

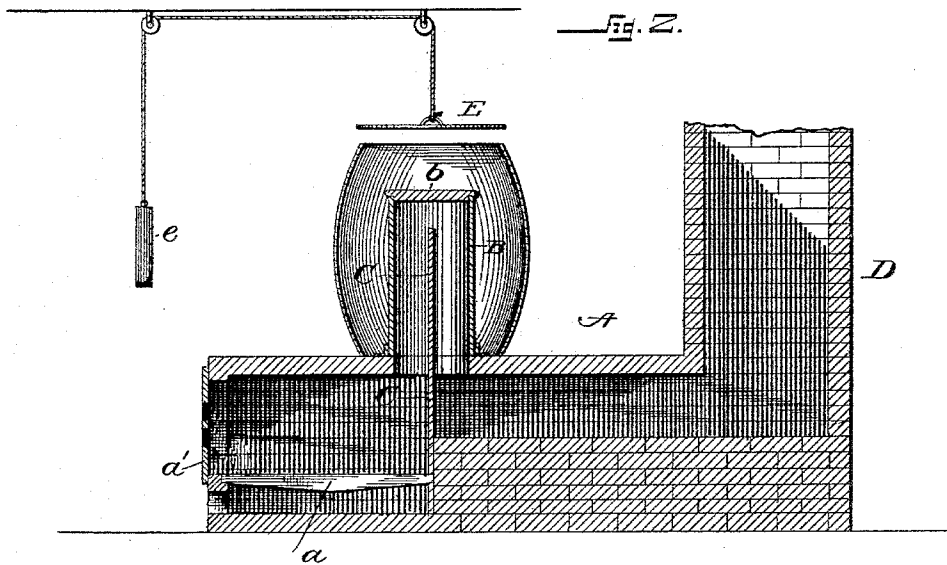
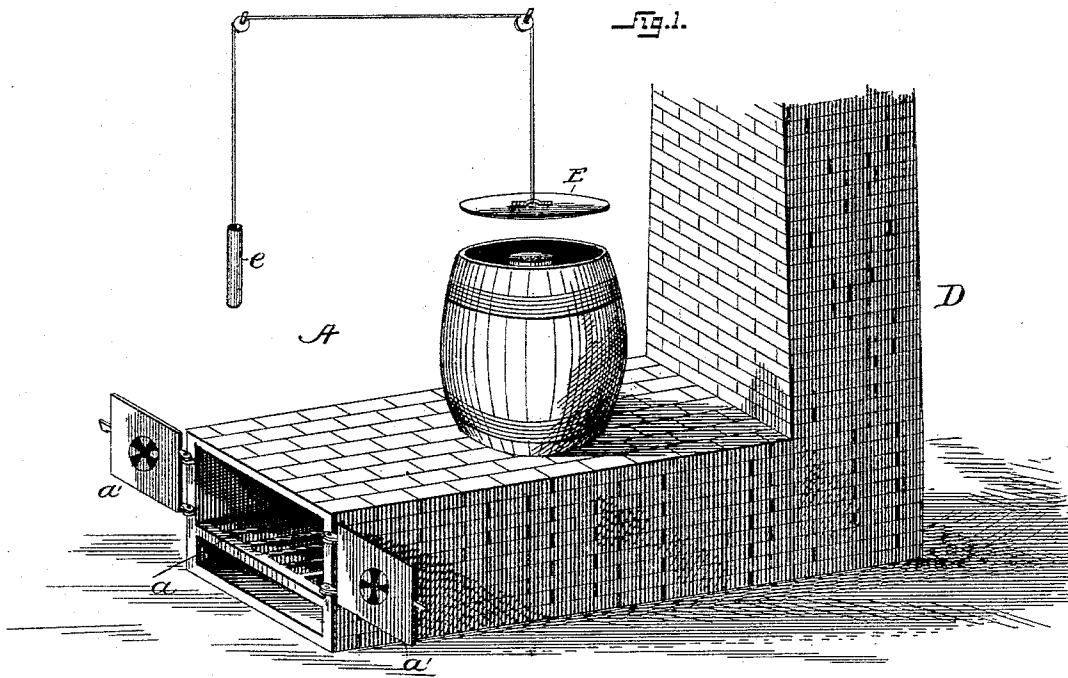
(No Model.)

2 Sheets—Sheet 1.

E. D. HUGHES.
BARREL HEATER.

No. 388,045.

Patented Aug. 21, 1888.



Witnesses:

W. H. Mortimer
H. F. Riley

Inventor :

Evan D. Hughes,
by *A. S. Symonds,*
his Attorney.

(No Model.)

