZEALAND.

TELEPHONES: CENTRAL 1070 (8 LINES).

CABLES: ROWNSON (CENT.) LONDON.

CODES: BENTLEY'S PRIVATE.
A.B.C. (5TH) AND LIEBER'S.

YOUR REF. _____ OUR REF. Eng.Sales 1972.

4th May, 1923

HEAD OFFICE:
225, UPPER THAMES STREET,
LONDON, E.C.4.

BRANCH OFFICES:

BRISTOL: WATER LANE, TEMPLE.
BIRMINGHAM: C.S.D. COMMON LANE, WASHWOOD HEATH.
LIVERPOOL: C.S.D., QUEEN'S DRIVE, WALTON.
GLASGOW: 1552, GT. WESTERN ROAD, ANNIESLAND.

FOREIGN OFFICES:

ROUMANIA: 12, STRADA VASILE BOERESCU, BUCHAREST.
PARIS: 68, RUE DES MARAIS.
HOLLAND: MALIEBAAN 89, UTRECHT.
LORRAINE: FISCHBACH STRASSE 109, SAARBRUCKEN.
NEW YORK: 80, WALL STREET.
NORWAY: CHRISTIANIA: STORTINGSGATEN 14.
SWEDEN: GOTHENBURG: SODRA, HAMNGATAN 13.
S. AFRICA: JOHANNESBURG: P.O. BOX 3762.
NEW ZEALAND: WELLINGTON: 11 GREY ST.

ENGINEERING WORKS:
MAIDEN LANE WORKS,
YORK ROAD,
KING'S CROSS,
LONDON, N. 7.

QUOTATION.

Dear Sir,

CONTRACT 765.
DONALD ELEVATOR CONVEYOR & BAND CONVEYORS



With further reference to yours of the 26th February, in connection with the above Contract, we beg to say that the detailed Drawing of this Plant will be mailed to you at the end of next week, and we trust this will both suit your convenience, and be self-explanatory.

We have registered your order for a further Motor, complete with chain wheel pinion, at a price of :-

£81 : 4 : 0d.

which includes for Delivery F.O.B. Freight & Insurance, and 20% ad valorem duty Auckland. This Motor will be despatched with the remainder of the Plant.

Spares
In connection with the Spares for the Plant, we have carefully considered these, and on the attached sheet we shew same in detail. Our price is inclusive for the whole of these spares, and is :-

£148 : 5 : 0d.

including Delivery F.O.B., Freight & Insurance, and 20% ad valorem duty Auckland.

CONDITIONS OF CONTRACT.

Unless otherwise stated, the following Conditions of Contract shall apply to this quotation, and the English Law shall alone be applicable to the Contract on any matter or dispute arising thereout.

EXTENT OF CONTRACT.—The work covered is clearly specified and shall be carried out according to the Specification, and all materials and workmanship shall conform thereto. Any parts of the work which though not described in the Specification are obviously intended to be included, shall be provided by the Contractors, but otherwise the Contract shall include only such material, accessories, and work as are specified therein, and any additional work or materials, or any alterations in the performance of the plant and machinery, shall only be carried out at an extra charge as may be arranged.

ILLUSTRATIONS, etc.—Photographs, descriptions, and illustrations or advertisement matter supplied and contained in catalogues, price lists, etc., are intended merely to represent the general idea of the goods described, and shall not be taken as necessarily representing the goods, the subject of the tender, nor shall they form part of the Contract.

ORDERS.—No order shall be binding on the Contractors until it has been accepted in writing from the head office of the Contractors.

DELIVERY.—The delivery shall be at purchaser's works, or such other place as may be specified, if within the free delivery radius of railway or carrier company, otherwise it shall be at the nearest station within such radius.

The time given for delivery shall be subject to any delay taking place in approval of drawings and submission of necessary data to enable the work to proceed. Also to any delay through labour disputes, strikes, lock-outs, fire, accidents, non-delivery of material or parts by other manufacturers, faulty castings or forgings, or other causes beyond the control of the Contractors.

TERMS OF PAYMENT.—When the Contract includes for delivery only, payment of the full amount shall be due on the 10th of the month following delivery, unless otherwise stated.

If delivery takes place in portions the Contractors shall be entitled to 80 per cent. of the value of the work as and when delivered, 10 per cent. one month afterwards and the balance on the 10th of the month following complete delivery.

If the purchasers cannot take delivery when the plant or parts thereof are completed and ready for delivery, then the time when the plant or parts thereof are ready shall count as the delivery date, and payment shall be due accordingly. If acceptance of delivery is delayed beyond 14 days after notification that the goods are ready for despatch, the Contractor shall be entitled to make a charge for storage at the rate of 2s. per ton per week until the goods are despatched.

GUARANTEE.—The Contractors guarantee that the plant and machinery included in the Contract shall be of the best materials and workmanship of their respective classes, and to replace any parts that may prove defective in either of the above respects (fair wear and tear excepted) within six calendar months from the date of delivery, but shall not be responsible for direct or consequential damages arising from such defects, nor shall they be responsible for damage due to negligent or improper handling by the Purchasers or their employees, or to causes beyond the control of the Contractors. All faulty parts to be sent carriage paid to the Contractors works for inspection.

GOODS DAMAGED IN TRANSIT.—Packages and goods should be examined on receipt, and Purchasers should sign carrier's receipt note "Goods not examined." If goods are found to be damaged or missing a claim in respect thereof must be made by the Purchasers against the carrier immediately, as usually unless such a claim is made within three days of receiving the goods no compensation can be obtained from the carrier; nor can the Contractors accept any liability.

PACKING.—All packing cases, drums, etc., are charged extra, and must be paid for unless returned carriage paid to Contractor's works within one month of receipt.

GOODS FOR SHIPMENT.—All plants, machinery, or other goods or export shall be inspected at the Contractors' works before despatch. No claims of any description can be entertained by the Contractors after delivery on board ship, such delivery being the completion of the Contract and the end of the Contractors' responsibility. Payment for export goods shall be "Cash, free alongside," unless otherwise stated.

ERECTION (WHEN INCLUDED).—Any erection included for in the quotation is exclusive of any builders', masons', joiners' work or electrical wiring, and is conditional on suitable foundations, buildings, cranes, lifting tackle, scaffolding, etc., being ready and free for use when required, and that satisfactory means of access to the site, with a clear passage for all parts, are provided by the Purchaser. If the Contractors are prevented from proceeding with the work, or the men have to be withdrawn and sent back to complete the work, by causes beyond their control, a charge will be made to cover the additional expense incurred.

Erection, unless otherwise stated, includes for the services of one skilled erector, all rough labour to be supplied by the Purchasers.

Any rough labour supplied by the Purchasers shall remain in the employ of the Purchasers, who undertake all liability in respect of claims made under Workmen's Compensation Act, Employers' Liability Act, or other similar claims.

PAINTING.—Painting, after erection is not included for in the Contract, unless specially mentioned in the quotation.

INSURANCE.—All plant, machinery, insurance, and third party claims are at the risk of the Purchaser during erection.

PAYMENTS WHEN ERECTION OF PLANT INCLUDED.—When the quotation includes for erection the payment shall be as follows:—
80 per cent. of the value of the work or parts thereof, as and when delivery is effected, or if delivery cannot be made as when the machinery is ready for delivery.
10 per cent. on completion of erection or setting to work.
10 per cent. one month later.
Overdue payments to bear interest at 1 per cent. above the current bank rate.

TIME OF TAKING OVER.—The plant shall be deemed to have been taken over by the Purchasers when erection is completed, or on completion of tests on site when included, or one calendar month after it shall have been put into commercial use (whichever may be the earlier), provided that in any case the plant shall be deemed completed one calendar month after notice has been given in writing to the Purchasers to that effect, unless in the meantime, tests shall have been made showing that it is not complete.

The time of taking over shall not be delayed on account of additions, minor omissions, or defects which do not materially affect the commercial use of the plant.

ARBITRATION.—Should any dispute arise in relation to or in connection with the Contract, the same shall be referred to an Arbitrator to be appointed by the President for the time being of the Institute of Mechanical Engineers, whose decision shall be final, neither side to appear before the Arbitrator by solicitor or counsel.

We trust you will find these in order, and would be glad to have your early instructions so that the spare parts may be ordered quickly.

We have forwarded a copy of this letter with its attachment to our New Zealand Representatives, Messrs. Richardson McCabe & Co., and doubtless they will get in communication with you on receipt.

Yours faithfully,

ROWNSON, DREW & CLYDESDALE LIMITED.

E. W. Raines
Director.

EWR/ML

Zerpis

SPARES FOR DONALD ELEVATOR CONVEYOR.

for A.H.B.

- 78 ft. 1225R chain with M5 attachments every 2'6" pitch.
- 15 Canvas slings 4'2½" x 4'4¾" x 5'0" long.
- 15 Solid drawn lacing tubes ½" o/dia. x 16G x 4'7½" long.
- 15 -do- 1¼" o/dia. x 14G x 5'8¾" long.
- 15 ¼" gas tubes 6'1½" long
- 30 M.S.Lacing tube brackets 1¼" o/dia.
- 30 rivets 3/16" x 1"
- 30 Rivets 3/16" x 5/16"
- 44 ft Steel supplementary chain 1⅞" p. No.45
- 1 Pinion for Westinghouse chain drive (silent)
- 4 M.I.Bearings 1¼" bore 5" crs. of bolts.
- 2 M.I.Bearings 1½" bore 6" crs.
- 2 M.I.Bearings 2" bore 7¼" crs.
- 1 Medium Type Plummer Block 1¾" dia.
- 1 -do- S.O. " 1¼" dia.
- 1 M.I.chain wheel Rim 20T
- 1 M.I.Chain wheel 9.66 p.dia. 12T
- 1 C.S.Spur wheel 120T ¾" p. 2½" face
- 1 M.S.m/c spur pinion 15T.

*copy sent to Robertson
25/1/23*

£148/5/0

Spare copy

SPARES FOR DONALD ELEVATOR CONVEYOR
(For A.H.P.)

78 ft. 1225R chain with M5 attachments every 2'6" pitch.
15 canvas slings 4'2½" x 4'4¾" x 5'0" long.
15 solid drawn lacing tubes ½" o/dia. x 16G x 4'7⅛" long.
15 do. 1¼" " x 14G x 5'8⅞" long.
15 ¼" gas tubes 6'1½" long.
30 M.S. lacing tube brackets 1¼" o/dia.
30 rivets 3/16" x 1"
30 " 3/16" x 5/16"
44 ft. steel supplementary chain 1⅝" p.No.45
1 pinion for Westinghouse chain drive (silent)
4 m.i. bearings 1¼" bore 5" crs. of bolts.
2 m.i. " 1½" " 6" crs.
2 m.i. " 2" " 7¼" crs.
1 medium type Plummer Block 1¾" dia.
1 " " S.O. " 1¼" dia.
1 m.i. chain wheel Rim 20T.
1 m.i. " " 9.66 p.dia. 12T.
1 c.s. spur wheel 120T ¾" p. 2½" face.
1 m.s.m/c spur pinion 15T.

£148/5/0

NEW ZEALAND POST OFFICE TELEGRAPHS.

(If prepaid in stamps, affix stamps in this space.)

Date-stamp of Office of Origin.

A. Code:..... Handed in (Time):..... No. of Message:.....

Instructions:— <i>Week end.</i> Deferred VIA PACIFIC.	Words.	Sent at.....m. To..... By..... Ackgt. recd by.....	Checked by
---	--------	---	------------

This Telegram is presented for transmission by the undersigned subject to the authorized conditions.

CHARGES

TO { **ROWNSON (CENT)**
LONDON

18 June.
[Signature]

YOURS FOURTH MAY
SPARES AS SCHEDULED ACCEPTED
FORWARD IMMEDIATELY

HAMER

HARBOUR BOARD

NOTE.—When it is not intended or desired that the sender's signature should be telegraphed it must be written on the back of the message.

If this message is intended for transmission at reduced rates—i.e., DEFERRED or WEEK-END CABLE LETTER—the declaration on the back must be signed.

S.L. 31b.

THE PACIFIC CABLE IS STATE-OWNED.

[2,000 pads/9/15—1478]

DOMINION OF NEW ZEALAND.

NEW ZEALAND POST AND TELEGRAPH DEPARTMENT.

DECLARATION BY SENDER : DEFERRED OR WEEK-END TELEGRAM.

I, THE UNDERSIGNED, do hereby declare that the text of this Telegram is entirely written in plain language according to the.....language, and that the text of the Telegram bears no other meaning than that which appears on the face thereof.

Signature :

Address :

Date :

.....

NEW ZEALAND POST OFFICE TELEGRAPHS.

Recd. at <u>3/2/21</u>	Note. —This form must accompany any inquiry made respecting this telegram.	Sent at <u>8</u>	Checked by	Office Stamp 12 JUN 23 B AUCKLAND	
From <u>[redacted]</u>		To <u>8</u>			
By <u>[signature]</u>		By			
Ackd. by		Ackgt. recd. by			

B 271 26 WELLINGTON 2.54 PM

HAMER HARBOUR BOARD AUCKLAND +

HAVE RECEIVED FOLLOWING CABLE FROM ROWNSONS
RICHARDSON HERE SHALL WE DELAY SENDING
PLANT UNTIL INSPECTED BY HOLDERNESS WHEN DID
HE LEAVE +
DREDGER ++

CT ROWNSONS. HOLDERNESS AND HAMER **

RECEIVED

ARMY REGISTRY

PAID AND RECEIVED

12th June 1923

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATOR

Please instruct Messrs. Rowson Drew & Clydesdale to forward
above immediately it is ready.

Mr Holderness will not arrive in London till July.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

GEF/TH

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. 12th June, 1923.

