

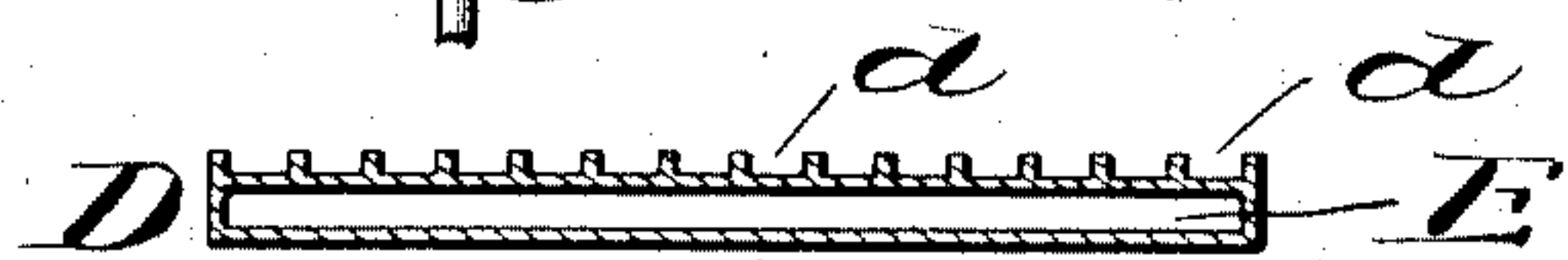
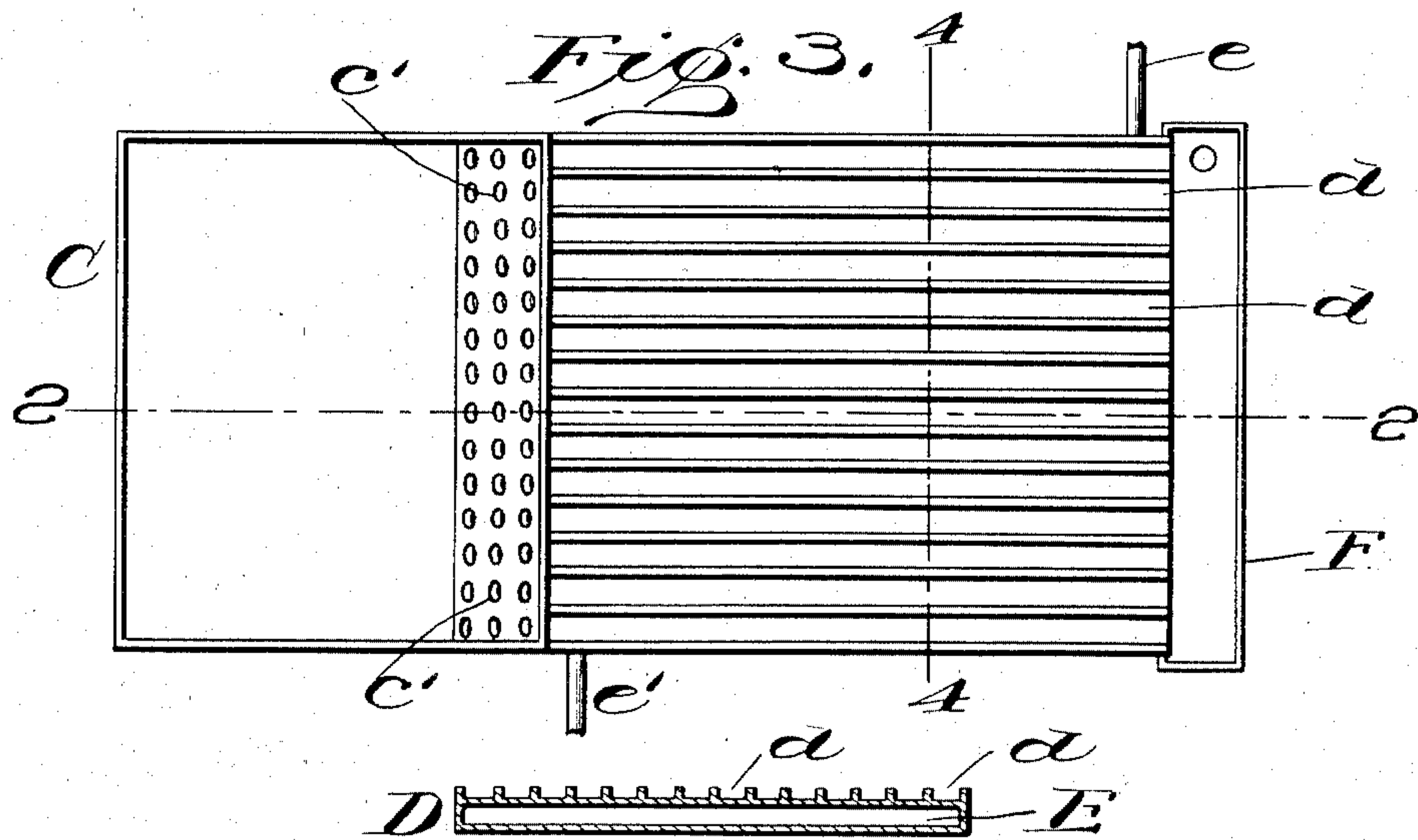
