

UNITED STATES PATENT OFFICE.

E. G. SUTHERLAND, OF SAN FRANCISCO, CALIFORNIA.

IMPROVED PROCESS FOR REFINING OIL.

Specification forming part of Letters Patent No. 56,121, dated July 3, 1866.

To all whom it may concern:

Be it known that I, ELON GALLUSHA SUTHERLAND, of the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Processes for Extracting and Refining Oil from the Blubber of Whales and other Marine Animals; and I do hereby declare that the following specification is a full, clear, and exact description of the same.

My invention consists in the employment of a boiler or tank, in which the blubber is placed, and steam admitted, which extracts the oil and forces it out into other tanks, one of which contains cold water, upon which the oil rests, while the blood and other débris foreign to the oil are contained in the water or sinks to the bottom. The oil is then drawn into a heater, and from thence, through a steam-coil, into a cooler, when it is carried by means of pipes or hose, into casks.

To enable others skilled in the art to make use of my improved process for extracting and refining oils, I will proceed to describe the operation and mode of carrying the same into practical effect, to wit:

For carrying the first part of my invention into effect, I use steam taken from a common boiler, near which is placed a trying kettle or tank, which can be tightly closed, and having a perforated bottom or grate, upon which the blubber is placed. Steam is admitted into this kettle or tank by means of a pipe leading from the steam-boiler. The blubber is placed in this trying-kettle, and steam from the boiler introduced, which permeates the whole mass and melts the oil entirely out of it, at the same time forcing the liquid matter through a pipe placed near the bottom of this kettle or tank into another tank, which is partially filled with cold water.

The effect of this part of my process is that the liquid matter passes or is forced into this receptacle or tank, where the oil remains floating on the top of the water, while the worthless matter—such as the blood, &c.—settles to the bottom or is held suspended in the water in the tank, from whence it can be drawn at will, and fresh water added after the oil has been removed, which may be stated as follows, to wit:

A pipe having a stop-cock leads from this

water-tank to a heater having a false bottom, in which steam or fire is introduced. Into this heater the oil is drawn. This is for the purpose of extracting any particles of water which may by chance remain in the oil.

Another receptacle or tank, of iron or other material, is placed near the tank or heater last described, in which is placed a coil of pipe or worm. Water is introduced into this tank for the purpose of keeping it cool, which can be removed as often as it becomes heated. The oil is now to be drawn off from the heater by means of a pipe into this coil, and passes through it, from where it is drawn by means of hose or pipes into casks, and my process is completed.

By my improved process all of the oil contained in the blubber is extracted, and it is estimated that twenty per cent. more oil can be obtained and of five per cent. higher value, as the oil is not discolored, as in the process now in use, in which the blood is allowed to mingle with the oil, imparting to it a dark color.

The danger of burning the oil by direct contact with the fire is also obviated by my process, while it exists to a great extent in that now in use, while a large percentage of the oil cannot be extracted by the processes now in use for fear of burning the oil during the trying process, and, finally, if the oil is drawn directly into the casks while hot, they will be more or less injured and become leaky, causing a large percentage of loss by leakage.

Having thus described my process for extracting and refining oil from whales and other marine animals and fishes, so as to enable any person skilled in the art to make use of the same, I will proceed to state what I claim, and desire to secure by Letters Patent, to wit:

The within-described process for extracting and refining oil from whales and other marine animals and fishes, all substantially as described, and for the purposes set forth.

In witness whereof I have hereunto set my hand and affixed my seal this 15th day of August, A. D. 1865.

E. G. SUTHERLAND. [L. S.]

Witnesses:

C. W. M. SMITH,

WM. R. BRADSHAW.