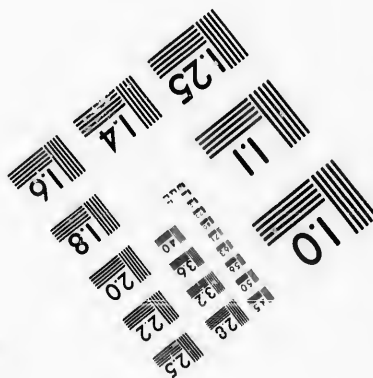
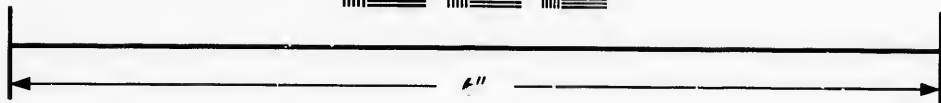
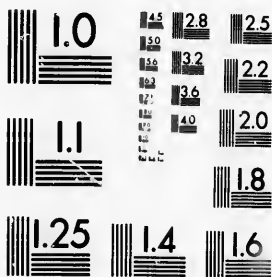


**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

1.5 2.8
1.8 3.2
2.2 3.6
2.5 3.0

**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

1.0

© 1987

Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion
along interior margin/
La reliure serrée peut causer de l'ombre ou de la
distorsion le long de la marge intérieure
- Blank leaves added during restoration may
appear within the text. Whenever possible, these
have been omitted from filming/
Il se peut que certaines pages blanches ajoutées
lors d'une restauration apparaissent dans le texte,
mais, lorsque cela était possible, ces pages n'ont
pas été filmées.
- Additional comments:/
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Includes supplementary material/
Comprend du matériel supplémentaire
- Only edition available/
Seule édition disponible
- Pages wholly or partially obscured by errata
slips, tissues, etc., have been refilmed to
ensure the best possible image/
Les pages totalement ou partiellement
obscurcies par un feuillet d'errata, une pelure,
etc., ont été filmées à nouveau de façon à
obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The copy filmed here has been reproduced thanks to the generosity of:

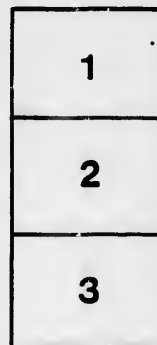
Department of Rare Books
and Special Collections,
McGill University, Montreal.

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol \rightarrow (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

Department of Rare Books
and Special Collections,
McGill University, Montreal.

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole \rightarrow signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.

4872

Patented in Canada Aug. 31st, 1873, and March 3th, 1873. Patents are also being applied for in the United States, Newfoundland, England, France, Germany, Norway and Sweden.

THE "CHAMPION"

Automatic Fog Horn

(SMITH & BOOTH'S PATENT.)

SUPPLIED BY THE

"NEPTUNE" FOG HORN COMPANY,

(LIMITED.)

QUEBEC, CANADA.

1878.

NEPTUNE FOG HORN

20. -
Patented in China 11th Aug. 31st, 1876, and March 8th, 1878. Patents are also being applied for in
the United States, Newfoundland, England, France, Germany, Norway and Sweden.

THE "CHAMPION"

Automatic Fog Horn

(SMITH & BOOTH'S PATENT.)

