

(No Model.)

W. H. STELWAGON.
TAR OR PETROLEUM STILL.

No. 503,996.

Patented Aug. 29, 1893.

Fig. 1.

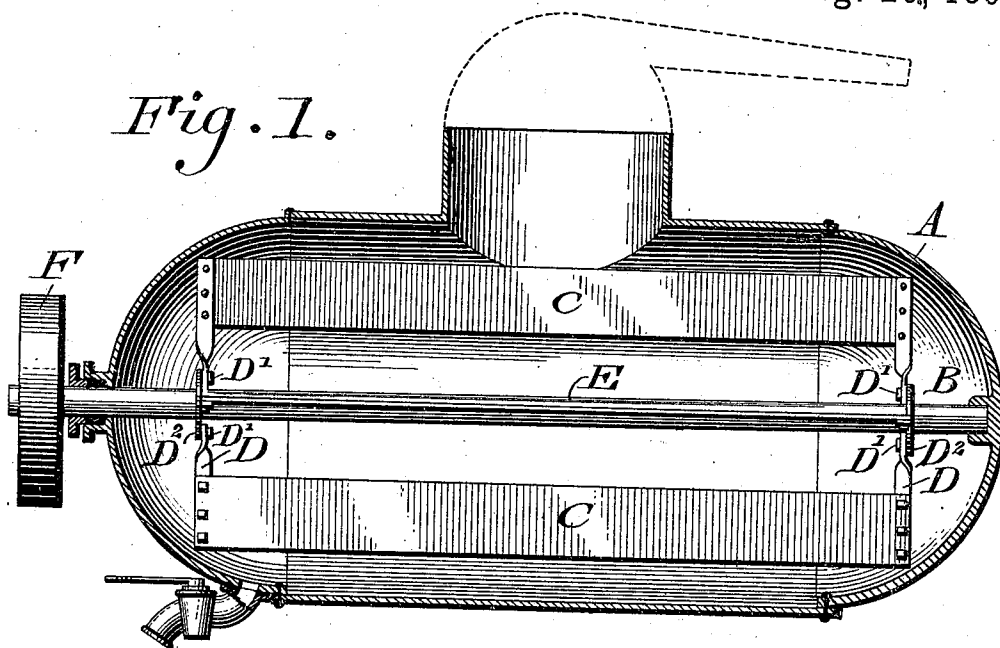


Fig. 2.

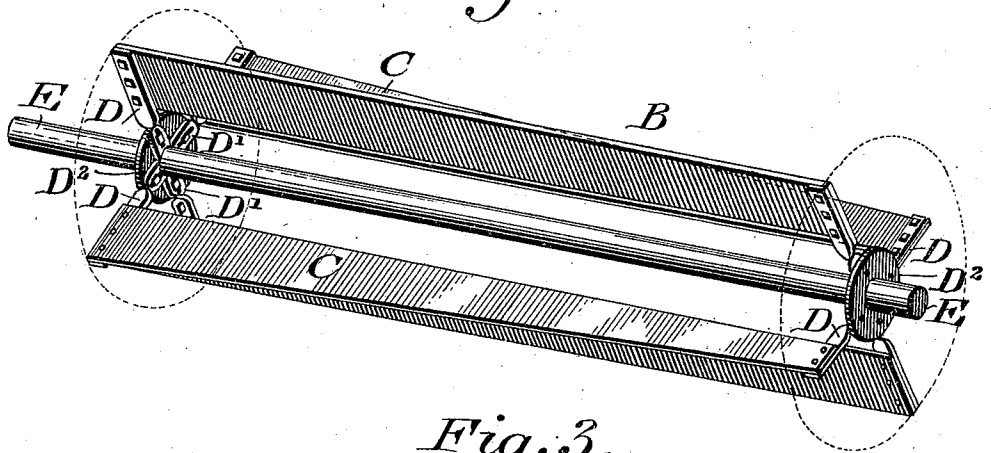
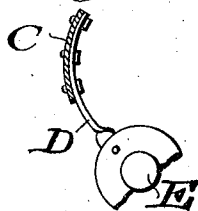


Fig. 3.



WITNESSES:

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WILLIAM H. STELWAGON, OF PHILADELPHIA, PENNSYLVANIA.

TAR OR PETROLEUM STILL.

SPECIFICATION forming part of Letters Patent No. 503,996, dated August 29, 1893.

Application filed June 29, 1892. Serial No. 438,365. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. STELWAGON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Tar or Petroleum Stills, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists in providing a tar or petroleum still with means for agitating the contents of the still, as will be hereinafter set forth.

Figure 1 represents a longitudinal vertical section of a still having my invention applied thereto. Fig. 2 represents a perspective view of the part of the still embodying my invention. Fig. 3 represents a section of a portion of a modification.

Similar letters of reference indicate corresponding parts in the several views.

Referring to the drawings: A designates a tar or petroleum still, which excepting the feature of my invention applied thereto is of usual construction. Within the still is an agitator B, which is formed of blades or vanes C, arms D supporting the same, and a shaft E to which said arms are attached, said shaft being mounted on the walls of the still and having one end outside of the same, which is provided with a pulley F for the purpose of operating said shaft, and consequently rotating the vanes C. Some of the vanes are formed of flat plates rectangular in shape, and others tapering, or they may be curved as in Fig. 3, it being seen that when power is applied to the shaft E, the vanes are rotated, whereby as they dip into and pass through the material in the still, they raise and agitate the same, and owing to the tapering form of some of the vanes, the material is directed laterally to one end of the still, and thus caused to circulate, whereby effective agitation of the material is occasioned.

In tar and petroleum there is more or less water, and in distilling the same there is considerable trouble and difficulty in keeping the material in the still, owing to its tendency to foam and run through the condensing coils. Said trouble and difficulty may be obviated in part by the most careful atten-

tion and nursing of the fire, or by reducing the running charge of material below the average before the fire is lighted, but by the agitation of the material, less care is required, and the evaporation is more rapid, so that the time in running off a still is greatly reduced, thus saving labor and fuel. Again, the charge of the still may be increased, as there is less foaming. Furthermore, in the case of tar, the deposit of the heavier matters of the same on the bottom of the still is prevented, so that the duration of the still is longer, and frequent cleaning of the same is obviated. It will also be found that the output of the still is increased while the wear of the same is no greater than heretofore. The best results are believed to be obtained by starting the agitator at the time that the fire is lighted, and running the same at a given number of revolutions per minute, and then as the distilling progresses, reducing the number of revolutions, and continuing at the latter number until the distillation is finished.

It is evident that my invention is applicable to the treatment of oils other than petroleum, and of tar and similar materials. The inner ends of the arms D are slotted to receive the bolts D' which are screwed or otherwise secured to the collars D² on the shaft E, whereby the blades of the agitator may be readily adjusted or set out to greater or less extent according to requirements.

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

1. A tar or petroleum still having a rotary agitator therein, the same being formed of rectangular and tapering vanes, whereby the material in the still may be raised and also directed laterally, and thereby caused to circulate, substantially as described.

2. A tank, a shaft journaled therein, collars secured on said shaft, arms adjustable on said collars, and vanes secured to said arms, said vanes being rectangular and tapering, said parts being combined substantially as described.

WILLIAM H. STELWAGON.

Witnesses:

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A. P. JENNINGS.