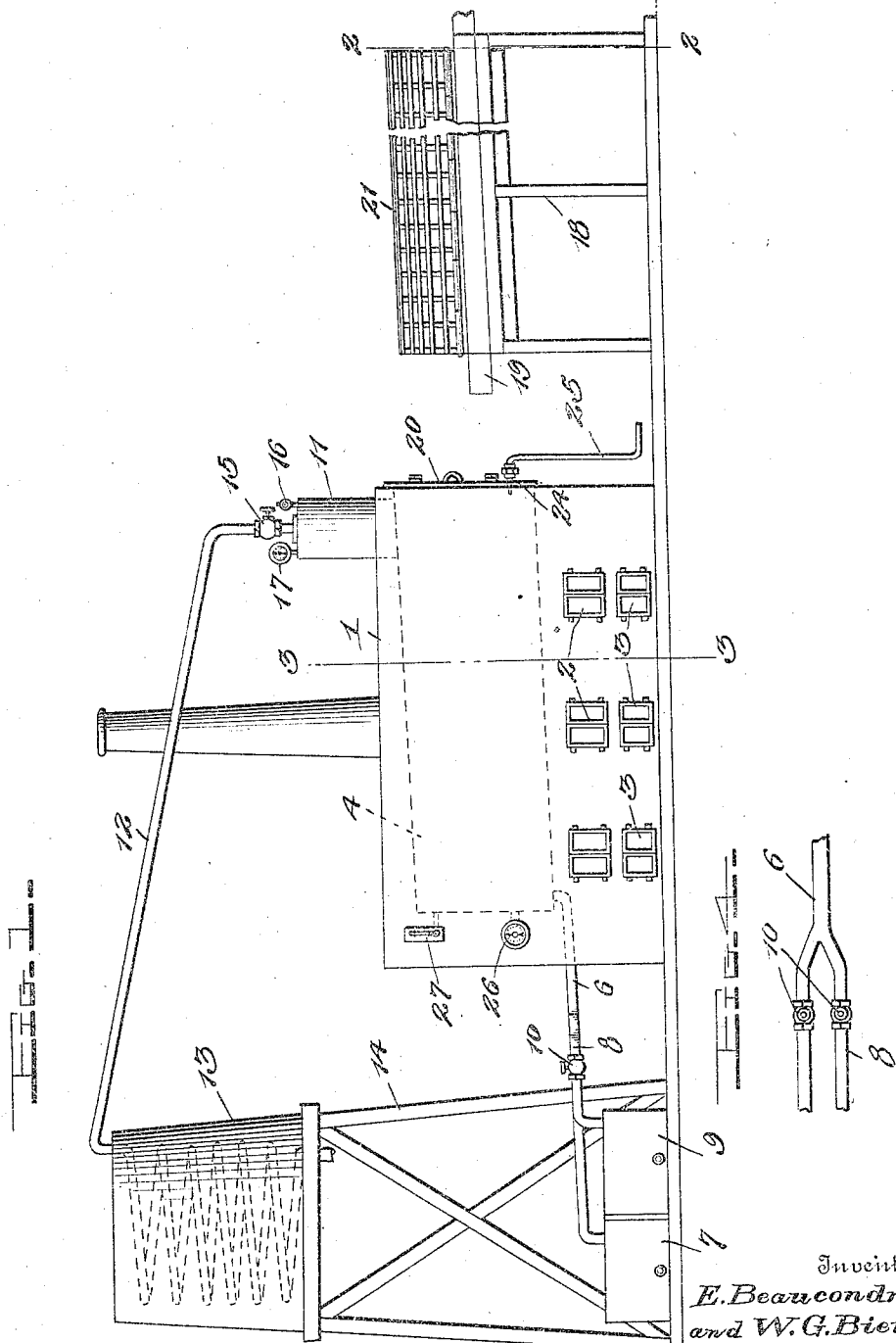


E. BEAUCONDRAÏ & W. G. BIERY.
DISTILLING APPARATUS.
APPLICATION FILED MAY 25, 1912.

1,043,894.

Patented Nov. 12, 1912.