Sir,

Confirming our telegram of today's date -
we have received the following cable from Messrs. Rowns
Drew & Clydesdale Ltd -

"Richardson here shall we delay sending plant
until inspected by Holderness when did he leave"

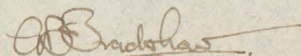
We may say that Mr. Richardson has been
in London for the last month or so and we presume that
Messrs. Rownsone Drew & Clydesdale have completed the
elevator conveyor and band conveyors and have been conferring
with him as to whether shipment should be held up until
Mr. Holderness arrives in England and has had time to
inspect them. We shall be glad to have your
instructions in order that we may cable Messrs. Rownsone
accordingly.

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.,


ENGINEER.

W. H. Hamer, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND, N.Z.

15th June 1923

Messrs. Rowson, Drew & Clydesdale Ltd,
225 Upper Thames Street,
LONDON E.C.4.

Dear Sirs,

"DONALD" PORTABLE ELEVATOR CONVEYOR

Re yours of 4th May - Ref. Eng.Sales 1972.

I note that the motor with chain wheel pinion will be
£81-4-0 duty paid Auckland.


Please forward the spares scheduled in your letter of 4th
May.

So as to enable you to deal with the matter urgently, I
cabled you as follows:-


"Yours fourth May, spares as schedule accepted, forward
immediately"

Yours truly,

ENGINEER TO THE BOARD

B3A. 

NEW ZEALAND POST OFFICE TELEGRAPHS.

Local No. <i>22</i>	INWARD CABLE MESSAGE: VIA PACIFIC.				P.C.B. date-stamp:
Transfer (time):	Recd. at <i>1.35a</i>	Sent at _____	Checked by _____	Govt. date-stamp:	
Initials:	From _____	To _____	By _____		
	By <i>[Signature]</i>	Ack. recd. by _____			



VIA PACIFIC.

ND19 LONDON 17 16 MS *12.30p*
 TWT =

TWT AUCKLAND HARBOUR BOARD ENGINEERS OFFICE AUCKLAND

= PLEASE EXTEND CREDIT UNDER CLAUSE EIGHT TO THIRTYFIRST JULY =

ROWNSON *

19th June 1923

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

CONTRACT NO. 765 - "DONALD" ELEVATOR

I have today received a cable from Messrs. Rowson Drew & Clydesdale as follows:-

"Please extend credit under Clause 8 to 31st July. Rowson "

I do not quite understand the meaning of this as 75% of contract price is due after plant has been tested and delivered on board ship, and from your telegram last week, asking if it should be held up for Mr Holderness' inspection, I assumed they were ready to ship now.

Can you suggest an explanation.

As your tender was accepted, I assume the payment when due will be made to you.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

CBR/TL

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z.

20th June,

1923.

AUCKLAND HARBOUR BOARD
RECD. JUN 22 1923
Engineer's Department

Sir,

Contract No. 765 - Donald Elevator.

We are in receipt of your letter of June 19th., with reference to the above - but we regret that we are at a loss to explain the meaning of the cable that you have received from Messrs. Rowson Drew & Clydesdale. It certainly seems that they should be shipping this plant any time now as in their recent cable to us asking whether the plant should be held up until Mr. Holderness arrived they mentioned that it was already completed, and in our reply to them acting upon your instructions we asked them to make shipment as early as possible. We can only think that possibly although the bulk of the plant is ready for shipment some portion (possibly one of the band conveyors) is not yet completed and according to the terms the 75% payment is not due until the whole of the machinery has been shipped.

With regard to the question as to whom payment is to be made - our understanding of the terms of contract is that 75% will be paid to Messrs. Rowson Drew & Clydesdale Ltd., in England and the remaining 25% will be paid to us in New Zealand. We are wondering whether you may have arranged a credit in England for the payment of the above 75% which credit expires fairly soon and therefore it is necessary to extend it till 31st July as all the plant will not have been shipped before the time the credit expires.

If the above remarks do not throw any light on the matter we can only suggest that either you should cable again to Messrs. Rowson Drew & Clydesdale asking them for an explanation or that you advise us and we will cable to them any message that you can suggest.

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.

R. D. Bradshaw
MGR. ENR.

M. H. Hamer, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND, N.Z.

22nd June 1923

The Secretary

CONTRACT NO. 765 "DONALD" ELEVATOR

The makers, Messrs. Rowson, Drew & Clydesdale, have cabled:-

"Please extend credit under clause 8, to 31st July"

Clause 8 states: "Payments will be made by the Board's Agents, or Bank of New Zealand in London, up to 75% of contract price after whole plant has been tested and delivered on board ship.

A further 20% on receipt by Board in good order on wharf Auckland of whole of plant, balance 5% after erection and satisfactory test at Auckland".

Delivery is due about now, but apparently they will be a month overdue, and are asking that 75% should be available on 31st July. Please arrange accordingly.

The total contract price is £2509.

ENGINEER TO THE BOARD

ESTABLISHED 1819.

ROWNSON, DREW & CLYDESDALE, L^{TD.}

225, UPPER THAMES STREET, LONDON, E.C. 4.

W. H. Hamer Esq., M.Inst. C.E.,
The Auckland Harbour Board,
Engineer's Office,
AUCKLAND. NEW ZEALAND.

TELEPHONES: CENTRAL 1070 (3 LINES.)
" 667
CITY 5897-9
CABLES: ROWNSON, (CENT.) LONDON
CODES: BENTLEY'S PRIVATE
A.B.C. (5TH) AND LIEBER'S



YOUR REF. _____ OUR REF. Eng.Dept. 18th June, 1923.
Sales 1972.

HEAD OFFICE:
225, UPPER THAMES STREET,
LONDON, E.C. 4.

BRANCH OFFICES:

BRISTOL: WATER LANE TEMPLE.
LIVERPOOL: 6, FLEET STREET.
GLASGOW: 104, WEST GEORGE STREET.

FOREIGN OFFICES:

AUSTRALIA: 16/20, BRIDGE STREET, SYDNEY.
BELGIUM: RUE CRESPEL 19, BRUSSELS.
DENMARK: JERNBANEGADE 3, COPENHAGEN.
HOLLAND: GLASHAVEN 4, ROTTERDAM.
LORRAINE: FISCHBACH STRASSE, 109 SAARBRUCKEN.
NEW YORK: 65, BROADWAY.
NEW ZEALAND: WELLINGTON: 11 GREY ST.
NORWAY: CHRISTIANIA: STORTINGSGATEN, 14
ROUMANIA: 12, STRADA MAVROGHENI, BUCHAREST.
PARIS: 68, RUE DES MARAIS.
S. AFRICA: JOHANNESBURG: P.O. BOX 3762.
SWEDEN: GOTHENBURG: SODRA HAMNGATAN 13.

ENGINEERING WORKS:

MAIDEN LANE WORKS,
YORK ROAD,
KING'S CROSS,
LONDON, N. 7.

Dear Sir,

CONTRACT 765.
DONALD ELEVATOR CONVEYOR & BAND CONVEYORS.

We duly received your cablegram of the 18th inst.,
accepting our quotation for Spare Parts for the above, for which
we thank you.

We will at once put these parts in hand, and forward
at the very earliest moment.

Yours faithfully,

ROWNSON, DREW & CLYDESDALE LIMITED.

C. W. Hamer
Director.

ML

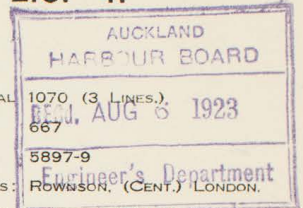
ESTABLISHED 1819.

ROWNSON, DREW & CLYDESDALE, L^{TD.}

225, UPPER THAMES STREET, LONDON, E.C. 4.

W. C. Hamer Esq.,
The Auckland Harbour Board,
Chief Mechanical Engineer's Office,
AUCKLAND.
NEW ZEALAND.

TELEPHONES: CENTRAL 1070 (3 LINES.)
667
CITY 5897-9
CABLES: ROWNSON, (CENT.) LONDON.
CODING: BENTLEY'S PRIVATE,
A.B.C. (5TH) AND LIEBER'S.



YOUR REF. _____ OUR REF. Eng. Dept. 20th June, 1923.
1608/EWR/ML.

HEAD OFFICE:
225, UPPER THAMES STREET,
LONDON, E.C. 4.

BRANCH OFFICES:

BRISTOL: WATER LANE TEMPLE.
LIVERPOOL: 6, FLEET STREET.
GLASGOW: 104, WEST GEORGE STREET.

FOREIGN OFFICES:

AUSTRALIA: 16/20, BRIDGE STREET, SYDNEY.
BELGIUM: RUE CRESPEL 19, BRUSSELS.
DENMARK: JERNBANEGADE 3, COPENHAGEN.
HOLLAND: GLASHAVEN 4, ROTTERDAM.
LORRAINE: FISCHBACH STRASSE, 109 SAARBRUCKEN.
NEW YORK: 65, BROADWAY.
NEW ZEALAND: WELLINGTON: 11 GREY ST.
NORWAY: CHRISTIANIA: STORTINGSGATEN, 14
ROUMANIA: 12, STRADA MAVROGHENI, BUCHAREST.
PARIS: 68, RUE DES MARAIS.
S. AFRICA: JOHANNESBURG: P.O. BOX 3762.
SWEDEN: GOTHENBURG: SODRA HAMNGATAN 13.

ENGINEERING WORKS:

MAIDEN LANE WORKS,
YORK ROAD,
KING'S CROSS,
LONDON, N. 7.

Dear Sir,

DONALD ELEVATOR CONVEYOR CONTRACT.

We beg to confirm below the cable despatched to you on the 16th inst., asking for extension of credit at the New Zealand Bank in London, for part payment of the Donald Elevator equipment :-

"Please extend credit under clause 8 to 31st
"July."

We are proceeding very well with this work, and although we shall be very slightly delayed from our original date, we hope to have everything ready and in good shape during the next two or three weeks.

We note from a cable received from our Representative's in New Zealand that you do not wish this Plant held over for inspection by Mr. Holderness, whom we shall be very delighted to see in London, and will take every opportunity of supplying him with what information and data he requires..

Yours faithfully,

ROWNSON, DREW & CLYDESDALE LTD.

Director.

RICHARDSON, McCABE & CO.

LIMITED.

GBB/TM

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. 25th July, 1923.

AUCKLAND
HARBOUR BOARD

RECD. JUL 27 1923

Engineer's Department

Sir,

Rownson Elevator Conveyor Contract.

In connection with the equipment we have on order for you through our Principals Messrs. Rownson Drew & Clydesdale Ltd., we are pleased to inform you we have just received a week-end cable from them dated July 21st., worded as follows -

"Auckland contract sailing today Liverpool
"S.S. "MAHANA" just informed no room elevator
"frame only this sailing 14 days".

We understand from the above that with the exception of the frame of the Donald Elevator Conveyor the whole of the remainder of the equipment on order has been shipped per S.S. "MAHANA" which sailed from Liverpool on July 21st. The frame of the elevator conveyor we understand will be despatched by the next available steamer leaving in about 14 days.

Trusting this will be satisfactory to you,

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.

A. Bradshaw
ENGINEER.

W. H. Hamer, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND. N.Z.

ESTABLISHED 1819.

ROWNSON, DREW & CLYDESDALE, L^{TD}.

225, UPPER THAMES STREET, LONDON, E.C. 4.

766

7

W.H.Hamer Esq. M.I.C.E.
Auckland Harbour Board,
Engineer's Office,
Auckland,
NEW ZEALAND.

TELEPHONES: CENTRAL 1070 (3 LINES.)
AUCKLAND
HARBOUR BOARD
CITY
667
5897-9
RECD. AUG 30 1923
Engineer's Department

CABLES: ROWNSON, (CENT.) LONDON.
CODES: BENTLEY'S PRIVATE,
A.B.C. (5TH) AND LIEBER'S.

YOUR REF. _____ OUR REF. Eng/1608/SGC/MC. 18th July 1923

HEAD OFFICE:
225, UPPER THAMES STREET,
LONDON, E.C. 4.

BRANCH OFFICES:
BRISTOL: WATER LANE TEMPLE.
LIVERPOOL: 6, FLEET STREET.
GLASGOW: 104, WEST GEORGE STREET.

FOREIGN OFFICES:
AUSTRALIA: 16/20, BRIDGE STREET, SYDNEY.
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PARIS: 68, RUE DES MARAIS.
S. AFRICA: JOHANNESBURG: P.O. BOX 3762.
SWEDEN: GOTHENBURG: SODRA HAMNGATAN 13.

ENGINEERING WORKS:
MAIDEN LANE WORKS,
YORK ROAD,
KING'S CROSS,
LONDON, N. 7.

Dear Sirs,

DONALD ELEVATOR CONVEYOR & BAND CONVEYORS
AUCKLAND HARBOUR BOARD.

*In Drawing Office
30/8/23*

We beg to enclose herewith the following Drawings—

- No. 7258. ✓✓ Layout of Portable Elevator.
- No. 7259. ✓✓ Slings for Donald Portable Elevator Conveyor.
- No. 7260. ✓✓ Framework for Donald Elevator Conveyor.
- No. 7261. ✓✓ Details of Driving and Stowing Gear.
- No. 7262. ✓✓ Details of Supplementary Carriage & Cleats.
- No. 7263. ✓✓ Details of Bight in Ship's Hold.
- No. 7264. ✓✓ Details of Shore Bight for Donald Elevator Conveyor.
- No. 7265. ✓✓ Details of Swivelling Discharge.
- No. 7266. ✓✓ Shafts and Castings for Donald Elevator Conveyor.
- No. 7267. ✓✓ Details of Awining Support.

together with a copy of working instructions, wiring diagram, also copy of our Works Shop Lists on which we have enumerated all the parts of the Conveyor. The Elevator is now being dismantled and the main framework is marked with the part numbers shown upon the main frame Drawing, whereas at the Junctions are marked according to a certain order, and these are stamped in the steel, not merely painted on.

to be kept with parts 7258

The shaft ends and castings are all marked in their respective places, and you will think you will find it an extremely easy matter to assemble

this machine.

We are also placing in one of the cases a duplicate set of instructions, drawings and shop lists.

