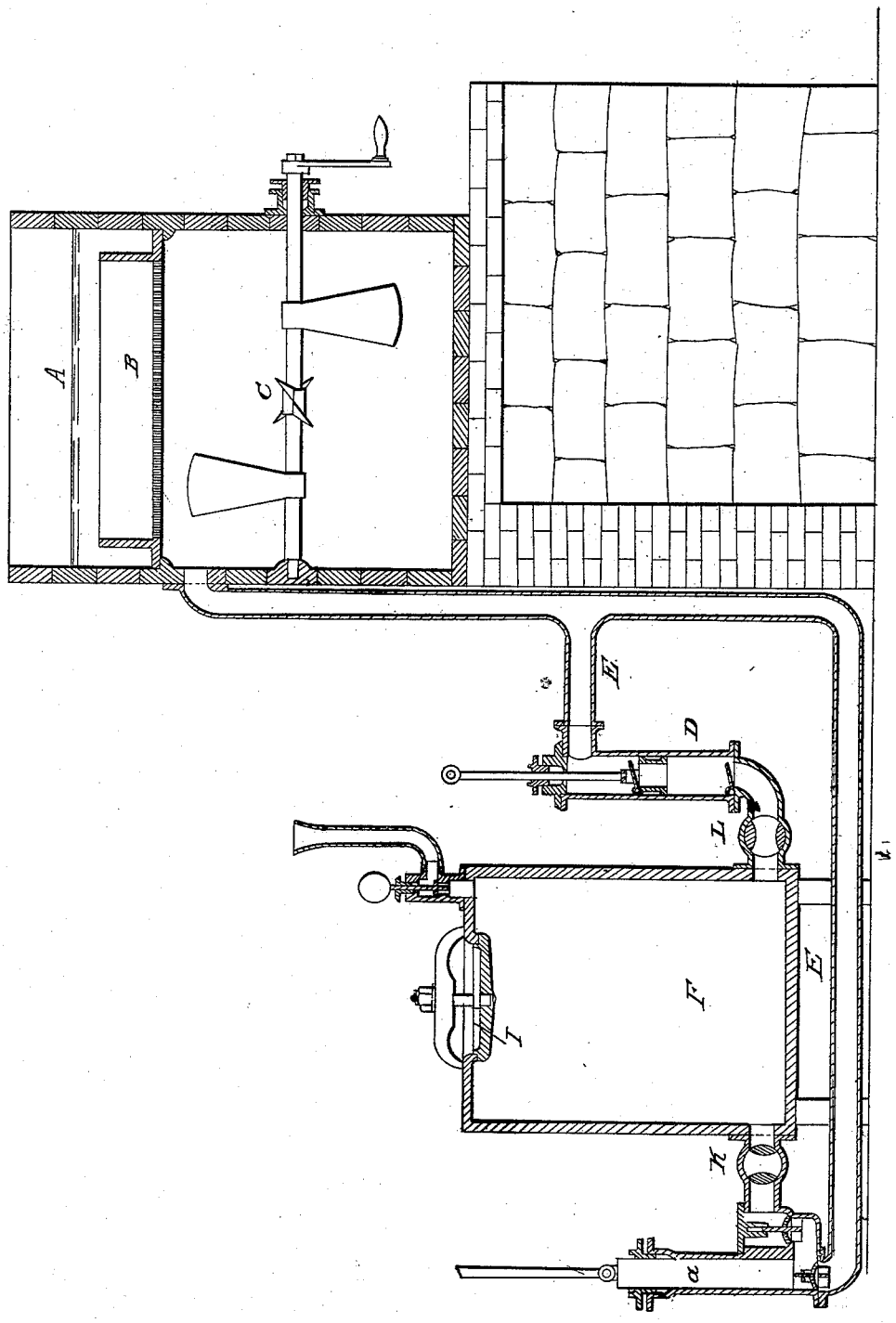
LARDNER & DAVISON.

Preserving Food.

No. 4,144. Patented Aug. 9, 1845.



UNITED STATES PATENT OFFICE.

DIONYSIUS LARDNER AND JAMES DAVISON, OF NEW YORK, N. Y.

PREPARING PROVISIONS.

Specification of Letters Patent No. 4,144, dated August 9, 1845.

To all whom it may concern:

Be it known that we, DIONYSIUS LARDNER, civil engineer, and JAMES DAVISON, provision merchant, both of the city of New York, in the State of New York, have invented certain new and useful improvements in apparatus for the salting or impregnating of meat and oher provisions with antiseptic flavoring, or seasoning principles; and we do hereby declare that the following is a full and exact description thereof.

