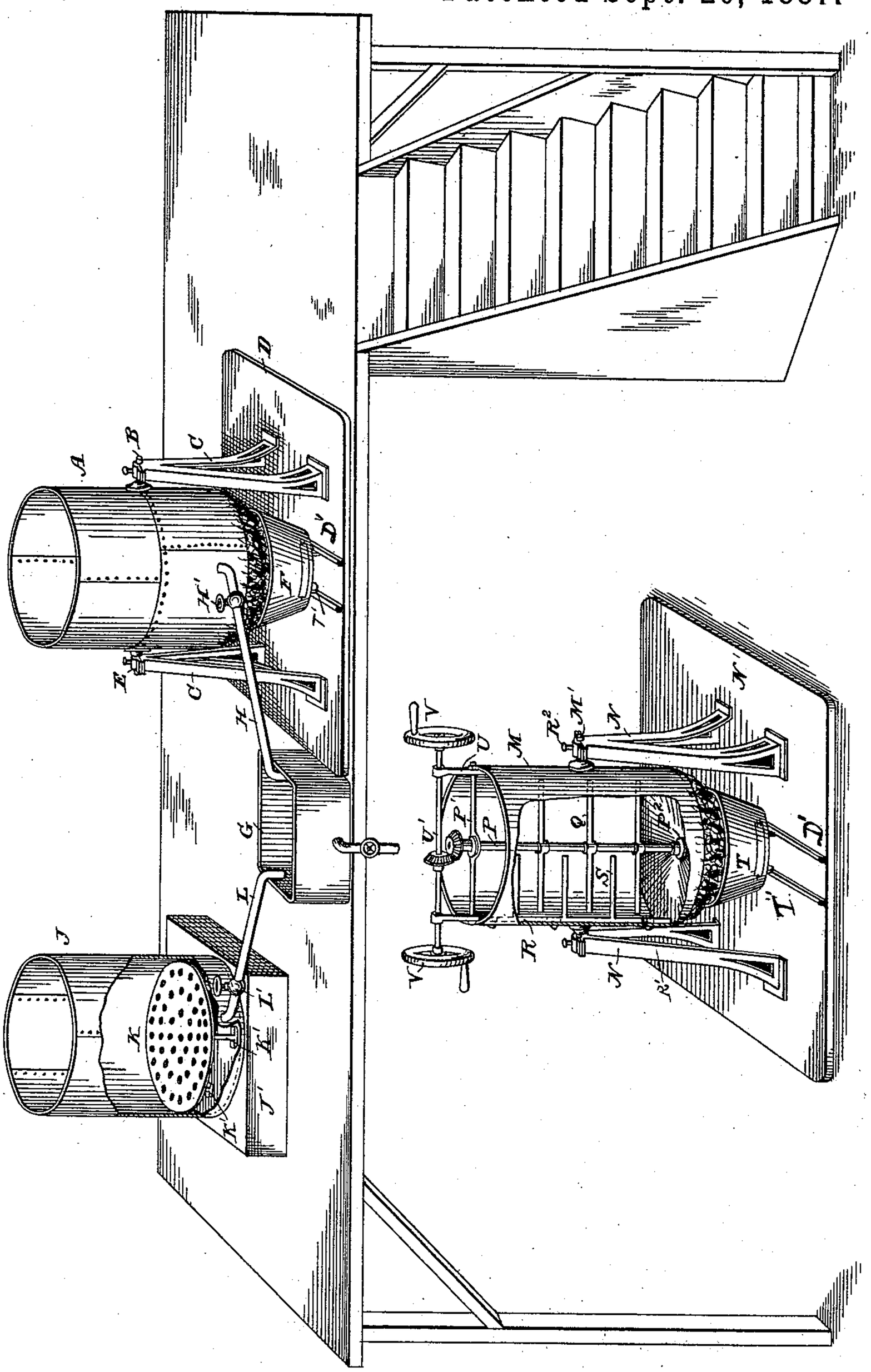
(No Model.)

W. A. GRANT.

APPARATUS FOR MAKING SOAP.

No. 370,330. Patented Sept. 20, 1887.



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UNITED STATES PATENT OFFICE.

WILLIAM A. GRANT, OF HOUSTON, TEXAS.

APPARATUS FOR MAKING SOAP.

SPECIFICATION forming part of Letters Patent No. 370,330, dated September 20, 1887.

Application filed February 2, 1887. Serial No. 226,204. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. GRANT, a citizen of the United States, residing at Houston, county of Harris, State of Texas, have invented a new and useful Improvement in Apparatus for Manufacturing Soap, of which the following is a specification.

