

in the number of cases requiring medical relief; the numbers have been as follows:—

	Cases.
During the year ended Sept. 29, 1853	435
„ „ „ 1854	606
„ „ „ 1855	695
„ „ „ 1856	929

I have called the attention of the board of guardians to this great increase of my labours, and have asked them for an increase of my salary. I have shown them that during the last year my salary and fees together have yielded me one shilling and ninepence three farthings per case, whilst each case relieved by the dispensary in this town, during the last ten years, has cost that institution, *for drugs alone*, one shilling and elevenpence farthing; the total cost of each case to the institution having been eight shillings and ninepence halfpenny. The board of guardians have made the following answer to my application:—

Board-room, Bury, Dec. 11, 1856.

SIR,—The guardians of the poor of the Bury Union met yesterday to take into consideration the propriety of advancing your salary. After some discussion, it was considered by a majority of the guardians present, that there was no occasion for any advance.

I am, yours obediently,

J. Yorke Wood, Esq.

W. P. WOODCOCK, Union Clerk.

I respectfully submit that this decision of the guardians is unjust and oppressive, and I humbly appeal to the protection of your honourable Board.

I have the honour to be,

Your obedient and humble servant,

Bury, Lancashire, Dec. 23, 1856.

J. YORKE WOOD.

Poor-law Board, Whitehall, Dec. 30, 1856.

SIR,—I am directed by the Poor-law Board to acknowledge the receipt of your letter of the 23rd instant, and to inform you that the statement you have submitted to them in reference to the remuneration assigned to you as the medical officer of the Bury district of the Bury Union will receive their consideration.

I am, Sir, your obedient servant,

R. W. GREY, Secretary.

J. Yorke Wood, Esq., Bury, Lancashire.

Poor-law Board, Whitehall, Jan. 31st, 1857.

SIR,—Adverting to the letter which you addressed to the Poor-law Board on the 23rd ultimo, I am directed to say that having considered all the circumstances, the Board do not feel called upon at present to interfere in regard to the application which you have made to them on the subject of your remuneration as medical officer of the Bury district of the Bury Union.

I am, Sir, your obedient servant,

COURTENAY, Secretary.

J. Yorke Wood, Esq., Bury, Lancashire.

ADULTERATION OF BREAD.

[LETTER FROM DR. BERNAYS.]

To the Editor of THE LANCET.

SIR,—You have done so much, and that, too, so ably, towards checking the progress of adulteration both of food and drugs, that I feel scarcely any apology can be needed for troubling you with the following communication.

The question of the adulteration of bread with alum has been so often before the public, that a reason may be required why it should again be brought forward; nor should I think that any corroboration of the analyses made by Dr. Hassall would be necessary, were it not that his opinion, as well as that of other chemists who hold that alum still exists in bread in the form of alum, has been questioned by chemists of repute; but as I have examined a number of samples of bread, and found alumina in most of them, I will take the liberty of stating my experience upon this moot point. Not to make this letter too long, I will almost entirely confine myself to a sample of bread which I have lately carefully examined, only noticing the following by the way.

During the past summer, Dr. Sanderson and myself have carefully analysed upwards of thirty samples of bread, and a large variety of flour purchased from various bakers in the parish over which Dr. Sanderson presides as officer of health. We came to the conclusion—frequently independent of one another—that certain samples contained alum as such.

254

Recently, we were talking over the disputed question whether bread did contain alum, when Dr. Sanderson agreed to obtain a loaf from a baker whose bread we found to contain alum as a rule; and this I very carefully submitted to analysis by the following method, and with the subjoined result.

I broke up a thousand grains of the crumb into warm water, which I kept for upwards of two hours as nearly as possible at a temperature of 140°, as I found, by experience, that a higher temperature renders filtration a difficult act. The clear filtrate I precipitated with an excess of pure potash, and, after proper treatment, removed the precipitated phosphates of lime and magnesia by filtration. The solution having been slightly acidified by hydrochloric acid, I re-precipitated by carbonate of ammonia, and digested it for some time upon the sand-bath. A distinctly gelatinous substance soon separated, which I re-dissolved (after proper washing) in a few drops of acid, neutralized with ammonia, and re-precipitated by hydro-sulphide of ammonium. The result I filtered, washed, dried, and weighed.

Calculating the amount of *alumina* in potash-alum as 10·76 per cent., I found that the crumb of the quarter loaf contained 18·941, or nearly 19 grains of alum!

As regards the *crust* of the bread, I must state distinctly, that although by hot water, during the same time, I succeeded in obtaining decided symptoms of alumina, the quantity was less, and I therefore did not weigh it. And this we can readily understand. I am not quite sure of the temperature of a baker's oven, but I believe it to be sufficiently high to deprive alum of all its water of crystallization, except, perhaps, half an equivalent. The outer crust of bread would therefore be sufficiently heated to lose nearly all its water, and thus become insoluble, although it would still retain strong powers of absorbing moisture. Whether owing to the moisture of the air of the oven, from the drying of the loaf, or from any other cause, I may say that the crust of the bread usually does contain a little alum, which resumes its water of crystallization on proper treatment.

It has been stated that the alum is entirely decomposed, and that only bisulphate of potash is to be found in the bread. Now, setting aside the important question of Dr. Hassall, as to whether the presence of that salt can be considered advantageous, may I ask, where does sufficient potash come from to unite with all the sulphuric acid of the sulphate of alumina?

It would, then, seem, partly from what I have stated, and partly as the result of former experience, that alum deprived of most of its water of crystallization is to be met with in such kinds of bread to which it has been added in quantities beyond what a chemist calls a trace; and as to the bread, the result of the analysis of which I have detailed, a practised pupil of M. Pelouze has undertaken to purchase a further sample, and to let you know the result.

Thanking you for your kindness, believe me, Sir,

Yours respectfully,

ALBERT J. BERNAYS,

Lecturer on Chemistry at St. Mary's Hospital.

February, 1857.

DR. PRETTY'S CHLOROFORM INHALER.

To the Editor of THE LANCET.

SIR,—Having omitted to mention, in my paper on the mode of using Chloroform in Midwifery, which appeared in THE LANCET of December 13th, 1856, the *quantity* of chloroform consumed during the use of my inhaler, I beg to state that a drachm and a half amply suffices *per horam*. In fact, rather less than this quantity will be consumed when the inhalation is continued for several hours. Recently I used nine drachms in seven hours, and it was freely administered. The lady had commenced having a family rather late in life. In her previous and first confinement I had to perform craniotomy; in the present instance she was safely delivered by the forceps. Last week I only used, with a first confinement, four drachms in four hours. Both ladies expressed themselves sufficiently relieved by it. I prefer, at the commencement, not charging the instrument with more than half a drachm, and subsequently with not more than forty-five minims. Care should be taken to have a piece of sponge sufficiently large to well fill the chloroform chamber. The inhaler, also, when not in use, should rest on its inferior surface, as then the chloroform cannot escape through the valves. The cost of the instrument will soon be recovered by the great saving in the quantity of chloroform required, the odour of which will not be detected in the room. It must be admitted that it is of much importance not having the air of the chamber impregnated with the vapour.