

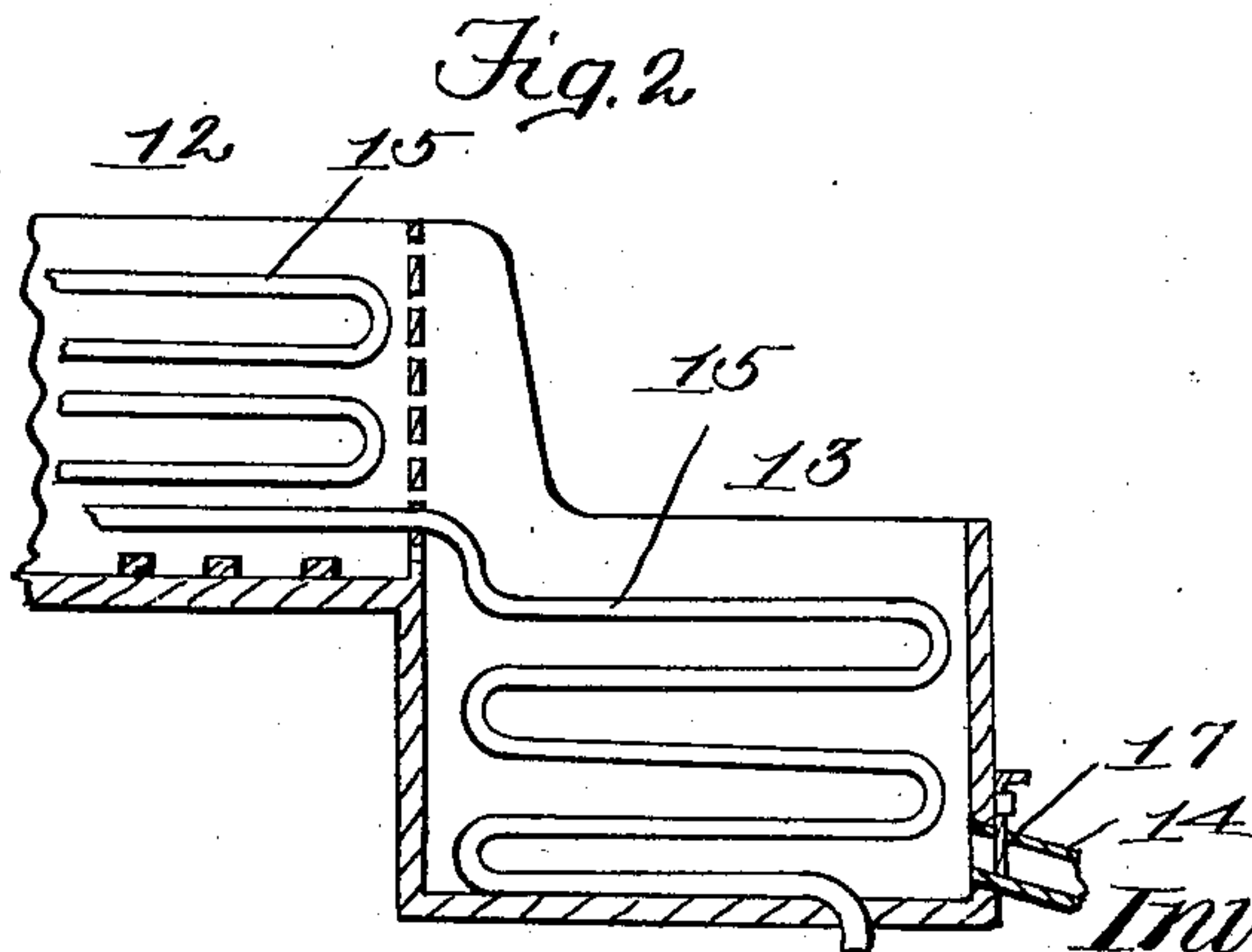
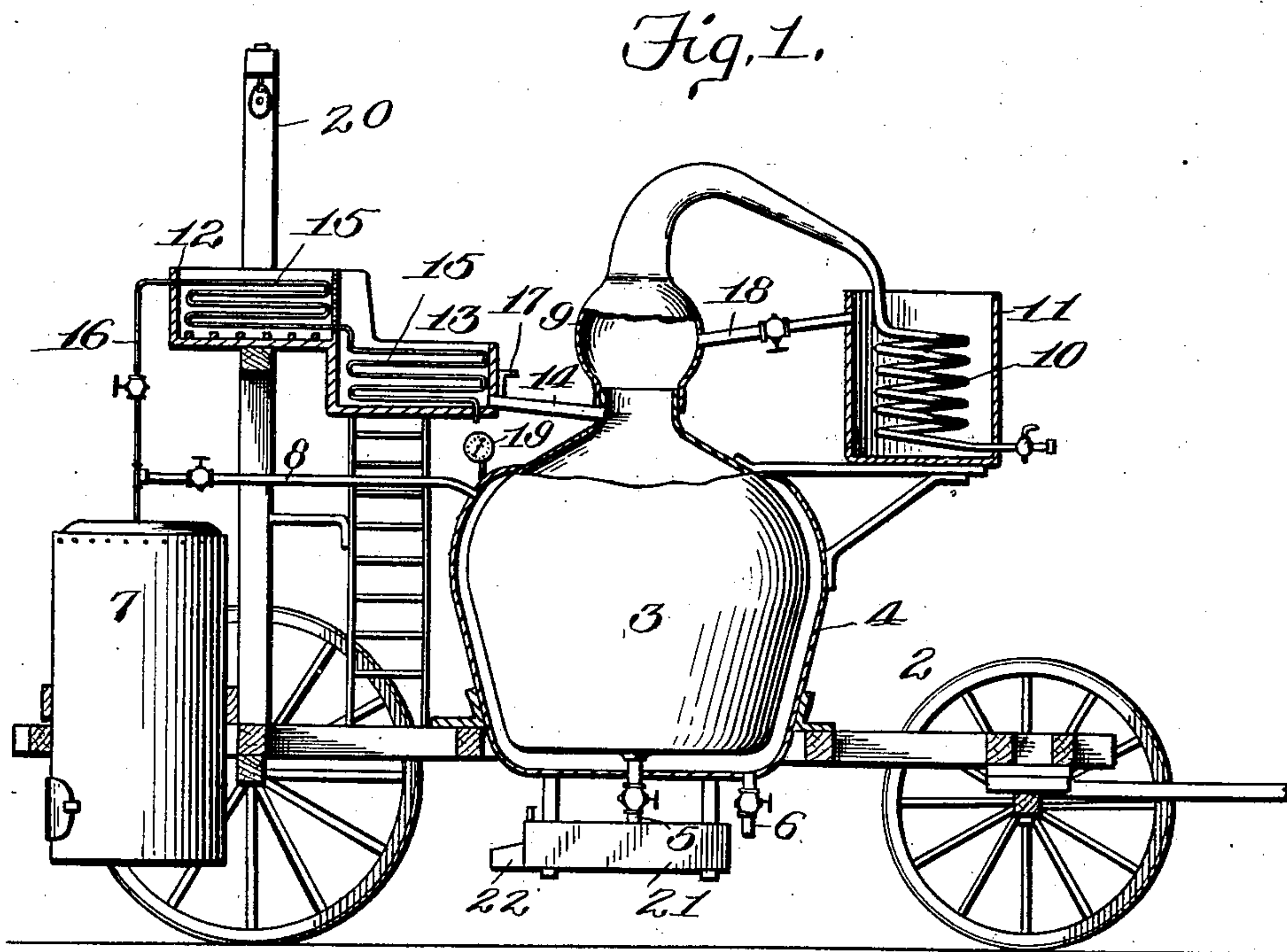
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J. I. PITTMAN.
TURPENTINE DISTILLING APPARATUS.

