Specification of Alfred Vincent Newton : preserving provisions, and ventilating buildings, cars, and vessels.

Contributors

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A.D. 1856 . . . . . N° 85.

SPECIFICATION

OF

ALFRED VINCENT NEWTON.

PRESERVING PROVISIONS, AND VENTILATING BUILDINGS, CARS, AND VESSELS.

LONDON:
PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,
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A.D. 1856 . . . . . N° 85.

Preserving Provisions, and Ventilating Buildings, Cars, and Vessels.

LETTERS PATENT to Alfred Vincent Newton, of the Office for Patents, 66, Chancery Lane, in the County of Middlesex, Mechanical Draughtsman, for the Invention of "A NEW AND IMPROVED METHOD OF CURING MEATS, PRESERVING PROVISIONS, AND VENTILATING AND COOLING BUILDINGS, CARS, AND VESSELS."—A communication.

Sealed the 18th March 1856, and dated the 11th January 1856.

PROVISIONAL SPECIFICATION left by the said Alfred Vincent Newton at the Office of the Commissioners of Patents, with his Petition, on the 11th January 1856.

I, ALFRED VINCENT NEWTON, of the Office for Patents, 66, Chancery Lane, in the County of Middlesex, Mechanical Draughtsman, do hereby declare the nature of the said Invention for A NEW AND IMPROVED METHOD OF CURING MEATS, PRESERVING PROVISIONS, AND VENTILATING AND COOLING BUILDINGS, CARS, AND VESSELS, to be as follows:—

This Invention relates to the curing of meat, preserving all kinds of provisions and fruits, and the ventilating and cooling of buildings, cars, and vessels, by means of currents of air, artificially dried by ice, or its equivalent, and circulated through the room, apartments, or building wherein the curing,

preservation, ventilation, or cooling takes place, the object being to free th apartments of any warm or moist air, and maintain a uniform temperature from freezing point up to any desired point sufficiently cold to answer all prac tical purposes in effecting the curing of meats and other provisions, so tha they will keep when exposed to ordinary summer weather, and to furnish fres dry cold air for ventilating and cooling purposes.

The curing house for preserving meats is furnished with two chambers, on of which is for receiving ice, and the other the meats to be preserved. Thes chambers are connected together by openings closed with sliding doors. Th ice in the ice room is at all times kept above the openings in the partition, s that currents of air passed into the ice room, for the purpose of entering th curing or preserving room, will have to find their way through the interstice of the ice before entering the curing or preserving room. By coming in con tact with ice, or a surface cooled by ice, the air will be caused to deposit th moisture which it contained.

The preserving room may be, as it were, perfectly enveloped in an ice house with openings to admit the cold current of air from the surface of ice, and hatchways to let in provisions or fruits, and an opening for the ventilating flue or the air may be carried through pipes or tubes leading into the room o rooms; or, in constructing refrigerators, the flues, pipes, or tubes may not be used; or fans or wheels may be brought into requisition to force the air over and around the ice.

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Alfred Vincent Newton in the Great Seal Patent Office on the 11th July 1856.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ALFRED VINCENT NEWTON, of the Office for Patents, 66, Chancery Lane, in the County of Middlesex, Mechanical Draughtsman, sends greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eleventh day of January, in the year of our Lord One thousand eight hundred and fifty-six, in the nineteenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Alfred Vincent Newton, Her special licence that I, the said Alfred Vincent Newton, my executors, administrators, and assigns, or such others as I, the said Alfred Vincent Newton, my executors, administrators, and assigns,

should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "A New and Improved Method of Curing Meats, Preserving Provisions, and Ventilating and Cooling Buildings, Cars, and Vessels," being a communication from abroad, upon the condition, amongst others, that I, the said Alfred Vincent Newton, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Alfred Vincent Newton, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement, reference being had to the Drawing hereunto annexed, and to the letters and figures marked thereon, that is to say:—

It is well known, that in order to preserve meats from decomposition (arising from the effects of heat or a high temperature), ice has been employed in a variety of ways, but not with that success which has rendered any one of the methods used of any commercial value. It has been found, in curing meats in particular, that the atmosphere should be in a certain condition to render it successful. The conditions are, first, a certain degree of cold; and, secondly, a certain state of dryness, and without these conditions all will prove a failure, if attempted. For instance, a temperature of forty degrees is sufficiently cold, but dampness even at that degree of cold will induce decomposition, because the humid air will not allow the salt to abstract from the meat the juices, which cause decay when exposed to a warm atmosphere.