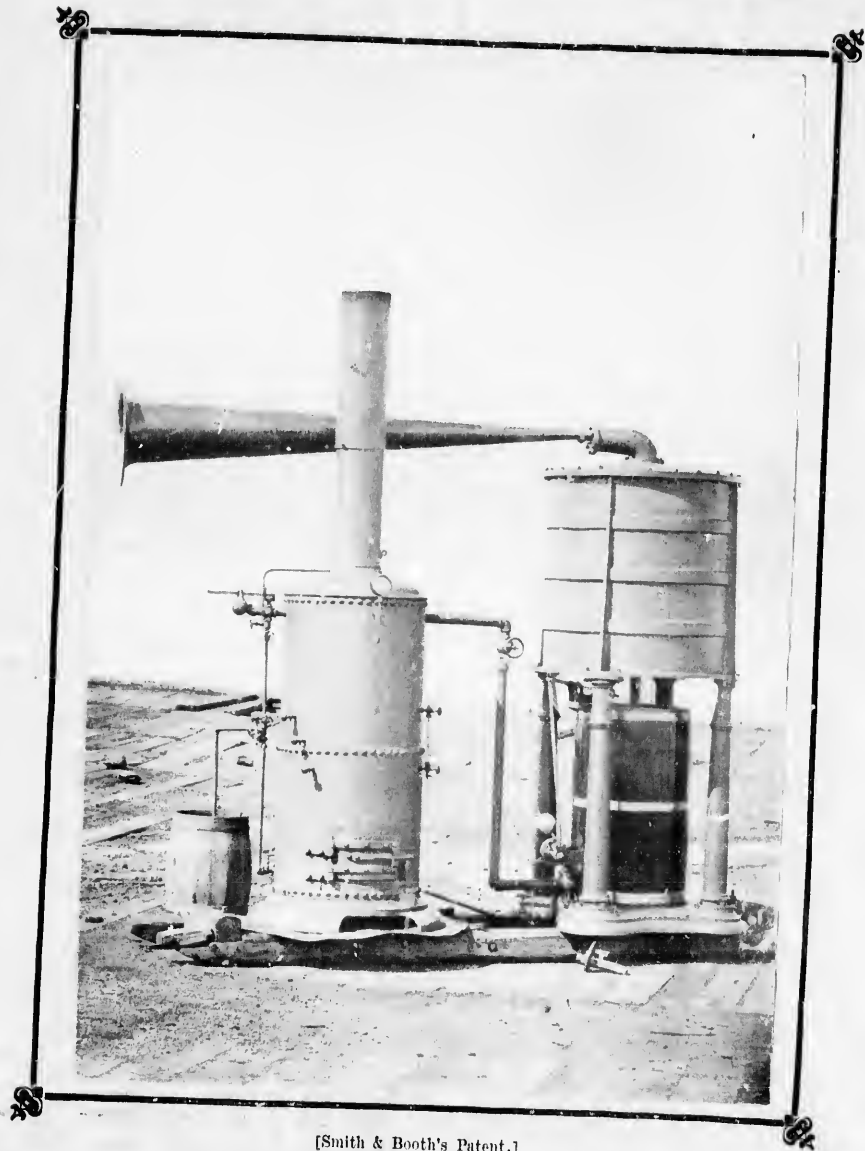
SUPPLIED BY THE

"NEPTUNE" FOG HORN COMPANY,

(LIMITED.)

QUEBEC, CANADA.
1878.

THE "CHAMPION"
AUTOMATIC FOG HORN.



[Smith & Booth's Patent.]

(Extract from the *Quebec Morning Chronicle*, 15th April, 1878.)

Testing Fog Signals.

We had much pleasure on Saturday in witnessing the trial between the steam fog whistle of the Government Lower Traverse Lightship, and the Neptune Company's new steam fog horn.

The sounds given by the horn were quite as loud, if not louder, than those by the fog whistle, and the dry clear tone of the horn was considered by all present to be more penetrating than the duller sound of the whistle. The result was most gratifying to those interested in the success of the Neptune Company's machine, as the Lower Traverse fog whistle is one of the most powerful in use. The advantages of this new fog signal are important. Its first cost is very considerably less than the fog whistle, and its working expenses only about one-fifth. It can be placed in localities where the fog whistle would not be available, on account of the small quantities of fuel and water required by the horn, and any ordinary man can work it, whilst it is necessary to have a duly qualified engineer for the fog whistle.

