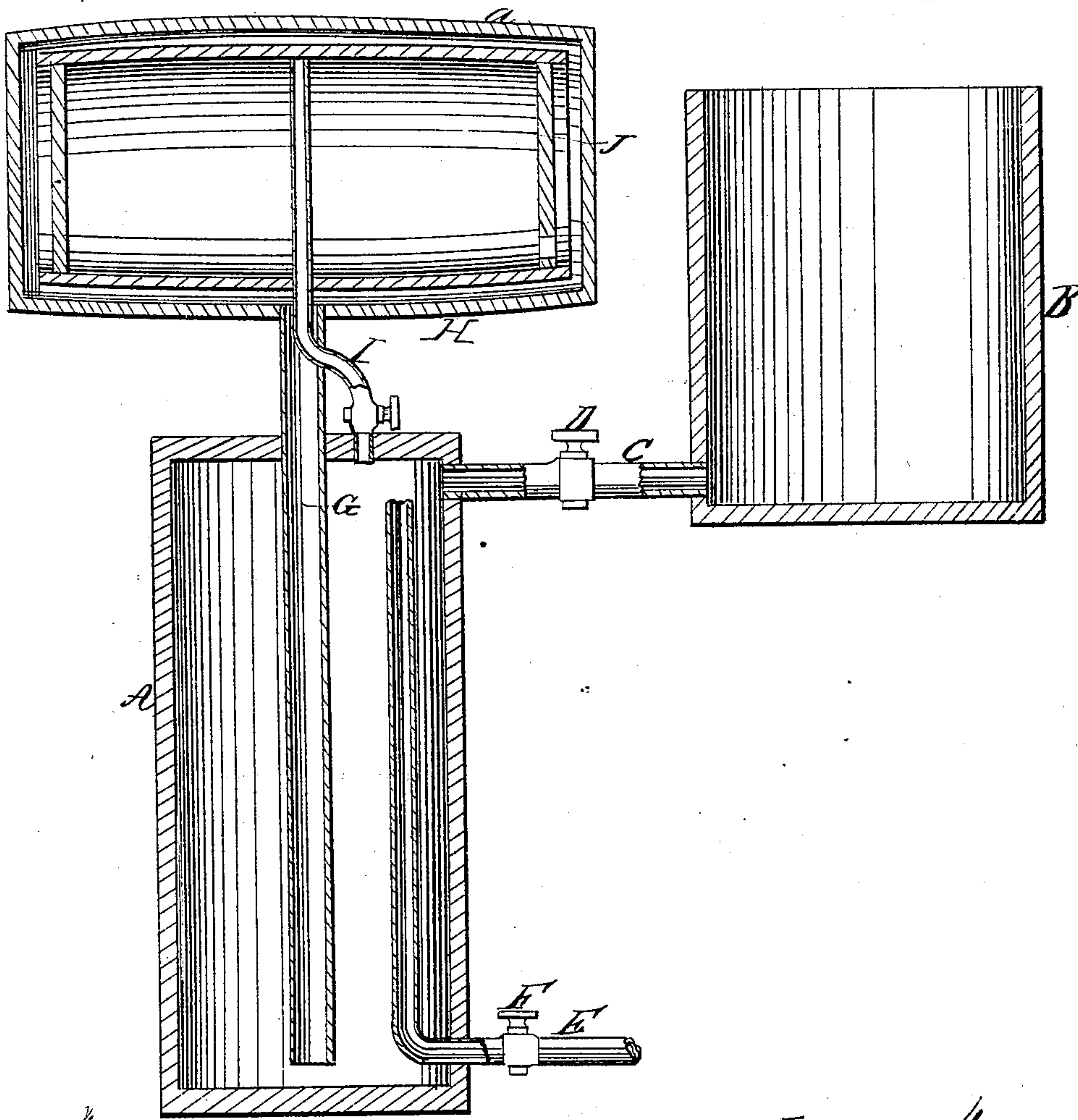


*J. D. Woodruff,*

## Coating Packing Vessels.

N<sup>o</sup> 50,649.