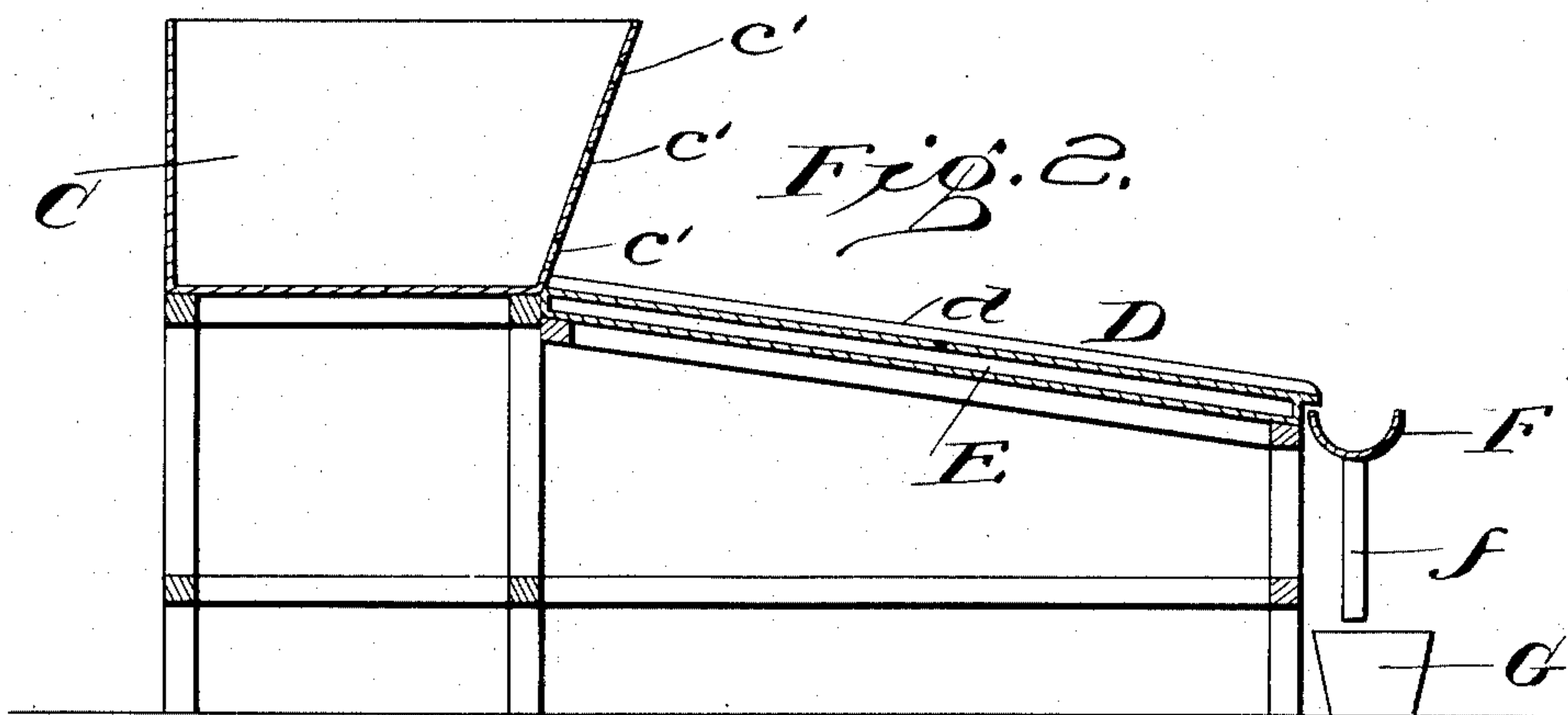
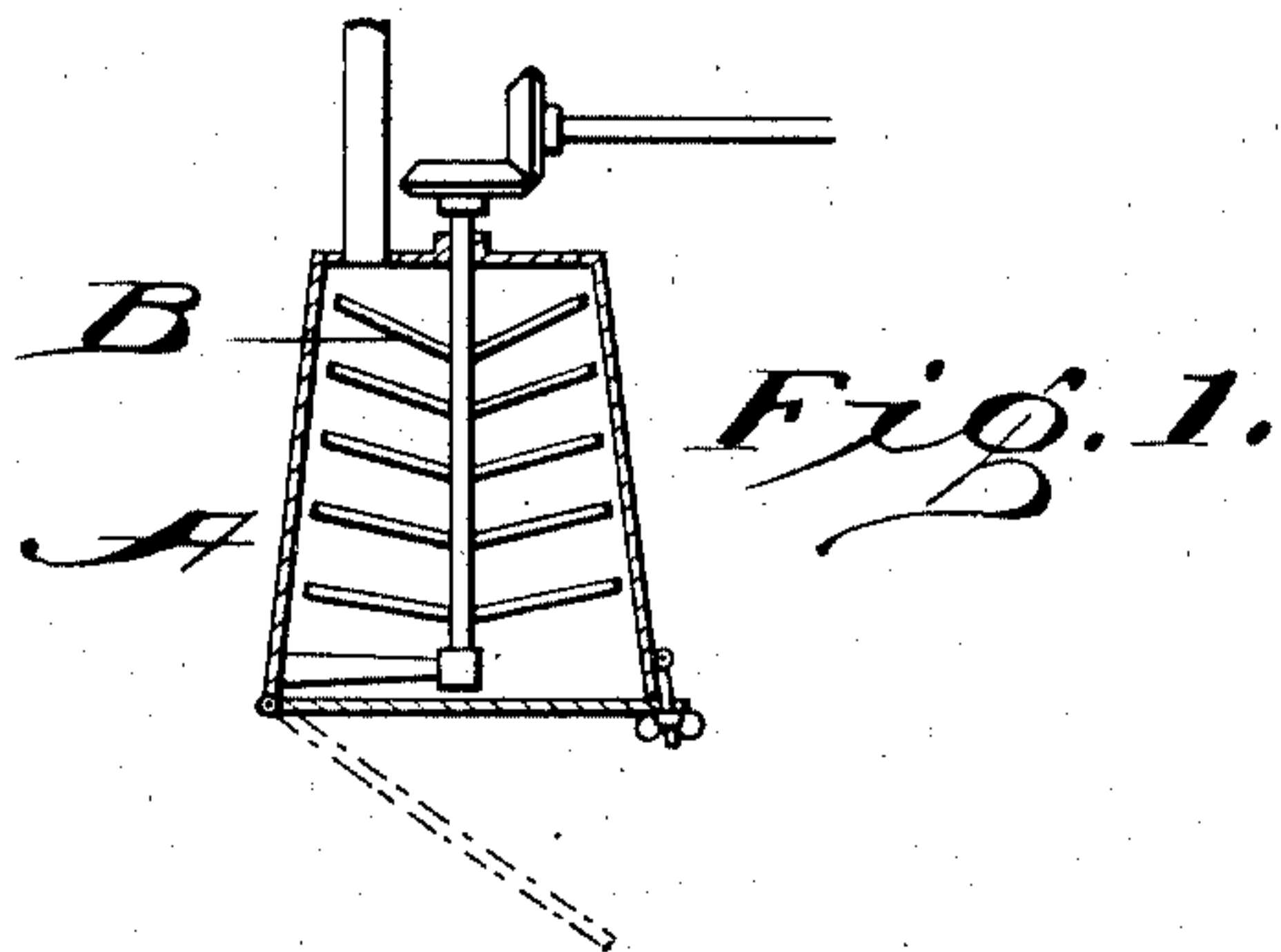
No. 844,753.

