

GENERAL DESCRIPTION

The third and last form in which the tobacco leaf is employed is in the state of a more or less finely-reduced powder, constituting snuff. Snuff is made principally from the stalks or “strippings” of the leaf which are rejected in the processes of manufacturing cut tobacco and cigars; some snuffs, however, contain a proportion of leaf as well as stalk.

Snuff is met with in commerce in two states — namely, the dry and the moist. Of each of these there are several varieties, the characters that distinguish them depending, in most cases, upon differences in the processes of manufacture, in the relative proportion of the stalk and leaf, in the degree of moisture, in the flavour or pungency, and in the scenting. The dry snuffs are in general much more finely ground than the moist: the different kinds of Scotch, Irish, and Welsh are comprised under this head. The moist snuffs, of which there are a great many varieties, are known in the trade under the following names: — Brown and Black Rappee, John Bull, Hardham’s, 37, Princes, French and Dutch Carotte, Masulapatatn, Prince’s Mixture, Grand Cairo, and a great many others, which derive their names either from the fancy of the maker or the fashion of the day.

MANUFACTURE OF SNUFF

Irish and Welsh snuffs are also dry snuffs; but before the stalks are reduced to powder, they are subjected to a roasting process in closed cylinders, which assists in imparting the peculiar smell by which these snuffs are characterised. These two varieties of dry snuff are ground in mills of a similar description to those employed

In the powdering of Scotch snuff: limewater, and even powdered lime, frequently enters into the composition both of Welsh and Irish snuff. Indeed the addition of the former is allowed by the Excise laws. The most celebrated of the Irish snuffs is that manufactured by the firm of Lundy Foot and Co., of Dublin, and from which it takes its name. In the manufacture of the different varieties of snuff, the process adopted depends upon the kind required to be made. Scotch snuff, which is said to be the purest of all, is made almost entirely from the stalks of tobacco; and this being a dry snuff, as little moisture as possible is added—merely sufficient to prevent the finer particles from escaping and being lost in the act of powdering or grinding, which would otherwise occur. The stalks, cut up into small pieces are introduced into a kind of iron mortar or “raaW,” as it is termed. This is furnished with a pestle, heavily weighted, the handle of which is connected with a set of jointed arms or levers, so adjusted as to give it a peculiar rotary and grinding motion, this being the best calculated to effect the reduction of the stalks to powder. A series of twenty or thirty, or more, of these mortars or “mulls” are arranged and fixed on a strong oak table, with similar machinery attached to the pestles of each, and all of which are capable of being worked at the same time by means of a steam engine and connecting shafts and wheels. After the snuff has been reduced to the requisite degree of fineness, it is removed from the “mulls,” and dried and flavoured according to a process peculiar to the different manufacturers.

On account of the high duty, over 6*. per pound, to which foreign manufactured snuff is subject, but a very small quantity is ever imported and passed through the Custom House, as it can be made in England quite equal in quality to the foreign, and for less

than half the duty charged upon the latter. Indeed, preference is in general given to English-made snuffs.

The different varieties of the rappees or moist snuffs are likewise made chiefly from stalks, but a small proportion of the leaf is also introduced, as well as the finer parts and sittings of cut tobacco called “smalls” which are too fine to be conveniently smoked in a pipe.

The process followed in the manufacture of moist snuff's different somewhat from that just described. The stalks cut into fragments, pieces of leaf, and smalls, are well moistened, and ground in a mill of the following construction : — A pair of very heavy cylindrical stones (in form like the common grindstone), six or eight feet in diameter, and a foot or eighteen inches thick, are set up on edge, parallel to each other, and a few inches apart, on a wooden slab or bed slightly hollowed out. These stones have a twofold motion given to them — a rotary one on their own horizontal axis, and a traversing rotary motion round the surface of the bed, similar to the two wheels of a carriage going round in a small circle ; this motion is communicated to them by means of an upright shaft driven by machinery. The ingredients for the snuff are placed upon the bed, and the broad edge of the massive stones passing repeatedly over them, combined with their rotary, grinding motion, soon reduces them to powder. The construction and working of this kind of snuff* mill is the same as that used in making gunpowder, or for crushing the apples in the manufacture of cider. After the snuff has been reduced to the required degree of fineness, it is heaped up in a trough, and again moistened thoroughly, or “sauced,” as it is termed, and allowed to remain a considerable time, by which means a certain degree of fermentation is induced ; it is turned with a shovel from time to time, and re-liquored as the moisture evaporates. The flavour of the snuff depends much upon the extent to which the fermentation is allowed to proceed ; this fermentive process also adds greatly to its depth of colour. After the snuff is thus far manufactured, the salts, or alkaline salts, allowed by the Excise regulations, are added. The suit is said to be chiefly employed to ensure the preservation of the snuff from mouldiness, and to cause it to retain its moisture; while the alkaline salts are used to increase its pungency; at the same time they add considerably to the weight of the snuff.