We have been unable to complete the Counter Gear in time to catch this ship, not having arrived at a satisfactory solution of the difficulties already pointed out to you. We hope, however, to send the counters forward in two or three weeks time.

As you are no doubt aware, the counters themselves are not made by us, and as these are special, it is extremely difficult to get hold of the mechanism from the makers. The levers and shafts etc., operating the counters, are of course made by us.

Yours faithfully,

ROWNSON, DREW & CLYDESDALE LTD.

p.p. J. G. Callaghan
C.S.P.

Shipping Marks.

R M
AHB
43
C L
AUCKLAND

RICHARDSON, McCABE & CO.

LIMITED.

OPP/TH

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z.

30th August 1923

AUCKLAND
HARBOUR BOARD
RECD. SEP 1 1923
Engineer's Department

Sir,

In connection with the Donald Elevator Conveyor on order for you - we have just received the following from our principals which we have pleasure in forwarding to you under separate cover -

DRAWINGS.

- "No. 7258 - layout of portable Donald Elevator,
 - "No. 7269 - slings for Donald Portable Elevator Conveyor,
 - "No. 7260 - framework for Donald Elevator Conveyor,
 - "No. 7261 - details of driving and stowing gear,
 - "No. 7262 - details of supplementary carriage and plate,
 - "No. 7263 - details of light in ships hold,
 - "No. 7264 - details of shore light for Donald Elevator Conveyor,
 - "No. 7265 - details for swivelling discharge
 - "No. 7266 - shafts and castings for Donald Elevator Conveyor,
 - "No. 7267 - details of swing support.
- "together with a copy of working instructions, wiring diagram also copy of Works shop lists on which are enumerated all the parts of the conveyor."

In forwarding us the above our Principals write as follows -

"The elevator is now being dismantled and the main framework is marked with the part numbers shown upon the main frame drawing, whereas the junctions are marked according to a certain order, and these are stamped in the steel, not merely painted on."

"The shaft ends and castings are all marked in their respective places, and we think you will find it an extremely easy matter to assemble this machine."

"We are also placing in one of the cases a duplicate set of instructions, drawings and shop lists."

"We have been unable to complete the counter gear in time to catch this ship, not having arrived at a satisfactory solution of the difficulties already pointed out to you. We hope however to send the counters forward in two or three weeks time."

"As you are no doubt aware the counters themselves are not made by us and as these are special, it is extremely difficult to get hold of the mechanism from the maker. The levers and shafts, etc., operating the counters are of course made by us."

You will note that a further set of drawings etc., has been sent down to you in one of the cases, but we thought it advisable to send on the enclosed to you as otherwise you might have found it a little bit difficult to locate the case containing these drawings, and also it would be convenient for you to have a extra set of drawings.

W. H. Haver, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND N.Z.

We have the honour to be, Sir,
Your obedient servants,
RICHARDSON McCABE & CO. LD.,

W. H. Haver

1st September 1923

Messrs. Richardson McCabe & Co. Ltd.,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATOR

Referring to yours of 30th ultimo, I have today received the prints, working instructions and wiring diagrams mentioned therein, for which I thank you.

Yours truly,

ENGINEER TO THE BOARD

"DONALD" ELEVATOR

COPY OF TELEGRAM FROM RICHARDSON MC.CABE & CO.WELLINGTON
11TH SEPTEMBER 1923

HARBOUR BOARD AUCKLAND

HAVE YOU DOCUMENTS ELEVATOR CONVEYOR IF SO PLEASE FORWARD
INVOICES TO US TO PASS ENTRY.

DREDGER.

COPY OF SECRETARY'S REPLY DATED 11TH SEPTEMBER 1923
(file 147/756)

Messrs.Richardson McCabe & Co.Ltd,
Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATOR CONVEYOR

I had arranged for the passing of the Customs entry,
but upon receipt of your telegram of this date, I have cancelled
the instructions and forward herewith Messrs.Rownson Drew &
Clydesdales' invoice for the shipment per "MAHANA", together with
shipping specification.

The goods are now on the wharf. I am retaining the
Bill of Lading and hope to be able to secure early delivery
which, of course, cannot be effected until completion of your
entry. I shall be glad if you will kindly return the specification.

Yours faithfully,

(signed) H.B.B.

SECRETARY.

Invoice & Specification.

COPY OF LETTER RECEIVED FROM MESSRS. RICHARDSON MC CABE LTD.

Wellington, 13th. September, 1923.

Sir,

DONALD ELEVATOR CONVEYOR.

We are in receipt of your letter of September 11th., and have to thank you for forwarding to us Messrs. Rowson Drew & Clydesdale invoice and specification.

We are arranging with our Agents - The New Zealand Express Co. Ltd., to pass the entry and lodge the necessary papers in order that you will have no difficulty in obtaining delivery.

We have taken a copy of the shipping specification, and are returning your copy herewith.

We hope shortly to be able to advise you the name of the vessel which is bringing the balance of the plant.

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON MC CABE & CO. LTD.

(Sgd) - M.L. Co veney,

Secretary.

The Secretary,
Auckland Harbour Board,
AUCKLAND. N.Z.

10th September, 1933. Wellington.

Sir,

NEW ZEALAND EXPORTS

We are in receipt of your letter of September 11th, and have to thank you for forwarding to us Messrs. Rowan & Gifford's invoice and specification.

We are arranging with our Agents - The New Zealand Express Co. Ltd., to pass the entry and for the necessary papers in order that you will have no difficulty in obtaining delivery.

We have taken a copy of the shipping specification, and are retaining your copy herewith.

We hope shortly to be able to advise you the name of the vessel which is bringing the balance of the plant.

We have the honor to be,

Sir,

Your obedient servant,

ROBERTSON ROBERTSON & CO. LTD.

Agents - N.Z. Co. vancouver.

Secretary.

The Secretary,
Wellington Harbour Board,
WELLINGTON, N.Z.

Mr. Clark

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 883

11 GREY STREET,

Wellington, N.Z. Sept. 13th 1923

MLC/EA.

Sir,

Donald Elevator

As we had not received shipping documents covering the Elevator Conveyor which was shipped per s.s. "Mahana" to Auckland we wired asking if you had received invoice, and if so to kindly post same on to us when we would arrange to have the entry passed.

If you have not received the documents we will arrange for delivery of the shipment to be obtained under Letter of Indemnity.

We shall be obliged if you will let us know as soon as possible the amount your Board have paid in London, as it will be necessary for us to forward to you invoice for the balance due for payment in New Zealand.

Trusting the delivery of the shipment will be made promptly to you.

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON McCABE & CO. LTD.

W. Z. Goring
SECRETARY.

W. H. Hamer Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND.

*Documents received
some days ago as wire
received.*

£1500.5.0

14th September 1923

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

CONTRACT NO. 760- "DONALD" ELEVATOR

Re yours of 13th.

I did not receive any wire from you, but find it went to the secretarial office and they sent certain documents.

The amount this Board has paid in London is £1754- 5- 0.

Will you please arrange that all correspondence be forwarded to me, as if it gets to other officers I may not hear of it, as in this instance.

The s/s "Mahana" left here nine days ago, and while I have been wondering where the elevator was, we are only now getting documents.

Is it not possible that something can be done to lessen these costly delays.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.
P.O. BOX 863

11 GREY STREET,

Wellington, N.Z. September 19th 1923

MIC/EA.



Sir,

Contract No.760.
Donald Elevator.

We are in receipt of your letter of Sept.14th, and in future we will arrange to address all correspondence direct to you.

We have to thank you for advising us of the amount paid on account of the above contract by your Board in London.

We regret the shipping documents were late incoming to hand and are taking this matter up with our Principals, and shall endeavour in future, to have the shipping documents in your hands prior to the arrival of the goods.

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON McCABE & CO.LTD.

W. L. Conway
SECRETARY.

Engineer,
Auckland Harbour Board,
AUCKLAND.

Memorandum.

From ...
 FOREMAN OF WORKS
 "Donald Elevator"

September 19th 1923

To _____

Sir,

I beg to report that we received ex "Mahana" on the 18th inst. 17 cases and 2 packages of the Donald Elevator, which were in good order. These were stacked and covered with Tapanahi's between sheds 14 & 15 Queens wharf

Cartage.
 Labour.

	19	6
1	2	0
£	2	1 6

EM Batey

6th October 1923

Messrs. The N.Z. Express Co,
Fort Street,
AUCKLAND.

Dear Sirs,

"DONALD" ELEVATOR

I beg to inform you that the main frame ex "Trecarrell"
is damaged, *now lying on the wharf.*
Please have same made good, and handed to us as soon as
possible.

Yours truly,

ENGINEER TO THE BOARD

9th October 1923

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATOR

Re yours of 8th.

The main girders appear to have been placed on their sides and cases piled above them in the hold of the vessel. Straightening will be necessary, and this will of course be done at the cheapest possible price.

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.
P.O. BOX 863

11 GREY STREET,

Wellington, N.Z.

October 8th 1923³

MLC/EA.

AUCKLAND HARBOUR BOARD
RECD. OCT 9 1923
Engineer's Department

Sir,

Donald Elevator

We received telegraphic advice from the New Zealand Express Co.Ltd. with regard to the Elevator parts ex s.s. "Trecarrell" that several pieces of Angle Iron was damaged, and asking permission for your Board to repair and debit us, and we have today replied asking them to arrange with you to proceed with the work.

The Norwich Union Fire Insurance Society Ltd. of Wellington are arranging with their Auckland branch to communicate with you in connection with the matter.

We shall be glad if you will arrange to forward your claim to us for the cost of repairing the damage in triplicate.

Trusting to hear from you that the damage to this shipment is not extensive,

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON McCABE & CO.LTD.

W. H. Conway
SECRETARY.

W.H.Hamer Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND.

Memorandum.

From . .

INSPECTOR AT

To

THE ENGINEER

Oct. 8th 1923*Machinery*DONALD ELEVATOR

I beg to report that

the parts for the Donald Elevator & Three sets of conveyors have all been delivered. With the exception of main supporting boom, these ^{parts} appear to be quite satisfactory. The main supporting boom has some of its members bent & twisted & cannot be put to use until the damage has been made good. Word has just been received ^{verbally} from NZ Express Co the agents for Richardson & Co. that the repairs to damaged portion be charged to them

Signature

A. L. Robertson

Memorandum.

From . .

INSPECTOR AT

To

THE ENGINEER

Arthur 19 33

James W. King

9/8/33

I beg to report that

*the cost of repairing the
and repairing the same
the Board should be met by the
+ the Board*

<i>Foreman @ 8 hrs @ 2/1 1/2</i>	<i>= 1/6 per day</i>	<i>18-8</i>
<i>2 Fitters @ 8 hrs @ 2/1 3/4</i>		<i>1-14-4</i>
<i>1 Labourer @ 8 hrs @ 1/0 1/2</i>		<i>1-8-8</i>
<i>Total</i>		<i>4-10-8</i>
		<i>4-1-8</i>

Capt Wood King
triplet etc

Signature A L Robertson

9th November 1923

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATOR

We have taken delivery of, ex s/s "Trecarrell", 11 packages of elevator according to delivery orders received.

There are still two packages on the wharf (presumably ex "Trecarrell", and which are probably the counting machine for elevator) but we are unable to get delivery of these through not having papers.

Will you please pass Customs Entry and obtain the delivery order, as we have no Bill of Lading, so that we may obtain these.

Yours truly,

ENGINEER TO THE BOARD.

Spare

8th November 1923

"DONALD" ELEVATOR CONVEYOR

Proposed Charges for use of

Cost of Elevator C.I.F. & E.	£1372	
Erection at Auckland say	100	
Trolley for moving conveyer about	100	
Canvas cover & stanchions to be provided	<u>100</u>	<u>£1672</u>

6% Interest on £1672 per annum	£ 100
20% Depreciation	335
Repairs & replacements	250
Oil, waste	20
Painting say	<u>80</u>
Total	£ 755 per annum.

Assume that the Elevator works on 100 days per annum at say average of 10 hours per day = 1000 hours per annum.

Cost would then be $\frac{£755}{1000 \text{ hours}} =$ per hour 15- 2

Add electric current (2 units per hr. @ 1½) 3

Shipping & stowing elevator per day:

6 men, 1 hr each	6 men 2 hrs per day
both shipping & stowing elevator	= 12 hrs. @ 1/9½ = £1- 1- 6
Crane driver	2 hrs. @ 2/6 = 5- 0
Bitter in charge	2 hrs. @ 2/6 = 5- 0
	<u>£1-11- 6</u>

Electric crane not charged for.

$\frac{£1-11-6}{10 \text{ hrs. in a working day of ship.}}$ = per working hour 3- 2

Use of electric mains, plugs, switches etc. " " " 3
" " " 18-10

SAY £1- 0- 0 PER HOUR PLUS DRIVERS WAGES

(on basis of 1000 hours per annum)

to cover administration and office charges.

NOTE

One of our Electric Cranes works normally at about 25 tons of butter per hour.

This Elevator on first day's working did up to 58 tons per hour, and on second day up to 90 tons per hour.

Electric Crane charges are 10/- per hour plus driver's wages

$\frac{10/-}{25 \text{ tons}} =$ 5d per ton. for crane

"Donald" Elevator at £1-0-0 per hr. plus drivers wages, doing

say 50 tons per hr. = $\frac{£1-0-0}{50 \text{ tons}} =$ 5d per ton. for elevator

or at 90 tons per hour would equal

$\frac{£1-0-0}{90 \text{ tons}} =$ 2.66d per ton. " "

8th November 1923

SIX CONVEYORS (ex Rowson Drew & Clydesdale)

Proposed Charges for use of

Cost of conveyors C.I.F. & E. £1137
Erection at Auckland say 100
Canvas covers etc. to be provided 100 £1337

6% Interest on £1337 = per annum £80
20% Depreciation " " 268
Repairs & replacements " " 250
Oil waste etc. " " 20
Painting " 50
Total £668 per annum

Assume that the 6 conveyors work on 100 days per annum
at say average of 10 hours per day each.

