

Boiler Spec.
Lake Superior Boiler Works.

Manufacturers of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breaching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich.

Aug 2nd-1900

Champion Copper Co.,

Houghton, Mich.

Gentlemen:-

I will furnish you F.O.B. cars at shop, 3-160 H.P.

Improved Safety Crown Tube Fire-Box Boilers, as per following

specifications, for the sum of

*Six thousand three hundred
Dollars (6300⁰⁰)*

SPECEIFICATIONS

DIMENSIONS

Boilers to be of following dimensions:-

Shells 6' diam, 16' long, Fire-boxes 6'-6" long, 6' wide and to have
5" water space. Smoke-box 2'-6" long, 6' wide.

MATERIAL

Material in shells and fire-boxes to be Marine Flange

Steel 55.000 to 60.000# T.S.

Shells and outside of fire-boxes 5/8" thick, Tube-sheets 5/8 thick

Inside of fire-boxes 1/2" thick, bottom of water-leg and all door

ring connections 7/16 thick. Smoke-boxes tank steel 1/4" thick.

TUBES

Each boiler to contain the following charcoal iron tubes:

98 fire tubes 3 1/2" X 16', 9 crown tubes 3 1/2" X 6'-6", also

provision to be made for 7 arch tubes as per blue print.

Lake Superior Boiler Works.

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breaching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Doughton, Mich 8/2/00

C.C.Co.

(2)

RIVETING

Longitudinal seams of shells to be treble riveted double butt joints (Hartford). Girth seams of shells and throat sheet double riveted lap joints. Fire-boxes single rivited lap joints. Size and pitch of rivets as per blue print.

STAYING AND BRACING

Fire-boxes to be stayed with Ulster Iron Stay Bolts 1" diam spaced 4 3/4" centers. All stay bolts in throat sheets to have safety hole drilled in outer end. Tube sheets to be braced with Mc Gregor Flange Steel Braces 1/2" thick and of sufficient number to insure proper strength.

CONNECTIONS

There is to be riveted to top of shell, one No 2 Eclipse manehole saddle, one 7" steam nozzle, one 2" feed flange and one twin connection nozzle for two 3 1/2" safety valves.

FITTINGS

The following fittings to be furnished with each boiler.
One No 5 Reliance Safety water Column Complete with steam gague etc., two 3 1/2" Pop Valves, one 2" feed valve, one 2" check valve and one 2" blow off cock.

State spec. how many

Steel instead of steam safety valve

Blow off flange (2) at bot. of throat sheet - how or what?

*See
manehole saddle*

Lake Superior Boiler Works,

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breaching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich. 8/2/00

C .C.Co.

(3)

DOORS HAND HOLES ETC

There is to be five doors in fire boxes. One door above crown tubes to allow the placing of fire-brick. Two fire doors 13 X 16, and two clean out doors 10 X 14. Door openings to be flanged in inside front head and to have flanged ring connection to outside front head.

Each arch and crown tube to be provided with hand hole at each end. Fire-boxes to be provided with all hand-holes necessary for the proper cleaning of boiler. Above hand-holes to be provided with plates bolts and yokes.

WORKING PRESSURE

Boilers constructed and guaranteed for a working pressure of 170# steam.

EFFICIENCY AND MAINTAINANCE

Will guarantee as high efficiency and as low cost maintainance as any boiler in use in this district under the same conditions.

DELIVERY

Will deliver two of thes boilers before Nov 1st the other 30 days later.

Yours truly,

Lake Superior Boiler Works.

Manufacturers of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breaching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich.

Aug 2nd-1900

Champion Copper Co.,

Houghton, Mich.

Gentlemen:-

I will furnish you F.O.B. cars at shop, 3-160 H.P.

Improved Safety Crown Tube Fire-Box Boilers, as per following

specifications, for the sum of *Six Thousand Three Hundred*
dollars (#6300⁰⁰)

SPECIFICATIONS

DIMENSIONS

Boilers to be of following dimensions:-

Shells 6' diam, 16' long, Fire-boxes 6'-6" long, 6' wide and to have
5" water space. Smoke-box 2'-6" long, 6' wide.

MATERIAL

Material in shells and fire-boxes to be Marine Flange

Steel 55.000 to 60.000# T.S.

