cent. The proteids thrown out by sulphate of zinc amounted to 36·20 per cent. The nutrient value of albumose has already been pointed out in these columns and liquid somatose contains a very rich proportion of this soluble proteid. The mineral matter contained some amount of common salt. This preparation should be found to be of decided value in the sick-room.

(1) HIGHLAND MALT WHISKY; AND (2) COGNAC BRANDY.
(INNES, SMITH AND CO., 83, HIGH-STREET, BIRMINGHAM.)

We have examined the whisky with the following results: extractives, 0·43 per cent.; mineral matter, 0·015 per cent.; alcohol, by weight 39·30 per cent., by volume 46·59 per cent., equal to proof spirit 81·64 per cent.; acidity reckoned as acetic acid 0·024 per cent. The spirit shows excellent characteristics; it is mild and smooth to the taste, and its flavour is evidently derived from malt. There was no suspicion of undesirable alcohols or of the presence of injurious by-products. It is therefore well adapted for medicinal purposes. The Cognac brandy gave the following results on analysis: extractives, 0·725 per cent.; mineral matter, 0·005 per cent.; alcohol, by weight 38·22 per cent., by volume 45·41 per cent., equal to proof spirit 79·57 per cent.; acidity reckoned as acetic acid, 0·039 per cent.; volatile ethers (equal to alcohol) 2·02 parts, per 10,000 by weight. This is a well-matured spirit, soft and acceptable to the palate. It shows also a due proportion of volatile "wine ethers." Though somewhat sweet to the taste it contains no sugar or sweetening agent, the sweetness being due probably to the normal products of distilled wine subsequently mellowed by age. The spirit being undoubtedly pure and of satisfactory origin is accordingly suitable for use by invalids.

(1) SELAMA MINERAL WATER AND (2) SOAP.
(AGENTS, BARCLAY AND SONS, 95, FARRINGDON-STREET, LONDON, E.C.)

Selama water, drawn from a spring in Algeria known as Lake Mouilah spring, presents a somewhat remarkable composition. It is practically a 1 per cent. solution of common salt, but with this mineral is associated an important quantity of silicic acid. Calculated as silica the amount is over 1 part per 10,000 parts of water. On this account the water slightly attacks the glass of the bottles containing it. It is said to possess certain medicinal properties, but to be more especially useful as an application to cuts or wounds or in eczema. It is said also to allay irritation and inflammation arising from insect bites or other causes. We make little doubt that this property is due to some extent to the silica present, since, as is well known, the silicates are powerful antiseptics. Silicate of soda is used, for example, for preserving milk. The other peculiar constituents of the water doubtless add to its antiseptic value in this respect. We have received a pamphlet recording several cases of skin disease under the care of a medical man in Algeria in which distinct benefit was claimed to have been gained by the external application of this water. The water has been tried elsewhere, it is said, with similar results. A soap is prepared containing, it is stated, 20 per cent. of "Selama" water. We do not understand how this can be unless the water was first concentrated, since the soap is very hard and practically dry, although it is of excellent quality.

EAU MINERALE NATURELLE DU BASSIN DE VICHY (SOURCE GUERRIER).
(GUERRIER PÈRE ET FILS, ST. YORRE, PRÈS VICHY, AND E. G. AFFLECK, 36, LIME-STREET, LONDON, E.C.)

According to our analysis this is a mildly alkaline water slightly charged with an excess of carbonic acid gas. The water is particularly soft to the taste. It is related to the celebrated Vichy water which, on account of its alkaline and saline constituents, is recognised to be of value in gastric catarrh and irritation. The sample before us gave the following results upon analysis: total saline constituents, 3·23 grammes per litre, comprising 2·50 grammes of carbonate of soda, 0·35 gramme of common salt, and 0·38 gramme of other salts chiefly of calcium. The water gives distinct evidence of lithium and traces of arsenic. Our analysis is not completely in accordance with that printed upon the label of the bottle in regard to the amounts; we found a smaller proportion of the salts indicated. As it is the water presents an interesting composition, especially in regard to the comparatively rarer constituents, manganese, strontium, phosphate of soda, arseniate of soda, and lithium. It was free from organic matters. It is probably serviceable in certain disordered conditions of the alimentary tract and in increasing the alkalinity of the blood. It is doubtless also of some tonic value owing to the manganese, iron, and arseniate and phosphate of soda present.