Cost would then be: $\frac{£668}{1000} =$ per hour $13\frac{1}{4}$

Add electric current, say 2 units " 3

Shipping & stowing conveyors per day:
1 labourer, 2 hours $\frac{4}{10} =$ " 5

Use of electric mains, plugs, switches etc. (for 6 conveyors) " $\frac{3}{14-3}$

= per hour each 2/6.

Charge say 3/6d per hour per conveyor, plus drivers time and overtime
to cover administration and office charges.

5th November 1923

"DONALD" PATENT ELEVATOR CONVEYOR

First used November 5th 1923 on s/s "Mahana"

Butter boxes being loaded ex refrigerated railway van and delivered by conveyor to bottom hold of vessel.

Working at one-quarter speed of motor, 22 boxes of butter per minute were delivered into the hold. (A good number of slings that had not been filled, passed empty).

Sixteen men in hold were receiving the boxes and stacking them. The boxes from two railway trucks on quay were fed to the elevator conveyor, at each of which there were three men (two lifted the boxes down on to the roller conveyor and one receiving boxes on table at the upgoing end of the elevator conveyor).

I timed 22 boxes per minute = 1320 boxes per hour.

Weight: 56 lb. butter & 10 lb. box = 66 lbs. = 39 tons per hour at one-quarter speed.

Mr Foreman, outside Superintendent for Shaw Savill line, mentioned that the maximum they ever previously reached by crane during a special four hours work was 1205 boxes per hour, but the average would be about 1000 boxes per hour.

SPEED OF CHAIN BELT

80 canvas slings, each 2'6" centres, passed in 2 minutes 35 seconds. The speed of the chain belt carrying these slings was therefore:-

80 x 2'6" = 200ft in 2 min. 35 secs. = 200ft in 155 secs. = 77ft per minute.

On 6/xi/23 - from 6 to 9 pm shipped 3249 boxes of butter in 3 hours
= 1080 " " " per hour.

A tally clerk stated that the elevator ^{worked} at one time at rate of 2160 boxes per hour
= 36 boxes per minute

On 6/xi/23 Mr Robertson & Mr Golden talked 35 boxes per minute = 2100 boxes per hour

On 7/xi/23 Stevedore reported 2 railway trucks, each 700 boxes, = 1400 boxes emptied in 25 minutes = 3360 boxes per hr @ 60 lbs each = 90 tons per hr.

Electric current consumption = 1.4 units.

On "Tonic" 13/xi/23

Actually working	8 hrs 15 min	} Boxes loaded in 8 hrs 15 min = 7600 or 921.2 per hr.
Hours delayed	30 min	
	8.45 min	

" " between 6 & 9.30 pm = 3 1/2 hrs.
3809 boxes = 1088.3 per hr

Memorandum.

From . .

INSPECTOR AT

Mechanics

To

~~THE ENGINEER~~

Mr. T. Saunders

1058 H/239

I beg to report that

The papers I have received re "Donald" Elevator are List of Spools which have all been received & checked, as per instruction N^o 14507.

Shipping Specifications N^o 1408
N^o 1496

Please note all these items have been received & no further papers re cases at Central Wharf except being specifications 1608 from Richardson & Co. Ltd.

Signature

[Handwritten Signature]

Auckland Harbour Board

MEMORANDUM

FROM

A. L. Robertson



To

Nov 10th

1923

THE ENGINEER

L 27249

"DONALD" ELEVATOR

Elevator was first put in use on Nov 4th ^{5th} loading S.S. & A. Co. "MAHANNA"

The following figures were obtained by me from Mr. Pallock of S.S. & A. Co.

TIME ELEVATOR IN USE	TIME LOST THRU BREAKDOWNS	ACTUAL TIME WORKED	N ^o BOXES LOADED	AVG ^E BOXES PER HOUR
HOURS.	HOURS.	HOURS.		
26½	7	19½	16598	851.2

6.25 for 26 1/2 hours

Rest continuous running 6 to 9 P.M. (Nov 6th) 3 hours
Loaded 3249 boxes, giving ave per hour = 1083 boxes.
NOTE The average of 851.2 cd. have been increased 30%, had every sling been used, instead of every 2nd or 3rd, but this was due to congestion in the hold.

The Elevator has been weighed & is found to weigh 4-18. or 2 cwt short of 5 tons.
This weight includes 86 slings & the balance weight at discharging end, but does not include balance weight at loading end!

3760
1923

A. L. Robertson.

13th November 1923

COPY OF A.L.ROBERTSON'S REPORT DATED NOVEMBER 10TH 1923

"DONALD" ELEVATOR

Elevator was first put in use on November 5th loading S.S.& A.Co's "Mahana".

The following figures were obtained by me from Mr Pollock of S.S.& A.Co.

Time elevator in use Hours	Time lost through breakdowns hours	Actual time worked hours	No. of boxes loaded	Average boxes per hour
26½	7	19½	16598	851.2

Best continuous running 6 to 9 p.m.(November 6th) 3 hours loaded 3249 boxes, giving average per hour = 1083 boxes.

Note

The average of 851.2 could have been increased 30% had every sling been used instead of every second or third, but this was due to congestion in the hold.

The elevator has been weighed and is found to weigh 4 t.18 cwt. or 2 cwt.short of 5 tons.

This weight includes 86 slings and the balance weight at discharging end, but does not include the balance weight at loading end.

Auckland Harbour Board

MEMORANDUM

FROM

A. L. Robertson
Inspector of Machinery



To

Nov 13th

1923.

THE ENGINEER

L 27249

"DONALD" ELEVATOR DEFECTS.

When this machine was first put to work several defects developed, which caused delay when loading S.S. "MAHANA" & were as follows.

(a) Due to a defective casting, the cast steel spur wheel & sprocket seized on the pin, in spite of the fact that grease was being put in, & on taking adrift, it was found that there was a blow hole inside, which had allowed a small piece of the casting to drop out & bind on the pin. The spur wheel was put in use & a new pin was turned & fitted straightaway.

(b) The cast steel jockey pulleys on carriage at feeder end, which were of exceptionally light construction, fractured at arms. These were replaced with, the nearest size wheels procurable viz. a pair of cast iron truck wheels which were turned down to suit.

As all these parts appeared to be quite sound when delivered, it has been a case of the defects developing under working conditions. After work on "MAHANA" was completed, various other defects were put right which have kept the men busy until getting to use on "IONIC"

A. L. Robertson.

Memorandum.

From . .

INSPECTOR AT

To

THE ENGINEER

Nov 14th 1923

Clackering

"DONALD" ELEVATOR LOADING S.S. "IONIC" 13/XI/23

I beg to report that

Re your Instruction No 17626

The number of canvas slings used were	=	105
Hours actually working	=	8 ^h 15 ^m
Hours delayed	=	30
<u>Total Hours</u>	=	<u>8-45</u>

Boxes loaded in 8-15 = 4600 or 921.2 boxes per hour.

(Boxes loaded between 6-9-30 PM 32 hours were 3509, giving an average of 1088.3 per hour.)

The delay was caused by a loader being held up a box which fell in at back of sling, bending jockey pulley axle, front guide *Signature* A. L. Robertson + 2 runs for carrying slings

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER," WELLINGTON.

P.O. BOX 863.

11 GREY STREET,

MC.MW

Wellington, N.Z. 17th November 1925

Sir,

We are in receipt of your wire, and are today instructing the New Zealand Express Co. Ltd. Auckland, to obtain delivery of the two cases, and we shall be glad if on receipt of same you will advise us what they contain, as on the 17th October the New Zealand Express Company put through an entry for two cases of goods, and we forwarded to them the shipping documents, and therefore we are at a loss to know what the two cases referred to in your letter^s contain, and we shall be glad of any information you can give us on this point.

Regretting that you have been inconvenienced,

We have the honor to be,

Sir,

Your obedient Servants.

RICHARDSON MCCABE & CO. LTD.

W. Z. Conway
SECRETARY

The Engineer,

Auckland Harbour Board

AUCKLAND

*Rec'd from X Press Co
on 19. XI. 25
H. Law to Mr Edwards*

NEW ZEALAND POST OFFICE TELEGRAPHS.

(If prepaid in stamps, affix stamps in this space.)

Date-stamp of Office of Origin.



A. Code:..... Handed in (Time):..... No. of Message:.....

Instructions.	Words.	Sent at.....m.	Checked by
		To.....	
		By.....	
		Ackgt. recd. by.....	

CHARGES:

Ordinary: For twelve words (including address and signature), 8d.
 Urgent: For twelve words (including address and signature), 1s. 2d.
 For every additional word: Ordinary, 1/2d.; Urgent, 1d.

This telegram is presented for transmission by the undersigned, subject to the authorized conditions.

Copy

TO Richardson McCabe
 Wellington.

Elevator at Macarrell delay delivery two cases causing inconvenience please instruct Express Coy obtain under indemnity.

Recd by order from Harbour Board

Note.—When it is not intended or desired that the sender's signature should be telegraphed it must be written on the back of the message.

19-XI-11

3

NOTICE TO THE SENDER OF THIS TELEGRAM.

1. NEITHER His Majesty the King nor the Government of New Zealand will be responsible for errors, omissions, or delays in the transmission of any telegram, or for the non-delivery or non-transmission of any telegram.

2. The charges for telegrams are prepaid in postage-stamps; but at offices where a cash-register is in use payment may be made in cash. Senders of telegrams prepaid in stamps must affix the stamps in the space provided. The sender of a telegram is responsible for all charges incurred in the delivery thereof.

3. All telegrams must contain a proper address of not less than three words (except in the case of a code address), and must bear a genuine signature. Telegrams for passengers on trains should show in the address the word "northward" or "southward" (as the case may be), or other indication of direction. They are accepted at the sender's risk, owing to uncertainty of delivery.

4. The sender may prepay the cost of a reply. If the reply-form is not used its value will be refunded upon application, within six weeks, accompanied by the form itself, to the Chief Accountant, G.P.O. A reply-form may be used to send a message to any address.

5. A telegram may be accepted "Collect," in which case the value will be collected from the addressee; but the sender will be held responsible for the charges, failing payment by the receiver.

6. A telegram may be repeated back from office to office, if the sender so desires, at a charge of one-half the ordinary tariff.

7. The addressee of a telegram may have it repeated on payment of one-half of the amount paid for its transmission. Should he require a portion only to be repeated, payment must be made at the rate of ½d. for each word. The minimum charge, however, is 3d. Payments for repetition will be refunded if the original telegram is found to be incorrectly transmitted.

8. Urgent telegrams take precedence of ordinary telegrams.

9. All applications respecting this telegram should be made within three months from the date of its transmission, after which period it will not be kept.

For further regulations see *Post and Telegraph Guide*.

Name and Address of Sender : {

.....
.....

RICHARDSON, McCABE & CO.

LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER," WELLINGTON.

P.O. BOX 863.

11 GREY STREET,

Wellington, N.Z. November 19th 1923

MLC/EA.

Sir,

Further to our letter of November 17th with reference to the 2 cases ex "Trecarrell" which you are awaiting delivery of, as advised we have forwarded letter of indemnity to the Express Co. for them to obtain delivery and would like to mention that on the 17/10/23 we had an entry passed covering for 2 cases which contain spare parts for Donald Elevator and Spare Motor and Chain Wheel Pinions.

When you receive the 2 cases now under discussion we shall be pleased if you will advise us whether the above 2 cases contain the above equipment.

We would like to mention that we have not overlooked your letter of Nov.9th and we were going into the position as to the number of cases for which entries were passed ex "Trecarrell".

We regret the matter was delayed and are sorry that you have been inconvenienced.

Trusting soon to hear that you have received the whole of the plant,

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON McCABE & CO. LTD.

M. L. O'Connell
SECRETARY.

Engineer,

Auckland Harbour Board,

AUCKLAND.

"Donald" Elevator

L. S. Jones.

13-11-23 ^{break} loading butter

actual working times of Elevator.

	Hours
10:30 to 12: noon	1.50 ✓
1:15 to 4.	2.75 ✓
4:30 to 5.	.50 ✓
6 pm to 9:30 pm	3.50
Stopped 4. to 4:30.	8.25 Hours
	actually working

Current consumption, 10 units.

Boxes loaded. $\frac{1}{600} = 921.2$ boxes per working hour.

X

Labour

on assumption that crane + derrick together do 1600 boxes per hour
+ " " " conveyor does 1600 " " "

Conveyors

Ships gear & crane. (1 derrick) both working together

In hold 14. men.
 hatchmen 1.
 Operator 1.

In hold 24 men.
 hatchmen 2.
 winchmen 2.
 crane driver 1

On wharf. 14. men.

On wharf. 16 men.

Conveyors. 2. "

total 32. men

total 45 men.

Saving, say, 13. men.

Memorandum.

From . .

INSPECTOR AT

Electrician

To

THE ENGINEER

A. H. B.

Nov. 15^H 1923.

I beg to report that Donald Elevator.
14-11-23. S. S. Jones

Working hours.	Boxes loaded	current
8.45 ^{am} to 11 ^{am}	5444.	8 units
11.30 ^{am} to 12 n.		
1.15 ^{pm} to 4.30.		
Total hrs. 6	Total boxes 5444	8 units

24.2
 boxes
 5444×69
 375672
 $\div 1552 = 242$
 $\div 10 = 24.2$
 Hrs
 6 / 5444 boxes
 907 boxes per hr
 tons
 $\div 1552 = 24 \text{ tons per hour.}$

Signature

Edwards

AUCKLAND HARBOUR BOARD.

Nº 467

Memorandum.

From . .

INSPECTOR AT

Electrician

To

THE ENGINEER

Nov. 21 - 1923

I beg to report that

*"Donald's" Elevator
see. Trecauld.*

*Revd. 2 cases Counter gear.
in good order.*

Overalls

Signature _____

Donald "Elevator"

Nov. 22nd / 23

J. J. Remmenga ^{boxes} boxes of bats
No. 3. hatch.

Start 2 km. Stop 4:30^{pm} = 2½ hrs.

