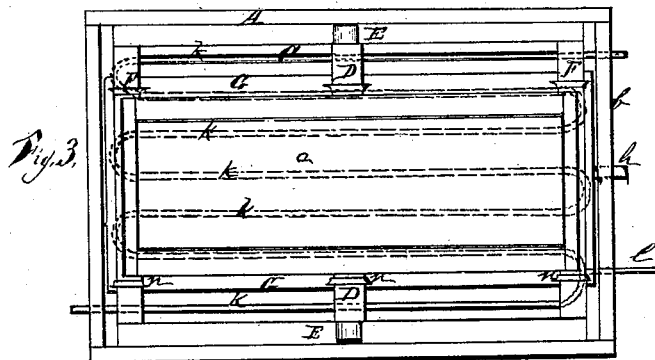
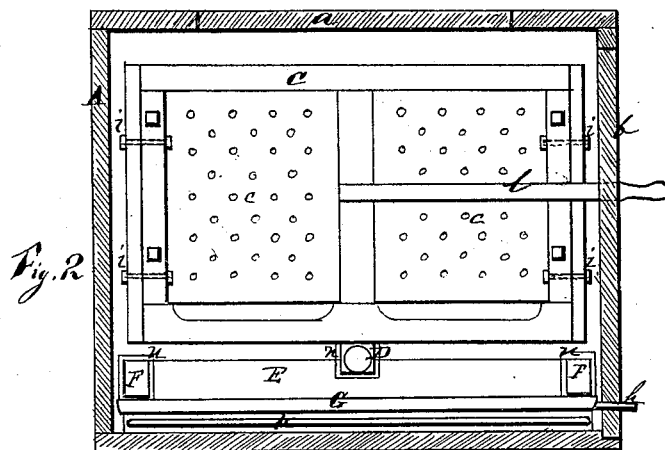
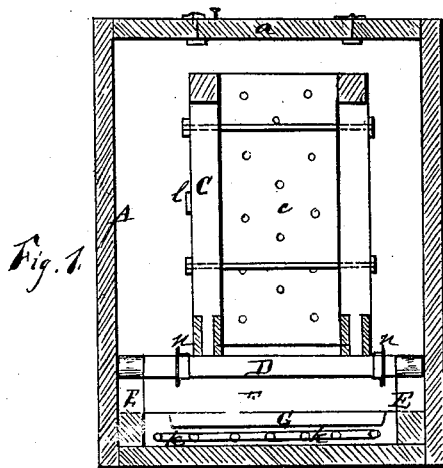


W. W. LUCAS.

APPARATUS FOR EXTRACTING OIL FROM BONE DUST.

No. 111,658.

Patented Feb. 7, 1871.



Witnesses,
Geoff. Fiddler
G. E. Wyman

Inventor,
William W. Lucas

United States Patent Office.

WILLIAM W. LUCAS, OF CLEVELAND, OHIO.

Letters Patent No. 111,658, dated February 7, 187.

IMPROVEMENT IN APPARATUS FOR EXTRACTING OIL FROM BONE-DUST.

The Schedule referred to in these Letters Patent and making part of the same.

I, WILLIAM W. LUCAS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented an Apparatus for Extracting Oil from Bone-Dust that has been used for filtering oil in the process of refining lubricating oil, of which the following is a specification.

The nature of this invention consists in the construction of an apparatus in which the bone-dust may be placed, and by the application of a sufficient degree of heat, and, at the same time, giving the vessel or box in which the dust is confined a rocking and jarring motion, the sides and bottom of the box being perforated, the oil will be caused to settle to the bottom and drip through the perforations, and may be caught in a pan underneath the box. By this means the oil may be easily and effectually extracted from the dust, making a great saving in time, labor, and material.

In the drawing—

Figure 1 is a vertical cross-section;

Figure 2 is a longitudinal section; and

Figure 3 is a plan view of my apparatus.

Like letters of reference indicate like parts in the several figures.

A represents a box made of wood or other suitable material, and of sufficient size and form convenient for the purpose, and provided with a lid, *a*, in the top, and a door, *b*, in one end.

C is a second box, somewhat smaller than the outer one, and placed within it; this box is constructed with a frame, C, and has sheet-metal sides, ends, and bottom *c c*, perforated with a large number of small holes.

The box C rests on and is supported by a cross-bar, D, placed across the middle of the box A, the ends of said bar D being round and resting in notches cut in the side rails E E lying along the bottom of the box A.

Lying underneath the box C and suspended under the end rails F F is a pan, G, broader and longer than the box C, for catching the oil which drips from it, and has an outlet-pipe, *h*, by which the oil is drawn or runs out from the pan.

Lying underneath the pan, but not touching it, is a steam-pipe, *k*, passing back and forth several times

throughout the length of the box A, by which the box is heated.

Upon the side of the box C is attached an arm, *l*, which passes out through a slot in the door of the box A, by means of which the box C is worked and the contents agitated. Any suitable power may be applied to the arm *l* for that purpose.

The ends of the box C are fastened on by means of bolts *i i*, by which the end near the door *b* may be removed for the purpose of raking out the contents of the box, the box C being filled through the lid *a* in the top of the box A, the box C being open at the top.

It will be seen that the box C rests a little distance above the rails F F, so that when it is rocked the ends of the box strike upon the rails, which gives it a jarring effect, and causes a settling of the dust in a compact form, and thus causes the oil to be expressed from the dust and to ooze out through the perforations in the sides and bottom and to run down and drip into the pan G underneath.

On the rails F F and cross-bar D are placed bands, *n n*, having their edges turned up, which are designed to prevent the oil from running beyond and falling over the edges of the pan G; the use of the steam-pipes being to heat the contents of the box, and thus render it more limpid, and cause it to the more readily run from the bone-dust.

By this means a simple, cheap, and effectual method is provided for extracting oil from bone-dust used for filtering the oil in the process of refining lubricating oil, as a considerable quantity of oil necessarily adheres to the dust, and which this invention is designed to procure by separation.

I claim as my invention—

The box C, constructed substantially as described, and resting on a cross-bar, D, and the pan G, steam-pipes *k*, and the box A, when the same are constructed, combined, arranged, and operating substantially as shown, and for the purpose set forth.

Witnesses:

WILLIAM W. LUCAS.

GEO. W. TIBBITTS,

FRED. H. BIERMANN.