

UNITED STATES PATENT OFFICE.

GEORGE W. SCOLLAY, OF NEW YORK, N. Y.

REFINING VEGETABLE OILS.

SPECIFICATION forming part of Letters Patent No. 377,406, dated February 7, 1888.

Application filed September 18, 1886. Serial No. 213,926. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGE W. SCOLLAY, a citizen of the United States, at present residing in the city, county, and State of New York, have invented certain new and useful Improvements in the Art of Treating Cotton-Seed Oil and other similar Vegetable Oils, for the Purpose of Refining them; and I do hereby declare the following to be such a clear, concise, and exact description of my invention as to enable any one skilled in the arts to which it appertains, or with which it is most nearly connected, to make and use the same.

The object of my invention is, first, to make a better quality of refined cotton-seed oil; second, to avoid a loss which is now made in refining cotton-seed oil, which amounts, as I am informed, to from six to forty per cent. in "foots," and on which there is a loss of from two to three cents per pound; third, the production of such oil as a principal product in the process of refining, in which paint is a second or incidental product of the same process.

I have discovered that certain ochers—such as hematite and limonite—used as pigments in making paint may be used as and are valuable agents in refining vegetable oil. Suitable ochers, when properly manipulated and prepared before use, mixed and agitated with such oil in certain proportions, take up the gum, resin, and coloring-matter contained in the oil with advantage to the ocher, with which they unite or are incorporated, giving body and gloss to the paint, the ocher retaining the impurities of the oil and increasing the weight of the paint by the amount of such impurities. Cotton-seed oil, while it is a drying-oil, is not as drying as linseed-oil; but what remains with the ocher is made more drying on account of the gum and resin which it contains, and when mixed with the necessary percentage, more of linseed-oil required for use, it continues to take oxygen from the air and becomes hard.

Broadly, my invention consists of a process by which refined vegetable oil and a paint are produced at a single operation, and it consists, also, of the treatment of vegetable oil with such ochers as are not injurious to it as a food, and are suitable for use in the manufac-

ture of paint for the purpose of refining the oil and making a paint of its residuum.

In the practice of my invention I prepare the ocher by first evaporating or removing all uncombined water, and when yellow ocher is used I continue the drying until the ocher assumes an orange color, and in the use of sienna and umbers I continue the heat or drying until the umber assumes a deep-brown color, and the sienna until it assumes a light-red color. In the drying of the ocher which is to be used to refine the oil, care must be taken not to continue the heat until all of the constitutional water is removed, as in that case it will not so effectually remove the coloring-matter of the oil. When the ocher has been thus prepared, it is made as fine as possible. I then take the cotton-seed oil of commerce and mix with it the aforesaid ocher, varying the proportions from four to twelve parts of oil to one part of ocher, according to the amount of the impurities contained in the oil. I then agitate briskly the combined oil and ocher for forty minutes. The result of this operation is a pure "water-white" oil and a paint consisting of the ocher combined with the coloring-matter and other impurities of the oil. As soon as the combined oil and ocher have been sufficiently agitated and the refining is completed, the oil may be separated from the ocher by means of any suitable filter-press, or it may be left to settle for twenty-four hours, and then drawn off, leaving only the residuum to be filtered, which, as it comes from the press, is a stiff paste of ocher, oil, and its impurities in the form of a cake, and is readily reduced to a merchantable paint by grinding it with linseed-oil in an ordinary paint-mill. A modified form of the process of treating the oil and ocher to obtain the same result consists of grinding together in the first instance in an ordinary paint-mill the ocher and cotton-seed oil in the necessary proportions to insure a thorough purification of the oil upon its delivery from the filter-press. In this instance the ocher is ready ground in oil and in condition to be mixed with the required quantity of linseed-oil for the production of mixed paint, the amount of linseed-oil being about twenty-five per cent. less than would be required without the cotton-seed oil retained in the cake. In so far, however, as

the refining of the oil is concerned, there is but little difference in the result of the two methods, the simultaneous result of the single operation in both cases being to produce a superior quality of refined oil and a merchantable paint, there being absolutely no waste product in refining the oil or in producing the paint, the two products being the resultant of one process. In the practice of the process the temperature of the oil should be kept at about summer heat.

My invention includes, as substitutes, the use of any of that class of substances as refining agents suitable for making paint, and that will remove the color and impurities from the oil without injuring it as an article of food; and it includes, also, the treatment of other vegetable oils, as well as cotton-seed oil—such as linseed, poppy-seed, and similar oils—for the same purpose.

Referring now to the art of refining cotton-seed or other vegetable oils, I do not find that such oils have heretofore been refined by treating them with any of that class of ochers that are used as pigments in the manufacture of paint; nor do I find that in the refining of such oils any refining agent or process has been employed that does not result in producing more or less waste product. The idea of refining the oil by combining its impurities and coloring-matter with an ocher suitable for paint and harmless to the oil as an article of food, thus producing as the result of one process a double product—viz., a refined oil and a good merchantable paint—without any loss or waste product, does not appear to have been hitherto practiced.

I am of course aware that the process of filtering oils and other liquids through an earthy substance—such as fuller's - earth and the like—to remove the coloring-matter and other impurities is old and well known; and I am also aware that the residuum or waste product of various methods of refining vegetable

oils has been utilized in various ways—such as extracting the coloring-matter and manufacturing soap and the like; but in all such there is a waste product that has to be worked over to utilize it in the production of some other product, whereas in my process of refining the residuum is a merchantable paint, ready to be treated and used as paint, there being absolutely no waste product, while at the same time the refined oil is very superior in purity and color.

In the foregoing specification I have described an invention consisting of a process of producing a refined vegetable oil and a paint in a single operation; but this invention I do not claim, broadly, in this specification, but have done so in another application appertaining to the same general subject-matter, filed in the Patent Office May 25, 1887, Serial No. 239,329.

Other features of invention, described in this specification but not claimed herein, are covered by an application now pending in the Patent Office, filed May 25, 1887, and numbered 239,330.

Having now described my invention, I claim as part of this specification—

The process, substantially herein described, of refining vegetable oils and manufacturing paint in a single operation, which process consists of treating the oil with any of the ochers that are suitable to be used in the manufacture of paint, by which the impurities of the oil are combined with the ocher, and of then separating the refined oil from the ocher carrying the impurities, thus obtaining a double product consisting of refined oil and a paint having a mineral base or pigment combined with the vegetable and oily residuum.

GEO. W. SCOLLAY.

Witnesses:

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