Boxes handled 2272 = 909 p.h.

Start 6 km. Stop 9:30 = 3½ hrs.

Boxes handled 4981 = 1470 p.h.

(Elevator stopped 20 min
bar bent by table down
hatch)

men employed.

1. operator on elevator ✓

2. " " conveyors ✓

1. fitter

2. labourers

2272

4981

7253 in 6 hrs = 1210 boxes p.h.

"DONALD ELEVATOR"Loading boxes of butter ^{into} ~~on~~ s/s "Ionic" 13/11/23

Actual working times of elevator :-

10.30	to	12 noon	1.50	hrs.
1.15	to	4 p.m.	2.75	"
4.30	to	5 p.m.	.50	"
6 p.m.	to	9.30 p.m.	3.50	"
			Hours actually working	
			<u>8.25</u>	

Stopped 4 to 4.30

Current consumption 10 units

Boxes loaded 7600 = 921.2 boxes per working hour.

Labour

On assumption that crane & derrick together do 1600 boxes per hr.
& " " " conveyor does 1600 " " "

<u>Conveyor</u>		<u>Ships gear (1 derrick) & 1 crane both working together.</u>	
In hold	14 men	In hold	24 men
Hatchmen	1	Hatchmen	2
Operator	1	Winchmen	2
On wharf	14	Cranedriver	1
Conveyors	2	On wharf	16
Total	<u>32 men</u>	Total	<u>45 men</u>
Saving say 13 men.			

^{Into} ~~On~~ s/s "Ionic" 14/11/23

Actual working hours:

8.45 a.m.	to	11 a.m.
11.30 "	"	12 noon
1.15 p.m.	"	4.30 p.m.
Total		<u>6 hours</u>

Current consumption

8 units

Boxes loaded

5444 = 907 boxes per hour
or 24 tons "^{Into} ~~On~~ s/s "Remuera" 22/11/23 No.3 hatch

Started 2 p.m.	stopped 4.30 p.m.	= 2½ hours
Boxes handled 2272		= 909 per hour
Started 6 p.m.	" 9.30 p.m.	= 3½ hours
Boxes handled 4981		= 1470 per hour

(Elevator stopped 20 minutes bar bent by table down hatch)

Men employed:

1 operator on elevator
2 operators " conveyors
1 fitter
2 labourers

7253 boxes in 6 hours = 1210 boxes per hour.

AUCKLAND HARBOUR BOARD.

Nº 471

Memorandum.

From . .

INSPECTOR AT

Electrician

To

THE ENGINEER

A. H. T. B.

Nov. 26 1923

I beg to report that

Donald "Elevator"

Keel in good order.

- 1. Spare 5 H.P. motor.*

Lawrence

Signature _____

Donald "Elevator"

L. S. Remuera

Nov. 23rd / 23

Start.	Stop	hrs.
8:30 ^{am}	10:30 ^{am}	2.
11 ^{am}	11:15 ^{am}	. 15 min
11:35 ^{am}	12:55 ^{pm}	1. 20
1-10 ^{pm}	2 ^{pm}	50
2-15 ^{pm}	6 ^{pm}	3. 45
6-15 ^{pm}	8 ^{pm}	1. 45
8:30 ^{pm}	9:30.	1.

Total hrs. 10^{hr} 55^{min} say 11^{hrs}

Boxes handled 10,600.

average per. 963.

Overhaul

1. operators
2. conveyors
1. fitter
2. laborers

Report 23/11/23
"Wanted"

Donald "Elevator"

1.1 Remunera.

Sat Nov. 24th / 23

Start - Stop

9.20^{am} - 11.50^{am} = 2 1/2 hrs

1.5^{pm} - 2.25^{pm} = 1.20 min.

Butter handled - 4343 boxes.

= 1086 boxes per hr.

A.H.B. labour

1. operator on elevator

2 " " conveyors

1. fitter

2. labourers.

Ships labour

15 in hold

1. hatchman

10. on wharf

26 men.

27th November 1923.

"DONALD" ELEVATOR

Loading Butter Boxes ^{into} s/s "Remuera" 23/11/23.

<u>Start</u>	<u>Stop</u>	<u>Hours</u>
8.30 a.m.	10.30 a.m.	2
11.0 "	11.15 "	. 15 min.
11.35 "	12.55 p.m.	1 . 20 "
1.10 p.m.	2.0 "	. 50 "
2.15 "	6.0 "	3. 45 "
6.15 "	8.0 "	1 . 45 "
8.30 "	9.30 "	1
<u>Total hours</u>		10hrs.55 min.
say		<u>11 hrs.</u>

Boxes handled = average per hour $\frac{10,600}{963}$

AHB - Labour:

- 1 operator
- 2 conveyors
- 1 fitter
- 2 labourers

Loading Butter boxes ^{into} s/s "Remuera" 24/11/23

<u>Start</u>	<u>Stop</u>	<u>Hours</u>
9.20 a.m.	11.50 a.m.	2. 30 min.
1.50 p.m.	2.25 p.m.	1. 20 "
<u>Total</u>		<u>3. 50 "</u>

Boxes handled = average per hour $\frac{4343}{1086}$

AHB. Labour

- 1 operator on elevator
- 2 operators on conveyors
- 1 fitter
- 2 labourers

Ships Labour

- 15 men in hold
- 1 hatchman
- 10 men on wharf
- 26 men

LOADING BUTTER BOXES INTO S/S "MIDDLESEX"

Dec.6th 1923. 9 hrs. (Actual time wkg) boxes handled 8600 = 955 per hr.
 10¼ " (Ship's time) = 839 "

" 7th 1923 7hrs.55 min. (Actual time wkg) " 8051 = 1017 "
 (Ship's time) = 847 "

Memorandum.

From . .

INSPECTOR AT

To

THE ENGINEER

Nov 20th 1923

*Machinery**Donald Elevator Spares*

I beg to report that

With reference to telephone inquiry of to-day re-above this was attended to & reported as having been received & checked. (See yellow memo. 1059 Nov 8th)
 These spares were all in good order.

Bevels & gears were received & fitted to Elevator on Nov 20th & was put to use on SS Remora on Nov 22nd

Signature

A. L. Robertson

29th November 1923

Messrs. Richardson McCabe & Co. Ltd.,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" ELEVATOR

Re yours of 19th instant.

We have now taken delivery of the two cases mentioned, and on opening them up find that they contain the counting gear only.

The spare motor, chain wheel pinion, and spares for elevator were in the other two cases delivered to us ex "Trecarrell". I think this finds the whole contract complete, including spares.

Yours truly,

ENGINEER TO THE BOARD

AUCKLAND HARBOUR BOARD.

No 476

Memorandum.

From . .

INSPECTOR AT

Electrician

To

THE ENGINEER

A. H. T.

Dec. 11 1922

I beg to report that

Donald Elevator S.S. Remuera.
my figures for the Remuera are to the nearest hour & are actual running times.

actually the elevator started at 2.20^{pm} & the other times are correct.

re
S.S. Middlesex on Dec. 6^H & 7 I have not yet been able to get the number of boxes handled.

Signature

Perrenell

17th December 1923

The Chairman(only)

"DONALD" ELEVATOR

I quite concur with your suggestion that the proposed charges should cover all labour, except the driver's wages, and should not have any small irritating extras for other labour employed.

This is precisely the way we have always based our charges, and in arriving at a charge we have allowed for interest, depreciation repairs, stores, painting and labour putting gear aboard and ashore.

I am of opinion that the charge for the "Donald Elevator" should not be less than £1 per hour plus driver's wages, and the conveyers should be 3/6d per hour each plus driver's wages.

The Board's object in providing this plant was to expedite the quick turn round of shipping and ^{to} lower charges, but unless this economy finds quick expression in lessening charges, and so lowering the cost of living, the Board is meanwhile merely putting money into private pockets.

The hirer should be made responsible for damage.

The "Donald" Elevator has been made specially light to enable us to handle it with a 5 ton crane.

While loading the "Middlesex" the other day, I saw men pushing butter boxes down gravity rollers from a distance of about 8 to 10 feet, and these were more frequently striking the cross-bars of the slings than not.

Neither the structure nor the canvas slings will stand this type of handling, and our Traffic Department should see that misuse of this kind is not allowed.

ENGINEER TO THE BOARD

Auckland Harbour Board

MEMORANDUM

FROM,

D. Penman

To

22nd Dec 1923

Insp of Machinery

THE ENGINEER

L 27249

Subject: Donald Elevator & Conveyors

Sir

The following items are repayable
by suppliers of above machines

*300
Small
change*

		£	S.	D.
4	Cast Iron pulleys (Loading end)		16	0
4	Semi. Steel " Disch "	1	17	0
	Labour.		16	1
		3	9	1

*Fitting guards to Gov. Inspector
requirements*

*Cannot
be
charged
to*

6 doz	rivets F. Heads.	£	1	0	0
8	" screws. (Round heads)		10	9	
	Labour.		8	14	1
			10	4	10

Total Cost: £ 13-13-11

(see to Penman yellow 1108)

Steel plate

14-10

14 8 9

107 1 8 10

107 4 9

D. Penman

£ 16-2-4

*Don't
Return
drawings*

AUCKLAND HARBOUR BOARD.

No 1108

Memorandum.

From . . .

INSPECTOR AT

Queens Wharf

To

THE ENGINEER

Mr Landon

Jan 5th 1923

~~Has to report that~~

Re your inquiry about the plate
for Donald Elevator
It weighed 295 lbs and
cost 14/10

Signature

J. Peuman

Memorandum.

From . .

INSPECTOR AT

Electrician

To

THE ENGINEER

A. H. B.

Jan 8th 19 23

I beg to report that

Donald Elevator
S S 'Middlesex'

Dec 6th / 23.

9 hrs. (actual time working) boxes handled. 8,600 = 955 boxes per hr.
(ships time 10 1/4 hrs) = 839 boxes per hr.

Dec. 7th

7 hrs. 55 min (actual time working) boxes handled 8,051 = 1017 boxes per hr.
(ships time 9 1/2 hrs) = 847 boxes per hr.

Sawards

Signature

Memorandum.

From . .

INSPECTOR AT

Electrician

To

THE ENGINEER

Jan 16th 1924

I beg to report that

Donald Elevator

Electrical gear all received in good order & condition and has given satisfaction on running test.

S. Daniels

Signature _____

16th January 1924

The Treasurer

"DONALD" ELEVATOR
Specification No. 765

The balance of this contract may now be paid.

ENGINEER TO THE BOARD

Memorandum.

From . .

INSPECTOR ~~AT~~ of
Machinery

To

THE ENGINEER

16th Jan^y 1924

A H B

I beg to ^{Subject} report that Carriage for Donald Elevator
Elevator was placed on this carriage to
transport it from South end of Eastern side
of Queens Wharf to the Ss "Athenic" on
Western side of Queen Wharf. To day Wednesday
The axle of Centre wheels bent which
cause wheel to rub hard on wood carriage
which acted as a brake, also rivets in
Carriage wheels loosened & one broke.
Having matter attended to

Signature

D Penman

1st February 1924

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" BAND CONVEYORS

The steel ball races at either end of rollers of band conveyor supplied by Messrs. Rownson Drew & Clydesdale are not standing up to the work to which they are subjected.

The double cone in a number of these rollers has broken at the bottom of the groove due to shock, and this seems likely to recur.

Please supply as early as possible:-

½ gross of ball bearings complete without roller, so that broken parts may be replaced without delay.

It is desirable that Messrs. Rownson Drew & Clydesdale should endeavour to overcome this weakness, as it appears at present that this will be a large item in the maintenance of this plant, as well as being a source of delay during the work.

I am enclosing a blueprint S243 on which the part required is indicated in red. I also enclose official order for the bearings

Yours truly,

ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.

LIMITED.

GBR/TM

TELEGRAPHIC ADDRESS: "DREDGER," WELLINGTON.

P.O. BOX 863.

11 GREY STREET,

Wellington, N.Z. 5th February, 1924.

Sir,

"DONALD" BAND CONVEYOR.

We are in receipt of your letter of February 1st., and are sorry to hear of the trouble which you are having with the Ball Races of the above. We are accordingly cabling our Principals asking them to send forward supplies of new ball bearings as asked for by you.

We are also passing forward to our Principals a copy of your letter and drawing and will ask them to go carefully into this matter to see whether any improvement can be made in the type of ball bearing used so as to avoid the trouble you refer to.

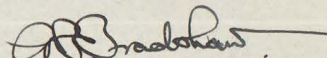
Assuring you of our best attention,

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.,


ENGINEER.

W.H.Hamer, Esq.,

Engineer,

Auckland Harbour Board,

AUCKLAND. N.Z.

RICHARDSON, McCABE & CO. 8

LIMITED.

MLC/TM

TELEGRAPHIC ADDRESS: "DREDGER" WELLINGTON.

P.O. BOX 863

11 GREY STREET,

Wellington, N.Z.

22nd September 1923

Sir,

We enclose herewith our invoice in duplicate covering for 1 - Portable Elevator Conveyor and 6 Portable Band Conveyors which are coming forward per "MAHANA" and "TRECARELL" to Auckland.

You will note from the invoice that there is a balance of £638/-/- due for payment in New Zealand and under the terms of the contract 20% is payable on delivery on the wharf and the balance 5% after the plant has been erected and tested.

Trusting to hear from you soon that the plant is proving satisfactory,

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.,

M. L. Conway
SECRETARY.

The Engineer,
Auckland Harbour Board,
AUCKLAND. N.Z.

P.O. BOX 63
TELEPHONES { 1932
 3125

11, GREY STREET.

WELLINGTON, N.Z., 22nd September, 1923.

M Auckland Harbour Board.

Dr. to RICHARDSON, McCABE & Co., LTD.
ENGINEERS, IMPORTERS, MANUFACTURERS' AGENTS AND COMMISSION MERCHANTS.

Rate £ s. d. £ s. d.

To 1 Donald Portable Elevator Conveyor and
6 portable band conveyors, net

2509 - -

C.i.f.e. dutypaid Auckland,

Less amounts paid in London; £1754/5/-

116/15/-

1871 - -

Balance due for payment in N.Z.

