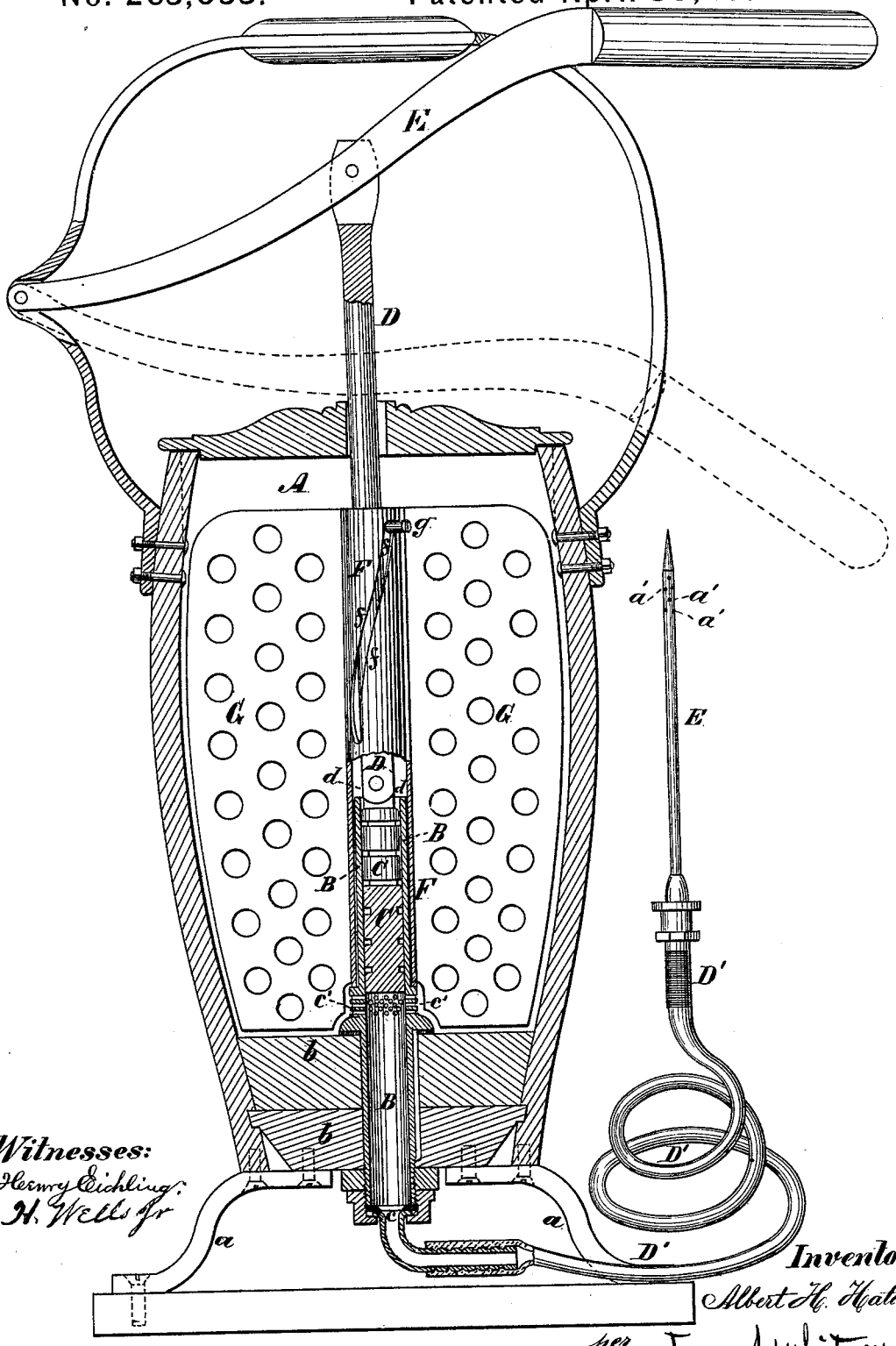
A. H. HATCH.

Apparatus for Embalming.

No. 203,033. Patented April 30, 1878.



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IMPROVEMENT IN APPARATUS FOR EMBALMING.

Specification forming part of Letters Patent No. **203,033**, dated April 30, 1878; application filed April 3, 1878.

