

L E T T E R

FROM

THE SECRETARY OF THE TREASURY,

IN ANSWER TO

Senate resolution of June 23, 1879, accompanying information in relation to the action taken by the National Board of Health under an act to authorize the Secretary of the Treasury to contract for the purchase or construction of a refrigerating ship, &c.

JUNE 25, 1879.—Referred to the select committee to investigate and report the best means of preventing the introduction and spread of epidemic diseases, and ordered to be printed.

TREASURY DEPARTMENT, *June 25, 1879.*

SIR: I have the honor to acknowledge the receipt of the resolution of the Senate of the 23d instant, as follows:

That the Secretary of the Treasury be, and is hereby, directed to report to this body all action and proceedings taken by the National Board of Health under or in connection with "An act to authorize the Secretary of the Treasury to contract for the purchase or construction of a refrigerating ship for the disinfection of vessels and cargoes, and for other purposes," approved April 18, 1879; together with copies of all papers, plans, specifications, and correspondence relating thereto submitted to said board up to the time such report is made.

In reply thereto, I inclose copies of the following papers furnished by the National Board of Health:

1. Report of the board of naval officers appointed to consider what particular kind of ship and refrigerating machinery are best calculated to serve the purposes of disinfection indicated by the act of Congress approved April 18, 1879. (See S. Ex. Doc. No. 30.)

2. Correspondence of the National Board of Health, marked from A to G, inclusive.

3. A list of letters received by the board, with a brief of their contents. This correspondence is too voluminous to be copied in time to be transmitted with this communication, but the originals may be furnished at any time.

4. Correspondence with this department, marked from A to Q, inclusive.

Very respectfully,

JOHN SHERMAN,
Secretary.

HON. ALLEN G. THURMAN,
President pro tempore of the Senate.

A.

NATIONAL BOARD OF HEALTH,
Washington D. C., April 30, 1879.

SIR: In behalf of the National Board of Health, and in accordance with the directions of its executive committee, I have the honor to request the aid of the Navy Department in deciding the questions referred to the Board of Health by the act approved April 18, 1879, and entitled "An act to authorize the Secretary of the Treasury to contract for the purchase or construction of a refrigerating ship for the disinfection of vessels and cargoes, and for other purposes," a copy of which is herewith inclosed.

The board has duly considered the merits of refrigeration considered as a means of disinfection of vessels infected with yellow fever, and has decided that while it is not sufficiently probable that such artificial refrigeration as can probably be secured in an infected vessel at a Southern port during summer would so thoroughly disinfect the vessel that it would be safe to allow it to proceed at once to the wharf without further precautions, yet that the use of such artificial refrigeration may be a valuable aid to other means of disinfection, and especially as permitting the discharge of cargo and the thorough cleaning of the ship without danger to those engaged in the work.

The question then arises as to what particular kind of ship and of refrigerating machinery are best calculated to serve the purpose of disinfection as above indicated.

As this involves questions of engineering and of ship construction with regard to which the board has no special knowledge and which it cannot properly decide, and as the Navy Department has among its officers experts especially qualified to decide such questions, it is considered very desirable that a board of such officers may be convened, to which may be referred all the plans, specification, &c., relating to this subject which have been submitted to the Board of Health.

I would therefore respectfully request that you will, if not inconsistent with the interests of the service, order the formation of such a board or commission as will be best suited to consider the questions above indicated, and that this may be done with the least possible delay, since, if such disinfecting ship is to be of any use this summer, its arrangement or construction should be commenced at once.

Very respectfully, your obedient servant,

J. L. CABELL, M. D.,
President National Board of Health.

Hon. RICHARD W. THOMPSON,
Secretary of the Navy.

B.

NAVY DEPARTMENT,
Washington, May 2, 1879.

SIR: You are hereby appointed president of a board to convene at the office of the National Board of Health, 1405 G street, northwest, Washington, D. C., without delay, to consider the question as to what particular kind of ship and refrigerating machinery are best calculated to serve the purposes of disinfection indicated in the act of Congress, approved April 18, 1879, a copy of which act is enclosed.

The president of the National Board of Health, Washington, will refer to the board of which you are president all the plans, specifications, &c., relating to the subject, which have been submitted to the National Board of Health. The report will be made to this department and referred to the National Board of Health. Passed Assistant Engineer William A. H. Allen and Naval Constructor William L. Mintonye will be associated with you as members of the board. On the completion of this duty, resume regular duties.

Very respectfully,

R. W. THOMPSON,
Secretary of the Navy.

Chief Engineer DAVID SMITH, U. S. N.,
Washington, D. C.

C.

WASHINGTON, D. C.,
May 10, 1879.

GENTLEMAN: The naval board appointed to examine and report upon plans and specifications of refrigerating machinery, ship, &c., referred to it by the National Board of Health, desires an answer to the following questions, in order to limit the capacity of the machinery required, viz:

What is the highest admissible temperature to be maintained in the refrigerated vessel?

• Within what time is the temperature to be produced?

How long is this temperature to be maintained?

What is to be highest temperature of the surrounding air?

What is to be the highest temperature of the surrounding water?

What is the largest vessel (in register tonnage) to be refrigerated under the above conditions?

Is this vessel to be considered loaded or unloaded, and as having an iron or a wooden hull?

Very respectfully,

DAVID SMITH,
Chief Engineer and President of Board.

To NATIONAL BOARD OF HEALTH,
1405 G STREET, NORTHWEST,
Washington, D. C.

NATIONAL BOARD OF HEALTH,
Washington, D. C., May 10, 1879.

SIR: I have to acknowledge the receipt of your communication of this instant, addressed to the National Board of Health, propounding certain queries in order to limit the capacity of the machinery required.

I have to state in reply to your first question—

What is the highest admissible temperature to be maintained in the refrigerated vessel?

Answer. The freezing point of water.

Query. Within what time is the temperature to be reduced?

