

No. 747,108.

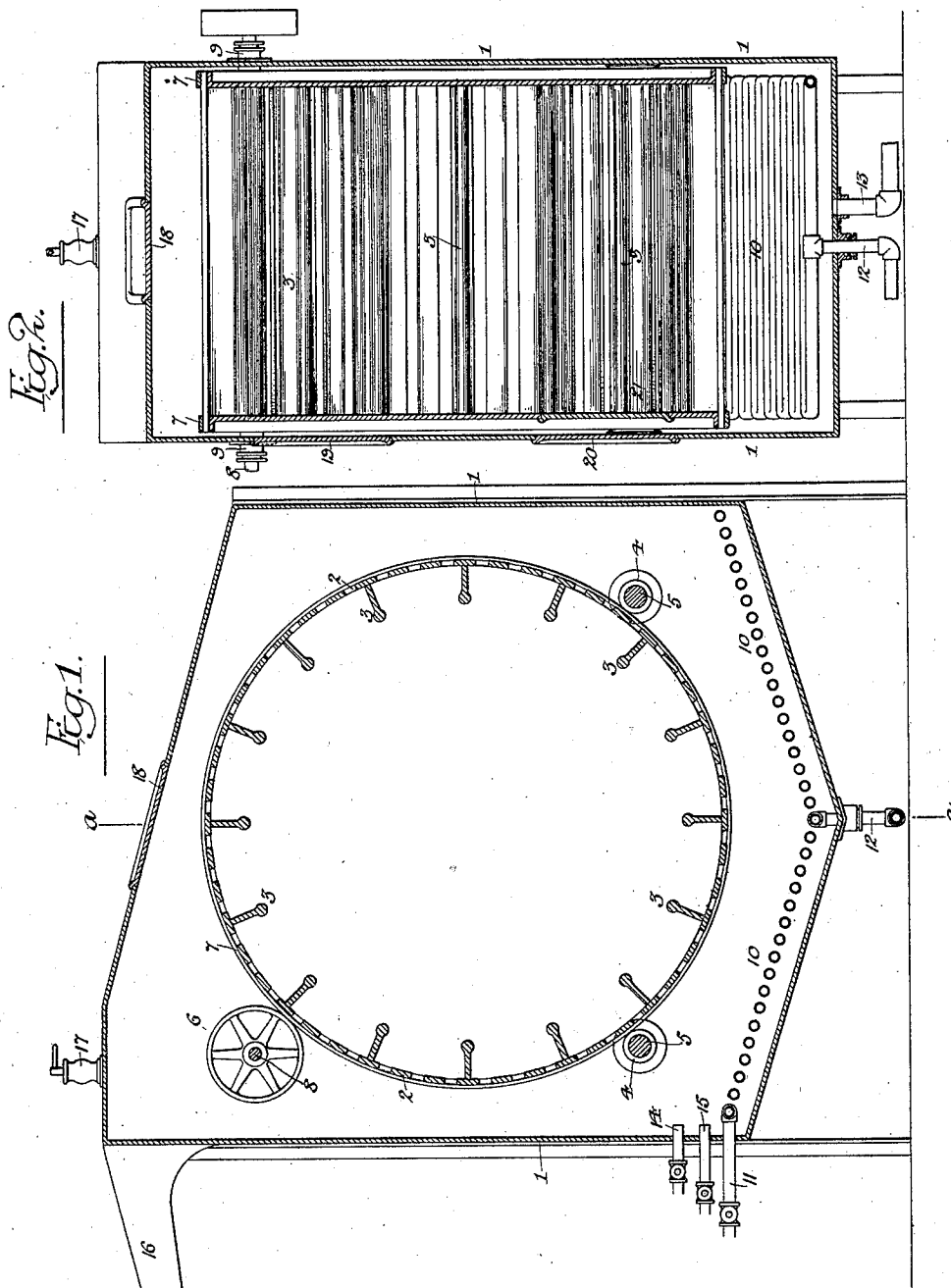
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S. L. WOLFF.

APPARATUS FOR EXTRACTING GREASE.

APPLICATION FILED MAY 26, 1902. RENEWED APR. 24, 1903.

NO MODEL.



Witnesses:-

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By this Attorneys;

How and How

UNITED STATES PATENT OFFICE.

SCOTT L. WOLFF, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR EXTRACTING GREASE.

SPECIFICATION forming part of Letters Patent No. 747,108, dated December 15, 1903.

Application filed May 26, 1902. Renewed April 24, 1903. Serial No. 154,186. (No model.)

To all whom it may concern:

Be it known that I, SCOTT L. WOLFF, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain

5 Improvements in Apparatus for Extracting Grease by Means of Liquid Solvents, of which the following is a specification.

The object of my invention is to provide a simple and effective form of apparatus for effecting the extraction of grease from hides, skins, bones, wool, &c., by the action of a suitable liquid solvent of the grease. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

15 Figure 1 is a longitudinal section of apparatus constructed in accordance with my invention; and Fig. 2 is a transverse section of the same on the line *a a*, Fig. 1.

20 1 represents a casing of any suitable material, form, and dimensions, but so constructed that it can be hermetically sealed against the escape of vapor when the solvent employed is of a volatile character, such as naphtha.

