

Prevention Better than Cure.—Rust in wheat may be prevented by drenching the seed-corn with a solution of carbolic acid. For four bushels take four ounces of Cheeseborough acid; add two gallons of water; place the wheat on a sheet or tarpaulin, and water with a watering-pot, using the above; thoroughly turn over with a shovel, and sow next morning.

Inherited Qualities in Work.—Heredity is an important fact in Japanese labor. In many of the villages the crack workmen trace back their pedigree, both of skill and blood, from three to twenty generations.

A New Table Delicacy.—The Rev. J. G. Wood recently delivered the first of a series of lectures on natural science in Dr. Channing Pearce's Geological Museum, Brixton Rise, England. Having in the course of his lecture allude to the hedgehog and the squirrel, Mr. Wood observed that it was well known that these animals, when properly cooked, formed excellent articles for human food. Few people however were aware that, when similarly treated, the flesh of a rat had a finer flavor, and was altogether a greater delicacy than either of them. There was literally nothing of which he (the lecturer) was so fond of as a rat pie. This was a dish which frequently made its appearance on his table, and was greatly enjoyed by all the members of his family. He had several friends too who, like himself, had overcome their prejudice, and thoroughly enjoyed a good helping of rat pie.

Domestic Science:

New Use for Gas and Water-Pipes.—A correspondent of the *English Mechanic* states that he has successfully used the gas and water-pipes in his dwelling as a source of electricity for a microphone. He connects one of his microphone wires with the gas-pipe, and the other with the water-pipe, and finds the current ample, and of course constant.

Cleaning White Furs.—Wash in cold lather of soap and water, with a little soda and blue in it, then draw with the hand same as a flannel through several lathers until clean, rinse in clean water, shake well, and hang up to dry, frequently shaking up while damp.

Method of Preserving Cooked Meat.—A method of preserving cooked meat has been patented at Sydney by Mr. Edward Naylor. The meat, after having been boiled, roasted, or steamed, is packed in wooden cases, and is then covered over with stearine heated to about two hundred and fifty degrees. The advantages claimed for this system are that the meat does not lose any of its natural juices, and, as it has been deprived of most of its water during the process of cooking, the buyer does not lose so much by evaporation as he does in the case of uncooked meat. The stearine does not in the least affect the taste, and can be sold at a profit on its arrival in England.

How to Restore faded Upholstery.—To restore faded hangings, beat the dust out of them thoroughly, and afterward brush them; then apply to them a strong lather of castile soap by means of a hard brush; wash the lather off with clear water, and afterward wash them with alum water. When dry, the colors will be restored in their original freshness. When the colors have faded beyond recovery, they may be touched with a pencil dipped in water-colors of a suitable shade, mixed with gum-water.—*Furniture Gazette.*

Milk.—To make cow's milk assimilate closely to the composition of human milk it is requisite to add only from ten to twelve ounces of water to the pint, and from one and a quarter to one and a half ounces of milk sugar, which can be readily purchased.

Strained India-rubber.—Professor Tait has found that india-rubber, after having been stretched for years and become permanently strained, or if it be stretched while warm nearly to rupture, will recover its former dimensions when it is dipped into hot water.

Stooping at Work.—The *Lancet* says: "The dangers which the seamstress, especially the young undeveloped girl, incurs by prolonged stooping over her work have been exposed by us on more than one occasion. Every practitioner will have been able to trace cases of deviation of the spine, uterine complaints, etc., to the bending of the back, and the crossing of the legs for so many hours day after day. Our object now is to record the successful attempt made by Dr. Malherbe to avoid these melancholy consequences of an industrious occupation. The new system employed is that of fixing to the edge of an ordinary table a sort of cushion on which the work can be easily fastened or spread out, and represents the seamstress' knees. A framework of the simplest description admits of the raising or lowering of this cushion, so that the work may be done either sitting or standing; but in either case the vertebral column is maintained perfectly straight, while the facility thus given to a change of position will tend to mitigate the fatigue a young person would otherwise experience. Recognizing that example is more forcible than theory when waging war against common routine, Dr. Malherbe at once sought an opportunity for making some practical experiments. He therefore introduced his contrivance at the Communal School of Nantes, and no objection was raised on the part of the pupils. Two among them had a slight tendency to malformation, which has been to some extent rectified since the introduction of this reform in the attitude of sewing. Evidently the remedy to a great evil is simple, practical, and should be made the subject of more extensive experiments."