Answer. Within 8 hours.

Query. How long is this temperature to be maintained ?

Answer. Indefinitely. A near approach to an answer can be determined by the time required to unload a 1,500 ton-ship plus the time required to thoroughly cleanse her.

Question. What is to be the highest temperature of the surrounding air ?

Answer. An average daily temperature. of 84° F.

Question. What is to be the highest temperature of the surrounding water ?

Answer. The temperature of the river during July, presupposing that all these questions and answers relate to the port of New Orleans, La., in July.

Question. What is the largest vessel (register tonnage) to be refrigerated under the above conditions ?

Answer. One of 1,500 tons.

Question. Is this vessel to be considered as being loaded or unloaded and as having an iron or wooden hull ?

Answer. In the first instance as loaded ; and secondly, as the cargo is removed and space increases, the temperature to be kept at the lowest point possible to be attained without consideration of the hull as to its being constructed of wood or iron. In addition to the above, I have to present the questions submitted by the executive committee to parties proposing for refrigerating vessels, as follows :

1. Will the apparatus which you propose to furnish be capable of reducing the temperature of the atmosphere of a 1,500-ton ship, free of cargo, at New Orleans, La., in July to 80° F. in eight hours ; if not, to what temperature and in what time ?

2. What will be the cost of such apparatus, independent of all questions of cost of ship or vessel ?

3. At what time will you guarantee to have such apparatus ready for use at New Orleans ?

4. Are you willing to give bonds that such apparatus will successfully perform all that you promise in reply to question 1 ?

5. Can the apparatus be used on shore at a wharf ?

6. Do you propose other means of disinfecting vessels in connection with your apparatus ? If so, specify fully.

7. Under what patent or patents is your apparatus issued ? Give date and number.

I am, sir, very respectfully,

THOMAS J. TURNER,
Secretary National Board of Health.

DAVID SMITH, Esq., *Chief Engineer U. S. N.,*
President of Naval Board of Examiners upon Refrigerating Machinery

D.

WASHINGTON, D. C., June 14, 1879.

GENTLEMEN: Having been informed that the board of naval engineers, convened by your request to consider the several plans proposed for the refrigeration of vessels, have transmitted their report to the Secretary of the Navy, and that the same has been forwarded by him to your board, we have to request that an opportunity may be given us to appear before your board with our engineer, to offer such statements

and explanations as may be deemed necessary in behalf of Mr. Shelley's refrigerating and ventilating device. We are prepared to suggest to your board an additional device by means of which hot air of any required temperature can be forced into the infected ship, as an additional means of disinfection.

Since our communication of the 15th of May covering our answers to the several question propounded by your board (referring to our answer to question 7), we have the pleasure of stating that Mr. Shelley has received from the Commissioner of Patents a notification of the issuance of his patents referred to in said answer.

We have the honor to be, very respectfully, your obedient servants,
 RICH'D L. SHELLEY,
 R. G. INGERSOLL,
 SAMUEL SHELLABARGER,
Of Counsel.

To the NATIONAL BOARD OF HEALTH.

NATIONAL BOARD OF HEALTH,
 Washington, D. C., June 16, 1879.

SIR: I am directed by the National Board of Health to acknowledge the receipt of your communication of the 14th instant, and to state that it is impracticable for the board to hear further statements or explanations in regard to the refrigerating and ventilating devices recently reported under direction of the Secretary of the Navy.

Very respectfully, your obedient servant,
 J. L. CABELL,
President National Board of Health.

RICHARD L. SHELLEY, Esqr.

E.

WASHINGTON, D. C., June 20, 1879.

GENTLEMEN: From the published reports of the proceedings of your board we are led to infer that you have not recommended that the contract for furnishing a vessel as provided for in a recent act of Congress should be given to any particular person or persons.

We have therefore to request a suitable description of the vessel desired by the government, in order that we may prepare a bid for the same if the vessels already offered by us should be deemed unsatisfactory.

We have the honor to be, very respectfully,
 INGERSOLL & SHELLEY,
 Per R. L. SHELLEY.

To the NATIONAL BOARD OF HEALTH.

NATIONAL BOARD OF HEALTH,
 Washington D. C., June 20, 1879.

GENTLEMEN: I have to acknowledge the receipt of your communication of this date, and state that the National Board of Health has ad-

journed. I shall refer your communication to the board at its next meeting.

Very respectfully,

THOMAS J. TURNER,
Secretary National Board of Health.
 MESSRS. INGERSOLL & SHELLEY,
Washington, D. C.

F.

“Ordered. That the President be authorized to address a letter to the Secretary of the Treasury recommending the plan submitted by John Gamgee for a refrigerating vessel, according to the act entitled ‘An act to authorize the Secretary of the Treasury to contract for the purchase or construction of a refrigerating ship for the disinfection of vessels and cargoes, and for other purposes.’”

G.

RIGGS HOUSE,
Washington, D. C., June 21, 1879.

SIR: I had the honor this morning of calling on the Secretary of the Treasury, in company with Senator Harris. Mr. Sherman informed us that he was about addressing a letter to the National Board of Health, calling for the plans and specifications of my refrigerating ship, that he might advertise for bids in the usual manner.

This startling announcement, after so much delay and investigation, indicates that the nature and urgency of this matter have been imperfectly appreciated.

It is probable that the scientific character of my work has not been explained to the Secretary of the Treasury, and that he has not been informed how much depends on the skill and practical knowledge of my own engineers and constructors in carrying this very difficult matter to a successful issue.

The arduous voluntary efforts made, and the great cost incurred during the past six months, is an indication of my earnestness; and, in common with others, when called upon, very properly, to submit designs and data to a competent board of engineers, the expressed assurance was that the recommendations of that board would materially influence the action of the National Board of Health. This was presumed to control the granting of the contract.

Confident in my plans, I continued to perfect my drawings.