25 Within this casing is a drum or reel 2, having a peripheral portion composed of transverse slats or otherwise constructed so as to permit a free flow of liquid into and from the drum. Projecting inwardly from the open-

30 work periphery of the drum is a series of radial ribs 3, preferably enlarged and rounded at their inner ends, as shown in Fig. 1, so as to have no injurious effect upon the mass of hides, skins, or other material deposited in the drum when the latter is rotated, these inwardly-projecting ribs engaging the mass and overturning and stirring it about so that all portions of the material are subjected to the action of the liquid solvent contained within

35 the casing 1, the level of solvent being maintained at such a height therein as to insure the desired action of the same upon the material.

The drum is mounted upon rollers 4, which

45 are carried by transverse shafts 5 in the lower portion of the casing 1, and said drum is driven by friction, spur, or other drive wheels 6, located in the upper portion of the drum and engaging with the rims 7 of the latter, or,

50 if desired, with only one of said rims, this location of the drive-wheel shaft 8 bringing the stuffing-boxes 9, through which it passes,

above the level of the liquid solvent in the casing, whereby the latter can have no detrimental effect upon the packing employed in said stuffing-boxes, as it might if the drum itself were provided with shafts or trunnions passing through stuffing-boxes on the sides of the casing which were beneath the level of the liquid solvent maintained in said casing. 60

In the lower portion of the casing 1 is a heating-coil 10, which can be supplied with steam or other heating agent through a valved pipe 11, the water of condensation being removed from the coil by a drain-pipe 12, communicating with the lowest portion of the same, and the bottom of the casing 1 is also provided with a drain-pipe 13, whereby the liquid contents of said casing can be run off when desired. The casing also has other valved pipes 14 and 15 for the inlet or discharge of the solvent, whereby the level of the solvent in the casing may be readily lowered to such an extent as to clear the drum without entirely removing said solvent from the casing. 70

75 The upper portion of the casing 1 has a valved discharge-pipe 16 for the escape of any vapor which may be generated during the treatment of the material, and said casing also has a safety-valve 17 for preventing generation of undue pressure within it.

Access to the interior of the upper portion of the casing can be effected through an opening in the top of the same, which opening is normally closed by a hermetically-sealed cap 8, or cover 18, and access to the interior of the drum 2 can be obtained through either an upper or a lower opening in one end of the casing 1, the upper opening having a normally sealed cap or cover 19 and the lower opening 80 having a similar cap or cover 20.

An opening in one end of the drum, normally closed by a cap 21, registers with either of said openings in the end of the casing as the drum is rotated, so that the charge of material may be inserted into the drum when said opening in the latter registers with the upper opening in the casing, and said charge after treatment can be removed from the drum when the opening therein registers with the lower opening of the casing, the level of liquid solvent in the casing having first been lowered to a point below said lower opening therein. 95

The material may be either treated with the liquid solvent when the latter is in a cold state, or the solvent may be heated to any desired temperature by means of the coil 10, such heating being, if desired, carried to the point of vaporization of the solvent if the material is of such character as to be most effectively treated by solvent vapor instead of by solvent in liquid form. The coil 10 in the lower portion of the casing 1 may also be availed of to convert said casing into a still whereby the greasy naphtha may be treated so as to drive off the solvent therefrom, the escape-pipe 16 communicating with a suitable condenser for the solvent vapor; but in ordinary practice the distilling operations will be conducted in a separate vessel.

Apparatus constructed in accordance with my invention is of a simple character and provides for the effective treatment of bulky articles like hides, skins, bones, wool, &c., so as to effect the extraction of the grease therefrom in a minimum time without loss of solvent due to evaporation, the solvent being used over and over again.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination in a degreasing apparatus, of a closed casing for containing a liquid solvent, and a drum rotatably mounted therein, and constructed to permit a free flow of liquid solvent into the same, said drum having inwardly-projecting ribs with enlarged and rounded inner ends for causing overturning and agitation of the charge deposited in the drum, substantially as specified.

2. The combination in a degreasing apparatus, of a closed casing for containing liquid solvent, with a drum mounted so as to rotate in said casing, and an internal driving device for said drum located in the upper portion of the casing above the axis of the drum, whereby it is above the level of the liquid solvent contained therein, substantially as specified.

3. The combination in a degreasing appa-

ratus, of a closed casing for containing liquid solvent, a drum rotatably mounted in said casing and constructed to permit free flow of solvent into the same, and a solvent-drain pipe communicating with the casing above the bottom of the same and below the level of the contents of the drum, so as to permit a lowering level of the solvent in the casing below the level of the contents of the drum without completely draining said casing, substantially as specified.

4. The combination in a degreasing apparatus, of a closed casing for containing liquid solvent, a drum rotatably mounted therein, and constructed to permit free flow of solvent into the same, a heating-coil in the lower portion of said casing, and a solvent-drain pipe communicating with the casing at a point above said heating-coil, and below the level of the contents of the drum so as to permit a lowering of the level of the solvent in the casing below the level of the contents of the drum without completely draining said casing, substantially as specified.

5. The combination in a degreasing apparatus, of a closed casing for containing liquid solvent, and a drum rotatably mounted in said casing and constructed to permit free flow of solvent into the same, said drum having in one end an opening with a suitable cover, and the end portion of the casing having upper and lower openings also provided with suitable covers, the upper opening registering with the opening in the end of the drum when said opening is at a high point, and the lower opening registering with the opening in the drum when said opening is at a low point, substantially as specified.

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

SCOTT L. WOLFF.

Witnesses:

F. E. BECHTOLD,
JOS. H. KLEIN.