...

2638 - -

20% on delivery on wharf,
5% after erection.

229-9-0 b.R.D.
1/10/23

Signature _____

f

AUCKLAND HARBOUR BOARD.

No. 488

Memorandum.

From . .

INSPECTOR AT

Electrician

To

THE ENGINEER

A H 73

Feb. 2nd 1924.

I beg to report that

Spare motors

Reply to Invt
No 17860.

There is a spare motor for the
"Donald" Elevator, all other
motors are in use

Lawrence

Signature

Memorandum.

From . .

Sludgeman
INSPECTOR AT

Office

To

THE ENGINEER

May 19 19*24*

I beg to report that

"Donald" Band Conveyors

I have it from Richardson McCabe's letter that we may have got conveyors with many faulty rollers & so it will be advisable to return all spares sent.

Sawards

Signature _____

RICHARDSON, McCABE & CO.

LIMITED.

GBB/TM

TELEGRAPHIC ADDRESS: "DREDGER," WELLINGTON.

P.O. BOX 863.

11 GREY STREET,

Wellington, N.Z.

16th May,

1924.



Sir,

"DONALD" BAND CONVEYORS.

We would refer again to your letter of February 1st., in which you mentioned that the steel ball races in the rollers of your Band Conveyor were failing in a number of cases, and asking us to order 72 new ball bearing complete from Messrs. Rowson Drew & Clydesdale. Immediately on receipt of your letter we cabled Messrs. Rowsons with regard to this trouble and asked for new bearings to be sent as early as possible.

We have now had advice from them that as soon as ever they heard from us that these failures had occurred they shipped 100 new bearings per "ARAWA", these being supplied free of charge. In addition they are sending down with the spare armature and starter for your band type stacker the 72 new bearings which you ordered. This will mean therefore that you will have in all 172 bearings - 100 of these being supplied free of charge.

*Answer to you
in N.Z. water*

If you have been having further failures in the existing bearings it will no doubt be worth your while to have as large a number as this but if you consider that you do not require so many please advise us.

Our Principals have asked us to express to you their regret for the trouble you have had with regard to the failures in the existing bearings and would explain that this was due to an error in machining a batch of these bearings, which was not detected till some time afterwards.

All the new bearings which are being sent down have been thickened up both as regards the cone and the race and they are confident that you will not have any trouble with these.

We have the honour to be

Sir,

Your obedient servants,

RICHARDSON McCABE & COY. LD.;

R. B. Bradshaw
ENGINEER.

W.H. Hamer, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND. N.Z.

21st May 1924

Messrs. Richardson Mc.Cabe & Co.Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

"DONALD" BAND CONVEYORS

Your letter of the 16th re spare bearings for the above.

With the end of the butter season, these bearings are not now giving so much trouble, but in view of your principals admission that a number of them are incorrectly machined, it will probably be advisable for us to retain all the 172 bearings which you are supplying, as breakages will no doubt be experienced again with this class of cargo next season.

Yours truly,

ACTING ENGINEER TO THE BOARD

29th May 1924

Messrs, Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

PORTABLE BAND PILER

I have received your letter of the 28th, and note that the portable band piler ordered by this Board is on board the "Port Victor", which arrived in this port on the 27th.

This will no doubt be delivered in the course of the next few days.

"DONALD" BAND CONVEYORS

The 100 new bearings shipped per "Arawa" as mentioned in your letter of 16th May have not yet come to hand.

I will be glad to get these as soon as possible so as to replace missing rollers.

Yours truly,

ACTING ENGINEER TO THE BOARD

RICHARDSON, McCABE & CO.
LIMITED.

TELEGRAPHIC ADDRESS: "DREDGER," WELLINGTON.
P.O. BOX 863.

11 GREY STREET,

Wellington, N.Z. June 2nd 1924

MLC/EA.

Sir,

We are in receipt of your letter of May 29th and have to advise you that the 100 new bearings are going forward to Auckland per s.s. "Attua" today, and we enclose herewith boat note.

We have the honour to be,

Sir,

Your obedient servants,

RICHARDSON McCABE & CO. LTD.

W. T. Corbett

SECRETARY.

Acting Engineer,
Auckland Harbour Board,
AUCKLAND.

*D/d to Mr West
Instr. 18280
11/6/24*

UNION STEAM SHIP COMPANY OF NEW ZEALAND,

LIMITED

Port of *Wellington* *June 2nd* 1924

Received for Shipment per S.S. *Atua*
(or other vessel)

subject to the Exceptions and Stipulations appearing at the foot hereof and endorsed hereon.

The undernoted packages, from *RICHARDSON, McGABE & CO. LTD.*

to be forwarded to *Auckland* via intermediate Ports

Consigned to *Auckland Harbour Bd.*

Freight payable at *Wellington*

DANGEROUS GOODS.—Merchants are cautioned against shipping (without being declared on Shipping Order and specially arranged for with the Company) goods of a dangerous or damaging nature, as by so doing they become responsible for all consequential damage, and also render themselves liable to penalties imposed by statute.

MARKS, NOS., Etc.

DESCRIPTION OF PACKAGES.

Auck. H. Bd

Auckland

one pkg Bearings

*(15" x 7" x 7")
3olls.*

*File with
James Corbett*



THE FOLLOWING ARE THE CONDITIONS, EXCEPTIONS AND STIPULATIONS REFERRED TO.

1. The Act of God, the King's enemies, pirates, robbers or thieves by land or sea, whether in the service of the Company or otherwise, restraints of princes, rulers or people, restrictions and consequences of quarantine, the requirements of mail service, riots, strikes, lockouts or other labour disturbances, or delay or hindrance caused directly or indirectly thereby, and loss or damage resulting therefrom, fire afloat or ashore, jettison, barratry, vermin, collision or stranding, and all accidents, loss or damage occasioned by any defects whatsoever in the hull, machinery, or equipment of the vessel whether such defects existed before the commencement of or arose or developed during the voyage, provided all reasonable means have been taken to make the vessel seaworthy, or from the neglect, default or error in judgment of pilot, master or crew, or other servants, or of the Agents of the Company and all and every the dangers and accidents of the seas, rivers, and steam navigation, of whatever nature or kind, are excepted.

2. The steamer to have liberty either before or after proceeding towards the port of discharge to proceed to, and stay at, any ports or places whatsoever (although in a contrary direction to, or out of, or beyond, the route to the said port of discharge) once or oftener, in any order, backwards or forwards for the purpose of dry-docking (even with cargo on board) or loading or discharging cargo or passengers or mails, or for any purpose whatsoever, also to tow and assist vessels in all situations and to sail with or without pilots. All the said liberties, exceptions and conditions shall apply although the vessel may have deviated from the contract voyage, and although such deviation may amount to change or abandonment of the voyage all such deviations being deemed within the voyage, and notwithstanding unseaworthiness or unfitness of the ship at the commencement or at any period of the voyage.

[OVER

3. The Company does not guarantee the time of ship's arrival at or departure from any port, and will not hold itself responsible for the loss of or damage to goods lying on any wharf awaiting shipment, or after discharge from vessel's tackle. Consignees or their assigns must be ready to take delivery of goods as soon as the ship is ready to discharge them, otherwise the Company shall be at liberty to land or warehouse the goods, or discharge them into a store, ship, or Hulk, or into lighters, or on a wharf as customary, at the shipper's risk and expense. Sorting and stacking charges, if any, to be borne by consignee. Goods for any roadstead only received on the understanding that if deemed necessary by the Master to proceed on voyage without discharging the whole or any part of said goods, such overcarrying to be at shipper's risk.

4. The Ship will not be responsible for correct delivery unless each package is distinctly, correctly and permanently marked by the shipper before shipment, with a mark and number or address, and also with the name of the port of delivery.

5. The Company is to be at liberty to carry the goods to their port of destination by the within mentioned steamer or any other steamer either belonging to the Company or to other persons, proceeding by any route, and whether directly or indirectly to such port, and in so doing to carry the goods beyond their port of destination, and to tranship or land or store the goods either ashore or afloat and re-ship and forward the same. Goods which are forwarded to their port of destination by steamer belonging to a carrier other than the Company shall be so forwarded at the Company's expense, but at shipper's risk and subject to the ordinary conditions of carriage of such other carrier or subject to any special terms required by him; and in arranging for the storage, transport or transhipment of the goods the Company acts as forwarding agent only, incurring no responsibility as carrier or custodian of the goods or otherwise for any delay, loss or damage, however caused, except while the goods are actually in the Company's possession. The owner will, however, be entitled to the benefit of the obligations of any carrier or other person having the custody of the goods under their agreements with the Company, and the Company will at the request and cost of the owner endeavour to enforce such obligations for his benefit.

6. The Company will not be responsible under any circumstances if goods or any portion of them be missed or lost, unless a claim be made on account thereof within seven days from the date the goods were landed, or should have been landed, if they prove missing, and it is agreed that in settlement of any claim for loss of, or damage to, any goods such claim shall be restricted to the cash value of the goods at the port of discharge, at the date of discharge, provided such value does not exceed the cash value at shipping port at the date of shipment with actual costs added, and in case of such excess to such last-mentioned cash value and costs.

7. Weight, measure, quality, contents and value unknown. The Company shall not be liable for rust, leakage, shrinkage, evaporation, explosion, stains, heat, sweat, decay, torn wrappers, broken cords or hoops; breakages of marble, slate, glass, china, earthenware, stoves, grates, or any kind of cast-iron packages or other goods of a brittle or fragile nature from whatsoever cause arising; loss or damage arising from insufficiency in packing or in strength of packages; illegibility, insufficiency, or obliterations of marks or numbers; the injurious effects of other goods, effects of climates, or heat of holds; risk of craft, of transhipment; effects of coaling on the voyage; or for the condition of re-exported or re-packed goods, or for the inside packages of tea, or for loss of specie, bullion, bank-notes, bonds, gold, silver, jewellery, watches, clocks, precious stones, precious metals, securities for money, paintings, sculptures, or other works of art, or any property of special value; nor beyond the sum of £10 per cubic foot for any goods or relatively for any proportion thereof nor beyond the sum of £100 for any one package (in the event of the value of such goods or package respectively exceeding the before mentioned amounts), unless the value thereof shall have been declared at time of shipment, and the Shipping Order signed with a declaration of the nature and value of the goods appearing thereon, and extra freight in respect of the same agreed upon and paid; nor for loss, injury, or detention to packages, intended for different consignees, but made up into one package, unless the contents and value of each separate package be given before shipment, and freight paid accordingly; an untrue declaration of the contents and value shall release the Company from all responsibility.

8. Live stock to be carried on deck or below at ship's option, and at the sole risk of shippers. The Company will not be accountable for mortality or accidents of any kind in shipping or landing of stock. Freight on any kind of live stock to be in every instance according to the number shipped.

9. Fruit, shrubs, trees, meats, game, oysters, vegetables, and all kinds of perishable property to be carried on deck or below at shipper's risk. Oils and all other liquids at shipper's risk of leakage, unless caused by improper stowage.

10. All cargoes liable to damage other cargo by reason of smell, risk of fire, explosion or other reason, except that of leakage or sweat, to be carried on deck at risk of shipper.

11. If chemicals or other goods of a dangerous nature are shipped without being declared on Shipping Order and specially arranged for, they may be thrown overboard and the shippers of such goods will be liable not only to the penalties imposed by statute but also for damages sustained in consequence of such shipment, either to persons, ships or cargo.

12. If by reason of blockade or interdiction of the port of destination, war, or disturbances, restrictions of quarantine, sanitary customs labour or other regulations, lock outs, strikes, trade disputes or labour disturbances, or any other reasonable cause, the entering of or discharging in the port of destination is in the opinion of the Master, likely to be prevented or delayed, or the commencement, continuance or completion of the voyage is prevented, or is considered by the Master in his absolute discretion unsafe and inadvisable, the goods or any portion thereof may, at the option of the Master, and at the entire expense and risk of the owners of the goods, either be discharged into quarantine depot, hulk or other vessel required for the ship's despatch, or transhipped to another vessel to be forwarded to destination, or landed or warehoused or otherwise disposed of as circumstances may admit, with power in the case of perishable goods to sell same by auction without reserve at the owner's risk, each or any of which things may be done at such port or place (including the port of shipment) as the Master may in his absolute discretion consider safe, suitable, or convenient; or the Master may, notwithstanding the ship's arrival at Port of destination, or the commencement of the discharge of the goods, proceed on his voyage and land the goods at any other port which he may consider safe, or may retain the goods on board until the ship's return, all at the expense and risk of the owners of the goods, and the ship's responsibility shall cease when the goods are discharged into the hands of the port authorities, or into other proper or safe keeping, or according to the custom of the port, or where perishable goods are sold as aforesaid, the Master gives notice as soon as practicable to the consignee or shippers of the goods so far as they can be ascertained. The Company shall not be responsible for loss or damage of any kind which may result directly or indirectly from any of the above causes. Freight when payable by shippers is to be considered as earned notwithstanding the non-completion of the voyage under any of the above circumstances. When the freight is payable by the consignee and the goods are discharged other than at the port of destination under the provisions of this clause, the consignee or the shipper at the option of the Company, shall be liable for freight at the ordinary rate charged by the Company for carriage of similar goods from port of shipment to the actual port of discharge, or if there be no such ordinary rate, or if the goods be returned to the port of shipment, then such consignee or shipper shall be liable for freight at a rate which bears the same proportion to the freight which would have been payable if the voyage had been completed which the mileage actually traversed bears to the mileage which would in such case have been traversed. The Company shall have a lien on the goods for all freight charges and expenses payable by the consignee or shipper thereon under the provisions of this clause.

13. When, owing to bad weather, the exigencies of the mail service, or other cause, the goods cannot be shipped at the port of shipment or landed at the port of destination within the time allotted for stoppage at such port, the Company will not be responsible for any loss or damage caused by failure to ship or land the said goods or delay in shipment or landing thereof, and reserves to itself the right to convey any goods not landed to the next port on the voyage or to the final port of call, to be returned thence at the first available opportunity.

