

No. 698,398.

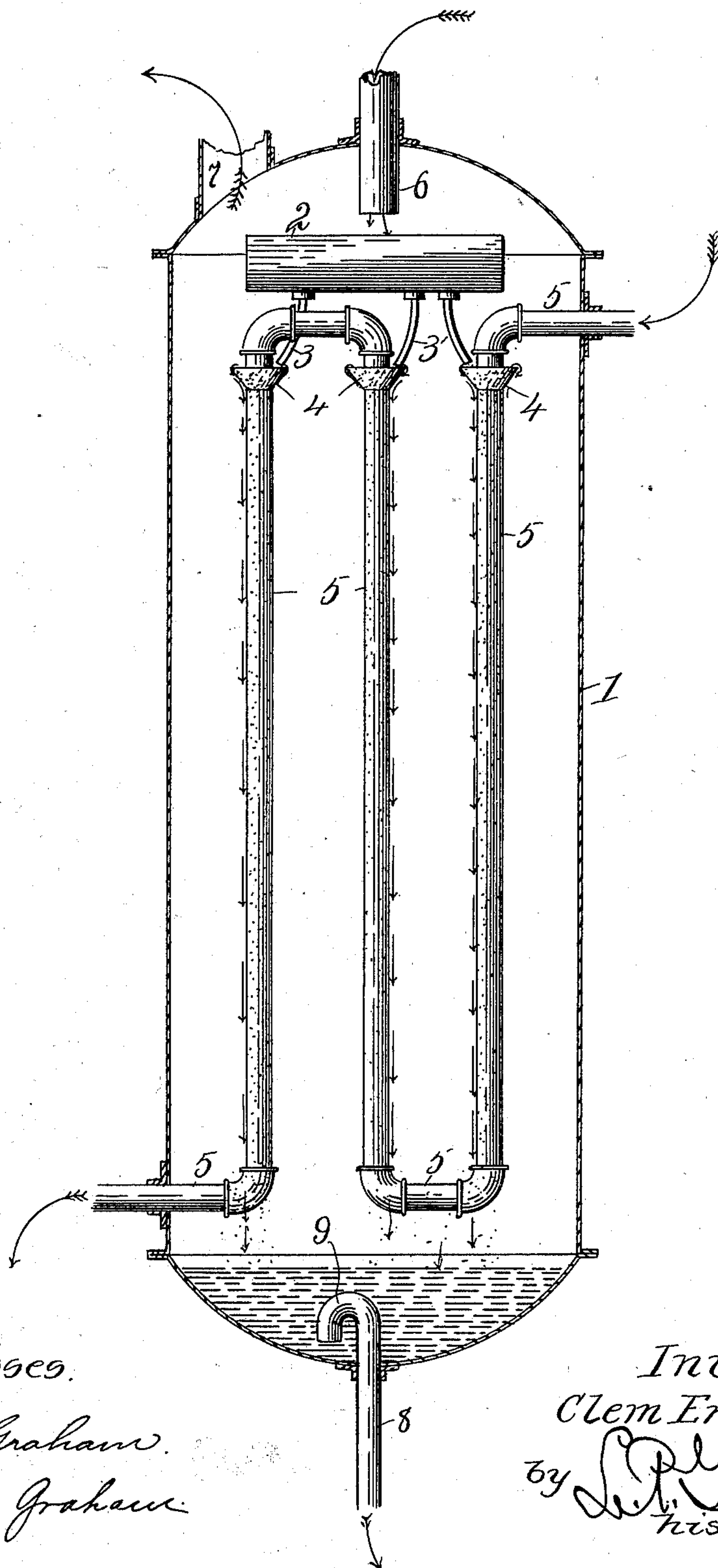
Patented Apr. 22, 1902.

C. ERISMAN.

APPARATUS FOR SEPARATING SOLVENTS FROM OIL.

(Application filed Aug. 21, 1901.)

(No Model.)