PATENTED AUG. 27, 1907.

F. J. LOTHAMMER & C. TROCQUENET.

PROCESS FOR SAPONIFYING PETROLEUM AND OTHER SIMILAR HYDROCARBONS.

APPLICATION FILED NOV. 30, 1903.



Witnesses
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UNITED STATES PATENT OFFICE.

FRANÇOIS JOSUE LOTHAMMER AND CONSTANT TROCQUENET, OF PARIS, FRANCE, ASSIGNORS
OF SIXTY ONE-HUNDREDTHS TO EDWARD LEON, OF PARIS, FRANCE.

PROCESS FOR SAPONIFYING PETROLEUM AND OTHER SIMILAR HYDROCARBONS.

No. 864,753.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed November 30, 1903. Serial No. 183,245.

To all whom it may concern:

Be it known that we, FRANÇOIS JOSUE LOTHAMMER and CONSTANT TROCQUENET, both French citizens, residing the former at 51 Rue Laffitte, Paris, and the latter at 20 Rue du Progrès Colombes, Seine, have invented new and useful Improvements in Processes for Saponifying Petroleum and other Similar Hydrocarbons, of which the following is a specification.

Our invention relates to the saponification of petroleum and other similar hydrocarbons and to its incorporation with fatty and other substances such as used in the manufacture of soap.