I desire to point out that the subject of artificial refrigeration is one not understood by mechanical engineers and ship-builders. The mere weighing in of so much steel, iron, and wood, and shaping it, after a fashion, would be simply destructive to the highly interesting and naturally invaluable experiments proposed and so far zealously fostered.

It is not my intention to be connected with a failure, and I could not undertake to superintend the work of a contractor whose qualifications were measured simply by personal and financial responsibility according to the rules of the Treasury Department in awarding contracts for ordinary supplies. At every step in my work, invention and adapta-

tion must be called into play, and the rigid conditions under which a contract in the ordinary way is given out are hopelessly impracticable and entirely subversive of the aim which, as a professional man interested in the prevention of contagia, I have had in view.

On the 21st of April, 1879, I received a communication from you requesting a statement relating to my plans. This I complied with, and in my reply used the following words: "I must in all fairness to myself demand that my system and project shall be regarded by the National Board of Health as my personal property, and therefore not to be submitted or disclosed to rival inventors and contractors."

This position thus early assumed before your honorable body I must continue to maintain. I am not unwilling to allow these plans and specifications to be used by the board as the basis of its recommendation, just as far as this can be done without impairing my exclusive right of property in them. They having been returned to me after their approval and adoption by the Board, I now consent to their being used by the Board for the purpose above indicated upon the following conditions and none other:

1st. That they shall at all times remain my sole and exclusive property.

2d. That no duplication, tracing, or copy of the same, or any part thereof, shall be made without my written consent.

3d. That they shall be returned to me within a reasonable time, if no contract shall be made with me for the execution of the work.

4th. That they shall not be used in the furtherance of any contract with any other person than myself.

My plans and methods are the result of many years' scientific investigation, and of six months' special application on the part of myself and several trained assistants in Washington itself. They have cost me many thousand dollars. They are moreover founded on various patents issued and to be issued, and some of the latest designs will form the subjects of further applications to be filed in the Patent Office at my early convenience.

I am, sir, yours, respectfully,

JOHN GAMGEE.

Dr. THOMAS J. TURNER,
*Secretary National Board of Health,
Refrigerating Ship Construction.*

Letters received.

No. 1, April 2. Anthony, Hon. H. B.—Inclosing letter of James M. Stewart relating to a refrigerating apparatus.

No. 9, April 3. Rand, A. W., & Co.—Call attention to their apparatus for ventilating ships, &c.

No. 10, April 4. Lamar, Hon. L. Q. C.—With circular Cook Ice Refrigerating Company.

No. 17, April 3. Harris, Hon. I. G.—Forwards letter of A. F. Higgs, regarding refrigeration, &c.

No. 18, April 5. Winants, J. E.—Asks for privilege of competing for refrigerating apparatus.

No. 28. March 22. Reed, Samuel C.—Asks if he can submit plans for refrigeration.

- No. 34, April 18. Dalton, J. M.—States he is constructing machinery for refrigerating purposes, and invites investigation of his process.
- No. 37, April 5. Van Stooten, W. C. E.—Statement relative to the Windhausen Cold Air Machine.
- No. 40, April 22. Reed, Samuel C.—States he will reply to questions sent by Board and asks what bonds will be required.
- No. 41, April 22. Beasley, W. F.—States he represents Holden Bros., and desires to submit bids for refrigerating machine.
- No. 42, April 22. Gamgee, John.—Incloses statement regarding refrigerating machinery, &c.
- No. 43, April 23. Vanderbilt, H. S.—In reference to refrigerating machinery, &c.
- No. 48, April 23. Waring & Winter.—Statement in reference to refrigerating apparatus.
- No. 49, April 24. Schoener & Allen.—Ask for information regarding refrigerating ship.
- No. 52, April 25. Waring & Winter.—Submit specifications and drawing in reference to refrigeration.
- No. 53, April 25. Kittelle, George W.—States will answer questions at an early date.
- No. 57, April 28. Bayard, Hon. Thos. F.—Inclosing communication of W. G. Gibbons regarding refrigeration.
- No. 63, April 29. Higgs, A. F.—Acknowledges receipt of list of questions.
- No. 64, April 30. Vanderbilt, H. S.—Inclosing communication of D. E. Somers regarding list of questions in reference to refrigerating machinery.
- No. 82, May 7. Jordan & Rice.—Inclosing drawings and specifications regarding refrigerating machinery.
- No. 67, April 28.—Reed, Samuel C.—Replies to communications sent him regarding refrigeration.
- No. 68, April 30. Dalton, J. M.—Acknowledges receipt of communication, and states will reply.
- No. 69, May 2. Wheeler, E. G.—Asks for a copy of questions in reference to refrigerating machinery.
- No. 70, April 30. Kruthschueth, John. P.—Replies to questions regarding refrigerating machinery.
- No. 71, May 3. Holden & Bros.—Answer questions regarding refrigerating apparatus.
- No. 79, May 2. Hunt, S. B.—Desires to submit process for refrigerating apparatus.
- No. 81, May 5. Furber, E. G.—Asks consideration of his method of refrigeration.
- No. 94, May 3. Cook, Thomas.—Incloses Patent Office specification of Cook Ice Refrigerating Company.
- No. 101, April 28. Brady & McLellan.—State they desire to submit bids for refrigerating apparatus.
- No. 132, May 12. Holden Bros.—Statement in regard to refrigerating machinery.
- No. 147, May 5. Howson & Son.—Want to exhibit Bell-Coleman Refrigerating apparatus.
- No. 153, May 15. Furber, E. G.—Submits synopsis of his method of refrigeration, with drawings.
- No. 156, May 15. Ingersoll & Shelley.—Reply to questions regarding refrigerating apparatus.
- No. 160, May 15. Wheeler, E. G.—Transmits plans and specifications for refrigerating machinery.

No. 161, May 15. Waring & Winter.—Proposal for furnishing steam-vessel.