Charcoal, laid flat while cold on a burn, causes the pain to abate immediately; by leaving it on for an hour the burn seems almost healed when the burn is superficial; and charcoal is valuable for many other purposes. Tainted meat, surrounded with it, is sweetened; strewn over heaps of decomposing pelts, or over dead animals, it prevents any unpleasant odor. Foul water is purified by it. It is a great disinfectant, and sweetens offensive air if placed in shallow trays around apartments. It is so very porous, in its "minute interior spaces," it absorbs and condenses gases most rapidly. One cubic inch of fresh charcoal will absorb nearly one hundred inches of gaseous ammonia. Charcoal forms an unrivaled poultice for malignant wounds and sores, often corroding away the dead flesh, reducing it one quarter in six hours. In cases of what we call proud flesh it is invaluable. I have seen mortification arrested by it. It gives no disagreeable odor, corrodes no metal, hurts no texture, injures no color, is a simple and safe sweetener and disinfectant. A teaspoon of charcoal, in half a glass of water, often relieves a sick headache; it absorbs the gases and relieves the distended stomach, by pressing against the nerves, which extend from the stomach to the head. Charcoal absorbs a hundred times its weight of gas or wind in the stomach or bowels, and in this way it purifies the breath. It often relieves constipation, pain, or heartburn.



HOUSEKEEPERS ARE SOLICITED TO SEND NEW AND INTERESTING RECEIPTS AND SUGGESTIONS TO THIS DEPARTMENT.—EDS.]

Alum in Our Bread.

A Chemical Examination of Baking Powders, and its Results—The Use of Alum and its Deleterious Effects—Opinions of Medical Experts—Prompt Action of the New York and Brooklyn Boards of Health, etc.

THE *N. Y. Evening Post* has been giving this subject some attention, and has published the result of some remarkable investigations, which are worthy the close attention of thoughtful people. From its recent exposure of the use of burnt alum in some brands of baking powders, in place of cream of tartar, the following extracts are mainly taken:—Pursuing the investigation of the quality of the food sold in this city, the representative of the *Evening Post* took up baking powder as one of the articles in most general use in our households. It is used by nearly every family in the city, and it is naturally of great importance to those who eat the food made with it, to know whether it contains anything injurious to health.

There are certain constituents of good baking powder which may be regarded as entirely free from danger. They consist of pure grape cream of tartar, bicarbonate of soda, and carbonate of ammonia. The cream of tartar unites with the other two ingredients, and carbonic acid gas is thrown off, producing the same effect as yeast in a much shorter time. It has been found, however, that alum will also unite with the other two articles, and carbonic acid gas will be produced. As alum costs less than three cents, while cream of tartar costs more than thirty cents a pound, it is easy to see why alum is substituted for the latter by some baking-powder manufacturers.

The *Evening Post's* representative obtained the following expressions of opinion as to its effect, when alum is used in baking powder, from some physicians of New York of the highest reputation and ability: Dr. William A. Hammond, formerly Surgeon-General United States, of No. 43 West Fifty-fourth street, expressed himself as perfectly certain of the injurious effects of alum, whether used alone to whiten bread, or as an adulterant of baking powder. "The hydrate of alumina," Dr. Hammond said, "would certainly be injurious to the mucous membrane. It would inevitably tend to constipate the bowels and interfere with digestion; and anything that tends to render the albumen of the bread insoluble, and therefore takes away from its nutritive value, is injurious."

Dr. Sayre, former President of the Board of Health, said to one of the representatives of the *New York press*: "After the experiments in this line by Liebig and other distinguished chemists and vivisectioners, with alum on cats, dogs, and other animals, with the published results, we may well ask what is the use of such experiments if we do not apply them to practice in the preservation of human life and health? The Board of Health should see to this." Dr. Waller, Chemist for the *New York Board of Health*, when asked by a *Sun* reporter as to the injurious effects of alum, replied: "You know what the effect of alum is when you take some of it in your mouth; well, that is just the effect it has upon the coats of the stomach." The analysis of the various baking powders, as officially reported by the Brooklyn Board, reveals only two brands containing alum being sold in that city—"Patapsco" and "Dooley's." As to the cream of tartar powders, the same re-

port mentions the Royal Baking Powder as free from alum or any other injurious substance. There are probably more than five hundred kinds of baking powder manufactured in this country. Through Dr. Henry A. Mott, the well-known chemist, one of the most competent, trustworthy, and careful experts of this country, the following analyses were obtained, showing the presence of alum in large quantities in many of the baking powders having a wide sale. Dr. Mott kindly furnished not only the results of his own analyses, but also those of several chemists of high professional standing, including Professor Henry Morton, President Stevens Institute of Technology; Professor R. W. Schedler; Dr. Stilwell, analytical chemist, this city.