Most of those who witnessed the trial were on the Queen's wharf; amongst others we noticed the Hon. I Thibaudeau and others members of the Harbour Commission, Captain Scott, R.N., Chairman of the Board of Examiners for Masters and Mates, Halifax; Mr. Coker, Lloyd's Surveyor, Captain Dick, Port Warden, Hon. P. Fortin, Mr. Gregory, Agent of Department of Marine, Mr. Barbour, Chief Engineer, the President of the Corporation of Pilots, Captains of four Government Lightships with fog whistles, Messrs. W. Hunt, W. D. Campbell, and several other gentlemen interested in shipping. As soon as the trial was over, we proceeded to Point Levi and examined the new Neptune machine with much interest. It was situated at Carrier's wharf, the Lower Traverse Lightship being at Davie's slip, close by.

We were given the following particulars of the machine, by Mr. R. Booth:--

The Champion Fog Alarm,

(Smith & Booth's Patent.)

consists of a tubular boiler 5 feet 6 inches high, 2 feet 9 inches diameter, a large air-cylinder 3 feet 8 inches diameter, 3 feet 10 inches long, to which is attached a horn

carrying a powerful reed, and a steam cylinder 2 feet diameter, with an automatic apparatus for the control of the supply of steam. Its action is as follows;—Steam being turned on enters the steam cylinder and causes a piston to ascend. Attached to this piston by means of their common piston-rod, is another piston working in the air cylinder, which is supported above the steam cylinder by means of four columns attached to the bed-plate. By this means the air contained in the upper cylinder is forced through the reed, the tongue of which is of steel, 8 inches long, 2 inches wide, and 5-16 of an inch thick, causing it to vibrate rapidly, and thus emit its powerful sound. When the pistons approach the top of their stroke, the lower one, by a very simple contrivance, closes the supply valve and opens the exhaust valve, which allows the expended steam to escape, consequently the pistons, by their own weight, gradually descend, thus allowing the air cylinder to fill with air again. When the pistons reach the bottom of their stroke, the upper one reverses the movement of the valves, when the above operations are automatically repeated *ad lib.* By means of an adjustable valve on the exhaust pipe, the intervals between the blasts can be closely adjusted.

The machine was manufactured by Messrs. Carrier, Lainé & Co., for the patentees, from the designs and under the superintendence of Mr. R. Booth one of the inventors



Letter from Mr. Wm. Barvour, Government Engineer.

(Copy.)

Quebec, 22nd April, 1878

SIR,—

I was present with the members of the Harbour Commission, Corporation of Pilots, Officers of the Department of Marine and several other gentlemen, at the Queen's wharf on the 13th inst., when the Neptune Company's Steam Fog Horn, called the "Champion," was tested by the Government Lower Traverse Lightship's steam whistle.

I found very little difference between the two alarms, the Champion Horn is of a clearer sound and I think will penetrate further in a fog than the whistle, and would be of valuable service at many points on the coasts, and its economy where fuel and water are difficult to be obtained is a further real consideration. I have also examined the machinery, and found it to be substantial, well finished, and very simple to work.

At the test of the two alarms, the Lower Traverse Steam Fog Whistle was blown with 75 lbs. pressure to the square inch and using about 250 lbs. of coal per hour, while the "Champion" was under only 30 lbs. pressure and consuming only about 30 lbs. coal per hour.

The consumption of water is in about the same proportion.

I am, Sir,

Your obedient Servant,

WM. BARBOUR,

Insp. Eng. Dept. Marine.

To C. P. Champion, Esq., Quebec.

(Copy.)

Letter from Louis P. Morin, Esq., Pres Corps. des Pilotes.

C. P. Champion, Ecr.,

Sec. Neptune Fog H. Co., Quebec.

MONSIEUR,—

En réponse à votre lettre du 15 courant, me demandant mon opinion relativement à l'essai du sifflet d'alarme de la compagnie "Neptune" avec celui de la Traverse, je n'hésite pas à dire qu'à la distance que vous m'indiquez (3 de mille environ) celui de votre compagnie est plus aigu et plus fort que celui du Gouvernement.