Witnesses.

Wm. Graham.

Isa C. Graham.

Inventor.

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UNITED STATES PATENT OFFICE.

CLEM ERISMAN, OF DECATUR, ILLINOIS, ASSIGNOR TO FRANK M. PRATT,
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APPARATUS FOR SEPARATING SOLVENTS FROM OIL.

SPECIFICATION forming part of Letters Patent No. 698,398, dated April 22, 1902.

Application filed August 21, 1901. Serial No. 72,805. (No model.)

To all whom it may concern:

Be it known that I, CLEM ERISMAN, of the city of Decatur, county of Macon, and State of Illinois, have invented a certain Improved
5 Apparatus for Separating Solvents from Oil, of which the following is a specification.

This invention is intended for use in connection with the extraction of oil by the use of a hydrocarbon solvent; and its purpose is to
10 separate the oil from the solvent after the process of extracting the oil is completed.

The invention is exemplified in the structure hereinafter described, and it is defined in the appended claims.

15 In the drawing forming part of this specification an embodiment of my invention is represented with the casing cut in central vertical section.

The shell or casing 1 is made of any suitable size and shape. It is composed of imperforate sheet metal or the like, and its joints are air-tight. A tank or basin, as 2, is sustained in the upper end of the shell in any
20 suitable way. The top side of the basin is open to receive the oil and solvent, and it has discharge-tubes, as 3, through which the combined oil and solvent escapes. Below the basin 2 is a coil of pipe 5, the principal extensions of which are vertical. Near the upper
30 ends of the vertical members of the coil are a set of pans 4, which embrace each a vertical member of the coil and are adapted to hold a small quantity of the combined oil and solvent encircling the pipe. The tubes
35 3 discharge the contents of the basin into the pans that encircle the pipes. The exterior surfaces of the pans taper downward to the circumference of the pipes, and when the pans overflow the oil and solvent adheres to
40 the outsides of the pans and trickles down the pipes in a thin film that entirely envelops the vertical extensions of the pipes. The coil of pipe is heated by a heated medium passing through the coil, preferably exhaust-
45 steam, and the heat readily evaporates the somewhat volatile solvent from the more stable oil in the films surrounding the pipes. The vaporized solvent is held in the chamber

1, ordinarily rising toward the top thereof, and the oil settles in the bottom of the cham- 50
ber. The pipe 7 may lead to an exhaust-pump or vacuum-forming device of some kind or other, and the partial vacuum thus established tends to draw the vaporized solvent from the chamber 1. The lower end of the
55 chamber has a discharge-pipe 8 for the oil, and such pipe has a return-bend 9 at its upper end that forms a trap in the oil and insures practically continuous closing of the end of the pipe. The oil and solvent is sup- 60
plied to the basin 2 through a pipe, as 6, in the upper end of the chamber 1.

The coil 5 is shown in the drawing in a simplified form the better to illustrate the principle involved in the invention; but in a
65 working apparatus the vertical members of the coil will be as numerous as is consistent with the temporary storage and subsequent withdrawal of the vaporized solvent.

The specific construction shown and de- 70
scribed is desirable, but not in all particulars indispensable, and I do not restrict myself in that regard beyond the terms of the claims.

I claim—

1. An apparatus for separating oil from an 75
oil-extracting solvent, comprising a closed chamber, a vertical pipe in the chamber forming a passage-way for a heating medium, and means for supplying the combined oil and solvent in a thin film around the outside of 80
the upper part of the pipe.

2. An apparatus for separating oil from an oil-extracting solvent, comprising a closed chamber, a coil of pipes disposed vertically in the chamber and forming a passage-way 85
for a heating medium, and means for supplying the combined oil and solvent in thin films around the outside of the upper parts of the pipes.

In testimony whereof I sign my name in the 90
presence of two subscribing witnesses.

CLEM ERISMAN.

Witnesses:

NEWTON DAVIS,
JOE RUBY.