Dr. Mott's report is as follows:

Dear Sir:—In accordance with your request, I herewith embody the results of the analyses of baking powders procured during the past three months, in all of which alum was found as an ingredient:

"PATAPSCO,"	Contains Alum
(Smith, Hanway & Co., Baltimore, Md.)	
"DOOLEY'S,"	Contains Alum
(Dooley & Brother, New York.)	
"CHARM,"	Contains Alum
(Rohrer, Christian & Co., St. Louis.)	
ANDREWS' "REGAL,"	Contains Alum
(C. E. Andrews & Co., Milwaukee.)	
"QUEEN,"	Contains Alum
(Bennett & Sloan, New Haven, Ct.)	
"VIENNA,"	Contains Alum
(Church & Co., New York City.)	
"ORIENT,"	Contains Alum
(Crouse, Walworth & Co., Syracuse, N. Y.)	
"AMAZON,"	Contains Alum
(Erskine & Erskine, Louisville, Ky.)	
"GILLET'S,"	Contains Alum
(Gillett, McCulloch & Co., Chicago.)	
"TWIN SISTERS,"	Contains Alum
(Union Chemical Works, Chicago, Ill.)	
"INVINCIBLE,"	Contains Alum
(Snyder Brothers & Co., Cincinnati.)	
"KING,"	Contains Alum
"WHITE LILY,"	Contains Alum
(Jewett & Sherman Co., Milwaukee, Wis.)	
"MONARCH,"	Contains Alum
(Ricker, Crombie & Co., Milwaukee, Wis.)	
"ONE SPOON,"	Contains Alum
(Taylor Manufacturing Co., St. Louis, Mo.)	
"IMPERIAL,"	Contains Alum
(Sprague, Warner & Griswold, Chicago.)	
"HONEST,"	Contains Alum
(Schoch & Wechsler, St. Paul, Minn.)	
"ECONOMICAL,"	Contains Alum
(Spencer Brothers & Co., Chicago, Ill.)	
"EXCELSIOR,"	Contains Alum
(L. E. Taylor, Chicago, Ill.)	
"CHARTRES,"	Contains Alum
(Thomson & Taylor, Chicago.)	
"GRANT'S,"	Contains Alum
(J. C. Grant, Philadelphia.)	
"GIANT,"	Contains Alum
(W. F. McLaughlin, Chicago.)	
"QUEEN,"	Contains Alum
(Star Chemical Works, Chicago.)	
"PEERLESS,"	Contains Alum
(Marden's, Rochester, New York.)	
"ZIETLOW'S" SUPERLATIVE,	Contains Alum
(New York.)	
"RISING SUN,"	Contains Alum
(C. O. Strutz & Co., Chicago.)	
"SIBLEY, DUDLEY & CO.'S,"	Contains Alum
(Chicago.)	
"LAKE-SIDE,"	Contains Alum
(C. O. Perrine, Chicago.)	
"FRENCH,"	Contains Alum
(Thomson & Taylor, Chicago.)	

"DONNOLLY & CO.'S," Contains Alum,
Premium Yeast Powder (San Francisco).

"CHAMPAGNE," Contains Alum
(J. S. Taylor & Co., San Francisco.)

Yours, very truly,

HENRY A. MOTT, Jr., Ph. D., E. M.

New York, Jan. 5, 1879.

Having obtained the foregoing, the reporter called at the office of the Royal Baking Powder Company, No. 171 Duane street, the manufacturers of the Royal Baking Powder, a brand which the report of the Brooklyn Health Board revealed to be pure. Mr. J. C. Hoagland, President of the Company, gave the following replies:

REPORTER—"What is the cause of the present excitement about baking powders?"

MR. HOAGLAND—"It is due to the substitution of alum for cream of tartar by some manufacturers."

REPORTER—"Have you ever used any alum in the Royal Baking Powder?"

MR. HOAGLAND—"No, sir."

REPORTER—"But I find that it is used by others. What is it used for?"

MR. HOAGLAND—"I presume because it is cheaper than cream of tartar, which it replaces."

REPORTER—"You would, therefore, obtain a larger profit by using alum than by using cream of tartar?"

MR. HOAGLAND—"Yes, for a time such substitution would more than double our profits?"

REPORTER—"Why, then, do you not use it?"

