(No Model.)

A. GARNER.

APPARATUS FOR THE MANUFACTURE OF TURPENTINE AND ROSIN.

No. 251,865. Patented Jan. 3, 1882.

Fig. 1.

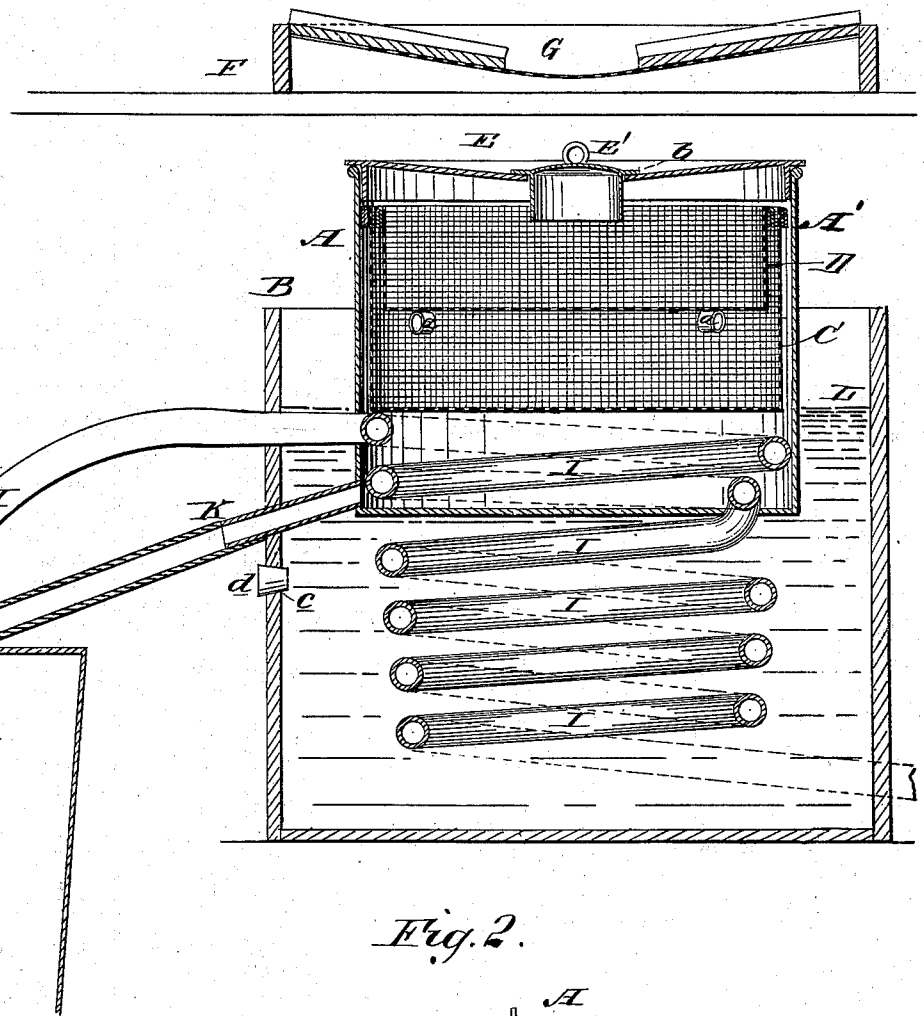
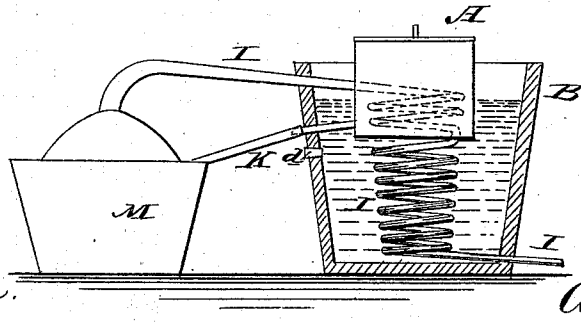


Fig. 2.



WITNESSES:

F. M. Ardis.

C. Sedgwick

INVENTOR:

A. Garner

BY Munn & Co.

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

ALLEN GARNER, OF AMERICUS, MISSISSIPPI.

APPARATUS FOR THE MANUFACTURE OF TURPENTINE AND ROSIN.