APPLICATION FILED SEPT. 16, 1902.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES IRA PITTMAN, OF LONGWOOD, FLORIDA.

TURPENTINE-DISTILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 742,351, dated October 27, 1903.

Application filed September 16, 1902. Serial No. 123,608. (No model.)

To all whom it may concern:

Be it known that I, JAMES IRA PITTMAN, a citizen of the United States, residing at Longwood, in the county of Orange and State of Florida, have invented new and useful Improvements in Turpentine-Distilling Apparatus, of which the following is a specification.

This invention relates to a turpentine-distilling apparatus; and the object of the invention is to provide an effective apparatus of this character which is adapted to quickly and thoroughly distil the crude material, the latter being supplied in proper quantity to the still wholly free from dirt, sticks, sand, and other foreign substances.

In the present case the apparatus is mounted upon a vehicle or carriage of some suitable kind, so that it can be readily moved from place to place by horse or other power, or, if desired, the working parts of the apparatus may be taken from the vehicle or carriage and placed upon the ground for use.

The improved apparatus includes in its construction a still and primary and secondary vats, the crude material containing the chips, dirt, &c., being placed in the primary vat, where it is heated, and thereby caused to liquefy and flow into the secondary vat. The discharge end of the primary vat has a perforated or netted portion or wall through which the semifluid crude material is adapted to flow and which strains the same, so that such material enters the secondary vat entirely free of all objectionable matter. The secondary vat delivers the substance by means of a trough or other similar agent into the still, and when said still receives a sufficient quantity of the said substance a cap is placed upon the same and heat applied thereto in order to distil such substance. Upon the application of heat to the still the vapors pass into a condensing coil or worm in communication with the still and which coil or worm is disposed in a vessel or receptacle adapted to contain a cooling medium, such as water, such cooling medium facilitating the condensation of the vapors. A pipe extends from the vessel or receptacle, and its delivery end is situated in proximity to the point where the still is charged with the crude material in order to supply said still with water for a purpose that will hereinafter appear.

The invention is clearly illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a sectional side elevation of a distilling apparatus embodying said invention. Fig. 2 is a sectional detail view.

Like characters refer to like parts in both figures.

The different parts of the apparatus are mounted upon a vehicle, as 2, which may be of any suitable character and which can be moved from place to place, as required, by horse or other power, or, if desired, the still and its coöperative parts may be dismounted from the vehicle and placed upon the ground for use and used as a stationary apparatus.

The still is denoted by 3, and it is practically wholly incased by the jacket 4, closed upon its upper side, and into the space between the jacket and the still steam is admitted in order to heat the contents of the still for the purpose of distilling the same. A pipe 5 depends from the bottom of the still and it is valved, the pipe serving as a means to draw off the resin or non-distilled portion of the charge. A valved pipe, as 6, leads from the steam-jacket, the function of the same being to carry off the water of condensation from the space between the still and jacket.

A boiler, as 7, is mounted upon the vehicle and is connected by the steam-supply pipe 8 with the steam-jacket 4, said pipe serving to feed steam into the space between the jacket and still, so as to distil the contents of the latter, the pipe, of course, being provided with a valve for controlling the flow of such steam. This valve while the still is being charged with the crude material is closed. As soon as the charge has been delivered to the still and the same is covered steam will be admitted into the steam-space mentioned, for the purpose set forth.

The upper open side or mouth of the still is closed by the enlarged terminal end of the conduit 9, which enlarged terminal end constitutes a cap for the still. The opposite end of the conduit 9 is united to the condensing coil or worm 10, supported within the vessel or receptacle 11, suitably mounted and adapted to contain water or other cooling medium, water being preferably employed, although I do not show any means for supplying the

same to the vessel, for it may be poured therein, if desired. The lower terminal coil of the worm extends through the bottom of the vessel 11 and is provided with a plug or valve of some suitable kind, by opening which the distilled vapors can be drawn off in the form of turpentine into suitable vessels. It will be understood that the enlarged inner terminal end of the conduit 9 constitutes a cap for and is, in fact, a part of the still 3, said enlarged end or cap being removable for the purpose of charging the still or the body portion thereof with the crude material.