In the scenting of snuffs, the perfumes used — either the essential oil of bergamot, or Otto of roses, and in some cases powdered orris root—are added after the snuffs are manufactured. The process adopted is as follows : — The snuff is spread out upon large skins or sheets of parchment, and the oils sprinkled over it from a bottle with slits cut in the cork ; the snuff is frequently turned over ; and lastly it is rubbed with the hand through a wire sieve. The only snuffs that are ever scented are brown and black rappee, Grand Cairo, and prince's mixture, amongst the moist snuffs, and Scotch amongst the dry snuffs.

The greater part of the snuff consumed in London is ground in snuff mills, situated near Mitcham, in Surrey, in consequence of the facility afforded for working the mills by means of the river Wandle, which runs through the town. There are several of these establishments to which the London manufacturers send their snuff after having undergone a certain stage of preparation. Beyond the preparatory drying and grinding, it is said that nothing further is done to the snuff in the snuff mills; the proprietor not only prepares it before sending it to the mill, but in most cases passes it through some finishing operations after it is brought from the mill. Many of the London manufacturers have, however, small mills in their own establishments for grinding

small quantities of snuff, or for passing the various kinds of fancy - through any particular process ; but there are very few establishments in London where the main bulk of the snuff is ground.

CONCLUSIONS ON THE ADULTERATIONS OF SNUFF

From the examination of Forty-three samples of Snuff of different kinds the conclusions were,—

1st. That chloride of sodium or salt is added in large and very variable quantities to all descriptions of snuff, the proportion ranging from 1.0 to as much as 12.8 per cent. Where the amount of chloride is less than 1.0 per cent., it is probable that it is derived from the tobacco itself, as well as the water used to moisten it.

2nd. That the alkaline and earthy carbonates, chiefly the carbonates of potash and lime, are likewise added to snuff, sometimes in considerable quantity, but usually to a less extent than chloride of sodium. One of the samples yielded 3.9.

3rd. It would appear also that in some cases the alkaline and earthy phosphates are in excess in snuff, as much as 7.0 per cent, of the former having been detected in One of the samples and 4.8 per cent, of the latter in another.

4th. That the alkaline sulphates are likewise somewhat in excess, amounting in One sample to 5.4 per cent. ; in this case the addition may have been intentional.

5th. That oxide of iron derived from different descriptions of coloured ferruginous earths, as red ochre, yellow ochre, and some of the brown earths, as umber, was present in upwards of Two-thirds of the samples, amounting in One case to no less than 5.0 per cent. While all the Scotch snuffs contained iron, the oxide of that metal was not present in any of the samples of Welsh and Irish snuffs submitted to analysis. The presence of the above-named ferruginous earths constitute so many adulterations.

6th. That chromate of lead was detected in Nine of the samples, amounting in One instance to 4.6 per cent. It occurred in Five out of the Nine samples of Scotch snuff examined, in One of the Four samples of Welsh, and in One of the Three samples of Irish snuff submitted to analysis. The presence of this metallic compound in snuff constitutes an adulteration. ~

ih. That oxide of lead, probably in the form of red lead, was discovered in Three cases, as much as 3 per cent, being found in One of the samples of Hardham's 37. The presence of this metallic oxide is also an adulteration and constitutes an infraction of the Tobacco Act.

8th. That bichromate of potash was present in Three of the samples ; in cases it was found in the Scotch snuff, amounting in One sample to 6.2 per cent. The presence of this salt likewise constitutes an adulteration.