In the accompanying drawing, A, A, is a cistern in which we prepare the brine, or other solution, with which the substances to be acted upon are to be impregnated. Within this cistern may be placed a sieve, or bag with a perforated bottom, as shown at B, to contain the salt, or other solid material which is to be dissolved; when the matter to be taken into solution is lighter than the solvent, or when fluids are to be incorporated, the sieve will not be required. We also use a revolving agitator, C, for the purpose of accelerating and equalizing the solution.

The meat, or other articles, to be impregnated we put into a vessel, F, which is best made cylindrical, and of iron, so as to bear the pressure to which it is to be subjected. I, is a manhole and cover, of the ordinary construction.

D, is a common lifting-pump, and G, a force-pump; either of which may, at pleasure, be made to operate on the solution contained in the vessel F, by opening the cocks, L, or K; they both communicate, also, with the cistern, A, by means of the pipe, E, E. A valve, H, opening upward, is placed on the top of the vessel, F, to allow of the escape of air.

When this apparatus is to be used, the cocks, K, and L, being closed, the provisions which are to be impregnated are put into the vessel, F, and the manhole is then to be secured, so as to be air-tight; the cock, K, is now to be opened, and a portion of the solution contained in the cistern, A, will consequently flow through the pipe, E, into the vessel F, and by operating the force-pump, G, the air which was contained in it will be forced out through the valve, H. The vessel F, will then contain nothing but the provisions, the gaseous matter retained in the pores thereof, and the solution with which they are to be impregnated. The cock K, is now to be closed, the cock L, opened, and the lifting-pump, D, worked. By this procedure, the solution contained in F, will be in part, or wholly, transferred back to the cistern, A; or, if this is not desired, provision may be made for conveying said solution into another vessel.

During the process of using the lifting pump D, the gases mechanically combined with the provisions will be extricated from them, and will form a new atmosphere within the vessel; this extrication of gaseous matter will continue for some time after the pumping has ceased; in the case of flesh meat, an hour, or more, may be required; its progress may be indicated by a manometer, or other suitable gage. When the extrication of gaseous matter has been carried sufficiently far, the cock L, is to be closed, and the cock K, opened; the solution will then again flow in from the cistern, A, and by the aid of the force-pump G, the air which had been extricated may be driven out through the valve H. It will be observed that in this procedure we do not depend upon the action of the force-pump for the saturating of the provisions, this taking place in consequence of the previous escape of the air from them, under the action of the ordinary lifting-pump; but the forcing out of the accumulated atmosphere in F, is necessary to the readily flowing in of the solution so as to cover the provisions.

In cases where it is desired to impregnate the provisions more strongly than could be effected by a saturated solution in a single operation, we effect this by exposing them, after being treated as above, to dessication by currents of air impelled by blowers, or otherwise, so as to carry off the aqueous parts of the solution; the provisions are then again placed within the vessel F, and submitted once more to the process above described.

We are aware that animal and other matters have been impregnated with solutions of various kinds by placing them in vessels so constructed as that they could be exhausted of air by means of air-pumps, and by then admitting the solution to such vessels; it was proposed many years since, to effect the tanning of skins in this way. A patent was also obtained a few years ago, by a Mr. Payne in England, for the use of a like apparatus for salting meat; but in this case the exhaustion of the air from the vessel was to be obtained by means of an air-

pump on its top; or the impregnation was to be effected by powerful hydrostatic pressure; but the employment of this apparatus was attended with difficulties that have prevented its successful and continued use. In our apparatus, on the contrary, we depend mainly upon a common lifting-pump, which we use to pump the liquid from the lower part of the saturating vessel, which is done with great ease, and has been experimentally proved to be sufficient to prepare the provisions for subsequent saturation. The force-pump which we use is mainly employed for the purpose of expelling the extricated air, and not for that of compelling the solution to enter the provisions, this taking place in consequence of the previous escape of the air and under a pressure little, if any, greater than that of the atmosphere.

What we claim, therefore, as of our invention, and desire to secure by Letters Patent, is—

The manner, herein described, in which we have arranged and combined the respective parts of the apparatus for salting, or impregnating provisions with any desired solution, as set forth; that is to say, we claim the combining of a common lifting-pump, D, and of a force-pump, G, with the vessel, F, and with the cistern A, substantially in the manner, and for the purpose, herein fully made known.

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Witnesses:
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