Now, in all of the methods invented for curing meats, preserving provisions and fruits, and for ventilation with the use of ice, the presence of too much dampness in the atmosphere has been the great difficulty, and to remove this is the object of the present Invention. To this end, the Inventor of the present improvements proposes to employ, in the curing of meats and preserving of all kinds of provisions and fruits, as well as for ventilating and cooling buildings, cars, and vessels, currents of air (artificially dried by ice or its equivalent), and circulating through the room, apartments, or building wherein the curing, preservation, ventilation, or cooling takes place, and thereby to free the said apartments of any warm or moist air, and maintain

an uniform temperature from freezing point up to any desired point sufficientl cold to answer all practical purposes in effecting the curing of meats and othe provisions, so that they will keep when exposed to ordinary summer weathe and furnishing fresh dry cold air for ventilating and cooling purposes.

This Invention is particularly applicable to the construction of pork an fruit houses, for the purpose of curing meats and preserving provisions an fruits in the summer season, and at such times when the weather is not suffi ciently cold to cure or preserve in the ordinary way.

To enable others skilled in the art to apply the improvement, I will procee to describe the manner of carrying out the same, by referring to the accom panying Drawing.

Fig. 1 represents a transverse sectional elevation of the curing and pre serving apartment in connection with the ice room, shewing the air passage from the surface of the ice into the curing or preserving apartment, an ventilating flue, furnished with valves, for retaining or permitting the air t escape as may be required.

Fig. 2 represents a longitudinal sectional elevation through the pork or fru house, shewing the sliding doorways that permit the air to come from the ic and illustrating the mode of working the same.

The structure in the present Drawing represents a pork or fruit house furnished with an ice room by its side, and the house is furnished with a roo B, in which the meats, fruits, or other provisions may be cured, preserved, c packed. The two apartments are connected together by openings *k*, *k*, fu nished with sliding doors *c*, *c*, which can be closed and opened at pleasur they being counterbalanced by weights, as represented in Fig. 2. The ic in the ice room is at all times kept above the openings *k*, *k*, in the partition, s that the warm atmosphere will not find its way into the curing room B. Th air which enters the curing or preserving room will thus have to pas down through the interstices of the ice, and be cooled before entering tha chamber.

The above is the method employed for obtaining the proper degree of cold but I do not confine myself to the particular mechanical structure represente in the accompanying Drawing. The curing or preserving room may be, as were, perfectly enveloped in an ice house, with openings to admit the col current of air from the surface of ice, and hatchways to let in provisions o fruits, and an opening for the ventilating flue; or the air may be carrie through pipes or tubes leading into the room or rooms. Fans or blowers ma also be brought into requisition to drive the air over and around the ice, all

which I consider equivalent to the plan represented in the Drawing. It is well known that the atmosphere at ordinary temperatures contains much moisture, and that when it comes in contact with colder surfaces the moisture is deposited in the form of dew or rain; hence, all the contrivances to effect the curing or preservation of meats in a cold atmosphere from ice during the summer months are objectionable, as no provision is made to get rid of the moisture in the air; but, as in the present plan the air is passed over the surface of ice or over a surface cooled by ice before entering the room B, it is made to deposit its moisture, and pass into the room in a sufficiently cold and dry state. In consequence, however, of an introduction of warm meats or other warm or moist bodies, the air again becomes partially moist and warmer; it is then conducted off through the ventilating flue *f*, which is provided with valves, either to retain it, or allow it to escape out at the top of the building, or into either of the rooms R and S above the room B. When it is desired to free the room B of the moist and warm air, all the valves *g*, *h*, *i*, and *j* are closed in the side of the ventilating flue, as represented in Fig. 1, and the air is permitted to escape, as indicated by the darts, marked through the ventilating flue, and out at its top; and when the air which arises from the room B is wanted in the rooms R and S above it, all the valves are opened, which causes the air to circulate through each room before its final exit through the top of the ventilator. *o* and *d* represent steps for descending into the curing room and ascending to the upper story; *n*, *n*, are doorways at the top of the steps, and made to fit tight, in order to retain and exclude the air, as may be required; G, G, represent hatchways through the floors of the rooms R and S, for the purpose of elevating or lowering provisions or fruits; W is an opening in the roof over the ice chamber, to admit the atmosphere (as the arrows indicate), which, passing down through the ice, escapes at the openings *k*, *k*, into the curing room B, then thoroughly filling and circulating through all parts of the room, and as it becomes moistened and warmed, it passes out, or, rather, is forced out of the apartment through the ventilator *f*, *f*, as represented by the darts marked thereon to denote the course of the air. In applying the improvement to refrigerators, or for ventilating purposes, the arrangement for traversing the air over or among cooling surfaces is substantially the same.