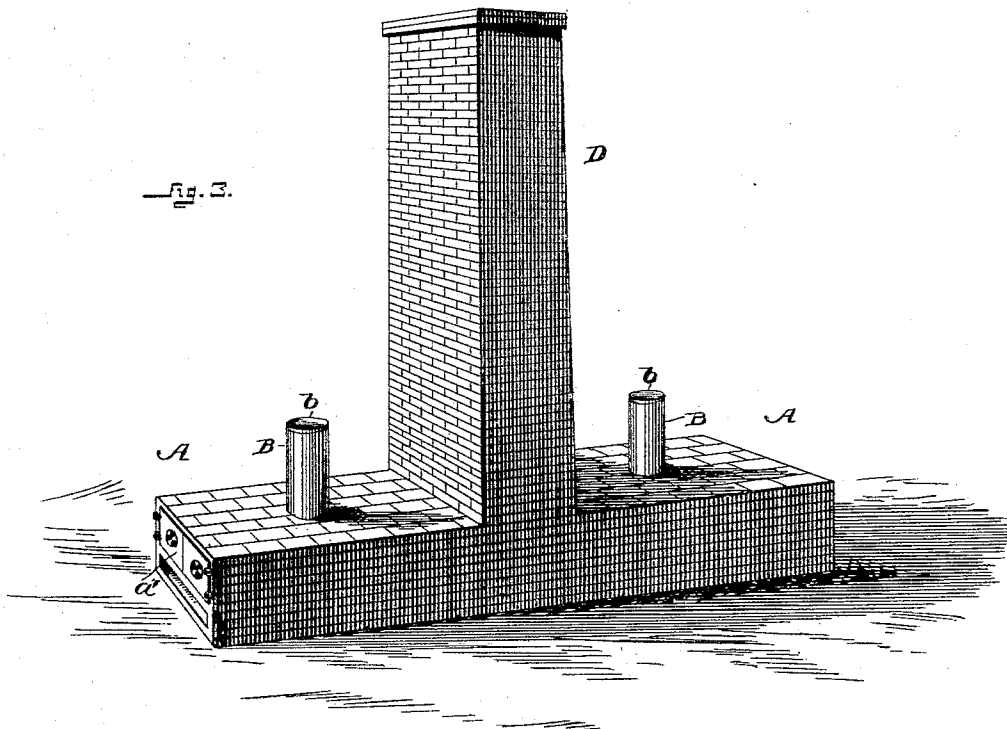
2 Sheets—Sheet 2.

E. D. HUGHES.

BARREL HEATER.

No. 388,045.

Patented Aug. 21, 1888.



Witnesses:

W. H. Mortimer
A. F. Riley

Inventor :

Evan D. Hughes,
by *A. S. Dyrenforth,*
his Attorney.

UNITED STATES PATENT OFFICE.

EVAN D. HUGHES, OF WHEELING, WEST VIRGINIA.

BARREL-HEATER.

SPECIFICATION forming part of Letters Patent No. 388,045, dated August 21, 1888.

Application filed April 29, 1887. Serial No. 236,564. (No model.)

To all whom it may concern:

Be it known that I, EVAN D. HUGHES, a citizen of the United States, residing at Wheeling, in the county of Ohio and State of West Virginia, have invented certain new and useful Improvements in Barrel-Heaters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to barrel-heaters.

The object is to produce a device to heat the staves of barrels or casks upon their inner sides for the purpose of seasoning, warping, or drying them to the proper shape for the hoops without burning, and in a more effective and convenient manner than by the means commonly employed.

The invention consists in the construction and novel combination of parts, as hereinafter set forth.

This invention is especially designed as an improvement upon a kind of barrel-heater in which the stove or furnace, the drum, and the chimney are separate and distinct parts, the furnace being connected with the drum by a pipe, and the drum having a dividing wall or partition, as such alone, and being connected with the chimney by a separate pipe.

In this invention the object is to combine the elements or parts comprising the heater in one structure and render the construction more compact, simple, and cheap and the operation more efficient.

I have illustrated the invention in the accompanying drawings, in which like letters of reference indicate corresponding parts.

Figure 1 is a perspective view of a barrel-heater constructed in accordance with my invention. Fig. 2 represents a vertical section of the same, and Fig. 3 illustrates the manner in which two of the heaters may be connected.

The furnace A is here shown as constructed of brick, and at one end is a fire-box or combustion-chamber containing the grate *a* and provided with the doors *a'*. In the upper wall or arch of the furnace, just above the inner end of the fire-box or combustion-chamber, is provided an opening, over which is placed a metal drum or cylinder, B, having a removable cover, *b*. This cylinder rests upon the

top of the furnace to allow expansion. At the back end of the combustion-chamber is provided a bridge-wall, C, preferably constructed of fire-brick tile, which forms the rear wall of the chamber, with its upper portion extending into the drum or heating-cylinder to within a short distance of its top, leaving a small space, over which the hot products of combustion from the fire pass while making their escape to the chimney D.

Directly above the drum or heating-cylinder B is an adjustable cover, E, suspended by a rope or chain, which passes over pulleys secured to the ceiling or to joists above the furnace, and has at its other end a counter-balance, *e*. By these means the barrel may be covered by drawing down the cover, or be uncovered, raising it up out of the way when not in use.

A fire being made in the combustion-chamber the draft causes the products of combustion to strike against the bridge-wall, pass up along one side through one portion of the drum or heating-cylinder, then over the top of the bridge-wall, down the other side, and through the other portion, and from the drum, through the flue of the furnace, to the chimney.

It will at once be seen that by the instrumentalities described the cylinder will be thoroughly and evenly heated throughout, thus evenly heating the barrel placed over the same.

The furnace being made of fire-brick there is no danger of burning the barrel resting upon it when quick heating is required, while a complete control of the draft being had through the arrangement of the doors of the furnace the intensity to which the cylinder may be heated, and consequently the time required to heat a barrel, may be regulated.

In Fig. 3 I have shown two furnaces combined with a common chimney, yet it is obvious that a number of these may be connected in this manner, thus economizing in space and material.

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

The herein-described barrel-heater, comprising the furnace having the fire-box at one end, an opening in its top wall over the fire-box, a

drum having a removable cover arranged
above the opening in the furnace, and a par-
tition or bridge-wall extending from the rear
end of the fire-box through the opening in the
5 furnace, whereby the heat passes directly from
the fire-box into the drum and out of the chim-
ney, causing the drum to be heated to an even
temperature at all times, as and for the pur-
pose described.

In testimony whereof I affix my signature in ro
presence of two witnesses.

EVAN D. HUGHES.

Witnesses:

ANDREW S. HARE,
JOHN CLATON.