No. 167, May 15. Wheeler, E. G.—Inclosing plans and specifications of compression-pump and condenser.

No. 170, May 15. Hunt, S. B.—In regard to refrigeration.

No. 171, May 16. Stolbrand, C. J., C. E.—States he will submit plans and specifications, if time is given him, regarding refrigeration.

No. 172, May 16. Dalton, J. M.—Asks if he can submit plans and specification for refrigerating machinery.

No. 177, May 17. Waring & Winter.—State they will furnish security for successful working of refrigerating apparatus, &c.

No. 186, May 19. Hunt, S. B.—States he received notice too late to present plans for refrigeration, and asks for further time, &c.

No. 186, May 19. Holden & Bros.—Ask for further time to submit plans for refrigerating apparatus.

No. 190, May 19. Furber, E. G.—Withdraws from competition for refrigerating machinery.

No. 195, May 21. Holden Bros.—State they have not been allowed sufficient time to furnish drawings for refrigerating machinery.

No. 198, May 21. Howson & Son.—Inclose specifications and drawings of Bell-Coleman refrigerating apparatus.

No. 199, May 22. Wheeler, E. G.—Incloses drawings for refrigerating machinery and vessel.

No. 200, May 22. Ingersoll & Shelley.—Inclose specifications and drawings for refrigerating machinery.

No. 201, May 21. Sherman, Hon. John.—Transmits letter received by his department in regard to refrigerating machinery.

No. 202, May 22. Waring & Winter.—Transmit drawings and specifications for refrigerating machinery.

No. 203, May 22. Jones, Geo. O.—Incloses communications of S. C. Reed, regarding refrigerating machinery, and Roach & Son, regarding cost of vessel.

No. 269, May 29. Mayor, O. G.—In reference to refrigeration.

No. 319, June 9. Knott, Proctor.—Calls attention to the Shelley refrigerating apparatus.

No. 365, June 13. Smith, David, chief engineer.—Returning correspondence in the matter of refrigerating machinery.

No. 369, June 3. Bell-Coleman Refrigerating Company.—Forwards description of refrigerating machinery.

No. 377, June 14. Shellabarger, Sam'l, *et al.*—Ask to be heard in the matter of the Shelley refrigerating machinery.

No. 380, June 14. Thompson, Hon. R. W.—Transmits copy of report of the board of engineers regarding refrigerating machinery.

No. 434, June 20. Ingersoll & Shelley.—Request to be furnished description of refrigerating vessel, &c.

No. 456, June 23. McCullough, W. W.—States he has information that John Gamgee has failed to produce adequate results in all attempts to produce cold.

NATIONAL BOARD OF HEALTH,
Washington, D. C., June 24, 1879.

SIR: I have the honor to acknowledge the receipt of your letter of this date, inclosing a copy of a resolution of the Senate of the United States of the 23d instant, calling for a report of all action and proceedings taken by this Board in connection with the act of April 18, 1879, for the pur-

chase or construction of a refrigerating ship for the disinfection of vessels and cargoes. Referring to your request that the National Board of Health will send copies of any papers which pertain to the matter, I have, with respect to some papers, namely, the plans and specifications of Prof. John Gamgee and some others, to refer you to my letter of this forenoon in reply to yours of June 21, 1879, in which it was stated that Professor Gamgee claimed that these papers were his private property, and that he was unwilling to publish or disclose them to rival inventors and contractors. I am informed by the secretary of the Board that other parties making proposals have taken the same position and have withdrawn their plans. As to the remnant, it will not be practicable to have copies taken in time to suit your purpose, but the originals are submitted to you with this statement of the views taken by the parties as to their rights of ownership.

Along with these papers I send a copy, marked A, of a letter addressed on behalf of this Board to the Secretary of the Navy, dated April 30, 1879, requesting him to convene a board or commission of experts to consider questions of engineering and ship construction, so as to enable the board to form an intelligent opinion and to arrive at a definite decision as to what kind of ship and refrigerating machinery would be best calculated to serve the purpose of the required disinfection.

The Secretary of the Navy having acceded to this request, issued on the 2d of May a letter of instructions to the president of the board of engineers, a copy of which, marked B, is herewith submitted.

The board in question, having duly organized in accordance with the order of the Secretary of the Navy, addressed a communication to the National Board of Health, May 10, 1879, propounding several questions "in order to limit the capacity of the machinery required."

These questions were answered by the secretary of this Board in a communication dated May 10, 1879. A copy of the letter of the commission and of the reply thereto is herewith transmitted, marked C.

A copy of the final report of the commission, dated June 12, 1879, was forwarded to this Board by the Hon. Secretary of the Navy, and is herewith submitted.

In view of the indorsement by the board of naval engineers of the plan of Professor Gamgee, I was directed by the Board to recommend to you to make a contract with that gentleman, understanding that it would be on the basis of that plan, and accordingly addressed to you my official communication of the 17th instant.

I also submit a copy of a letter addressed to the Board by R. L. Shelley and his counsel June 14, 1879, and the reply thereto, marked D.

Also, a second communication from the same parties, dated June 20, with reply, marked E.

Also, a communication from W. W. McCullough, of June 23, 1879, to which there has been no reply.

Also, a copy of the order of the National Board of Health, directing me to address you a letter recommending the plan submitted by Prof. John Gamgee, and also a letter from that gentleman dated June 21, 1879, which are herewith appended, and marked, respectively, F and G.

I would respectfully request that the originals of papers sent be returned at your convenience.

Very respectfully, your obedient servant,

J. L. CABELL,
President National Board of Health.

Hon. JOHN SHERMAN,
Secretary of the Treasury, &c., &c.

A.

NEW YORK, *June 18, 1879.*

SIR: I beg to inform you no formal bid was given with my plans and specifications for the refrigerating ship, as I understood it would not be required until the plans were in your hands.