9th. That many of the samples contained a considerable quantity of silica amounting in One instance to no less than 8.4 per cent. In some of the samples the addition was no doubt intentional. Genuine tobacco rarely contain more than 3.4 per cent., and usually much less. In most of the silica residues of the ashes, shiny particles were observed, which under the microscope presented all the appearances of POWDERED GLASS.

10th. That powdered orris-root was detected in Two of the samples. The presence of this in snuff is likewise an adulteration.

lith. That the total weight of ash furnished by the incineration of the great number of the snuffs examined, although many of them were very moist, much

exceeded that of genuine tobacco after being dried. While the samples of the latter have been found to vary in weight from 10.6 to 22.6, i of the snuffs which were not dried, and many of which contained large percentages of water, were in no case under 18'20 per cent., while in one instance it amounted to 35.54 per cent. Had the snuffs been dried before analysis, as was the tobacco, the difference in the weight of the ashes would have been much more evident. The average proportion of water in the moist snuffs is about 25 per cent.

Looking then at the whole of the above results, it is evident that snuff is subject to a very large amount of adulteration, and that of a kind which is not only detrimental to the revenue but highly injurious to health.

ANALYSIS OF VARIOUS SNUFFS

Cephalic Snuff

This snuff, on examination, was found to consist almost entirely of tobacco stalks ground to a very fine powder, and disguised by being flavoured or scented with some essential oil or oils, most probably that of lavender. 100 grains furnished 21.6 grains of ash, of a dirty brown colour, which was composed of chloride of sodium, 2.0; alkaline carbonates, 3.9; earthy carbonates, 4.0; alkaline phosphates, 5.2; earthy phosphates, 2.1; alkaline sulphates, 0.9; oxide of iron and alumina, 1.9; and silica, 1.6 grains.

SCOTCH SNUFF

A Sample.— Purchased of G. F. Chance, 163. Fenchurch-street.

No vegetable tissue other than tobacco; ash, dark yellowish-brown, amounting to 20.18 per cent., 18.6 of which was composed of chloride of sodium, 4.2; alkaline carbonates, 2.1; earthy carbonates, 3.8; alkaline phosphates, 0.9; earthy phosphates, 2.0; alkaline sulphate, 1.2; oxide of iron and alumina, 1.4; chromate of lead, 1.2; and silica, 1.8 grains.

SCENTED SCOTCH.

Sample. — Purchased of M. Pinheiro, 143. Whitechapel-road.

Vegetable tissue entirely tobacco; ash, dull yellowish-brown, amounting to 21.0 per cent., 21.0 of which was composed of chloride of sodium, 1.4; alkaline carbonates, 0.8; earthy carbonates, 5.4; alkaline phosphates, 0.4; bichromate of potash, 5.9; and silica, 1.4 grains.

IRISH SNUFF

4th Sample. — Purchased of M. Pinheiro, 1-43. Whitechapel-road.

Vegetable tissue all tobacco ; ash of a light greyish-fawn colour, amount to 28.72 per cent., of which 28.0 was composed of chloride of sodium, 6.8 ; alkaline carbonates, 0.9 ; earthy carbonates, 10.8 ; alkaline phosphates, 4.8 ; earthy phosphates, 4.8 ; alkaline sulphates, 0.8 ; chromate of lead, H; silica, 0.5 grains.

BROWN RAPPEE.

Sample. — Purchased of W. Fryer, 13. Smithfield-bars.

Vegetable tissue entirely tobacco ; ash, dark reddish-brown, amounting 19.32 per cent., 17.4 of which consisted of chloride of sodium. 6.8 ; carbonates, 1.5 ; earthy carbonates, 4.4 ; alkaline phosphates, 1.2 ; earthy phosphates, 1.2 ; oxide of iron and alumina, 0.4 grains.

SCENTED RAPPEE.

Sample. — Purchased of H. Benjamin, 16. High-street, Aldgate.

vegetable tissue all tobacco ; ash, reddish-brown, amounting to 27.22 per cent., 20.2 of which consisted of chloride of sodium, 6.8 ; alkaline carbonates, 0.1 ; earthy carbonates, 5.8 ; alkaline phosphates, 0.3 ; earthy phosphates, 2.6 ; alkaline sulphates, 2.2 ; oxide of iron and alumina, 4.0 ; and silica, 4.4 grains. This sample was found to contain a proportion of powderedorris-root ; it is liable that it was not used as an adulteration, but merely for the purpose of adding a scent to the snuff.