MR. HOAGLAND—"For two reasons: first, the authorities on this point are so positive and conclusive that the continued use of alum in this way is dangerous to health, that we could not conscientiously use it; if others choose to take risks on the public health we shall not follow them, preferring to continue the use of pure grape cream of tartar, which is demonstrated to be wholesome; second, our experience during twenty years has satisfied us that that which is best for the public is best for us. We cannot afford to peril the reputation of the Royal Baking Powder."

REPORTER—"Can you give me any information in regard to cream of tartar, how and where you procure it?"

MR. HOAGLAND—"Certainly! There are several substitutes, or patent 'cream of tartars' on the market, made principally from terra alba, or burnt bones, the latter being treated with strong corrosive acids; but the cream of tartar we use is a fruit acid—it exists naturally in the grape—and during fermentation of the tart wines in France it is deposited on the sides and bottom of the casks. In its unrefined state it is called crude tartar or argol, and is taken from the cask after the wine has been drawn off. Each farmer has his crop of it, according to the amount of wine he has produced. This company is the largest user of cream of tartar in the world, and we have our agents in various parts of Europe collecting the crude material. It is imported into this country as argol, and then subjected to a higher process of refining, by which it is purified especially for our purposes, forming pure white crystals which we grind to powder, and in this form we use it as an ingredient of our baking powder."

Other interviews were had, all to the same general effect, namely, that alum is used by many manufacturers to cheapen their powder, and enable them to undersell their competitors. Many of them are probably ignorant of the evil effects of alum on the system, while others are indifferent so long as they make money, and no one can be said to have dropped dead from taking their powder.

By this exposure of the injurious effects of alum in baking powder, the public must not be frightened from using baking powders when properly made. In the report of Professor Elwyn Waller, Assistant Health Inspector of New York Board of Health, on baking powder, in 1872, the public are recommended to purchase one of the well-known brands of baking powder, in preference to purchasing the cream of tartar separately, as this substance was found in all cases to be adulterated. The inspector further states that when the mixture is made on a larger scale in a factory, and the baking powder is put up in packages ready for use, the manufacturer experiences no difficulty in securing good materials free from adulteration.

Dr. Mott, the Government chemist, in his review of the subject in the *Scientific American*, makes special mention of having analyzed the Royal Baking Powder, and found it composed of wholesome materials. He also advises the public to avoid purchasing baking powders as sold loose or in bulk, as he found by analyses of many samples that the worst adulterations are practiced in this form. The label and trade-mark of a well-known and responsible manufacturer, he adds, is the best protection the public can have.

The following receipts are extracted from Miss Dod's excellent manual of cookery, recently published:

Potato Saute.—One quart of potatoes, one and a half ounces of butter, one teaspoonful of salt, one saltspoon of white pepper. Young potatoes should be used for this preparation, and should be first scraped, then thrown into boiling water and allowed to boil rapidly for ten minutes. Drain the water carefully from them; cover the saucepan, and let the potatoes cook in their own steam until a fork will pierce easily to their centers. When done, sprinkle over the potatoes the pepper and salt, throw in with these the butter, and shake the saucepan over the fire until the potatoes become a pale brown upon their surfaces. Serve very hot.

Eggs au Plat.—Eight eggs, eight tablespoonfuls of bread-crumbs, four ounces of butter, one teaspoonful of pepper, one teaspoonful of salt. Sprinkle half of the bread-crumbs upon a platter, sprinkle over them half of the pepper and salt, and distribute over this in small pieces two ounces of the butter. Break over this, one by one, the eggs, arranging them in a circle upon the bread-crumbs; sprinkle over them the remaining bread-crumbs, pepper, and salt; also distribute over this the remainder of the butter in small pieces, and place the platter in a hot oven for ten minutes. When done, the bread-crumbs should show a surface of pale brown, and the eggs be cooked rare. Serve upon the platter on which the dish is prepared.

Ham Omelet.—Eight eggs, one teaspoonful of pepper, one teaspoon of salt, two ounces of butter, three tablespoons of cold boiled chopped ham. Break the eggs into a bowl, and beat them with a wooden spoon until the yolks and whites blend. Melt one ounce of the butter in an omelet pan, stir into the beaten egg the chopped ham, pepper, and salt, and pour half of the mixture into the pan with the hot butter. Stir all until the omelet begins to set at the edges; draw all down to one side of the pan, and when it becomes firm on the under side, turn the omelet quickly over the other side of the pan without breaking its form, and remove the omelet to a hot platter. Repeat this process for the second omelet, the cooking of which should only consume about two minutes, and serve both as quickly as possible.