This being the case, I do not understand how the board could report on the relative cost of the different plans.

I desire to bid on the plans which have been submitted to you, which, if I understand the law, I have a right to do.

I am in position to do the work and give bonds for its immediate completion.

Respectfully asking your attention, I am, sir, yours, truly,
 E. G. WHEELER,
 51 Exchange Place, New York.

JOHN SHERMAN,
 Secretary of the Treasury, Washington, D. C.

B.

WASHINGTON, D. C., *June 19, 1879.*

To the SECRETARY OF THE TREASURY:

We most respectfully ask that you shall not adopt the recommendations of the board of experts, communicated to you on the 17th instant, under the act of Congress of 18th April, 1879, as to the purchase of refrigerating machinery, &c., until after we shall have had opportunity to lay before you such evidence as is desired to be submitted to you, showing that said recommendation ought not to be adopted.

Should the Secretary indicate a willingness to receive such evidence before he acts on such recommendation, then said evidence will be submitted in such short and reasonable time as may be named by you.

We respectfully ask to be informed whether such opportunity to present evidence will be afforded, and, if so, what time will be allowed?

RICHARD L. SHELLEY,
 R. G. INGERSOLL.

C.

WASHINGTON, D. C., *June 19, 1879.*

SIR: I regret exceedingly that Judge Shellabarger is not ready to go before you to-day.

A communication is being prepared, and will be submitted to you during the day.

I have the honor to be, very respectfully,

RICH'D L. SHELLEY.

Hon. H. F. FRENCH,
 Assistant Secretary of the Treasury.

D.

WASHINGTON, D. C., *June 18, 1879.*

SIR: Under the act of Congress approved April 18, 1879, authorizing the Secretary of the Treasury to contract for the purchase or construction of a refrigerating ship for the disinfection of vessels and cargoes,

and for other purposes, the undersigned filed proposals, with plans and specifications; with the National Board of Health for machinery and ship to be used in the refrigeration and disinfection of vessels, as contemplated by the act of April 18, 1879. The undersigned proposed to furnish such machine for the sum of \$60,000, and a vessel adequate to the purpose for \$75,000, and to give bond with good and sufficient security, not only of the good faith of the undersigned, but to the effect that the machinery should accomplish the desired object.

The undersigned complied with all the requirements of the Board of Health, except as to furnishing "working drawings" of the machine. Such drawings were required by their letter of the 17th of May (delivered to us on the 19th) to be furnished by the 22d of the same month.

A compliance with the requirement of this letter was simply an impossibility. All the draughtsmen in the city could not have furnished "working drawings" within three days, the time required. This was explained to the Board of Health, but no change was made, and no further time granted; but the undersigned were assured that no advantage would be taken of the lack of such drawings.

On the 14th instant a communication was addressed to the Board of Health by us, asking to appear before them with our engineer, for the purpose of making such explanations as might be necessary to a full and perfect understanding of our plans and specifications. This opportunity was refused; and, notwithstanding the protest of the undersigned, the said Board have recommended that a contract be entered into with John Gamgee.

We have been informed that the price to be paid to John Gamgee for his apparatus and vessel is \$200,000; while the undersigned have offered to furnish the same for \$135,000. We have also been informed that Mr. Gamgee does not propose to give any bond and security either for the faithful performance of his contract or for the efficacy of his apparatus, while the undersigned propose to give bond and security for both.

Before it is possible to say which machine is the best, there must be, no matter upon how small a scale, a practical test. Theories, for their value, often depend upon the talent with which they are presented; and those thus presented the best are often, in practice, the greatest failures.

From words and theories, we appeal to a practical test.

We also propose to show by the testimony of experienced men that the machine, process, or whatever it may be called, of Mr. Gamgee is, and always has been, an exceedingly expensive failure. That he has never been able to accomplish what he has proposed to do; and if experience sheds any light whatever upon the future, we are prepared to show that he will not now be able to accomplish what he has undertaken.

The only way to test the confidence and good faith of the several parties offering to furnish the necessary machinery and ships to carry out the object of the act of Congress, is to require such parties to give bonds and security, not only that they will act on this matter, but that their machines will accomplish all that they claim for them.

We have the honor to be, your obedient servants,

RICHD. L. SHELLEY,
R. G. INGERSOLL.

To Hon. JOHN SHERMAN,
Secretary of the Treasury.

E.

NEW YORK, *June 18, 1879.*

DEAR SIR: I have examined the United States patents Nos. 85719 and 100689, granted to Charles Tellier, of Paris, for improvements in the manufacture of ice and the cooling of air liquids, &c., and am of opinion that they are valid patents, and will be sustained by the courts. I am now preparing to bring suit in the United States circuit court of this district to restrain their infringement.

It is my conviction that the use of ammoniacal gas liquefied by mechanical compression in any form for the purpose of producing cold is an infringement of these patents. The production of cold by the rapid evaporation of any liquid is the scientific fact which is common property; but the utilization of that fact by the method or process described in these patents is clearly a patentable discovery, and one of great merit. Prof. C. A. Seeley, Ph. D., an eminent chemist, concurs with me in this opinion.

Yours, truly,

H. M. RUGGLES,

SAML. C. REED, Esq.,
President, &c.

F.

NEW YORK, *June 29, 1878.*

DEAR SIR: I have examined the patents issued to C. Tellier on 5th January, 1869, and March 8, 1870, assigned to the United States Ice and Refrigerating Company, and take pleasure in saying that I consider them valid patents for the process and machinery described.

Yours, truly,

CHARLES A. SEELEY, Ph. D.,
Consulting Chemist.

SAML. C. REID, Esq.

G.

NEW YORK, *June 18, 1879.*

MY DEAR SIR: The papers of this city have announced that the board of engineers, to whom was referred the matter of selecting a plan of refrigerating a ship in the Gulf of Mexico, have, out of some twenty-two presented, reported to the National Board of Health in favor of the one offered by John Gamgee, and their decision has been at once approved by the Board of Health.