BLACK RAPPEE.

2VA Sample. — Purchased of J. Glinister, 29. Park-place, Mile-end-road.

Vegetable tissue consisting entirely of tobacco ; ash, blackish-brown, amounting to 23.52 per cent., 23.0 of which was composed of chloride of sodium, 4.2 ; earthy carbonates, 4.0 ; alkaline phosphates, 7.0 ; earthy phosphates, 2.4 ; alkaline sulphates, 1.2 ; oxide of iron and alumina, 1.4 ; and silica, 3.4 grains.

EFFECTS ON HEALTH

The constitutional effects resulting from the use of tobacco in the form of snuff, when this is genuine, are certainly less than in the case either of smoking or chewing tobacco ; indeed, the effects are in most cases chiefly local. The nerves of the Schneiderian membrane are over stimulated ; there is determination of blood to the part, and the membrane becomes thickened and insensible; at the same time the brain is roused to increased action. When any of the snuff taken makes its way into the fauces, as it very often does, it produces a certain amount of constitutional derangement, and often gives rise to dyspepsia. On first beginning to take snuff, sickness and faintness are induced in the same way as from tobacco smoking.

The chief local effects of the long-continued use of snuff are, impairment of the sense of smell, and to a less extent of that of taste ; the voice also becomes much altered. These effects are not to be attributed entirely to the tobacco contained in the snuff, but are also due to the irritating action of the alkalies and salts which enter into the composition of all snuff, as well as to the red and yellow ochre, red lead, chromate of lead, bichromate of potash, and many other injurious substances with which snuff is coloured. The poisonous nature of the chromates of potash, especially the bichromate, had long been suspected from the distressing symptoms produced in workmen engaged in many of the operations of dyeing. This led Mons. Duclmtel, of Paris, to institute experiments with the view to investigate and determine the effects which this salt exerts on the animal economy, and the doses in which it proves injurious or poisonous. He found that, even in the small doses of from one twenty-fifth of a grain to one five-hundredth of a grain, it destroyed the lives of animals (dogs) on which he experimented, causing sickness, vomiting, and severe gastritis ; and post-mortem examination showed the mucous membrane of the stomach and *prima via* to be much inflamed and completely softened. Chromate of lead and red lead, although not poisonous to the same extent, are yet of a very deleterious nature, even in exceedingly minute doses. The metallic salts are constantly employed to give colour to a variety of articles, especially sugar confectionery ; and many instances have been recorded of the fatal consequences to children who have partaken of sweets in which these dangerous substances had been used.

The quantity of chromate of lead and red lead contained in snuff as shown by the analyses is often very considerable, nearly 5 per cent, being sometimes found in it; sufficient — as appears from the following very interesting and highly important case, for the particulars of which we are indebted to Professor Krichsun — to give rise to the different symptoms and effects of poisoning by lead, as colic, paralysis, &c.

SNUFF AND THE NATIONAL DEBT

Snuff-taking is an equally dirty habit; for not only are the nostrils constantly filled with the brown and earthy-looking powder, but the fauces as well as the stomach come in for their share of it; the face is often smeared with it, the nails filled with it, and the shirt and clothes also stained and dirtied by its use. “

Every professed, inveterate, and incurable snuff-taker, at a moderate computation, takes one pinch in ten minutes. Every pinch, with the agreeable ceremony of blowing and wiping the nose, and other incidental circumstances, consumes a minute and a half. One minute and a half out of every ten, allowing sixteen hours to a snuff-taking;

day, amounts to two hours and twenty-four minutes out of every natural day, or one day out of every ten. One day out of every ten amounts to thirty-six days and a half in a year. Hence, if we suppose the practice to be persisted in for forty years, two entire years of the snuff-taker's life will be dedicated to tickling his nose, and two more to blowing it." The expense of snuff, snuff-boxes, and handkerchiefs is also alluded to, and it is calculated " that by a proper application of the time and money thus lost to the public, a fund might be constituted for the discharge of the national debt.