*Patented Oct. 24, 1865.*



Witnesses:  
Thos Tuck  
Wm Treurn

Inventor:  
J. O. Nordhoff  
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Att'y



# UNITED STATES PATENT OFFICE.

JAMES O. WOODRUFF, OF AUBURN, NEW YORK.

IMPROVEMENT IN APPLYING SOLUTIONS TO THE INTERIOR AND EXTERIOR OF OIL-BARRELS, &c.

Specification forming part of Letters Patent No. 50,649, dated October 24, 1865.

*To all whom it may concern:*

Be it known that I, JAMES O. WOODRUFF, of Auburn, in the county of Cayuga and State of New York, have invented a new and Improved Process for Applying Solutions to the Interior and Exterior of Casks, Barrels, &c., to render them Air and Gas Tight; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents a vertical section of a means employed for carrying out my invention.

This invention relates to a new and improved process for applying solutions simultaneously to the interior and exterior of casks, barrels, &c., in order to render them air and gas tight and effectually prevent loss of the fluid they may contain by the evaporation of the same.

The invention is more especially designed for coal-oil barrels, but may be advantageously used in all cases where it is necessary to line or cover barrels with a substance that will prevent evaporation or a permeation of the fluid through the wood of the barrel.

A represents a receiver of any suitable dimensions, and closed both at its top and bottom; and B is a reservoir, the bottom of which is on a level with the upper part of A, the former communicating with the latter by means of a pipe, C, provided with a stop-cock, D.

E is a pipe which passes into the lower part of the receiver A, and extends upward within the same nearly to its top. The pipe E leads from a steam-boiler, and is provided with a stop-cock, F.

G is a vertical tube, which extends from near the bottom of the receiver A upward through the top of the same, and communicates with a vessel or chamber, H, in which the cask or barrel to be operated upon is placed; and I is a tube which extends upward from the top of A and passes into the tube G, and extends upward nearly to the top of H. The upper part of the vessel or chamber H is provided with a door, a, through which the cask or barrel J is inserted.

The operation is as follows: The solution is placed in the reservoir B, and is warmed or heated therein to a proper degree. The cask

or barrel J is also heated to such a degree that the pores of the wood will be well opened. The barrel may be heated by any suitable means previously to being inserted in H. When the barrel has been sufficiently warmed and placed in H and the solution in B properly heated, the cock D is turned and the solution admitted into the receiver A, the level of which must always be below the top of the steam-pipe E. The tube I extends upward within the barrel J through its bung-hole, and said tube is provided with a cock, K, which is closed at the commencement of the operation. The cock F of the steam-pipe E is now opened, the cock D of pipe C being closed, and the steam rushes into the space above the solution, up through pipe G into the vessel H, all around the exterior of the barrel J, the solution also passing through the bung-hole of the barrel, so as to be brought in contact with the interior surface of the same, the tube I being sufficiently small in diameter so as not to close or fill up the bung-hole. By this means the solution will be brought in contact simultaneously with the exterior and interior surfaces of the barrel and made to enter the open pores of the same. After the solution is thus applied the cock F of the steam-pipe E is closed and the cock K of the tube I opened, and the steam in the upper part of A rushes up through the tube I into the barrel J and ejects all the unapplied solution therefrom, and also from H, the solution passing down pipe G into A.

Thus by this simple process the solution may be applied simultaneously to the exterior and the interior of the barrel and in a perfect manner. The work may also be rapidly done.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The applying of solutions simultaneously to the exterior and interior surfaces of casks, barrels, &c., by placing the cask or barrel in a suitable warm state within a vessel and forcing the solution into and around the cask or barrel and ejecting the unapplied solution therefrom by means of steam, substantially as herein shown and described.

JAMES O. WOODRUFF.

Witnesses.

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