Votre tout dévoué,

LOUIS P. MORIN,

Pres. Corp. des Pilotes,

Québec.

(Copy.)

Letter from Weston Hunt, Esq.

Quebec, 20th April, 1878.

DEAR SIR,—

In reply to your letter of the 15th instant, asking my opinion as to the result of the trial between the Neptune Company's new Steam Fog Horn and the Fog Whistle of the Government Lower Traverse Lightship, I beg to say that I consider the Neptune Fog Horn to be superior in penetration of sound to the Fog Whistle.

Yours very truly,

WESTON HUNT.

C. P. Champion Esq.,

Secretary Neptune Fog Horn Co'y, Quebec.

(Copy.) *Letter from Capt. Scott, R.N.,
Board of Examiners of Masters and Mates,
Halifax, N.S., 30th April, 1878.*

SIR,—

In reply to your letter of the 15th inst, I have much pleasure in stating that on the trial of your Steam Fog Horn on the 13th inst., I thought your instrument was quite as effective as the Fog Whistle in use on board the Lower Traverse Light vessel.

I have the honor to be,
Sir,
Your most obedient Servant,

P. A. SCOTT,
Captain, R. N.

C. P. Champion, Esq.,
The Neptune Fog Horn Co'y, Quebec.

(Copy.) *Letter from Hon. P. Fortin.
Quebec, 7th May, 1878.*

DEAR SIR,—

I was much pleased at having been invited by J. U. Gregory, Esq., Agent for the Marine Department of Quebec, at the trial between the ordinary Steam Fog Whistle and the Neptune Fog Horn. We had a very fair opportunity of judging between the competing instruments as the weather was fair for that. I have much pleasure in being able to state to you that I found the Champion Fog Horn superior to the ordinary Steam Whistle as a sound-producing agent. It causes a greater degree of vibration in the air, and its sounds would be heard at a greater distance. I hope that Fog Horns of the Champion kind will soon be established on some of our most exposed points on the coast of the Lower River and Gulf of St. Lawrence.

Yours truly,
P. FORTIN.

C. P. Champion, Esq., Secretary.

(Copy) Letter from Mr. Simons, Bureau Veritas.

Quebec, 26th April, 1878.

C. P. Champion, Esq.,

Secretary Neptune Fog Horn Co'y.

DEAR SIR,—

In answer to your letter of the 15th inst., asking my opinion as to the result of trial on Saturday, the 13th inst., between your Fog Horn and the Government Fog Whistle. I have much pleasure in stating that I was present on the 13th inst., when the Fog Horn and Fog Whistle were being tested, and must say the Fog Horn sounded much the loudest. It had a clear ringing sound, more distinct and clear than the Fog Whistle, and must have been heard at a very great distance.

From the simplicity of construction and its great power, I am of opinion it is well adapted for use either on board ship or in a Lighthouse to warn vessels in thick weather.

I remain, your obedient servant,

W. SIMONS,
Surveyor Bureau Veritas.

Lloyd's Register of British and Foreign Shipping,

(Copy.)

Quebec, 19th April, 1878.

DEAR SIR,—

In answer to your note of the 15th instant, in which you wish me to give my opinion of the trial which took place on the 13th inst., between the Champion Fog Horn and the Steam Fog Whistle of the Lower Traverse Lightship. In my opinion the sounds given by the Fog Horn were clearer, more penetrating and louder than the duller sounds of the Government Whistle. After the trial, I examined the Fog Horn at Point Levis and was much pleased with the simplicity of the invention, and have very great pleasure in recommending it to the favorable consideration of the Government, believing it to be eminently adapted for coast service.

I remain,

Dear Sir,

Yours truly,

CHARLES R. COKER,

Lloyd's Surveyor.

C. P. Champion, Esq.,

Sec'y. Neptune Fog Horn Co'y, Quebec.

(Copy.) Letter from R. R. Dobell, Esq., Harbor Commissioner.
Quebec, 22nd April, 1878.