SPECIFICATION forming part of Letters Patent No. 251,865, dated January 3, 1882.

Application filed July 25, 1881. (No model.)

To all whom it may concern:

Be it known that I, ALLEN GARNER, of Americus, in the county of Jackson and State of Mississippi, have invented certain useful Improvements in the Manufacture of Turpentine and Rosin, of which the following is a specification.

In the manufacture of turpentine the crude article containing chips, bark, twigs, and other foreign substances is introduced directly into the still, and in the process of distillation the extractive coloring-matter of these substances discolors the residual rosin, thereby depreciating its commercial value. Much time and labor are also spent in dipping or straining the chips, &c., from the liquid rosin, and the fire risks are greatly enhanced by the taking fire of the hot saturated chips as they are removed from the still, most of the conflagrations of turpentine-stills originating from this cause.

The object of this invention is to economize in time and labor and lessen the costs and risks in distilling turpentine; also to produce a cleaner and more valuable rosin.

Figure 1 is a sectional side elevation, showing my improved device applied to a turpentine-still of improved design. Fig. 2 is a partly-sectional side elevation of my improved device applied to a still of the usual design.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents the rectifier fixed within the condensing-tank B. Said rectifier A consists of a cylindrical vessel, A′, containing a cylindrical wire screen, C, of nearly the diameter of the rectifier itself, and a smaller cylindrical wire screen, D, set within the larger one and supported on lugs *a a* that project inward from the latter. A concave cover, E, closes the top of the rectifier A, and is provided with a central opening, *b*, for the introduction of the crude terpentine, which opening *b* is closed, when desired, by a cap, E′.

Set on the floor or beams F, immediately above the rectifier A, is a coarse concave screen, G, into which it is designed to first introduce the crude turpentine, which always contains chips, pieces of bark, and other foreign substances. The screen G retains the coarser particles of foreign substances and the screens D C in succession the finer particles thereof, it being designed that the screen C shall be finer than the screen D.

The still H is set at a convenient distance from the rectifier A and on a lower level, and the worm I from the said still H enters through a side of the tank B into the rectifier A just beneath the screen C, and making several turns therein passes out into the tank B and finally through the side thereof near the bottom, as shown in Fig. 1.

From the side of the rectifier A, near the bottom thereof, a discharge-pipe, K, conducts the strained turpentine into the still H.

It is designed that the water in the tank B shall be maintained at about the level of the bottom of the screen C, as indicated in dotted lines at L, Fig. 1, for the purpose of facilitating the condensation of the turpentine-vapors.

With this arrangement it is found that the heat arising from that portion of the worm I which is within the rectifier A passes through and about the screens C D and liquefies the crude turpentine therein, so that it readily flows from the foreign substances contaminating it into the bottom of said rectifier A, and thence through the pipe K to the still H; and at the same time the turpentine about that portion of the worm I serves by its lower temperature to facilitate the condensation of the turpentine-vapors.

The tank B is provided with an orifice, *c*, closed by a plug, *d*, on the side toward the still H, which plug *d* may be withdrawn to extinguish any fire that may occur about the said still H. This still H differs from the still in common use for this purpose, inasmuch as this is devoid of the dome, and the supply-pipe K is entered into or connected with an opening, *f*, in the center of the flat top of said still H, while the end of the worm I is projected down through the top of said still H to just above the turpentine therein. By this arrangement there is less condensation of the turpentine-vapor within the still itself, and consequently the yield of the still is very materially increased.

In Fig. 2 is shown my rectifier applied to a still, M, of the usual construction.

I am aware that crude turpentine has been freed from impurities by melting it in a vessel having sieves therein and allowing the melted turpentine to flow by its own gravity into the

still; also that the chamber which supplies the still has been provided with strainers to eliminate impurities; but

What I claim as new and of my invention is—

1. The combination of the vessel A′, the cylindrical wire screens C D, the concave cover E, having central opening, E′, the superposed concave screen G, and the worm I to strain the turpentine, as described.

2. The combination, with the condensing-tank B and still H, of the rectifier A, provided with screens C D and pipe K, and set within the said tank, and worm I, passed through said rectifier and tank, substantially as herein shown, and for the purpose described.

ALLEN GARNER.

Witnesses:

CHARLES WILLIAM GARNER,

J. M. RABBY.