Having thus fully described the nature of the Invention as communicated to me by my foreign correspondent, and explained the manner of carrying the same into effect, I wish it to be understood that under the above in part recited Letters Patent, I claim the process of curing meats, preserving

provisions, and ventilating and cooling buildings, cars, and vessels by means of circulating currents of air, artificially dried by ice, or its equivalent, and passing through the apartments or chamber in which the curing, preservation, ventilation, or cooling takes place, substantially as and for the purpose set forth.

In witness whereof, I, the said Alfred Vincent Newton, have hereunto set my hand and seal, the Eleventh day of July, in the year of our Lord One thousand eight hundred and fifty-six.

A. V. NEWTON. (L.S.)

Witness,

J. W. MOFFATT,

66, Chancery Lane.

LONDON:
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NEWTON'S SPECIFICATION.

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1 SHEET

FIG. 2.

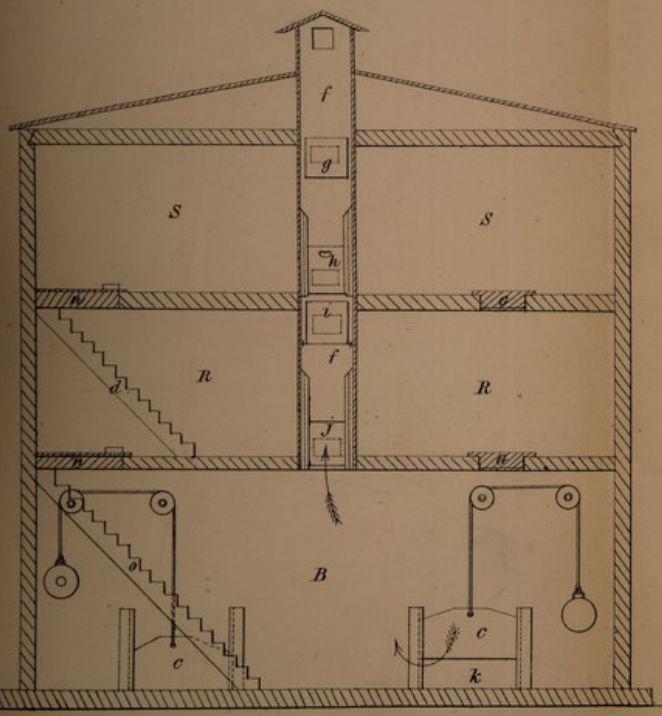
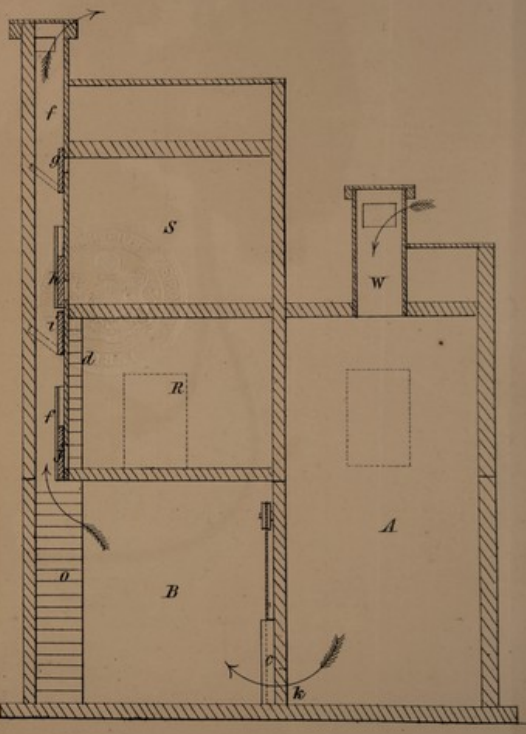


FIG. 1.



The filed drawing is not colored.

Drawn on Stone by Malby & Sons.

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