2 SHEETS—SHEET 1.



Witnesses

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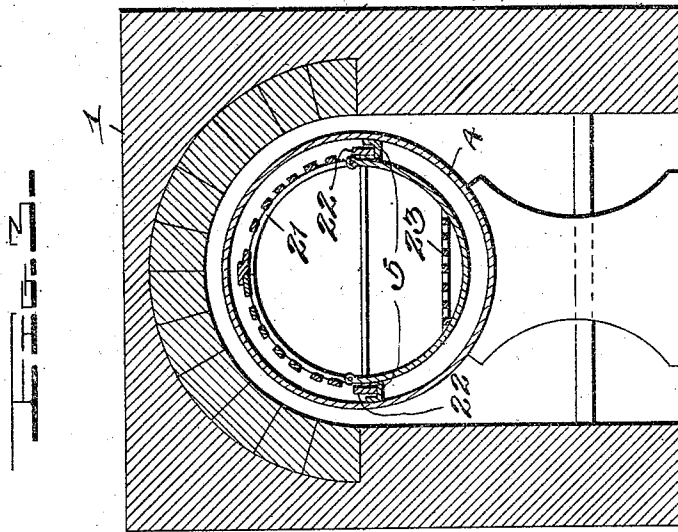
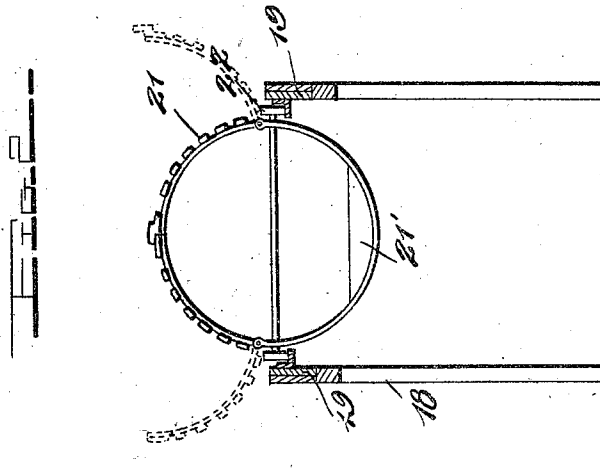
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UNITED STATES PATENT OFFICE.

EMILE BEAUCONDRAY AND WILLIAM G. BIERY, OF COVINGTON, LOUISIANA.

DISTILLING APPARATUS.

1,043,894.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed May 25, 1912. Serial No. 699,710.

To all whom it may concern:

Be it known that we, EMILE BEAUCONDRAY and WILLIAM G. BIERY, citizens of the United States, residing at Covington, in the parish of St. Tammany and State of Louisiana, have invented certain new and useful Improvements in Distilling Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to new and useful improvements in an apparatus for the distillation of naval store products and the primary object of the invention is to provide a simple device of this character which will be most efficient in the manufacture of such products as turpentine, pine oil, rosin, tar and charcoal.

Another object of the invention resides in providing a movable carrier for the wood from which the products are to be obtained, and a still further object resides in providing a furnace and steam chamber within which said carrier is adapted to slide.

A further object of the invention resides in providing a water system for the neutralization of the intense heat within the steam chamber, thereby providing a means to readily extract the rosin from the wood and a still further object resides in providing means whereby a maximum amount of products may be obtained from a minimum amount of wood.

With these and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a complete side elevation of our device showing the carrier on the track-way previous to being disposed within the furnace. Fig. 2 is a vertical transverse section as seen on line 2-2, Fig. 1. Fig. 3 is a vertical transverse section through the furnace showing the carrier disposed therewithin. Fig. 4 is a plan view of parts connected to the pipe 6.

In describing our invention, we shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which—

1 indicates a furnace of any suitable size,

constructed of fire brick having the fire and ash pit doors 2 and 3, respectively, formed in the sides thereof and formed within the furnace a short distance above the grate bars therein is a chamber or retort 4. This chamber may be of any desired shape, preferably cylindrical and the side walls thereof are provided with guide rails or tracks 5, the purpose of which will be hereinafter and more particularly described.

The chamber 4 within the furnace is inclined downwardly toward its rear end from which rear end extends a discharge pipe 6 which leads to a receiving tank 7, a short distance beyond the furnace, while a branch pipe 8 leads to an additional receiving tank 9 and each of said pipes 6 and 8 is provided beyond the points of connection therebetween with a manually operated valve 10. The forward portion of the chamber 4 communicates with a vapor drum or dome 11 extending above the top of the furnace 1, said drum 11 having connected therewith, a pipe 12 which leads upwardly to a condensing tank 13 supported upon the frame 14. This pipe 12 is coiled within the tank 13 and leads to a receiving tank or the like, (not shown,) to obtain the condensed products. Said pipe 12, just referred to, is provided with a manually operated valve 15 adjacent its connection with the drum 11 and is also provided with an automatically operated safety valve 16, while a steam or pressure gage 17 is also provided at this point.

Mounted on the ground some distance from the forward portion of the furnace 1 is a supporting frame 18, which carries the movable or sliding tracks or rails 19, said rails or tracks 19 being disposed in substantial alinement with the tracks or rails 5 in the sides of the chamber 4. These tracks or rails 19, may, therefore, be moved in position to abut against the outer ends of the rails or tracks 5, but in order to allow the door 20 of the chamber 4 to be closed, these tracks are movably constructed so as to be thrown out of the path of this door.

A cylindrical carrier 21 is designed to travel on said tracks 5 and 19, the same being provided with longitudinal side rails or the like 22 which are adapted to slide on said tracks. This cylindrical carrier 21 has the lower half of the same formed of sheet metal, while the upper half thereof is formed

of longitudinal and transverse strips, said upper half being formed in sections, each of which sections is hinged to the side edges of the lower half, and foldable outwardly with respect thereto. These hinged sections form a cover for the carrier which is adapted to receive logs of wood from which the naval store products may be obtained and the bottom of the lower half of this member 21 has mounted therein the grate bars or the like 23, which are adapted to receive thereon the aforesaid logs of wood, to slightly space the same from the extreme bottom portion of the carrier 21. This carrier 21 has the rear end thereof open, while the front end of the same is provided with a low wall 21', the purpose of which will be hereinafter and more particularly described.

