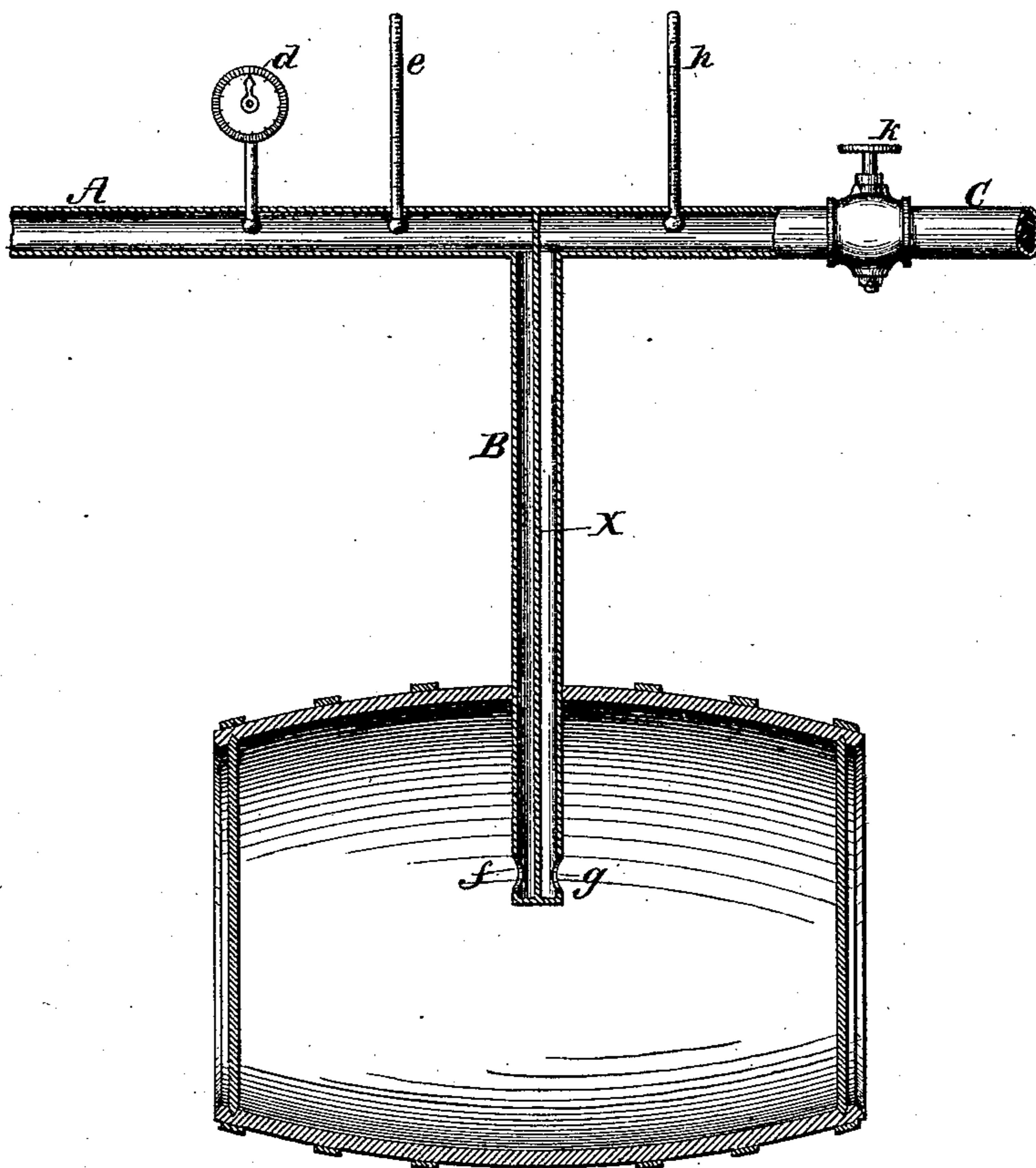


W. McMURTRIE.

PROCESS AND APPARATUS FOR CHARRING THE INTERIOR OF
BARRELS.

No. 187,162.

Patented Feb. 6, 1877.



Witnesses.

Rd Packard
Thomas G. Connolly

Inventor.

W. McMurtree

UNITED STATES PATENT OFFICE

WILLIAM McMURTRIE, OF OXFORD TOWNSHIP, NEW JERSEY.

IMPROVEMENT IN PROCESSES AND APPARATUS FOR CHARRING THE INTERIOR OF BARRELS.

Specification forming part of Letters Patent No. **187,162**, dated February 6, 1877; application filed January 30, 1877.

To all whom it may concern:

Be it known that I, WM. McMURTRIE, a citizen of the township of Oxford, in the county of Warren and the State of New Jersey, have invented a new and useful Process for Charring the Interior of Barrels, Casks, or other vessels of wood destined to contain newly-distilled and colorless alcoholic spirits, which process is fully set forth in the following specification:

This process consists in application of heat to the interior of the barrels or vessels in question, with partial or complete exclusion of air, in such a manner that the temperature shall not exceed 230° centigrade, and preferably 220° centigrade, until a stratum of brown or red charcoal is produced upon the internal surface.

In carrying out this invention any body capable of sustaining this temperature without material change may be heated to such a degree that, upon introduction to the barrel or vessel, and closing the same, it may, by radiation, produce the required temperature. This body may consist of a metallic vessel containing burning coals, whereby its temperature is maintained, or it may consist of a solid metallic body; or it may consist of a series of pipes or tubes, through which heated air, steam, or gases may be made to pass.

I prefer, however, to introduce directly to the interior of the barrel or vessel superheated steam or non-oxidizing gases, in such a manner that a constant current may be maintained, and the pressure and temperature of the inflowing and escaping currents may be observed.

In order to do this I make use of the apparatus shown in the accompanying drawing, which consists of three principal parts—the tube A, which conducts the heated steam or gases from the heater; a tube, B, connected with the tube A, and divided longitudinally into two parts by a diaphragm extending

throughout its entire length, for conveying the steam or gases into and out of the barrel; and a tube, C, to carry away the waste steam or gases.

The tube A is provided with a pressure-gage and thermometer, as shown at *d* and *e*. The tube B is provided with the apertures *f* and *g* on opposite sides near the lower end, so that the steam or gases may pass from one division of the tube B into the barrel, and thence into the other division, through which it passes to the tube C. The tube C is provided with a thermometer, *h*, and a suitable valve, *k*, which serve, respectively, to indicate the temperature, and regulate the flow of the effluent steam or gas, as the case may be.

I am aware that it is not new to char the interior of barrels or other vessels for the purposes described, but in all such cases heretofore black or common charcoal has been produced.

What I claim as my invention is—

1. The process of charring the interior of barrels or vessels of wood, which consists in heating the interior to a temperature not above 230° centigrade by the introduction of a suitable heated body, with partial or complete exclusion of air, or by introduction of superheated steam or non-oxidizing gases, whereby a stratum of red or brown charcoal (*charbon roux, roth kohle*) is produced upon the internal surface of the vessel, substantially as and for the purpose described.

2. The combination of the pipe B, provided with the longitudinal diaphragm *x*, and apertures *f* and *g* at its lower end, the pipe A, provided with pressure-gage *d* and thermometer *e*, and the pipe C, with thermometer *h* and check-valve *k*, substantially as described.

WM. McMURTRIE.

Witnesses:

R. S. PACKARD,
THOMAS C. CONNOLLY.