(No Model.)

W. A. GRANT.

MANUFACTURE OF SOAP.

No. 332,606. Patented Dec. 15, 1885.

FIG. 1.

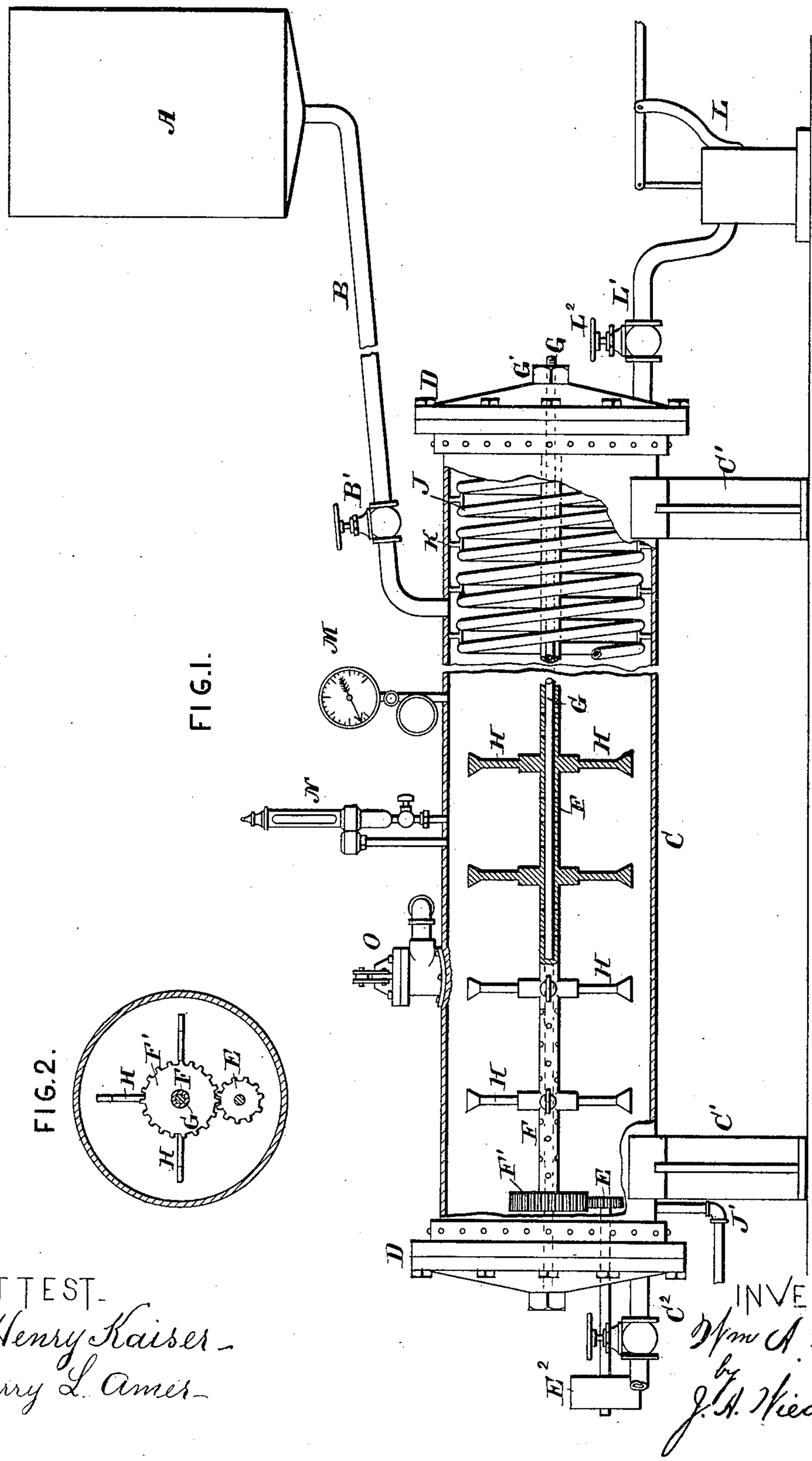

FIG. 2.

ATTEST-
J. Henry Kaiser-
Harry L. Amer-

INVENTOR.
Wm A. Grant
by
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UNITED STATES PATENT OFFICE.

WILLIAM A. GRANT, OF HOUSTON, TEXAS.

MANUFACTURE OF SOAP.

SPECIFICATION forming part of Letters Patent No. 332,606, dated December 15, 1885.

Application filed August 7, 1885. Serial No. 173,805. (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, in the county of Harris and State of Texas, have invented certain new and useful Improvements in the Manufacturing of Soap; and I do hereby declare that the following is a full, clear, and exact description of my invention.

The object of the invention is to manufacture soap in less time and with greater economy than by any of the processes now in vogue. This I accomplish by the process hereinafter set forth and by means of the devices shown in the accompanying drawings, and which devices are identical with those shown, described, and claimed in application for Letters Patent for improvement in soap-manufacturing machines filed by me and of even date herewith.

Referring to the drawings, Figure 1 is a longitudinal vertical section, and Fig. 2 an interior end view, of my improved soap-machine.

A represents a pipe or charger, having a pipe, B, connecting the same with the compressor C below the level of the tank. The compressor C, which is composed of steel, has detachable heads D, and entering it at one end is a coil steam-pipe, J, extending through the same and having an outlet at the other end thereof. A perforated sleeve, F, mounted on the rigid shaft G, carries a pinion, F′, which meshes with a gear-wheel, E′, mounted on the rotary shaft E, which latter receives motion by means of a band-wheel, E″, thereon, suitably connected to any motor. The sleeve F has blades H extending radially therefrom.

L represents a hydraulic pump of any ordinary construction, which is connected to the compressor C by means of a pipe, L′. The pipe L′ has a cut-off valve, L″, and the compressor has pressure-gages M and thermometer N and safety-valve O, all of ordinary construction; also, an outlet-pipe, P.

The process of manufacturing soap by this apparatus is as follows: The mixture, which may consist of caustic soda in solution, or a carbonate of soda, or oil or tallow in solution, either separately or combined, or resin in solution, either separately or in combination with tallow, is placed in the charger A, which charger is heated by any suitable method, so that the contents will be in a liquid state, so as to freely run through the pipe B by gravity, when the cock B′ is open, into the compressor C.

If desired, a force-pump might be used to transfer the material from the charger to the compressor; but I prefer to place the tank above the compressor, so that the solution will charge the compressor by the force of gravity, as already stated. When the compressor is about nine-tenths full, the flow therein is stopped, and the perforated sleeve, with its radial blades, having been caused to rotate about thirty revolutions per minute, the blades thereof enter the mass, mixing the same. At the same time steam is injected into the coil-pipe J, and when the mixture reaches 160° Fahrenheit, or above it, if necessary, a pressure of from three hundred and twenty-four to four hundred pounds per square inch, according to the quality of material, is applied to the said mixture for about four or five minutes, when the soap is in proper condition for running into the molding-frames through pipe P.

The pressure upon the mass during its mixture and steam-heating adds to the rapidity of its formation into soap, thereby saving time in the manufacture thereof. It also produces a better and finer article, and one of higher grade.

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

1. A new process of manufacturing soap, consisting in applying hydraulic pressure to the mass undergoing mixture and steam-heating, substantially as described.

2. A new process of manufacturing soap, consisting in thoroughly mixing the ingredients composing the same in a close vessel by means of rotary blades, heating the same by steam, and at the same time applying pressure by means of a hydraulic pump to the said mixture.

WM. A. GRANT.

Witnesses:
ROBT. AITON,
CHARLES W. HANDY.