The door 20 of the steaming chamber, has removably mounted therein a nipple or the like 24 with which is adapted to be engaged a flexible water pipe, hose or other water connection 25, said connection being extended from any source of supply, (not shown) whereby water may be readily supplied to the chamber. This nipple is so disposed on the door 20 as to be just above the low wall 21' of the carrier 21, thereby permitting the water which flows through said nipple to play upon the carrier when the latter is disposed through the chamber, the purpose of which will be hereinafter and more particularly described.

Mounted on the one side wall of the furnace and in connection with the steam chamber therein is a water gage 26, while a heat gage or thermometer 27 is also provided on the furnace to indicate the heat within the steaming chamber therein.

In operation, the chamber 4 is filled with a predetermined amount of water, which amount is determined according to the circumstances and indicated by the water gage 26, whereupon the door of the chamber 4 is opened and the tracks 19 moved to aline with the tracks 5 within said chamber. The carrier 21, which has been previously filled with the logs, is then moved on the tracks 19 and disposed within the chamber 4 to rest on said tracks 5, after which said tracks 19 are returned to their initial positions and the door 20 closed. As the water within the chamber 4 boils, through the intense heat from the furnace, the steam rising therefrom will draw from the logs within the carrier the lighter products such as turpentine and pine oil which will arise in a vapor to the drum 11. From the drum the products will be conducted through the pipe 12 to the condensing chamber 13, where said products are cooled and conducted to a receptacle (not shown) and form the turpentine or pine oil.

When the flow of turpentine and oil decreases or entirely ceases, it is an indication

to the operator that it is time for the extraction of the heavier products such as rosin and tar, whereupon the valve in the pipe 6 is opened to allow the water in the chamber 4 to flow therefrom. After removing the water from the chamber 4, the water is allowed to play upon the carrier 21 from the nipple 24, and as the rosin and tar are extracted from the logs and drop to the bottom of the carrier 21, the same will be conducted away by the flowing with this water in the carrier, to the rear end of the chamber and through the outlet therein to the pipes 6 and 8 and the tar and rosin will be respectively deposited in the tanks 7 and 9. This flow of water upon the carrier 21 will, of course, neutralize the heat within the chamber to prevent the wood from charring too rapidly and thereby prevent the extracted rosin from burning. This flow of water will also form a means whereby the heavier products, tar and rosin, may be conducted to the rear end of the device to the outlet therein. In connection with the flowing of water, it will be seen that by the disposition of the nipple 24 at a point just above the plane of the upper edge of the low wall 21', water may readily flow within said carrier, and said wall 21' will prevent the water from overflowing to the walls of the chamber 4.

From the foregoing it will be seen that we have provided a device which is extremely simple and durable in construction, inexpensive to manufacture and one which will be very efficient and useful in operation, and while we have particularly described the elements best adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the principles of the invention.

Having thus described this invention, what we claim is:—

1. In a distilling device, a cylindrical carrier, the lower half of which is formed of a single sheet of material, the upper half thereof being formed of transverse and longitudinal strips designed in hinged sections, and grate bars mounted in the lower section of the carrier.

2. In a distilling device, a cylindrical carrier comprising a lower body portion formed of a single sheet of material and semi-cylindrical in design, an upper body portion formed of sections each hinged to the sides of said lower body portion, said latter sections being formed of transverse and longitudinal strips, a low wall section secured to the one end of said lower body portion, rods extending transversely through said lower body portion, and side rails secured to the ends of said transverse rods, said rails forming

ing rests for the upper hinged sections of the device when the latter are disposed to their open positions.

3. In a distilling device, a stationary structure having a heating chamber formed therein, said chamber being open at one end thereof and also provided with outlet openings in the upper and lower walls of the same, means to support a carrier within said chamber, a closure for the open end of the chamber, a nipple secured on said closure and having a portion thereof disposed within the chamber, and a flexible water conduit connected to said nipple to supply a heat neutralizing element to the chamber.

4. In a distilling device, the combination with a stationary structure having a rearwardly inclined heating chamber formed therewithin, said chamber having one end thereof open and also provided with outlet

openings in the upper and lower walls thereof, a closure for the open end of said chamber, and means extending through said closure to supply water to the chamber; of an open ended carrier adapted to be supported within the chamber, and an end wall section secured to said carrier at the end thereof to be disposed adjacent the open end of said chamber, the upper edge of said wall section being disposed to a plane just below the plane of the water supply means in the closure for the chamber.

In testimony whereof we hereunto affix our signatures in the presence of two witnesses.

EMILE BEAUCONDRAV
WILLIAM G. BIERY.

Witnesses:

BENJ. M. MILLER,
EDWARD J. FREDERICK.