VICHY QUINA WINE.
(T. BAUDET, VICHY, AND E. G. AFFLECK, 36, LIME-STREET, LONDON, E.C.)

The analysis of this wine gave the following results: extractives, 13 46 per cent.; mineral matter, 0·35 per cent; sugar, 6·92 per cent.; alcohol, by weight 14·82 per cent., by volume 18·25 per cent., equal to proof spirit 31·99 per cent. The wine is said to contain the natural salts of Vichy water. The reaction of the wine, as we expected, was acid, whereas the salts of Vichy water are alkaline, consisting chiefly of carbonate of soda. We cannot agree that whatever medicinal effects may be ascribed to the salts of Vichy water the same effects may be also ascribed to this preparation. Even were it so the proportion of salts present, as shown in the above analysis, is very small. The wine has a flavour suggesting both cinchona bark and coca leaf. We failed, however, to extract and to recognise cocaine, but we obtained a residue which gave the reactions of the active constituents of cinchona bark. The wine is described as "vin hygiènique, tonique, et fortifiant."

SOZOIODOL.
(H. TROMMSDORFF, ERFURT.)

We have received a beautiful crystalline specimen of the sodium salt of this interesting compound from the above firm. Sozoiodol, which, to give its chemical name, is di-iodo-para-phenol-sulphonic acid, forms an interesting series of salts with the metals, but the sodium salt seems best adapted for medical use. It forms an excellent antiseptic dusting powder. It may be regarded as an efficient substitute for iodoform, with the favourable difference that it possesses practically no objectionable iodous odour.

New Inventions.

THE "MARVELE" MILK BOILER OR STERILISER.

THIS is a very simple and effective device for the satisfactory boiling or sterilising of milk or other fluid. It consists of two saucepans one inside the other, the larger one being provided with studs inside which keep an open space uniformly between the inner and outer pan. The outer pan serves as a hot-water jacket, so to speak, to the inner pan. The inner pan is pierced with two holes so that the liquid contained in it will find its level in the other pan. Steam is generated fairly rapidly in the outer pan, which soon heats the contents of the inner pan. By this method the risk of burning milk is reduced to a minimum. This alone is a very important advantage, for milk if left to boil in an ordinary saucepan invariably gets burnt and acquires an unpleasant taste. The "Marvele" milk-boiler affords a very satisfactory way of sterilising milk or of cooking other fluids. It is possible even to concentrate milk in this boiler without the formation of products having a disagreeable taste. The inventor is Mr. Jacob Brown, of 130, South-street, Longsight, Manchester.

THE LANCET.

LONDON: SATURDAY, DECEMBER, 1, 1900.

WHATEVER obscurity may have originally surrounded the outbreak of peripheral neuritis which has now attained the proportions of an epidemic in Manchester and Salford and a large area around these towns, it is now certain that the mischief has arisen from the presence of arsenic in beer. We publish in our issue to-day a special account of the outbreak by Dr. T. N. KELYNACK, who has encountered many interesting cases amongst the very poor people attending the out-patient department of the Salford Royal Hospital, while others have been under his observation in the wards of the Manchester Royal Infirmary. Apparently the mischief has been going on for some months. The cases have been looked upon as simply "alcoholic multiple neuritis." The real cause of the neuritis, however, was traced eventually by Dr. E. S. REYNOLDS to arsenic in beer, and Mr. C. H. TATTERSALL, medical officer of health of Salford, has called the attention of the Health Committee of Salford Corporation in his recent report to the large amount of sickness in the district from this cause. It was clear that the cases were of an altogether exceptional type and the conviction soon became irresistible that the symptoms were due to some special irritant or irritants taken in food or beverage. Most, if not all, of the patients were drinkers of beer in some form or other and accordingly the suspicion fell upon beer, and startling as it may appear arsenic was subsequently found in beer in easily detectable quantity. The clinical aspects of the outbreak are well described by Dr. KELYNACK to whose report there is appended an instructive analytical report by Mr. WILLIAM KIRKBY, F.L.S. Mr. KIRKBY, as will be seen, has found quantities of arsenic in various beers ranging from mere traces up to as much as 0·28 grain per gallon the results being expressed in terms of white arsenic or arsenious acid. These results relate to beers which were examined because they were suspected, but we have yet to learn the extent to which arsenical beer is being sold.