In order to more fully describe our invention we will assume, by way of example only, that a soapy mass weighing about 1200 kgs. is desired to be produced.

This improved process consists of two different but successive stages, the first of which has for object to emulsionize and burn the petroleum, while in the second the petroleum thus treated is utilized for soap making.

Referring to the accompanying drawing in which the same reference character indicates the same part in the different views, Figure 1 is a cross section of the vat and agitator. Fig. 2 is a longitudinal section of the groove plate, taken on line 2 of Fig. 3. Fig. 3 is a plan view of Fig. 2, and Fig. 4 is a cross section of the groove plate of line 4 of Fig. 3.

In the first stage of the process, we pour into the wooden vat A, which is preferably provided with any suitable agitator or mixer B, fifty liters of "*Quillaia saponaria*" prepared as later described (commonly known as Panama wood) when the agitator is set in motion. This vat A is preferably located over a hopper C. As soon as the liquor thickens in the vat, 100 liters of petroleum are gradually added thereto, care being taken to stop momentarily the admixture should the mass become too gelatinous. The 300 liters of petroleum needed for the production of 1200 kgs. of soap are then gradually emulsionized, whereupon the same is dumped out of the vat A into the hopper C, and is allowed to run out through the openings *c'* upon a plate of fireproof material D which is a bad conductor of heat. This plate is preferably inclined at any suitable angle and is provided with grooves or channels *d* of any suitable shape. In some cases, it may be necessary to maintain such plates at the temperature of the surrounding air by means of any suitable cooling means, as here shown by a closed chamber E underneath the plate, said chamber being provided with an inlet *e* and an outlet *e'*, through which any cooling material may be made to circulate, for example, water or cold air. As the petroleum flows down

the grooves in the plate, it is ignited. As it burns, there oozes out of it an oily substance which runs along the grooves into a gutter F, through the pipe *f*, into a suitable receiver G, where it is collected to be subsequently used in the second stage of the process, as hereinafter set forth.

The "*Quillaia saponaria*" used for emulsionizing the petroleum is treated in the following manner: 10 kgs. of Panama chips and 10 liters of cold water are placed in a wooden vat, this wood being allowed to soak for a period of about 48 hours when the liquid is tapped and poured in a boiler where it is allowed to boil until it reaches 6° Baumé when cold. The liquid thus concentrated is stored for use in glass or earthenware carboys; 650 liters of water is subsequently poured in the vat containing the partly exhausted chips for further use in the preparation of the lyes hereinafter referred to.

In the second stage of the process, we pour according to the quality of soap required about 277 kilos of coconut, palm or other similar oil in a vat likewise furnished with any suitable agitator and heated by steam or otherwise; the whole being slowly heated to allow such oil to melt when 177 kilos of the petroleum treated in the manner above set forth are added thereto; after a suitable time has elapsed 350 kgs. of soda lyes registering 16° to 20° Baumé are next poured in this boiler followed by a further quantity of 350 kgs. of soda lyes registering 20° to 25° Baumé, the latter being subsequently and gradually added, when the whole is allowed to boil for about 1½ hour. 110 kgs. of silicate of soda diluted with 25 liters of boiling water are next sprinkled upon the mass which is further allowed to boil. After half an hour of boiling 200 liters of a solution of normal carbonate of soda registering 2° B are added to the "*quillaia*" water remaining in the vat heretofore mentioned, and this mixture or lye is placed in the boiler aforesaid, the whole being allowed to boil freely. As soon as a sample removed from the boiling mass is found to rapidly solidify in contact with the air the heating is stopped and 12 liters of strong solution of ammonia is poured into the soapy mass which is then stirred thoroughly until it has acquired the desired consistency. The coloring required is now added and the soap is run into molds where it is allowed to set for a sufficient time to be conveniently cut into suitable cakes which are subsequently dried as usually practiced.

What I claim and desire to secure by Letters Patent of the United States is:

1. The process of saponifying petroleum which consists in emulsifying the petroleum by "*Quillaia saponaria*," igniting the emulsified petroleum, collecting the residue

resulting from burning the emulsionized petroleum, and finally boiling said residue with vegetable oil, soda lyes, an aqueous solution of silicate of soda and a solution of carbonate of soda in quillaia water.

- 5 2. The process of saponifying petroleum which consists in emulsifying the petroleum "*Quillaia saponaria*," igniting the emulsionized petroleum, collecting the residue resulting from burning the emulsionized petroleum, and finally boiling said residue with cocoanut oil, soda lyes, an

aqueous solution of silicate of soda and a solution of carbonate of soda in quillaia water. 10

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

F. J. LOTHAMMER.
C. TROCQUENET.

Witnesses:

G. A. DE KATON,
H. C. COXE.