Shells and outside of fire-boxes 5/8" thick, Tube-sheets 5/8 thick

Inside of fire-boxes 1/2" thick, bottom of water-leg and all door

ring connections 7/16 thick. Smoke-boxes tank steel 1/4" thick.

TUBES

Each boiler to contain the following charcoal iron tubes:

98 fire tubes 3 1/2" X 16', 9 crown tubes 3 1/2" X 6'-6", also

provision to be made for 7 arch tubes as per blue print.

Lake Superior Boiler Works,

Manufacturers of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breaching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor:

Special attention given to
Repairing and General Job Work:

Houghton, Mich.

8/2/00

C.C.Co.

(2)

RIVETING

Longitudinal seams of shells to be treble riveted double butt joints (Hartford). Girth seams of shells and throat sheet double riveted lap joints. Fire-boxes single rivited lap joints. Size and pitch of rivets as per blue print. ?

STAYING AND BRACING

Fire-boxes to be stayed with Ulster Iron Stay Bolts 1" diam spaced 4 3/4" centers. All stay bolts in throat sheets to have safety hole drilled in outer end.

Tube sheets to be braced with Mc gregor Flange Steel Braces 1/2" thick and of sufficient number to insure proper strength.

CONNECTIONS

There is to be riveted to top of shell, one No 2 Eclipse manehole saddle, one 7" steam nozzle, one 2" feed flange and one twin connection nozzle for two 3 1/2" safety valves.

FITTINGS

The following fittings to be furnished with each boiler.

One No 5 Reliance Safety water Column Complete with steam gague etc., two 3 1/2" Pop Valves, one 2" feed valve, one 2" check valve and one 2" blow off cock.

Lake Superior Boiler Works.

Telephone
Connection.

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipe, Flanks,
Smoke Stacks, Breaching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich. 8/2/00

(3)

C .C.Co.

DOORS HAND HOLES ETC

There is to be five doors in fire boxes. One door above crown tubes to allow the placing of fire-brick. Two fire doors 13 X 16, and two clean out doors 10 X 14. Door openings to be flanged in inside front head and to have flanged ring connection to outside front head.

Each arch and crown tube to be provided with hand hole at each end. Fire-boxes to be provided with all hand-holes necessary for the proper cleaning of boiler. Above hand-holes to be provided with plates bolts and yokes.

WORKING PRESSURE

Boilers constructed and guaranteed for a working pressure of 170# steam.

EFFICIENCY AND MAINTAINANCE

Will guarantee as high efficiency and as low cost maintainance as any boiler in use in this district under the same conditions.

DELIVERY

Will deliver two of thes boilers before Nov 1st the other 30 days later.

Yours truly,

Lake Superior Boiler Works.

Telephone
Connection.

Manufacturers of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breeching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich. Sept 1st-00

Champion Copper Co.

Houghton, Mich.

Gentlemen:-

I hereby agree to furnish you three Safety Crown Tube
Fire-Box Boilers as per following specifications, for the sum of
\$2770.00. F.O.B. cars at shop.

SPECIFICATIONS

Dimensions

Boilers will be of following dimensions:-

Shells 5' diam 16' long. Fire-box 4' -2", wide, 7' long inside
and to have 4" water space. Smoke-box 4' X 5'.

Material

Material in shells and fire-boxes to be Otis Flange Steel *how thick?*
60.000# T. S. Shells, throat sheets, tube sheets and outside
of fire-box to be of material weighing 19# per square foot.
Inside of fire-box 3/8' thick, Smoke-box 3/16 thick. *Material? Tank steel?*

Riveting

Longitudinal seams of shell to be treble riveted lap joint
7/8 rivets, girth seams of shell and throat sheet double riveted
lap joints 7/8 rivets. Inside of fire-box single riveted lap
joints 3/4 rivets.

Lake Superior Boiler Works.

Telephone
Connection.

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breeching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich. Sept, 1st. 1900

C. C. Co.

(2)

Staying & Bracing

Fire-boxes to be stayed with Ulster Stay Bolts
1" diam spaced 4 3/4" centers. Tube sheets to be braced with
^{fine steel #} ^{1/2" thick}
McGregor braces of sufficient number to insure proper strength.

Tubes

Each shell to contain 82 - 3" X 16' Boiler Tubes.
Each fire-box to contain 10 → 3" X 7' crown tubes.

