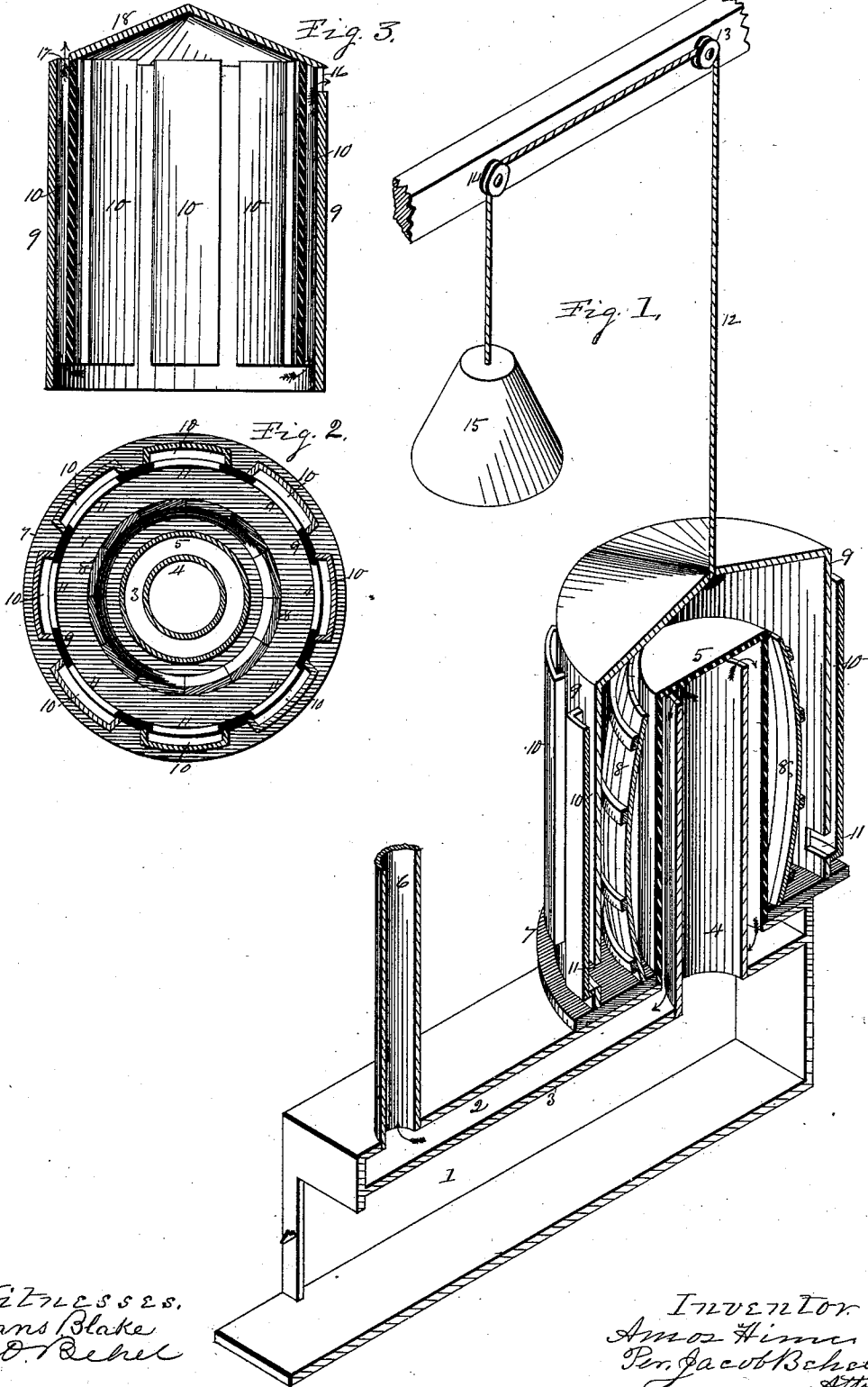


(No Model.)

A. HIME.
BARREL HEATER.

No. 374,069.

Patented Nov. 29, 1887.



Witnesses,
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UNITED STATES PATENT OFFICE.

AMOS HIME, OF ROCKFORD, ILLINOIS.

BARREL-HEATER.

SPECIFICATION forming part of Letters Patent No. 374,069, dated November 29, 1887.

Application filed July 7, 1887. Serial No. 243,660. (No model.)

