UNITED STATES PATENT OFFICE.

EDGAR SIDDONS WILSON, OF CAMBERWELL, COUNTY OF SURREY, ENGLAND.

METHOD OF REFINING AND DEODORIZING OILS AND FATS.

SPECIFICATION forming part of Letters Patent No. 301,783, dated July 8, 1884.

Application filed March 31, 1884. (No specimens.) Patented in England November 12, 1883, No. 5,340.

To all whom it may concern:

Be it known that I, EDGAR SIDDONS WILSON, a subject of the Queen of Great Britain, residing in Camberwell, Surrey, England, have invented an Improved Method of Refining and Deodorizing Oils and Fats, of which the following is a specification.

My invention relates to the refining and deodorizing crude or impure oils, fats, or materials containing fatty matters, and for destroying objectionable coloring and other matters contained therein.

My method of treatment is modified according to the nature of the material; and it consists, in the first place, of forming an emulsion or saponification of the "goods," followed by the application of chlorine in the form of chlorinated alkaline lyes (hypochlorite of soda or potash) or free chlorine gas.

The process I prefer is as follows: I take the dark crude cotton-seed oil and make into a soap or emulsion in the usual manner with ordinary caustic-soda lyes, when saponification is complete, and while the soap is in a limpid or "close" state, chlorinated soda lyes of a strength of, say, 15° to 20° of Twaddle's hydrometer are added and boiled with the soap until the soap is rendered flocculent and separates from the lyes—technically called "opened." The soap is allowed to stand until the lyes have settled to the bottom of the "kettle" or boiling-pan, when they may be drawn off and the soap "closed" in the ordinary manner with water or by means of weak chlorinated lyes, strong chlorinated lyes being then added and the soap opened again as above. If the soap at this stage is sufficiently bleached and deodorized, the process of manufacture can be completed in the usual manner, or, if required, the foregoing operations may be repeated, in which case it will usually be found that the soap is of a color resembling the soap made from the best refined cotton-oil. When required, the refined material can then or afterward be treated with sulphuric or other suitable acid and obtained in the form of fatty acids. The hypochlorite of soda on boiling passes into chloride of sodium, and thus obviates the necessity of adding salt as a separating agent.

Cotton-seed-oil foots, the dark fatty acids obtained by the distillation of cotton-seed-oil foots, black rape-oil, used railway-grease, (technically known in England as "loco grease,") or other dark or discolored fats or fatty acids may be treated as above.

In the manufacture of hypochlorite of soda as applicable to my invention, I have obtained the best results by making a cold solution of caustic soda of from 10° to 20° Twaddle and passing a current of chlorine gas into it until the desired saturation is effected. These lyes are best freshly prepared and kept in closed pans.

Hypochlorite of potash is manufactured in similar manner to the hypochlorite of soda.

When I employ the free chlorine gas, I have the soap in a limpid or close state, keeping it alkaline and below boiling-point. Hypochlorite of soda is formed, which passes in chloride of sodium and separates the soap as above. This process may be repeated, if necessary.

I do not broadly claim subjecting oils to the action of chlorine gas, nor the use of chromic acid and hypochlorite of soda to deodorize oils; but

I claim as my invention—

The process herein described of refining and deodorizing oil, fat, or fatty material, which consists in first forming a soap or emulsion of the material with caustic-soda lye by heat, then adding chlorinated soda, then precipitating the lyes, and then applying chlorinated alkaline lye or chlorine gas to the soap or emulsion, substantially as and for the purposes described.

In witness whereof I have signed my name in the presence of two subscribing witnesses.

EDGAR SIDDONS WILSON.

Witnesses:

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