My invention relates to improvements in apparatus for making soap; and it consists in the various details of construction and arrangement of parts, as hereinafter set forth, whereby an improved article of soap may be easily manufactured at a slight cost and in a reduced time.

The drawing represents a perspective view of the apparatus, having a portion of the outer shell of the soda-tank and the converter broken away, so as to show the inside mechanism thereof.

Similar letters refer to similar parts.

A represents the grease or tallow tank, which is preferably cylindrical in shape and provided with the trunnions B, the latter supported in bearings on the standards C.

D is a bed-plate to which the standards are secured, and is of iron or other suitable material.

E represents locking-pins for securing in fixed position the tank A, and F represents a removable furnace located beneath the said tank for heating the contents thereof.

Leading from the tank A to the register G is a pipe, H, having stop-cock H′ therein.

J represents a soda-tank supported on a brick or other foundation, J′. In the interior of tank J is the perforated diaphragm K, resting on legs or props K′, the said diaphragm being about five inches above the bottom of said tank. Leading from this tank to the register is a pipe, L, with stop-cock L′ therein.

M is a converter consisting of a cylindrical vessel formed of steel or iron, having a convex bottom and provided with trunnions M′, secured to the sides thereof, these trunnions having bearings in metallic standards N, the latter being firmly secured to a bed-plate, N′. A metallic bar, P′, is placed across the top of the walls of the converter and firmly secured to the sides thereof, furnishing a bearing for the shaft P, which has its lower end stepped in the socket P^2 in the bottom of the said converter.

Firmly secured to the shaft P are horizontal blades Q, and to a bar, R, attached to the inner sides of the converter, are iron blades S, which operate between the said blades Q.

R′ represents stops which aid in securing the bar R in position, and R^2 are locking-pins for securing the converter M in fixed position.

Beneath the converter is a removable furnace, T, for heating the contents of said converter during the process of manufacturing the soap. To the bottom of said furnace T is attached bars T′, adapted to guide the said furnace on the rails D′ of the bed-plate D.

U represents uprights secured to the sides of the converter M, forming bearings for horizontal shaft U′, said shaft having a bevel-wheel gearing with a bevel-wheel on the upper end of the rotary shaft P, which shaft may be connected with an engine for operating the same, or may have balanced wheels V, as shown in the drawing, and operated by hand.

The manner of using the apparatus herein described is as follows: A proper quantity of grease or tallow mixture is placed in the tank A, and heat applied thereto until the same is at a temperature of about 150° Fahrenheit, when a certain quantity thereof is run into the register G and from thence into the converter. The soda-tank having been filled with caustic soda by placing the same upon the diaphragm K, and water poured thereon so as to liquefy the same, the stop-cock of the pipe L is opened and the caustic soda-lye is run into the register-tank. The rotary shaft P is then put in motion and the material in the converter is thoroughly agitated by the blades Q and S. During this agitation the lye is caused to run in a steady stream into the converter, mixing immediately with the grease, a steady and uniform heat being maintained for about twenty minutes, when the mixture is ready to be poured out into the soap-frame for cooling, which is done by loosening the locking-pins and dumping the soap from the converter.

By the means herein described I am able to make a superior soap with rapidity, at the same time effecting a saving of the glycerine properties, which are of great value in the manufacture thereof.

What I desire to claim and secure by Letters Patent is—

1. An apparatus for making soap, consisting of the swinging grease-tank A, having the outlet-pipe H, the soda-tank J, with diaphragm

K and the outlet-pipe L, the register G, having an outlet-pipe, the outlet-pipes H and L, leading into said register, the swinging converter M, having a curved bottom and provided with the rotary blades Q and fixed blades S, and the removable furnaces F, substantially as described.

2. An apparatus for making soap, having the bed-plate D, with standards C, the swinging grease-tank A, having outlet-pipe H and provided with locking-pins, the soda-tank J, with diaphragm K, having props K′ and outlet-pipe L, the register G, having an outlet-pipe, and a converter, substantially as described.

3. In an apparatus for manufacturing soap, a converter having a rounded bottom, in combination with a furnace having bars T′ thereon, and a bed-plate with track D′, all substantially as and for the purpose set forth.

4. The apparatus for making soap, consisting of grease and soda tanks, the latter tank having a diaphragm for the purpose described, a register-tank, pipes leading from said grease and soda tanks to said register-tank, a pivoted converter, a rotary shaft in said converter and blades, a shaft journaled in uprights attached to said converter and provided with a crank and a bevel wheel, the latter gearing with a bevel-wheel on said rotary shaft in the converter, and removable furnaces for said grease-tank and converter, all substantially as described.

WM. A. GRANT.

Witnesses:
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