DEAR SIR,—

In answer to your letter of yesterday, I have pleasure in stating that at the trial on Saturday, between your Company's Steam Fog Horn and Government Steam Fog Whistle, belonging to Lower Traverse Lightship, the sounds of the Horn were fully as loud as those of the Fog Whistle and more penetrating.

Yours truly,

RICHARD R. DOBELL.

C. P. Champion, Esq.,
Secretary, Neptune Fog Horn Co., (Limited), Quebec.

(Copy.) Letter from Hon. I. Thibaudeau, Harbor Commissioner.
Quebec, 22nd April, 1878.

C. P. Champion, Esq.

MY DEAR SIR,—

I was present at the trial of the two Fog alarms, and I have no hesitation to state that the one belonging to your Company in my opinion is far superior to the other.

Yours very truly,

I. THIBAUDEAU.

Letter from Capt. Dick, Port Warden.

[Copy] QUEBEC, 20th April, 1878.
SIR,—

In reply to your letter of the 15th instant, asking my opinion as to result of trial last Saturday between the Champion Fog Horn and the Steam Fog Whistle of the Government Lower Traverse Light Ship.

With reference to this trial of the above named—Champion Fog Horn and the Steam Fog Whistle of the Government Lower Traverse Light Ship—I am of opinion that the first named is superior in strength and in acuteness of sound. The simplicity of its construction entitles it to merit.

Your most obedient servant,

JOHN DICK,
Port Warden.

C. P. Champion, Esq.,
Sec'y, Neptune Fog Horn Co'y, Quebec.

(Copy.)

QUEBEC, 18th April, 1878.

DEAR SIR,—

Having been present with other gentlemen at the Government wharf, on the 13th instant, to witness the comparative trials of the new Champion Fog Horn and the Steam Fog Whistle of the Lower Traverse Light Ship, I am happy to give my opinion—as requested by you—on the result of the trials:

The Horn and Whistle were sounded repeatedly, both alternately and together, at a distance of nearly a mile from the point of observation. These repeated trials enabled those present to form a very accurate estimate of the comparative merits of the two fog signals. According to my judgment the sound of the Champion Fog Horn exceeded that of the Steam Whistle by about one-fourth in power, the Horn being also of a more brilliant character of sound, evidently greatly preponderated when both were sounded together, and would I think be more distinctly heard among other sounds and noises.

Yours truly,

W. D. CAMPBELL.

C. P. Champion, Esq.,

Secretary, Neptune Fog Horn Co.

*Port Colborne.**(Copy.)*

QUEBEC, 12th Nov., 1878.

William Smith, Esq., Deputy Minister Department of Marine and Fisheries, Ottawa.

DEAR SIR,—

I am pleased to inform you that the Fog Horn has been set up and is running in good order, and feel satisfied that it will give satisfaction.

I remain, Sir,

Your most obedient servant,

(Signed)

DAVID H. A. FORTIER,

Light House Keeper

PORT COLBORNE, Nov. 11th, 1878.

*Mr. Robert Booth, Mechanical Superintendent,
Neptune Fog Horn Co., (Limited,) Quebec.*

DEAR SIR,—

I was present at a trial of the Champion Fog Horn, manufactured by the Neptune Fog Horn Company of Quebec, on Friday last, and do not hesitate to say that I think it will answer admirably the purpose for which it is intended. At between eight and ten miles due south from the Light House, wind blowing fresh from northwest, the Horn could be distinctly heard and the sound accurately located. I think it far superior to any Steam Whistle I ever heard.

I am, yours respectfully,

(Signed,)

C. H. CARTER,

Harbour Master,
Port Colborne, Ont.



THE
NEPTUNE FOG HORN Co.,
(LIMITED,)

Incorporated by Canadian Letters Patent, 12th July, 1877.

Jas. G. Ross, President.

Jas. MacNider, Treasurer. C. P. Champion, Secretary.

R. Booth, Mechanical Superintendent.

Office : 68, ST. PETER STREET, QUEBEC.

