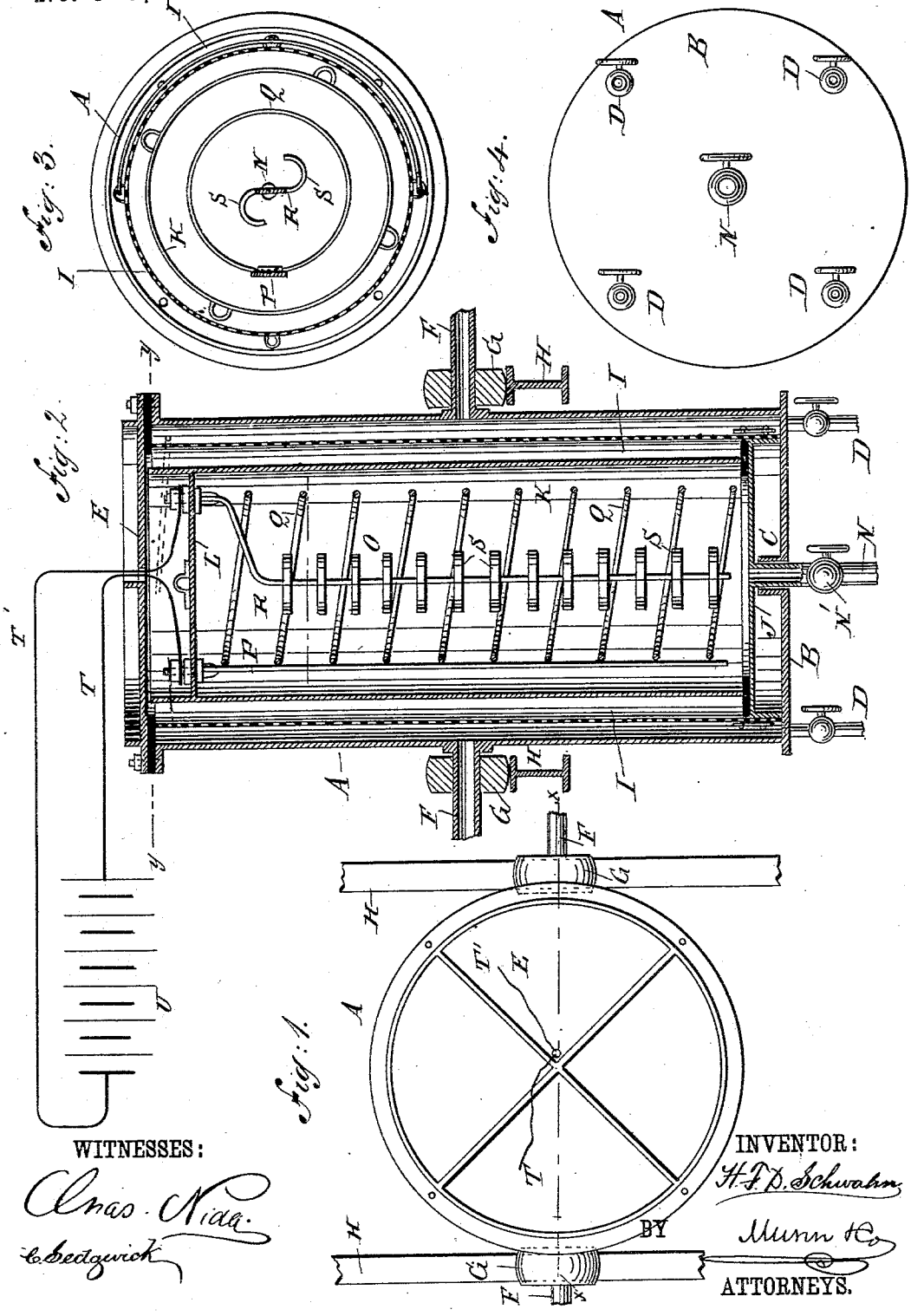
(No Model.)

H. F. D. SCHWAHN.

APPARATUS FOR PURIFYING AND SEPARATING FATTY SUBSTANCES BY ELECTRICITY.

No. 373,691. Patented Nov. 22, 1887.



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

UNITED STATES PATENT OFFICE.

HEINRICH FRIEDRICH DANIEL SCHWAHN, OF KANSAS CITY, MISSOURI.

APPARATUS FOR PURIFYING AND SEPARATING FATTY SUBSTANCES BY ELECTRICITY.

SPECIFICATION forming part of Letters Patent No. 373,691, dated November 22, 1887.

Application filed December 8, 1886. Serial No. 220,971. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH FRIEDRICH DANIEL SCHWAHN, of Kansas City, in the county of Jackson and the State of Missouri, have invented a new and Improved Apparatus for Purifying and Separating Fatty Substances, of which the following is a specification.

