J. J. BATE.

Process for Preserving Meats during Transportation and Storage.

No. 197,314. Patented Nov. 20, 1877.

Fig. 1.

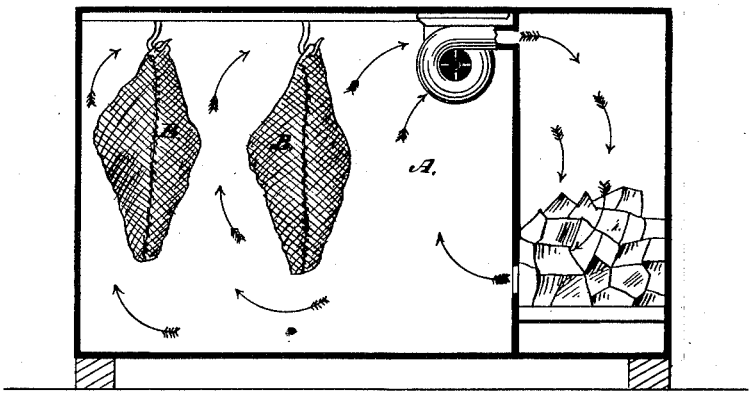
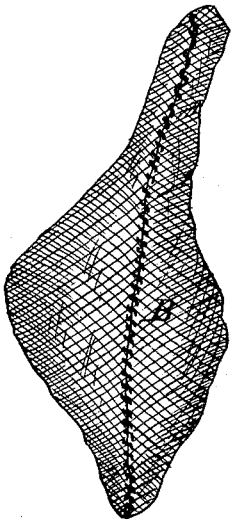


Fig. 2.



Witnesses:
Henry Eichling
H. Wells Jr

Inventor:
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UNITED STATES PATENT OFFICE.

JOHN J. BATE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PROCESSES FOR PRESERVING MEATS DURING TRANSPORTATION AND STORAGE.

Specification forming part of Letters Patent No. **197,314**, dated November 20, 1877; application filed December 1, 1876.

To all whom it may concern:

Be it known that I, JOHN J. BATE, in the city of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Processes for Preserving Meats During Transportation and Storage, of which the following is a specification.

This invention relates to the transportation and storage of meats in large pieces—as, for example, in quarters—either by railway or steamer; and its object is to prevent the discoloration of the surface of the meat and the taint to the external portions of the meat, which, by methods hitherto adopted for preserving the same during transportation, frequently occur.

My said invention is based upon the discovery that fibrous or woven material has the power of absorbing from the atmospheric air the germs which provoke incipient decay on the surface of the meat, as aforesaid; and my said invention consists in the process of preserving meat during transportation and storage by enveloping the same in a fibrous or woven material—such, for instance, as the fabric commonly termed "burlaps"—and when thus enveloped subject the same to a current of air chilled or brought either by natural or artificial agencies to a suitably low temperature, maintaining the meat at the low temperature necessary to prevent decay, the envelope or burlaps or equivalent fibrous or woven material at the same time straining from the air the germs which provoke the incipient decomposition by which the surface discoloration and tainting ordinarily experienced are produced.

Referring to the accompanying drawings, forming part of this specification, Figure 1 is a longitudinal sectional view, representing a refrigerating apparatus as employed in carrying my herein-described process into effect; and Fig. 2 is a side view, indicating a quarter of beef enveloped in fibrous or woven material, as in the practice of my said process.

In the practice of my said invention I provide any suitable chill-room or refrigerating-chamber, within or through which a current of air is produced. Such current may be either from the external atmosphere through said chill-room or refrigerating-chamber, and thence out again; or the said chamber or room may be closed against access of the external atmosphere, and its contained air be caused to pass over and over again through a suitable ice-box or equivalent means of reducing the temperature thereof; and this causing of the air to pass repeatedly through the said ice-box or the like may be either by a change in the density of the air, as in the well-known Lyman refrigerator, or the said circulation of the air through the ice-box may be produced by means of a fan-blower arranged in any suitable manner—as, for instance, in the drawing, Fig. 1.

Having thus provided the apparatus, the use of which is involved in one part or element of my invention, I take the meat—as, for example, quarters of beef—and wrap them around with burlaps or other like fibrous or woven material, preferably sewing the burlaps or tying the same to hold it in place. The meat being thus surrounded with the aforesaid material—in other words, having its surface covered thereby—I then place or hang the quarters of beef or the other pieces of meat, enveloped as just herein set forth, within the chill-room—as, for example, in Fig. 1, above referred to, in which the chill-room is represented at A, and the quarters of beef enveloped or covered, as described, by the reference-letter B. The air, being caused to circulate through the chill-room, as hereinbefore explained, passes through the interstices of the fibrous material in which the meat is wrapped, and thereby chills the same and keeps the entire mass at the low temperature requisite to its preservation; and the circulating air thus passing to and in contact with the meat has the germs of disease or decay effectually sifted or strained therefrom, the envelope not interfering with the access of air to the meat and the consequent requisite refrigeration thereof, but, as hereinbefore set forth, eliminating from the air as it comes in contact with the meat those causes of decomposition and decay which, without this covering to the meat, cause the surface of the meat to lose what is termed by butchers its "bloom"—in other words, the crisp and fresh appearance—upon which its highest market value depends. The said covering also prevents that further decay which, in ordinary practice, often destroys the taste and flavor,

and even reaches a condition of incipient putrefaction in the surface portions of the meat.

I claim as my invention—

The herein-described process of preserving meat during transportation and storage by enveloping the same in a covering of fibrous or woven material, and subjecting it when thus enveloped to the continuous action of a current of air of suitably low and regulated temperature, substantially as and for the purpose set forth.

JOHN J. BATE.

Witnesses:
H. WELLS, Jr.,
EDWARD HOLLY.

Corrections in Letters Patent No. 197,314.

Letters Patent No. 197,314, granted November 20, 1877, upon the application of John J. Bate, of Brooklyn, New York, for an improvement in "Processes for Preserving Meats during Transportation and Storage," having issued without limitation, as required by section 4887 of the Revised Statutes, and affidavits having been filed in the Patent Office that said Letters Patent have been lost, and therefore cannot be returned for correction, in compliance with the request of the parties in interest, I hereby append a certificate to a certified copy of said Letters Patent limiting the term thereof, so that it shall expire with a patent obtained by the patentee in Canada, No. 6,938, dated January 9, 1877, for the same invention.

It is hereby certified that the proper entries and corrections have been made in the files and records of the Patent Office.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed this third day of July, A. D. 1883.

[SEAL.]

E. M. MARBLE,
Commissioner of Patents.

Approved:

H. M. TELLER,
Secretary of the Interior.

Certificate of Correction of Letters Patent No. 197,314.

An affidavit having been filed in the Patent Office showing that said certified copy, bearing said certificate, has been lost and therefore cannot be returned for correction;

Now, in compliance with the request of the parties in interest, said certificate is hereby *canceled* and it is hereby certified that said Letters Patent are issued for the term of seventeen years, from and after the date of November 20, 1877, subject to the limitation, if any, prescribed by section 4887 of the Revised Statutes, by reason of a patent obtained by the patentee in Canada, No. 6,938, dated January 9, 1877.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, this 8th day of January, 1892.

[SEAL.]

W. E. SIMONDS,
Commissioner.

Approved:

CYRUS BUSSEY,
Assistant Secretary of the Interior.