perature, thus avoiding the necessity of a prolonged application of heat to effect the separation, as has hitherto been necessary in the melting of tallow. The effect of such excessive heating would be the development of a rank, tallowy flavor, which would be very objectionable.

be very objectionable. The disintegrated fat is melted in cauldrons, which are surrounded with water, and the water being heated by steam, effects the melting of the fat when the temperature has reached 122° to 124° Fah. When the fat is completely melted the contents of the cauldrons are allowed to stand until they deposit the fragments of membrane, which gathered on the bottom, forming "scrap." On top is formed a thin layer of a white emulsion of oil and water, which is removed, and the clear yellow oil is drawn off in vessels which are removed to the press-room. Here they are allowed to rest while the oil granulates by the crystallization of its stearine, which is allowed to take place at a temperature of 85° Fah. The melting process occupies about two or three hours, and the granulation about 24 hours, or even longer.

The next step is to remove the separated stearine from the refined fat by straining under pressure. This is done by placing it in cloths set in molds, and placed on galvanized plates in a series of presses. When these are filled, the packages are subjected to a gradually increasing pressure, under which the fluid oil is expressed, leaving the hard cakes of stearine in the cloths from which they are subsequently removed by a dexterous flirt of the cloth.

The resulting oily product, is a clear, sweet, yellow oil, substantially the same as the oil of butter. In this condition it affords an excellent oil for cooking purposes, and formerly the larger portion of the product of the Commercial Manufacturing Co. was packed in this form for exportation.

To convert the butter-oil into butter, it is next churned with milk for about 20 minutes, by which it is thoroughly emulsionized or broken up into minute globules. At this stage, also, a small quantity of anatto is added to give a richer color to the product. The emulsionized oil is then drawn off into a tub of pounded ice, in which it cools suddenly without granulation. Here it is allowed to remain for two or three hours, after which it is thoroughly worked over by hand, and the pieces of ice removed. To impart the proper butter flavor, the solidified pro-duct must still be provided with more of the peculiar butyric elements which give to fine natural butter its rich odor and flavor; and for this purpose it is again churned with about an equal quantity of milk. After this second churning, the butter goes through the same operations of working over, salting and packing, as ordinary butter, and the finished product-oleomargarine butter-when made in the manner above described, is substantially identical to butter made from cream, and while it is not equal in flavor to the best grades of dairy butter, it is preferable, both in taste and smell, to much of the butter sold in the shops ; and its very deficiency in those peculiar butyric elements that lend to the finest creamery butters their agreeable odor and flavor, is in one sense an advantage, since it renders oleomargarine butter much less liable to become rancid.

Fig. 1 represents caul fat under the microscope, the crystalline nature of the adipose tissue being clearly seen, as also a globule of oil.

Fig. 1.

Fig. 2 represents oleomargarine before it is churned or what is known as oleomargarine oil. It will be seen from this plate that oleomargarine, before being churned, is entirely in a crystalline condition.



Fig. 3 represents natural butter first melted and then allowed to cool slowly to a solid condition. The migroscope shows the same crystallization as in oleomargarine oil (Fig. 2) from which it in no way differs.



Fig. 4 represents oleomargarine butter and Fig. 5 natural butter. It will be seen by examination of the two figures, that they consist of an innumerable number of minute globules of varying size, and are substantially identical in appearance in all other respects.



Fig. 4.