The object of my invention is to provide a new and improved apparatus for purifying and separating fatty substances by the use of steam and electricity.

The invention consists of various parts and details and combinations of the apparatus, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved apparatus. Fig. 2 is a side elevation of the same on the line *x x* of Fig. 1. Fig. 3 is a sectional plan view of the same on the line *y y* of Fig. 2, and Fig. 4 is an under side view of my improved apparatus.

The cylinder A is provided with a bottom, B, having a central inlet, C, and a number of outlet-cocks, D.

The cover E is fitted steam-tight upon the steam-cylinder A, which is also provided on opposite sides with steam-inlet pipes F, forming axles for the wheels G, adapted to run on the rails H.

The cylinder A incloses the perforated cylinder I, extending from the cover E to the bottom B of the said cylinder A, and surrounds and fits at its lower end upon the bottom J of the boiler K, inclosed by the said perforated cylinder I, and provided at its upper end with the head or cover L. The bottom J of the boiler K is provided with a central outlet-pipe, N, passing through the central inlet opening, C, of the bottom B, and is provided with the valve or cock N′.

The perforated cylinder I is provided near its upper end with a handle, I′, for conveniently removing the said perforated cylinder from the cylinder A.

In the cylinder A is suspended an electric separating device, O, consisting of the pole P, attached to the cover L, and projecting at its upper end through the said cover and extending downward in the boiler K to near the bottom J. A coiled wire, Q, is attached to the pole P, and extends to near the wall of the boiler K from the top to the bottom of the said boiler without touching the latter. The other pole, R, is also secured to the cover L, and projects through the same, extending downward through the middle of the boiler. A number of S-shaped arms, S, are formed on the pole R throughout its length. The outer ends of the poles P and R are connected by the wires T and T′, respectively, with the battery U or any other source of electricity.

The operation is as follows: The fatty substance—such as oil, tallow, butter, &c.—to be treated—is placed in the boiler K through the inlet-pipe N, when the apparatus is turned upside down on its axis—the pipes F. After the boiler is charged the apparatus is placed in its normal position, as shown in Fig. 2, and the poles P and R are connected with the source of electricity, and steam is introduced into the cylinders A and K through the inlet-pipes F and N. The action of the steam on the boiler K heats the fatty substance in the same to about 100° Celsius. The electric current is sufficiently strong to pass through the fatty substance, thus establishing a circuit. The action of the steam and the electricity separates the various ingredients of the fatty substance in the boiler K, so that the solid parts settle upon the bottom of the said cylinder K and the liquid parts remain at the top on the said solid matter. The steam is shut off whenever deemed necessary, and the charge of electricity is discontinued when the fatty substance has been sufficiently treated. The liquid produced in the boiler K is drawn off in any suitable manner, after which the solid matter is removed and further treated, if necessary. The water of condensation in the cylinder A can be drawn off at any time through the cocks D in the bottom B of the said cylinder A. The perforated cylinder can be removed by unscrewing the cover E and then lifting the said perforated cylinder I out of the cylinder A by taking hold of the handle I′.

I am aware that fatty substances heated and mixed with water have been subjected to the action of an electric current, and I therefore do not claim such invention.

Having thus fully described my invention,

I claim as new and desire to secure by Letters Patent—

1. In an apparatus for purifying and separating fatty substances, a closed cylinder, steam-inlet pipes entering the said cylinder at opposite sides and forming axles for the said cylinder, and wheels mounted on the said inlet-pipes and traveling on rails, in combination with a boiler held in the said cylinder and provided with an inlet-pipe, an electric separator suspended in the said cylinder, and a battery or other source of electricity connected with the said electric separator, substantially as shown and described.

2. In an apparatus for purifying and separating fatty substances, a cylinder provided with inlet-pipes forming axles or trunnions, wheels mounted on the said inlet-pipes and traveling on rails, and a perforated cylinder held in the said cylinder, in combination with a boiler held in the said cylinder inside of the perforated cylinder, an electric separator suspended in the said boiler, and a battery or other source of electricity connected with the said electric separator, substantially as shown and described.

3. In an apparatus for purifying and separating fatty substances, a cylinder provided with a top cover having an opening in its center, and also provided with a bottom having a number of outlet-cocks, steam-inlet pipes attached to the said boiler and forming axles or trunnions, wheels mounted on the said axles or trunnions and adapted to travel on rails, and a perforated cylinder having a handle and held in the said cylinder, in combination with a boiler held in the said cylinder and provided with a bottom having an inlet-pipe, an electric separator suspended in the said boiler, and wires connected with the said electric separator and passing through the said central opening in the cover of the cylinder, and a battery or other source of electricity connected with the said wires, substantially as shown and described.

HEINRICH FRIEDRICH DANIEL SCHWAHN.

Witnesses:
LAWRENCE PETRIE,
E. S. KURTZ.