To all whom it may concern:

Be it known that I, ALBERT H. HATCH, of the city, county, and State of New York, have invented certain Improvements in Apparatus for Injecting Preservative Substances into Meats, &c., of which the following is a specification:

This invention is more particularly intended for use in the treatment of hams and other meats for food, as hereinafter set forth; but it is also capable of advantageous employment for other purposes, as also hereinafter explained.

The drawing represents a vertical central sectional view of an apparatus embracing my said invention.

A is a bucket or vessel, which may be supported on legs *a*. The bottom *b* of this bucket is made of such strength and thickness as to sustain a pump-cylinder, B, the lower end or outlet *c* of which has attached to it a flexible tube, D′, which terminates with a metallic needle, E. This needle is hollow throughout most of its length, and is provided near its solid point with any desired number of perforations or outlet-orifices, *a′*. In the pump-cylinder B is provided the piston C, which may be circumferentially grooved to render it self-packing. The requisite vertical movement is given to the piston by means of a connecting-rod, D, which connects said piston with the operating-lever E. Slipped upon the upwardly-projecting portion *d* of the pump-cylinder, and also surrounding the rod D, is a sleeve, F, upon which are any desired number of radial vanes, G.

In the sleeve F is a spiral groove, *f*, and projecting outward from the rod D into this slot *f* is a pin or stud, *g*, so that when the rod D is moved up and down in operating the piston a semi-rotative movement alternately in opposite directions is given to the sleeve, and, consequently, to the vanes G.

Provided in the pump-cylinder, at a point more or less adjacent to the bottom of the bucket, are a number of orifices, *c′*. The capacity of that portion of the pump-cylinder below the orifices *c′* is intended to be the measure of the quantity of preservative material injected at one downward stroke of the piston.

The apparatus may be used for injecting any suitable preservative material in liquid or semi-liquid form; but in the treatment of hams, &c., for food I propose to use the compound set forth and described in another and distinct application for Letters Patent of the United States filed on the same day and date with this, said compound being therein designated as a "compound for preserving meat."

In the use and operation of the apparatus, the preservative material or compound is placed in the bucket A, and, the pump-piston being raised, the said material or compound flows through the orifices *c′* into the lower portion of the pump-cylinder. The needle E is thrust into the ham (or the like article of meat to be treated) near the bone, or at such points as decay is most likely to first appear. The piston is then forced downward, and the quantity of the preservative material previously passed into the pump-cylinder is forced through the tube D′ and needle E into the ham or other article under treatment, and is distributed under pressure throughout the substance and tissues of the same, the said preservative material being thereby caused to exert its curing or preservative action upon the entire mass of the meat, and practically uniformly throughout all its parts. The quantity injected by a full stroke of the piston is, of course, equal to the capacity of that portion of the pump-cylinder below the orifices *c′*. The quantity may, however, be diminished by causing the piston to descend only a portion of a full stroke, in which case the length of the partial stroke of the piston, and, consequently, the quantity injected, may be determined by index-marks placed at suitable intervals upon the handle of the bucket A and in suitable relation with the operating-lever E. As the connecting-rod D moves up and down, its stud *g*, working through the slot *f* of the sleeve F, communicates to the latter, and, consequently, to the vanes G, a semi-rotative movement alternately in opposite directions, this movement of said vanes agitating the preservative material within the bucket A, and thus preventing its heavier or undissolved constituents from settling to the bottom, thus not only maintaining the uniform consistency of said material, but also insuring

its more facile passage through the orifices c' into the pump-cylinder.

This apparatus, in addition to its use in the curing or preservation of meat for food, may be used for other purposes wherein it is desired to inject fluid or semi-fluid materials into other bodies or substances—as, for example, in embalming, or in the preparation of cadavers, in which cases, of course, the character or composition of the preservative material will be varied, while the operation of the herein-described apparatus remains the same.

What I claim as my invention is—

1. The combination of the pump-cylinder B, constructed with the orifices c', the piston C, the flexible tube D', hollow perforated needle E, and bucket A, the whole arranged for use and operation substantially as and for the purpose herein set forth.

2. The combination of the sleeve F, constructed with the spiral slot f and provided with the vanes G, in combination with the connecting-rod D, constructed with the stud g, the piston, the pump-cylinder, and the bucket A, the whole arranged for use and operation substantially as and for the purpose herein set forth.

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