The representative of this company, Mr. George O. Jones, now in Washington, will lay before you the objections existing to the adoption of the plan proposed by the said John Gamgee, but I hereby most earnestly and solemnly protest against any approval on the part of the honorable the Secretary of the Treasury or yourself, to whom the Secretary informed me he would entirely refer it, of that part of the said John Gamgee's plan by which he proposes to use ammoniacal gas liquefied by mechanical compression for the purpose of producing cold.

This company is the owner of two several patents issued to Charles Tellier, of Paris, France, on the 5th day of January and the 8th day of March, 1870, the latter of which is for the exclusive use of ammoniacal gas liquefied by mechanical compression. Acting under the protection thus granted this company has expended large sums of money in developing this process, heretofore unknown, and has succeeded, greatly to

the benefit of the mercantile community and thus far with none to itself; and should you, sir, approve the recommendation of this Board of Health and grant to Mr. Gamgee this contract, without insisting upon his remunerating this company in any way, you would be doing an act of great injustice.

I have had employed two gentlemen, both perhaps known to you by reputation, who have very carefully examined the subject of the validity of our patents. One of them, the Hon. Horace M. Ruggles, of this city, one of the most eminent patent lawyers in this country, and the other Prof. Charles A. Seeley, the eminent chemist, employed in all patent cases of this character as an expert. Their very strong opinions I send to you herewith and desire to file with you.

I cannot close this communication without expressing my belief that you will not allow by your approval of this report such an act of injustice to be committed as would be done by contracting with Mr. J. Gamgee without the consent of, or remuneration to, this company.

I am, very respectfully, your obedient servant,

SAMUEL C. REED,
President.

To Dr. J. B. HAMILTON,
Supervising Surgeon-General.

Memoranda.

GEO. O. JONES, Esq.,
Willard's Hotel, City:

The United States Ice and Refrigerating Company of New York City claim the exclusive right to refrigerate by ammoniacal gas liquefied by mechanical process.

H.

WASHINGTON, D. C.,
June 23, 1879.

SIR: As regards the importance of time in fulfilling the contract for furnishing a refrigerating ship, we will state that we are prepared to deliver the ship and apparatus at New Orleans, in conformity with our offer to the National Board of Health, in seventy days; whereas Mr. Gamgee requires one hundred days in which to do the same work. In addition to this, we offer to give good and sufficient bond that our machine will lower the temperature of a fifteen-hundred ton ship below zero, in compliance with the requirements contained in the circular of the National Board of Health; whereas, according to the report of the board of naval engineers, unless some important modifications are made in the plans of Mr. Gamgee, which we understand have been rejected by the National Board of Health, he will be unable to lower the temperature of such a ship to zero.

In reference to any question which may arise concerning patents, we respectfully refer to the records of the Patent Office.

We have the honor to be, your obedient servants,

RICHARD L. SHELLEY.

To Hon. JOHN SHERMAN,
Secretary of the Treasury.

I.

DEPARTMENT OF JUSTICE,
OFFICE OF THE SOLICITOR OF THE TREASURY,
Washington, D. C. June 23, 1879.

SIR: By appointment I called at nine and a half o'clock this a. m. to say that I am informed this morning that the National Board of Health will not meet to-day, but will on to-morrow morning. I will, therefore, call at nine and a quarter o'clock a. m. to-morrow with the hope that it will be convenient for you to go with me to the office of the Board, and in the mean time I suggest that you refer the question as to whether it is your duty under the law to advertise, &c., for the building of the vessel to the Solicitor or the Attorney-General. Upon examination (though not thorough), I do not think you are required to do so, and, if you are, I am satisfied that it will result in the defeat of the experiment, as the plans recommended by the Board of Health are claimed to be the inventions and private property of Professor John Gamgee, which he claims have cost him much earnest study and labor and several thousand dollars, and that he submits them to the Board for its information, but not to be used by any person other than himself.

Having faith in the success of the experiment, and believing it to be a matter of the highest importance if successful, I am anxious that it shall be tested, and therefore suggest the difficulties so that you may consider them and determine whether they can be overcome; and, if so, how.

Respectfully,

ISHAM G. HARRIS.

Hon. JOHN SHERMAN,
Secretary of the Treasury.

I have not seen the Solicitor, though I write from his office.—H.

[Indorsement.]

Assistant Secretary FRENCH:

At the request of Senator Harris, please prepare a reference of the question as to the mode of making a contract for the refrigerating vessel to either the Solicitor of the Treasury or the Attorney-General, with request for an answer this evening if possible.

SECRETARY.

J.

WASHINGTON, D. C., June 24, 1879.

SIR: Please find inclosed copy of a communication addressed to National Board of Health.

As a citizen of Louisiana I feel a deep interest that the experiment about to be tried to disinfect ships should be inaugurated with some reasonable prospects of success, and I believe there are several apparatus that will do what their constructors claim for them. From all the information I obtained, it looks quite certain that Gamgee's method will be a failure.

The accuracy of this information can be easily determined. Hence this communication to the Board of Health.

Respectfully,

W. W. McCULLOUGH.

Hon. JOHN SHERMAN,
Secretary of the Treasury.

K.

To the President of the National Board of Health :

SIR: Permit me to call your attention and that of each member of your Board to the following facts:

While acting as attorney for Waring & Winters, competitors for constructing a refrigerating apparatus, I received full and reliable information that John Gamgee had failed to produce adequate results in all his attempts to produce artificial cold, even where the result required was greatly less than would be needed for disinfecting purposes. That in the three efforts made by him in the United States his method proved worthless, and was so pronounced by Mr. Clark, the constructor of the first machine made for Gamgee in this country; also by Delamater & Co., New York, who built his last apparatus, which they now have on hand, Mr. Gamgee not having paid for it. Mr. Sherman, superintendent, and Dr. Craven, expert, of the New Jersey Stock-Yard Company, of which Senator McPherson is president, after a fair trial of his apparatus at the above works, pronounce Gamgee's method worthless. My information in relation to his work in this line is of a like nature and equally strong.