Connections

^{saddle}
There is to be riveted to top of shell one man-hole
ring, one 6" cast nozzle for steam connection, one 3 1/2" cast
nozzle for safety valve, one 2" feed flange, One 2" blow off
flange rivited to throat sheet.

Door s

Fire-boxes to be provided with two fire doors,
13 X 16 and two clean out doors 10 X 14. Door openings to be
flanged in inside front head and to have flange ring connection
to outside front head. There is to be a door 10 X 15 above crown-
tubes to admit the placing of fire brick.

Lake Superior Boiler Works.

Telephone
Connection.

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipe, Flanks,
Smoke Stacks, Breeching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich. Sept, 1st. 1900.

C. C. Co.

(3)

Hand Holes

Fireboxes to be provided with handholes for crown tubes, and also hand holes in corners for cleaning. All handholes to be provided with plates, bolts and yokes. Manhole to be provided with plates, bolts and yoke. One 3 1/2" Pop Valve furnished with each boiler.

Working Pressure

Boilers constructed and guaranteed for a working pressure of 150# steam.

Delivery

One boiler to be delivered in forty days from receipt of order. One in 60 days and the third in 90 days.

Yours Respy,

James Burt

15. per B. to safety plate
each tube

Lake Superior Boiler Works.

Telephone
Connections.

Manufacturers of
Stationary and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breeching
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

Special attention given to
Repairing and General Job Work.

Houghton, Mich. Sept 4th-00

Champion Copper Co.,

Houghton Mich.

Gentlemen:-

Please add following to Boiler Proposition of Sept 1st
I will drill safety hole in all stay-bolts and make provision for
6-3" arch tubes in each fire-box for the sum of \$225.00.

Yours truly,

James Burt

Lake Superior Boiler Works,

Manufacturer of
Stationery and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breeching,
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

TELEPHONE CONNECTION.

Houghton, Mich., Sept 14th-00

Champion Copper Co/,

Houghton, Mich

Gentlemen:-

I hereby agree to furnish you two or more Safety
Crown Tube Fire-Box Boilers as per following specifications for the
sum of Eleven hundred & seventy five dollars (\$1175.⁰⁰/₁₁)
each, F.O.B. cars at shop.

SPECIFICATIONS

DIMENSIONS

Boilers will be of following general dimensions:-
Shells 5' diam, 16' long; Fire-boxes 4' - 2" wide, 7' long, inside and to
4" water-space. Smoke-boxes 4' long, 5' wide.

MATERIAL

Material in shells and fire-boxes to be Otis Flange Steel 55.000
to 60.000 # T.S. Shells and outside of fire-boxes to be 1/2" thick
Tube-sheets 1/2" thick. Inside of fire-boxes 7/16" thick.
Smoke-boxes 3/16" thick Tank Steel.

RIVETING

Longitudinal seams of shells to be treble riveted butt
joints with double ~~double~~ butt straps, rivets 15/16" diam.
Girth seams of shells and throat sheets double riveted lap joints
7/8" rivits. Inside of fire box single riveted with 7/8" rivits.

Lake Superior Boiler Works,

Manufacturer of
Stationery and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breeching,
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

TELEPHONE CONNECTION.

Houghton, Mich., 9/14/00

C.C.Co.

(2)

STAYING & BRACING

Fire-boxes to be stayed with Ulster Iron Stay-Bolts 1" diam spaced 4 3/4" centers. Tube sheets to be stayed with Mc Gregor flange steel braces of sufficient number to insure proper strength.

TUBES

Boilers to contain the following Charcoal Iron Tubes. Each shell to contain 62 - 3 1/2" X 16' tubes, each fire-box to contain 7 - 3 1/2" X 7' crown tubes, also 6 - 3 1/2" X 8'-6" arch tubes

CONNECTIONS

There is to be riveted to top of shells, one No 2 Eclipse Man-Hole, one 6" pressed steel flange for steam connection one 3 1/2" pressed steel flange for safety valve, one two inch brass feed flange. One 2" brass blow-off flange riveted to throat sheet.

DOORS

Fire-boxes to be provided with two fire doors 13" X 16" and two clean out doors 10" X 14". Door openings to be flanged in inside front head and to have flanged ring connection to outside front head. There is to be a door 10" X 15" above crown tube to admit the placing of fire-brick.