To all whom it may concern:

Be it known that I, AMOS HIME, a citizen of the United States, residing in the city of Rockford, county of Winnebago, and State of Illinois, have invented certain new and useful Improvements in Barrel-Heaters, of which the following is a specification.

This invention relates to heaters employed in coopeage to heat the barrels or other vessels in the process of their manufacture.

Its object is to envelop the vessel in a heated atmosphere substantially uniform.

To this end I have designed and constructed the heating apparatus represented in the accompanying drawings, and which, in connection therewith, will be hereinafter more fully described.

Figure 1 of the drawings is a vertical central section lengthwise of the furnace of my improved heater in isometrical view. Fig. 2 is a horizontal transverse section of the chamber of the heater containing the vessel to be heated. Fig. 3 shows an internal application of the flues to the drum of my improved heater.

The furnace employed in this instance is, in the main, a well-known form of stove, preferably made from cast-iron or plate material; and it consists of a fire-box, 1, rectangular in section, a return hot air or gas chamber, 2, formed in the upper portion of the furnace by the horizontal division-plate 3, connecting the inner face of the external side and end walls of the furnace, a gas-flue, 4, rising from the rear portion of the horizontal division-plate 3, a drum, 5, with closed upper end incasing the gas-flue 4 and connected at its lower end with the upper plate of the furnace, and a gas-flue, 6, rising from the forward end portion of the furnace, forming a continuous flue from the fire-box to the final exit through the gas-flue 6, as indicated by the arrows, all of which are substantially such as heretofore in use; also, a base-plate, 7, fitted to the drum 5, placed on the rear end of the furnace, and the barrel 8, to be heated, placed over the drum and supported in place on the base-plate, are substantially such as heretofore used for like purposes.

An outer casing, 9, of drum form, with closed upper end, preferably of plate material, is provided with a series of vertical flues, 10, with closed lower ends and open upper ends, fixed to its outer surface at suitable intervals,

and openings 11 are made in the lower end portion of the drum to open into the lower end of the several external vertical flues. This outer drum-casing, 9, is designed to be placed over the barrel concentric thereto, and its lower end to rest on the base-plate on which the barrel is placed. A rope or chain, 12, is fixed centrally to the closed end of the drum, from which it rises vertically and is passed over sheaves 13 and 14, fixed to a suitable support overhead, and a counterbalance-weight, 15, is fixed to the depending end of the rope or chain, by means of which the drum can be readily raised and lowered.

In the use of my improved heater, a fire is made in the fire-box, from which the gases produced by combustion and the heated air will pass through the several flues, as indicated by the arrows. The drum is then raised from the base-plate by means of the rope or chain connecting it with the counterbalance-weight. The barrel to be heated is then placed in position on the base-plate over the drum 5 and concentric thereto. The outer drum, 9, is then lowered over the barrel to the base-plate, concentric to the barrel, in which position the parts remain until the barrel is properly heated and dried. The outer drum is then raised and the barrel removed, when another barrel may be put in place, heated, and dried in the same manner.

In this process of heating and drying barrels the steam generated from the moisture contained in the material will pass from the outer drum through the openings 11 at its lower end into the vertical outer flues, 10, and escape from their open upper ends. In this instance I have placed the flues on the outer surface of the drum, which I prefer; but evidently they may be placed on its inner surface, as shown in Fig. 3, and when so placed their open ends will be downward and will extend nearly to the lower end of the drum, and openings 16, through the wall of the drum near its upper end, will communicate with the closed upper end of the flues; or, instead thereof, the flues may extend and connect with opening 17, formed in the head end, 18, of the drum.

I claim as my invention—

1. The herein-described drum, closed at the top and open at the bottom, provided with flues extending from its bottom upwardly, the

said flues communicating with the interior of the drum at the bottom and with the open air at their upper ends, substantially as set forth.

2. The herein-described drum, closed at the top and open at the bottom, provided with flues extending from its lower end upwardly along its outer face, the said flues communicating with the interior of the drum at the bottom and with the open air at their upper ends, substantially as set forth.

3. The combination, with the interior or

heating drum and a suitable support for the same, of the removable outer drum provided with vertical flues opening into the space between the drums at the bottom and to the open air at the top, and means for elevating and lowering the said outer drum, substantially as set forth.

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Witnesses:

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