The outbreak is so serious that a very comprehensive investigation must be made. Suffice it to add for the present that Mr. KIRKBY has also turned his attention to certain specimens of brewing sugars; and the result of his inquiry has been that in glucose he found four parts of arsenic per 10,000 parts of the sugar, and in the "invert" sugar—i.e., sugar obtained by boiling cane sugar with acid—he found three parts of arsenic in 10,000 parts of malt substitute. In a communication from Professor DELÉPINE and Mr. C. H. TATTERSALL which we also print in our present issue, it will be seen that these gentlemen report the presence of arsenic in beer, glucose, "invert" sugar, sulphuric acid, pyrites, but not in the hops, preservatives, gypsum, water, whiting, maize, sago, or tapioca. These results are conclusive and may well cause alarm. The surprise is that wholesale poisoning has not previously occurred. One thing is certain, and that is that for years past brewers have employed both glucose and "invert" sugar for brewing beer. Further, these sugars or malt substitutes have been obtained by acting upon starches and cane sugar with sulphuric acid. Further, again, and still more important is it to bear this in mind, ever since sulphuric acid was made from arsenical pyrites arsenic has been a common impurity of the acid. Under these circumstances it is surprising that peripheral neuritis traceable to arsenical poisoning due to the drinking of modern beers made from malt substitutes has hitherto not been observed even in individual cases. It is hardly conceivable that poisoning from this cause can have previously reached the dimensions of an epidemic, as in the present instance. It is said, however, that very large consignments of "invert" sugar from America have recently been employed by brewers in this country, and this may possibly throw some light on the present unfortunate occurrence, which may be attributable to transatlantic sources hitherto unused.

The whole story illustrates the great dangers that may arise from the introduction of substitutes in the course of the preparation of foods and beverages. It would appear that the use of malt substitutes is a matter of expediency rather than of economy. It is a mistake to suppose that the use of "invert" sugar, glucose, or cane sugar is cheaper than their equivalent of malt. Beers brewed with sugar are more brilliant and stable than beers brewed with malt alone. Moreover, the beers so obtained are of a lighter character and have a more distinctive flavour. The materials used for the preparation of glucose in this country are maize, sago, and rice. These are boiled with dilute sulphuric acid, either with or without pressure, the starch in them being thus rapidly hydrolysed into dextrine and maltose, which in turn are rapidly displaced by glucose. The resulting acid liquid is neutralised with whiting and the main portion of the gypsum thus formed is allowed to subside. The liquid after filtration is finally concentrated. It is clear from the details of this process that any arsenic occurring in the sulphuric acid would remain in the syrup or in the ultimately crystallised product. Arsenical poisoning has before been traced to the use of sulphuric acid in the course of manufacturing certain preparations intended for human consumption. About five months ago, for example, we reported that arsenic had been found as a common impurity of phosphate of soda, which impurity had been derived from the sulphuric acid employed in the manufacture, and it appeared also that phosphate of soda formed the basis of a popular effervescing drink. The consumption of phosphate of soda, however, is comparatively trivial and unimportant, whereas in the case of beer the danger of employing impure sulphuric acid in the elaboration of products intended for human consumption on a large scale is specially obvious. It seems to us that this epidemic affords a fresh and startling argument for the interdiction of substitutes, unless very definite steps be taken to secure the absolute purity of such substitutes. It is noticeable that the Pure Beer Committee of four years ago did not suggest the awful possibility of an epidemic of arsenical poisoning arising through the use of malt substitutes in beer. This