Lake Superior Boiler Works,

Manufacturer of
Stationery and Marine Boilers,
Steam and Water Pipe, Tanks,
Smoke Stacks, Breeching,
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

TELEPHONE CONNECTION.

Houghton, Mich., 9/14/00

C.C.Co.

(3)

HAND HOLES

Fire-boxes to be provided with hand-holes for each arch and crown tube, and to have hand-holes in corners for cleaning also hand-hole in back head under tubes.

FITTINGS

The following fittings to be furnished with each boiler.
One 3 1/2" pop safety valve, one No 5 Reliance Safety Water Column complete with steam gage etc, one 2" Ludlow swing check valve, one 2" Ludlow gate valve and one 2" Ludlow blow off valve.

SAFETY DRILLING

All stay bolts in flat surfaces to have safety hole drilled in outer end. Drilling to be done after bolts are riveted.

WORKING PRESSURE

Boilers constructed and guaranteed for a working pressure of 150# steam.

DELIVERY

One boiler to be delivered in 40 days after receipt of order. One to follow in three weeks.

Yours truly,

James Burt

Lake Superior Boiler Works,

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipes, Tanks,
Smoke Stacks, Breeching,
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

TELEPHONE CONNECTION.

Houghton, Mich., April 15th-1901

Champion Copper Co.,

Houghton, Mich.

Gentlemen:-

I will furnish you F.O.B. cars at shop, 4-200 H.P.
Improved Safety Crown Tube Fire Box Boilers as per following
specifications, for the sum of \$3000.00 each.

SPECEIFICATIONS

DIMENSIONS

Boilers to be of following dimensions:-

Shells 7'diam, 16' long; Fire-Boxes 6'-6" long, 6" wide inside and to
have 6" water space. Smoke-Boxes 2'-6" long, 7' wide.

MATERIAL

Material in shells and fire-boxes to be Illinois Steel
Co., Flange Steel 55.000 to 60.000 T.S.

Shells and outside of fire-boxes to be 11/16" thick, Tube sheets
5/8" thick, inside of fire-boxes and water leg 1/2" thick.

Smoke boxes 1/4" thick Tank steel.

TUBES

Boilers to contain the followin Shelby Tubes.

123 fire tubes 3 1/2" X 16', 8 arch tubes 3 1/2" X 8'-6",

14 crown tubes 2 1/2" X 6'-6".

Lake Superior Boiler Works,

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipes, Tanks,
Smoke Stacks, Breeching,
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

TELEPHONE CONNECTION.

Houghton, Mich., 4/15/01

C.C.Co.

(2)

RIVETING

Longitudinal seams of shells to be treble rivited double butt strap joints, girth seams of shells and throat sheet double rivited lap joints, inside of fire boxes single rivited lap joints. Size and pitch of rivits to be Hartford Standard.

STAYING & BRACING

Fire-boxes to be stayed with Ulster Iron Stay Bolts 1" diam spaced 4 3/4" centers. Stay Bolts in throat sheets to have safety hole drilled in outer end.

Tube sheets to be braced with Mc.Gregor Flange steel braces.

CONNECTIONS

There will be rivited to top of shell, one Eclipse man-hole saddle, one 8" cast steel nozzle, one twin connection cast steel, for two 4" safety valves, and one 2" pressed steel feed flange. One 2" pressed steel blow off flange rivited to throat.

FITTINGS

The following fittings to be furnished with each boiler:

Two 4" Scott Pop Safety Valves, one #5 Reliance water column.

Lake Superior Boiler Works,

Manufacturer of
Stationary and Marine Boilers,
Steam and Water Pipes, Tanks,
Smoke Stacks, Breeching,
and all kinds of
Sheet and Plate Iron Work.

James Burt, Proprietor.

TELEPHONE CONNECTION.

C.C.Co.

Houghton, Mich.,

4/15/01

(3)

FIRE DOORS

There is to be five doors in each fire box.

One door above crown tube to admit the placing of fire brick/
two fire doors 14" X 16" and two clean out doors 13" X 15".

Door openings to be flanged in inside front head and to have
flanged ring connection to outside front head.

HAND HOLES

Boilers to be provided with all hand holes necessary
for the proper cleaning of same. Also hand holes for each arch
and crown tube. All hand holes to be provided with plates bolts
and yokes.

WORKING PRESSURE

Boilers constructed and guaranteed for a
working pressure of 160# steam.

Yours truly,

James Burt