14. The Company will not be responsible for overcarriage or landing of cargo at wrong port from whatever cause, but will remedy same by first available opportunity. 15. Room at ports of transhipment is not guaranteed.

16. Where lighterage, raiage, etc., is incurred for transit of goods either to or from the Company's steamers, the sole risk of same shall be borne by the shippers, notwithstanding in some instances it may be the customs of the Company to defray the cost of such transit.

17. All fines and expenses or losses by detention of vessel or cargo caused by incorrect or insufficient marking, or by incorrect or incomplete description of weight, or any other particulars required by the Authorities at the port of delivery, either upon the goods or the Shipping Order, shall be paid by the shippers. The Company will not be responsible for losses which may arise in consequence of the laws of this or any other country.

18. Freight when payable by the shipper is to be considered as earned, ship or goods lost or not lost. The Company shall have a lien upon all goods for payment of freight and charges, including dead freight, dead demurrage, forwarding charges, and charges for carriage to port at shipment, whether payable in advance or not, and for all charges expenses and damages for which the goods or the shippers or consignees thereof are liable under this Shipping Order. The Company may, at their discretion, and without being liable for any loss or damage thereby sustained, sell, at the expiration of 12 hours after arrival at the port of consignment, any perishable goods on which the freight is unpaid. They may likewise, without any further notice than is herein contained, at the expiration of 90 days from the time delivery of the goods should have been taken, sell such goods as are not of a perishable nature, or so much thereof as may be necessary to satisfy the said lien, and retain from the proceeds of sale the freight and other charges due to the Company or to any other vessel in respect of the goods. Any such sale shall not prejudice or affect the Company's or other vessel's or her owner's right to recover from the person or persons liable to pay the same, the balance, if any, of freight and charges due in respect of the goods should the proceeds of sale thereof prove insufficient to satisfy the said lien. Any surplus shall be payable to the shipper.

19. The Company reserves the right to charge by weight, measurement, or value and to re-measure or re-weigh the goods at port of destination, amending the charge for freight accordingly. 20. Perishable or other goods if landed with marks obliterated shall be accepted by consignee, if of the same description, in full satisfaction or any deficiency in the goods named in the Shipping Receipt. 21. If required by the Company, the Shipping Order must be presented or given up, duly endorsed, in exchange for the goods. 22. It is agreed that the person delivering any goods to the said Company for shipment is authorised to sign the Shipping Order for the shipper. 23. General Average to be adjusted according to "York-Antwerp Rules 1890."

11th June 1924

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,
I beg to acknowledge receipt of yours of 10th instant
enclosing duplicate copies of invoices covering spare armature and
starter, and 72 ball bearings, shipped to Auckland per s/s "Norfolk".

Yours truly,

ENGINEER TO THE BOARD

10th September 1924

Mr C.F. Richardson,
c/o Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street, WELLINGTON.

Dear Sir,

"DONALD" ELEVATOR

This machine has been out of use for some time as the Shipping Companies alleged that they had to stop too often because of damage to the bars through the canvas slings getting bent and needing adjustment.

These bars no doubt got rough treatment by being struck by boxes pushed against them, down gravity rollers from a distance of 8 to 10 feet.

The fact however is that the machine is not in use, and is not therefore revenue producing after our large expenditure.

Another serious defect is that the canvas slings when rising to receive their loads have the loose part hanging outwards instead of inwards, with the result that very often butter boxes etc. do not properly rest in the slings, and frequently appeared to me to be likely to fall back on to the men working below.

This is not what we expected, and has been the cause of considerable complaint, and I am surprised that the makers did not call our attention to this or provide some means of overcoming it.

It is now proposed to narrow the width of the machine by 2ft 3 inches, and of the belt by 1ft 8 inches, to take butter boxes only. The bars will then be less likely to bend.

Can you give me at once a quotation for a complete set of slings of same length as before, but reduced in width to 2ft 3 inches to take butter boxes only.

Yours truly,

ENGINEER TO THE BOARD



Auckland Harbour Board.

MEMORANDUM

FROM

THE SECRETARY

TO

Auckland, N. Z.

8th. September, 1924.

The Engineer,

A.H.B.

DONALD ELEVATOR.

The Chairman desires a report from you as to whether it is practicable to shorten the rods on this elevator so as to minimise the damage and make it more suitable for the handling of butter.

Secretary.

HBB/MJB.

*To reduce overall width of machine by 2'-6" } would cost about
4 " width of canvas pockets by 1'-8" } 1/50.
This would materially strengthen bars, but machine would only be suitable for butter ^{or similar} _{or similar}*

J.D.
73.9.24

14 pages

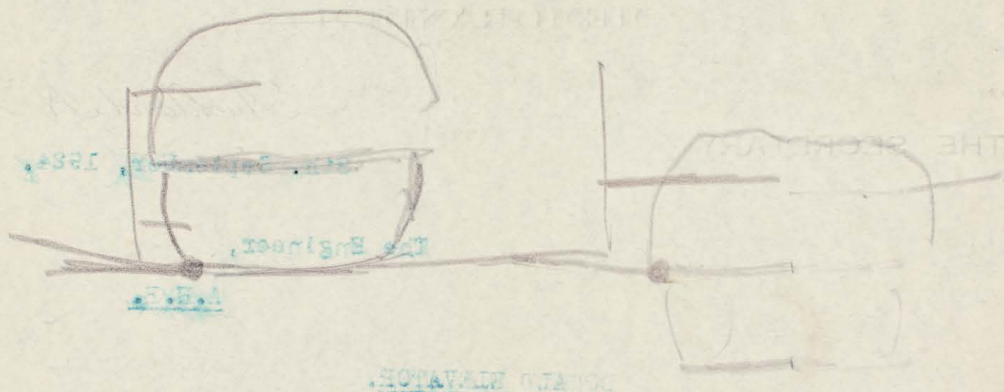
Index

517-20

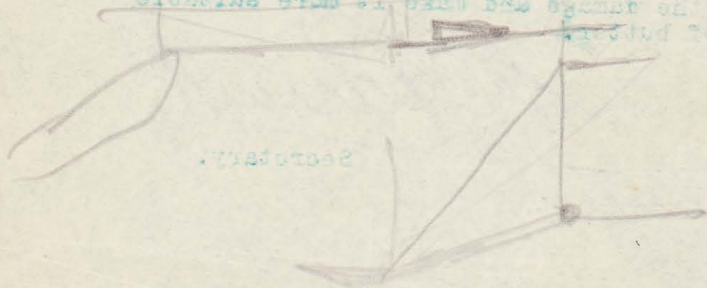
Reference

Inventory

Inventory



The diagram shows a report of a failure from the fact as to whether
 the failure could be due to the fact that the elevator
 was in the fact that the failure was due to the fact that
 the failure was due to the fact that the failure was due to the fact that



Elevator

Present Tubes - 14 gauge
= 512 lb.

Relative strength

• 1

If made of 12 gauge

weight - 650 lb

= Increase 138 lb

Relative strength = 1.24

If made of 11 gauge

weight 717 lb

= Increase 205 lb.

Relative strength = 1.32

73.9.24

NOTICE:—The amount

SUNDAY.

MONDAY.

TUESDAY, up to 5 p.m.

8 1/2

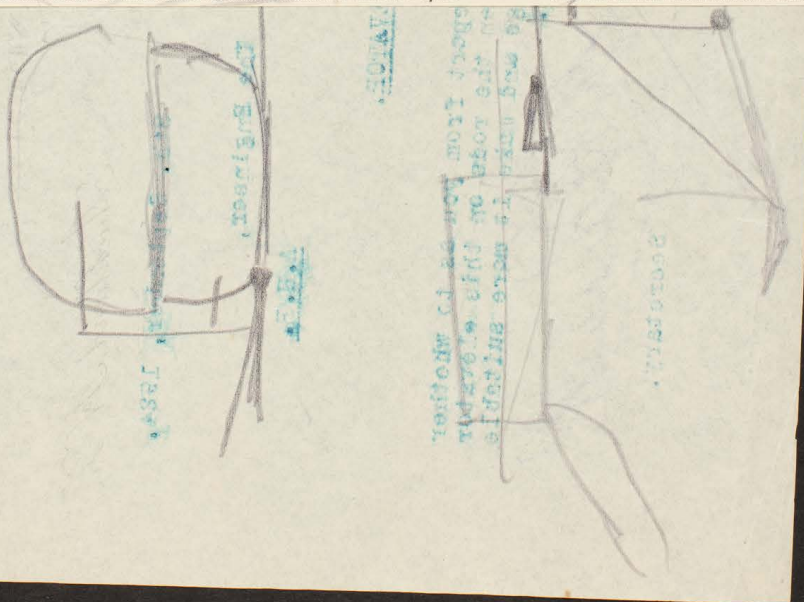
8 1/2

Signature C. Stuart

Total ... 39 1/2

Examined by W. H. [unclear] Timekeeper

97 [unclear] Foreman.



RICHARDSON, McCABE & CO.

LIMITED.

GBB/TM

TELEGRAPHIC ADDRESS: "DREDGER," WELLINGTON.

P.O. BOX 863.

11 GREY STREET,

Wellington, N.Z. 24th September, 1924

Sir,

We would refer again to your letter of September 10th., in which you asked for a price for slings 2'3" wide, suitable for your Donald Elevator Conveyor. As we have not the necessary information by us we duly referred this matter to our Principals by cable and asked them for a quotation on the required equipment. We have now received their reply and accordingly have pleasure in quoting as follows -

95 canvas slings 27" wide for Donald Elevator
Conveyor £1/11/- each ... **£147/5/-**

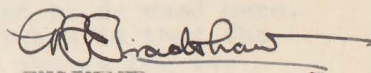
The above price includes for delivery c.i.f.e. duty paid Auckland, for payment against delivery.

In the event of receiving your order for the above we would cable same to our Principals in order that they could put the work on these slings in hand immediately.

Assuring you of our best attention,

We have the honour to be
Sir,

Your obedient servants,
RICHARDSON McCABE & COY. LD.,


ENGINEER.

The Engineer,
Auckland Harbour Board,
AUCKLAND. N.Z.

24th October 1924

The Chairman

"DONALD" ELEVATOR

Re your enquiry of 8th September regarding the shortening of the rods of the above in order to minimise damage, and make elevator suitable for handling butter only, I have to say that this elevator was constructed to meet the requirements of the Traffic Department, and to be able to receive :-

Meat carcasses 4ft. long	(70 lbs. weight)
Cases of rabbits 2'9" long	(80 " ")
Butter boxes 14" cube	(30 " ")
Cheese crates 2'6" long	(170 " ")

The weight of the elevator had not to exceed the lifting capacity of our electric cranes.

I recommend that no structural alteration as suggested should be made.

We have altered the lead of the canvas slings so that they now fall automatically into the proper position to receive goods to be shipped, but nothing that can be done will help unless there are responsible men, both feeding the machine on the quayside and unloading it in the hold.

These elevators must be as light as possible for the purpose of expeditious handling, and they can therefore quite easily be put out of action, either purposely or accidentally.

They are used with great advantage in other ports, and there is not the slightest reason why they should not be so used here.

One point that should be carefully watched is that the charge for the elevator should not be more than the charge for two electric cranes for the same load handled, for a hatchway will not take more than one elevator, whereas two electric cranes could be put to work in the same hatchway.

The elevator is ready for work at any time.

ENGINEER TO THE BOARD

5th February 1925

The Traffic Manager

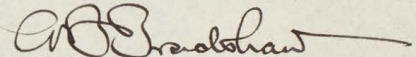
"DONALD" ELEVATOR

The alterations to this machine are now completed, and every effort should be made to have it employed as frequently as possible.

The alterations have reduced the weight by 14 cwt, the existing weight being about 4½ tons.

ACTING ENGINEER TO THE BOARD

RICHARDSON MCCABE & COY. LD.


ENGINEER.

The Engineer,
Auckland Harbour Board,
AUCKLAND. N .Z.

RICHARDSON, McCABE & CO.
LIMITED.

GBB/TM

TELEGRAPHIC ADDRESS: "DREDGER," WELLINGTON.
P.O. BOX 863.

11 GREY STREET.

Wellington, N.Z. 28th November, 1924.

Sir,

DONALD ELEVATOR.

We would refer to your letter of September 10th., in connection with the above, in which you mentioned that the canvas slings of this machine when rising to receive their loads have the loose part hanging outwards. We duly referred this point to Messrs. Rowson Drew & Clydesdale and they have now replied as follows -

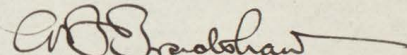
"With reference to the complaint that the slings arrive at the loading point in reverse position we have found that this is always the case, but in every instance we advise that the cargo is put into the sling as high as possible so that as it falls into the sling it automatically brings the bottom portion of it into position."

"In order to make this more clear a rough hand sketch is enclosed."

We enclose herewith the sketch referred to which may possibly be of interest to you.

We have the honour to be
Sir,

Your obedient servants,
RICHARDSON McCABE & COY. LD.


ENGINEER.

The Engineer,
Auckland Harbour Board,
AUCKLAND. N .Z.

ANDERSON, MOORE & CO. LTD.
RECEIVED
NOV 24 1924
And...
108Y ST., WELLINGTON



Correct position in red.

To R. M. C. & Co.

E. W. Plummer
15/10/24

1st December 1924

Messrs. Richardson McCabe & Co. Ltd,
11 Grey Street,
WELLINGTON.

Dear Sirs,

DONALD ELEVATOR

Re yours of 28th November, I beg to thank you for
the information contained therein.

Yours truly,

ENGINEER TO THE BOARD

Auckland Harbour Board

MEMORANDUM

FROM

Electrician

To

20th November 1924

THE ENGINEER

L 27249

Donald Elevator

at Taurakina Central Wharf

Thursday 13-11-24. Ship berthed 5³⁰ pm.