If time be given me I have no doubt evidence the most convincing to all of the above can be furnished in less than a week. Part of this information was given by Senator McDonald on the floor of the Senate, and confirmed by Senator McPherson.

Respectfully submitted.

W. W. McCULLOUGH,
P. O. Box 690.

WASHINGTON, D. C., June 23, 1879.

L.

NATIONAL BOARD OF HEALTH,
Washington, D. C., June 17, 1879.

SIR: In conformity with the provisions of the act approved April 18, 1879, entitled "An act to authorize the Secretary of the Treasury to contract for the purchase or construction of a refrigerating ship for the disinfection of vessels and cargoes, and for other purposes," I am directed by the National Board of Health to inform you that after an earnest consideration of the subject, and after having solicited and obtained the aid and counsel of a board of experts in naval engineering and ship-construction, convened at their request by the courtesy of the Secretary of the Navy, they are prepared to recommend that a contract be made with Prof. John Gamgee for the construction of a refrigerating ship for the purposes indicated in the act.

Very respectfully,

J. L. CABELL,
President National Board of Health.

HON. JOHN SHERMAN,
Secretary of the Treasury, Washington, D. C.

M.

SIR: I have the honor to acknowledge the receipt of your letter of the 17th inst., notifying me that under the provisions of the act approved April 18, 1879, the National Board of Health recommends that a contract be made with Prof. John Gamgee for the construction of the the refrigerating ship provided for by that act.

I have to advise you that it will be necessary for the Board of Health, by proper plans and specifications, to prescribe the dimensions, form, and character of the vessel recommended by it; so that I may, under the provisions of Title XLIII, R. S., proceed to advertise and make the necessary contract or contracts for the construction of the same.

It will give me pleasure, under the general provisions of the law and the specifications and recommendations of the Board of Health, to carry the said act into execution so far as the same is intrusted to this department.

Very respectfully,

JOHN SHERMAN,
Secretary.

Dr. J. L. CABELL,
President National Board of Health, Washington, D. C.

N.

RIGGS HOUSE,
Washington, D. C., June 19, 1879.

SIR: In accordance with the request made to me, verbally, this morning, I have the honor to inform you that I am prepared to contract for the construction of the refrigerating ship for the disinfection of vessels, in accordance with the recommendation made by the National Board of Health.

The nature of this work, from its inception to its completion, demands special knowledge and special engineering supervision, so that it would be quite impossible for me to entrust my plans and specifications to other parties for execution.

The bill introduced by Senator Harris, of Tennessee, as chairman of the Senate Committee on Epidemic Diseases, was framed after most careful inquiry as to the nature of the proposed undertaking.

The subsequent searching investigation of the National Board of Health has resulted in an unanimous expression of opinion that I should be entrusted with the contract.

Unlike ordinary ship-construction, some latitude is imperatively necessary in the elaboration of so novel a sanitary and engineering project, and I am not unmindful of the honor conferred on me by repeated manifestations of confidence, which on the other hand impose on me responsibilities the nature of which I do not in the least underrate.

The unavoidable delay attending the protracted inquiries above referred to make it all the more important that not a day be lost, with a view to the complete demonstration of the best means of disinfecting vessels, that these may be effectually applied next season.

The ordinary period for the disinfection of naval and other ships is on their return in the fall from infected stations.

I am prepared for the immediate commencement of work, for which, indeed, I have made the most mature preparations.

18 CONTRACT FOR PURCHASE OF REFRIGERATING SHIP.

If I may be permitted to suggest, it would probably expedite matters if the Solicitor of the Treasury were instructed to draft a form of contract, for which I shall be most happy to supply the fullest information.

Awaiting your instructions, I have the honor to remain, sir, your obedient servant,

JOHN GAMGEE.

Hon. JOHN SHERMAN,
Secretary of the Treasury.

O.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington D. C., June 23, 1879.

To the SECRETARY.

In re refrigerating ship.

The act of April 18, 1879, provides "that the Secretary of the Treasury be, and hereby is, authorized to contract for the purchase or construction of such steam-vessel and refrigerating machinery, or to arrange with the Navy Department for the use of such vessel, as may be recommended by the National Board of Health, to disinfect vessels and cargoes from ports suspected of infection with yellow fever or other contagious disease."

The Board of Health, on the 17th of June, 1879, communicated to the Secretary "that they are prepared to recommend that a contract be made with Prof. John Gamgee for the construction of a refrigerating ship, for the purposes indicated in the act."

To this the Secretary replied that it would be necessary for the Board of Health "by proper plans and specifications to prescribe the dimensions for and the character of the vessel recommended by it, so I may, under the provisions of Title XLIII, R. S., proceed to advertise and make the necessary contract or contracts for the construction of the same." No reply to this letter from the Board of Health has yet been received.

In the mean time Senator Harris, under date of June 23, suggests that the law does not require an advertisement in this case of a contract for the ship and machinery, and that the Secretary may enter into a contract with Mr. Gamgee without advertisement. Fully agreeing with the general policy which requires advertisements for contracts, Senator Harris suggests that this case may be made an exception, because "the plans recommended by the Board of Health are claimed to be the inventions and private property of Prof. John Gamgee, which he claims have cost him much earnest study and labor and several thousand dollars, and that he submitted them to the Board for its information, and not to be used by any person other than himself."

In conversation with Senator Harris, I understand that Professor Gamgee claims to be the owner of certain patents for inventions of his own, necessarily used in carrying out his plans, and that, therefore, as no other person has the right to use these inventions without his consent, no other person can compete with him for a contract involving those inventions.