I show primary and secondary vats 12 and 13 suitably mounted upon the framing, the primary vat 12 being located in a plane above the secondary vat 13, so that the crude gum can flow from the former into the latter, the secondary vat being put into communication by means of a trough, as 14, with the mouth of the still 3. Pipes, as 15, extend lengthwise of the vats and are connected by the valved supply-pipe 16 with the boiler 7. The vats, like the other parts of the apparatus, may be made of any suitable material, and the discharge-wall of the primary vat 12 is made of perforated material or netting. A supply of material having been emptied into the primary vat 12, steam will be admitted to the pipes 15 in the vats by opening the valve in the supply-pipe 16, so as to partially liquefy the material in the primary vat, and when the same is in a sufficiently fluid condition it flows from the primary vat into the secondary vat, the foreign matter in the material being strained from the material by means of the perforated wall just mentioned. The cap of the still 3 having been taken off and the trough having been put into position with its discharge end over the mouth of said still the gate 17 of the said trough will be lifted, so as to permit the fluid material to pass from the secondary vat into the trough and from the latter into the still, the operation being repeated until the level of the material in the still has reached a desired line. When this is done, the steam flowing through the supply-pipe will be cut off and the still 3 will be covered.

Before distilling the gum in the still I feed to the latter a supply of water which is thoroughly mixed with the gum while in the still in order that such gum can be properly cooked, the steam which rises from the cooking mass passing into the enlarged inner terminal end of the "gooseneck" conduit 9 and thence to the condensing-coil 10, where it is condensed, as hereinbefore set forth. To provide the still with the water, I extend the pipe 18 from the tank 11 to said terminal end of the conduit, the inlet end of the pipe being situated near the top of the tank. Said pipe is provided with a valve to regulate the flow of water to the still. The cap of the still 3 having been put on and the gate 17 of the trough 14 having been closed and the valve of the pipe

16 having been also closed, steam will be admitted into the space between the still and jacket 4 by means of the pipe 8, the valve of the latter having been opened for this purpose, so as to distil the contents of the still, the vapor passing from the still into the conduit 9 and from the latter into the worm or coil 10, where it is condensed and drawn off from the terminal coil of the worm, as is the custom in this art.

The steam-jacket is provided with a steam-pressure gage 19 of some suitable kind, serving its usual function.

The primary and secondary vats 12 and 13, in connection with the cooling-medium-containing receptacle or vessel 11 and their cooperating parts, can be employed in conjunction with various kinds of stills. By virtue of my improvements it will be seen that the crude material is placed in the still in a condition absolutely free of all foreign or objectionable matter and that the clogging of the material at the mouth of the still is positively prevented. The apparatus is simple and effective in operation, and it can be constructed at a reasonable figure, and may be readily transported from place to place, or the operating parts can be taken from the carriage or vehicle, if desired.

A block and tackle 20 is provided to hoist the barrels containing the crude gum to the primary vat 12, and after the barrels have been emptied they can be steamed by inverting them over the said primary vat.

The non-distilled matter from the draw-off pipe 5 is adapted to flow into the tank 21, from which it can be intermittently discharged by means of the gate-regulated spout 22.

It will be seen that the delivery end of the pipe 18 opens in the still 3 at a point above the mouth thereof, or that place at which the crude gum is introduced into such still, so that the water which flows from said pipe as it enters the still can moisten the inside wall of the latter at or around the mouth to such an extent as to prevent the adherence of the crude material at this place. In this way the crude gummy material cannot clog up or stick in the mouth of the still.

Having described my invention, what I claim is—

In a turpentine-distilling apparatus, the combination with a steam-jacketed still, a condensing-coil communicating with said still, a water-containing vessel inclosing said coil, means for charging the still with crude material, and a pipe extending from said vessel and its end being connected with the still above the point at which the crude material is introduced thereinto.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES IRA PITTMAN.

Witnesses:

C. E. HARTLEY,

T. J. WILLIAMSON.