Elevator was slung and put on board after tea (No 1 Hatch)

Friday 14-11-24

8 am - 9¹⁰ am. Removing hatches, adjusting elevator, erecting band conveyors on wharf.

9¹⁰ am Trial run of elevator

9⁴⁰ am Buttes started

9⁵⁰ am. Box of buttes jammed at loading end. Delay 2 hours.

10³⁵ am Buttes started

12 noon Finish for lunch.

1 pm - 1²⁵ pm. Adjusting elevator

1²⁵ pm Buttes started

3³⁵ pm Bar, badly bent down hatch. delay 10 minutes

5 pm. Finish for tea

6 pm - 6²⁵ pm. Adjusting elevator, removing hatches

6²⁵ pm Buttes started

9 pm Finish buttes

9³⁰ pm - 10³⁰ pm. Slowing elevator and band conveyors.

Bales loaded, 8396. Average bales per hour, say from 10 am to 9³⁰ pm (9 1/2 hrs) 880

During the day there were frequent short stoppages of from one to two minutes for adjustment of elevator and shifting gear down hold.

Men employed.

By Stevedore - 12 on wharf - By A. H. B. - 1 operator for elevator

1 hatchman

3 operators for band conveyors

15 in hold.

1 labourer on deck

1 " in hold

1 fitter

1 fitters mate

Auckland Harbour Board

MEMORANDUM

FROM

Electrician

To

20th November 1924

THE ENGINEER

L. 27249

Saturday 15-11-24

8³⁰am - 8³⁰am. Taking off hatches, setting elevator & band conveyors.

8³⁰am. Buttes started

12 noon Finish for lunch

1¹⁵pm - 1¹⁵pm. Removing hatches etc

1¹⁵pm Start buttes

2¹⁵pm Finish buttes

2⁴⁵pm - 5pm. Removing elevator and band conveyors, stowing same in shed and shifting cranes.

Bales loaded. 4628

Average bales per hour from say 8³⁰am to 5pm (8½ hrs) 541

Stoppages were not so frequent on Saturday, only two being noted

1 for 15 minutes, shunting truck

1 for 15 minutes, congestion in hold.

Labour, same as on Friday

Lawrence

- C O P Y -

H. L. TAPLEY & COMPANY LTD.

Shipping & Chartering Agents, Stevedores and
Insurance Agents.

DUNEDIN. N.Z.

13th. May, 1933.

The Secretary,
Auckland Harbour Board,
AUCKLAND.

Dear Sir;

We understand that you have a Donald Elevator
which your Board has not used for some years.

We would be interested to learn whether this
machine is being kept in order and whether the Board is
prepared to negotiate for the sale of same.

If so, will you please let us have any details
you have such as the length of package which can be handled,
the speed at which the machine operates, etc.

If you have the Maker's booklet dealing with
this particular machine, perhaps you would be good enough to
send this to us, at the same time indicating what price you
would put on the machine in event of same interesting us.

Yours faithfully,

H.L. TAPLEY & CO. LTD.

(Sgd) J.H. Drinnan.

Manager.

ENGINEER'S REMARKS:

report herewith.

D.H.
18.5.33.

765
18th. May, 33

The Superintendent.

DONALD PATENT PORTABLE ELEVATOR CONVEYOR.

- Letter from H.L. Tapley & Co.Ltd., dated 13.5.33 -

Messrs. Tapley ask for certain information regarding the above plant and wish to know whether the Board is prepared to negotiate for its sale.

The plant was purchased in 1923 to give Shipping Companies and Stevedores improved facilities for the shipment of meat and dairy produce. I consider that the plant is not suitable for local conditions and that its use cannot be expected to produce better results than are obtainable from the ordinary methods of handling in vogue prior to its installation and returned to after a brief period of trial when the plant was made available for use.

In the circumstances therefore I recommend that the plant be offered for sale to the enquirers, and suggest a price of £800/-/-. This represents approximately half the landed cost of the plant and about £530/-/- less than the value at which it now stands in the Board's books.

At the same time that the plant was purchased - and for use in conjunction with it - the Board purchased six band conveyors from the same makers but these are not included in the proposed offer. Should Messrs. Tapley be interested and require these a price could be fixed for them also.

For Messrs. Tapley's information I enclose maker's leaflet illustrating (pages 1 to 15) the type of machine.

Further information which will assist Messrs. Tapley in their consideration of the matter is as under:-

The machine is reversible, i.e. capable of loading from wharf to ship or unloading from ship to wharf. The horizontal distance between the shore and hold bights is 36'-0". It is capable of loading on to, or unloading from the ship at a maximum height above wharf level of 28'-0". The minimum height at which the machine will work above wharf level is 5'-6".

The machine is capable of unloading from or loading into a ships hold 45ft. below the level of hatch coamings, and the range of vertical adjustment is 40ft.

The weight complete is approximately 4-Tons, 18-Cwt. but this can be reduced by approximately 1-Ton for handling by removing the ship and shore balance weights.

Rapid adjustment is possible to compensate for rise and fall of tide or increase or decrease of draft, by means of 10-Cwt. hand winch attached to side of machine.

The speed of conveyor is - 80 feet per minute.

The pitch of slings is 2'-6" = 32 slings per minute.

As built, the chain centres were 5'-8" and the canvas slings were 4ft. long in which condition the conveyor was suitable for handling:-

Carcases mutton	4'-0" long	-	Av. weight	70 lbs.
Cases rabbits	33" x 17 $\frac{3}{4}$ " x 5 $\frac{1}{2}$ "	-	" "	80 lbs.
Boxes butter	14" x 14" x 14"	-	" "	60 lbs.
Crates of cheese	18" diam., 30" long	"	"	170 lbs.

It was however later altered so as to be suitable for handling butter boxes only, by closing in the chain centres by 2'-6". This was done as it appeared likely that its use would be confined to the handling of butter and as the shortening of the rods carrying the slings correspondingly strengthened them. The canvas slings were at the same time shortened to 2'-3". Should the machine be required to take longer packages, it could be quickly altered back to its original dimensions by replacing the shortened pipe rods by ones of the original length and by widening the canvas slings.

The motor operating the machine is a 5 H.P. motor operating on a 460-volt D.C. circuit, of totally enclosed type and provided with electro-magnetic brake, together with starting panel fixed to side of elevator.

The plant which has had only a few months use has been maintained in good order and is practically new.

Messrs. Tapley's letter herewith.

ENGINEER TO THE BOARD.

Donald portable elevator conveyer

Total cost erected in Aust.
with carriage & spurs
in 1923 £2080.

present value from blue
book (deducted) £1330.

Proposed offer £800.

(= 1/2 landed cost in 1923)
£1601-9-0

Donald Elevator Conveyer.

Contract price of 1/2 Aust in 1923 £1372
based on the same

3 conveyers, cost at same time £651

3 band conveyers (doubt) 486
£1137

Spurs ordered £21-4-0

Other spurs 148-5-0

1601-9-0

1601-9

1137

2738-9

Total cost from blue book

1924 £3216-15-3

Deduct band
conveyers. 1137
£2080
1601

Expenditure
in Aust. £479

On erection
conveyer etc.

Total val from blue book as on 30th Sept 1932 £2057

If Band conveyers represented

1137 of this = 568
3216

then present blue book value
of Donald elevator conveyer £1330

Suggest

Faint handwritten text at the top of the page.

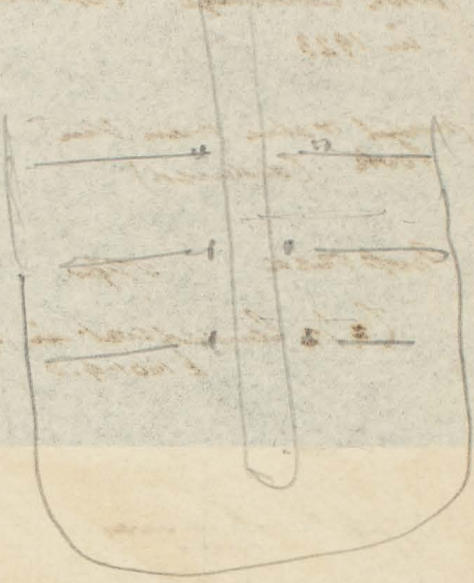
Faint handwritten text below the top section.

1800

1830

1850

1880



Faint handwritten text and diagrams at the bottom of the page, including a small rectangular diagram.

766

EXTRACT FROM PURCHASING & STORES COMMITTEE'S RESOLUTIONS OF

TUESDAY, 23rd. MAY, 1933.

7. DONALD ELEVATOR-CONVEYOR.

It was resolved to recommend:

That a description of the plant be sent to Messrs. Tapley & Co. Ltd., with the information that the Board would consider an offer of £1,000 Net, as it lies on wharf, Auckland. (Exclusive of band conveyors).

EXTRACT FROM BOARD IN COMMITTEE'S RESOLUTIONS OF TUESDAY -

13th. JUNE, 1933.

3. REPORT OF PURCHASING & STORES COMMITTEE 6.6.1933.

That the report be adopted - Committee had power to act. (Extract below).

6. DONALD ELEVATOR-CONVEYOR.

Letter from Messrs. H.L. Tapley & Co. Ltd. 29.5.1933 acknowledging receipt of advices regarding the above plant; stating that it was considered that the price of £1000 fixed by the Board was too high, and asking to be informed if the amount quoted was bedrock.

Recommended:

That a reply be sent to the effect that the Board would now consider an offer of £800, terms as previously stated.

CABLE AND TELEGRAPHIC ADDRESS
"TAPLEY," DUNEDIN.

TELEPHONES 13-912 AND 13-913
P.O. Box No. 472

CODES:

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CENTRAL CHAMBERS, 49 BOND STREET

DUNEDIN, N.Z., 30th October, 1933.

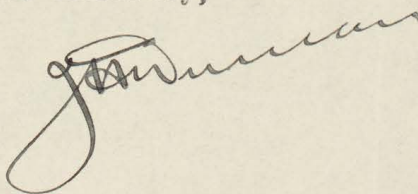
W. R. Golden, Esq.,
Traffic Manager,
Auckland Harbour Board,
AUCKLAND.

Dear Mr. Golden:

Many thanks for your letter of the 27th. Apparently however, I did not make myself sufficiently clear. What I had in mind was shortening the horizontal range of the Elevator, ^{not} the vertical range. I have to thank you for handing this ^{letter} to the Engineer and will now await your further advices.

With kind regards,

Yours sincerely,



- C O P Y -

H.L. TAPLEY & COMPANY LTD.

Central Chambers,
49 Bond Street,

DUNEDIN.

7th. November, 1933.

The Acting Secretary,
Auckland Harbour Board,
AUCKLAND.

Dear Sir;

DONALD ELEVATOR.

We have to acknowledge receipt of your letter of the 1st inst. with reference to the above and have to thank you for the information contained therein.

It was however in the writer's mind to reduce the horizontal length of the Elevator, not the vertical length but I take it from your advices that even this would not make a great deal of difference to the weight of the machine as here again only the framework and the actual canvas and chain would be shortened, not making a very great deal of difference to the weight. If I am wrong in this assumption, I would be glad if you would correct me.

Yours faithfully,

H.L. TAPLEY & CO.LTD.

(Sgd) J.H. Duncan.

Manager.

ENGINEER'S REMARKS:

To reduce horizontal length of Donald Elevator Conveyor would be costly and would not bring about a proportionate reduction in weight. Such alterations would render conversion uneconomic.

(Sgd) D. Holderness.

10.11.1933.

10th. November, 33

Mr. J.H. Duncan,
Messrs. H.L. Tapley & Co. Ltd.,
49 Bond Street,
DUNEDIN.

Dear Sir;

Mr. Golden has handed me your letter dated
30th October.

The secretary has also handed me a letter
covering the same points and I have reported to him that to
reduce the horizontal length of the Donald Elevator Conveyor
would be costly and would not bring about a proportionate
reduction in weight.

As you suggest, the alteration would relieve
weight only to the extent of a few pieces of angle iron framing
and length of canvas sling and chain, while the work would
necessitate a considerable amount of fitting in the removal and
replacement of attachments for the housing and alignment of
gears etc.

I should regard such alterations as economically
impracticable.

I am,

Yours truly,

ENGINEER TO THE BOARD.

CABLE AND TELEGRAPHIC ADDRESS
"TAPLEY," DUNEDIN.

TELEPHONES 13-912 AND 13-913
P.O. Box No. 472

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DUNEDIN, N.Z., 15th November 1933.

D. Holderness, Esq.,
Engineer,
Auckland Harbour Board,
AUCKLAND

Dear Sir: Donald Elevator.

I have to acknowledge and thank you for your letter of the 10th November with reference to the above from which it would appear that it is not going to be possible to materially reduce the weight of the above machine, and it would therefore seem that it is not possible for us to consider the purchase of same as very great difficulty would arise in handling the machine on the wharf at Port Chalmers, this owing to the total absence of any cranes or lifting gear and also in view of the impossibility of taking a conveyance (other than Railway trucks) on to the wharves at Port Chalmers. In view of the position, shall we return the manufacturers' pamphlet on this appliance?

Yours faithfully,

H. L. TAPLEY & CO. LTD.

H. L. Tapley
Manager.

Your letter of 10th Nov. recd and I note that the difficulty in handling the Donald Elevator conveyed to the wharf at Port Chalmers makes it impossible for you to consider its purchase.

With regard to the manufacturers pamphlet, I have a duplicate of it if it is likely to be useful to you, but if you have no further use for it, I would be glad if you wd return it.

Messrs. H.L. Tapley & Co. Ltd.,
P.O. Box 472,
DUNEDIN.

18th. November 33

Dear Sirs;

Your letter of 15th inst. received and I note that the difficulty in handling the Donald Elevator Conveyor on the wharf at Port Chalmers makes it impossible for you to consider its purchase.

With regard to manufacturers pamphlet, if it is likely to be useful to you, keep it, I have a duplicate, but if you have no further use for it I would be glad if you would return it.

Yours truly,

ENGINEER TO THE BOARD.