The objections to this view are, first, that it compels the department to contract with Professor Gamgee at any price which he may name, however unreasonable. It assumes that Mr. Gamgee's claim as owner of certain patents is just. To show that this assumption cannot be made, I inform the Secretary that George O. Jones, esq., agent for the United States Ice and Refrigerating Company, of New York, claims the exclusive right to the method which Professor Gamgee proposes to use in his refrigerating process, and has notified the department that Professor Gamgee has no right to use the process.

Again, Richard L. Shelley and Robert G. Ingersoll have proposed in writing to construct and furnish to the department a vessel and refrigerating machinery such as they understand Professor Gamgee proposes to furnish for \$200,000 for \$135,000, and to give ample security for the faithful performance of their contract, and for the efficiency of their apparatus. Conflicting claims under patents are thus presented to the Secretary, as has often been the case with regard to other contracts.

The usual course pursued by the department in such cases is to enter into the contract regardless of the patent right, and to leave to the parties the vindication of their patent rights in the courts, requiring of the contractor ample security that he will fulfill his contract. In a case like this, involving conflicting patent chemical processes, it would require much more time to settle the legal rights of the respective claimants in their patents than to build a refrigerating ship. Without investigation, we certainly cannot assume that one patent is valid and another void.

Again, it is suggested that Mr. Gamgee having expended much labor and money in preparing his plans "submits them to the Board for its information, and not to be used by any person other than himself." Construing the act as I do, as authorizing the Secretary to contract in the ordinary manner for the purchase or construction of the vessel and machinery, he is not authorized to make such contract under conditions of secrecy, such as are suggested. When the Board of Health recommends a plan with definite specifications for the proposed ship and machinery, it is the province of the Secretary to contract for them according to law and the established usages of the department. Unless the Board of Health is authorized by Professor Gamgee to propose his plan for the action of the Secretary in the usual manner he cannot take it into consideration. As Congress did not confer upon the Board of Health power to make a contract, so it did not in any way distinguish this contract from others of similar character as to the mode in which the Secretary should execute it.

Section 3709, R. S., has been uniformly construed by the present Secretary as requiring advertisements for all materials and services in the construction of public buildings; and the construction of a ship and proposed machinery would undoubtedly come within the same principle. Indeed, as a matter of policy, it has been the practice to advertise for proposals in cases where the law clearly does not require it, as being the best and most satisfactory course.

It is not suggested that this case comes under the exception of a public exigency as to time; nor, indeed, does it appear that Professor Gamgee could execute the contract sooner than any other party.

It has not been suggested by any party that a vessel and machinery could be completed in less time than three months, which would carry it beyond the yellow fever season of the present year.

Professor Gamgee no doubt will waive any claim he makes to secrecy

in the matter, and lay his plans before the department in the ordinary way. Should he not do so, it will be for the Secretary to decide whether he will enter into a contract with him, without any competition, and at his own price.

Very respectfully,

H. F. FRENCH,
Assistant Secretary.

P.

NATIONAL BOARD OF HEALTH,
Washington, D. C., June 24, 1879.

SIR: I have the honor to acknowledge the receipt of your communication of the 21st instant, and to say in reply thereto that the plans and specifications of Professor Gamgee were not forwarded with my former letter because of the fact that that gentleman, in offering to supply any desired information, had expressly required "that my (his) system and project shall be regarded by the National Board of Health as my (his) personal property, and therefore not to be submitted or disclosed to rival interests and contractors."

This condition he reiterates in a recent letter, of June 21, adding as follows:

"I am not unwilling to allow these plans and specifications to be used by the Board as the basis of its recommendations, just as far as this can be done without impairing my exclusive right of property in them. They having been returned to me, after their approval and adoption by the Board, I now consent to their being used by the Board for the purpose above indicated, upon the following considerations and none others:

"1st. That they shall at all times remain my sole and exclusive property.

"2d. That no duplication, tracing, or copy of the same, or any part thereof, shall be made without my consent.

"3d. That they shall be returned to me within a reasonable time, if no contract shall be made with me for the execution of the work.

"4th. That they shall not be used in the furtherance of any contract with any other person than myself.

"My plans and methods are the result of many years' scientific investigation, and of six months' special application on the part of myself and several trained assistants in Washington itself. They have cost me many thousand dollars. They are, moreover, founded on various patents issued and to be issued, and some of the latest designs will form the subject of further applications to be filed in the Patent Office at my earliest convenience."

I am, very respectfully, your obedient servant,

J. L. CABELL,
President National Board of Health.

Hon. JOHN SHERMAN,
Secretary of the Treasury, Washington, D. C.

Q.

TREASURY DEPARTMENT,
OFFICE OF THE SECRETARY,
Washington, D. C., June 24, 1879.

SIR: Your letter of this date, respecting Dr. Gamgee's proposition for furnishing a refrigerating ship and machinery, has been considered.

Dr. Gamgee consents to the use of his plans and specifications by your Board, as a basis of your recommendation thereof to this department, only upon certain conditions; among which are, that no duplicate tracings or copy of the same, or any part thereof, shall be made without his consent; that they shall not be used in the furtherance of any contract with any other person than himself. He adds, as a reason why they should not be made public, that they are "founded on various patents, issued and to be issued, and some of the latest designs will form the subject of further application to be filed in the Patent Office at my early convenience."

In reply, I am compelled to say that the law and the practice of this department require that the plans and specifications for the proposed ship and machinery shall be publicly advertised and be opened to competition by all proper parties.

It is proper to state, further, that protests have already been filed by persons professing to know the proposition of Dr. Gamgee, protesting that his plans infringe on the patents of which they are the exclusive owners.

For these reasons, your recommendation of Dr. Gamgee's plans can receive no consideration whatever under the conditions imposed.

Very respectfully,

JOHN SHERMAN,
Secretary.

J. L. CABELL, M. D.,
President National Board of Health, Washington, D. C.
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