

MISCELLANEOUS.

Self-Raising Flour.

Messrs. Editors—In No. 36, Vol. 7, of your very valuable paper, we observe you have been pleased to notice the late important improvement of our Patent Self-Raising Flour, in which notice you seem to question whether this article of flour has really ever been patented. For you say that you "are not aware of any patent ever having been issued for the said flour, and we presume the public have given it the name of *patent*, not the manufacturers. It is not very safe to use the word 'patent' on an article if it has not been patented."

The position of our firm before the commercial community and the public, as well as the sincere regard in which we hold your numerous scientific readers, makes it necessary, after the appearance of your publication, distinctly to avow, under our own names, in your columns, that no patent in the United States is more official and valid than that secured on the Self-Raising Flour. The Records of the Patent Office, of May, 1849, will fully establish this fact. It is also patented in Ireland, France, Holland, and Belgium; the English patent having been duly issued as early as March, 1845.

It is not for the purpose of complaining of the general tenor of your article, or to trespass on the area of freedom of the public press, that we are impelled into your columns, but to set the public right upon a subject that nearly concerns their health and welfare; and, as you yourselves have stated, that "as this kind of flour is coming into somewhat extensive use, it is right the public should know what the effervescing materials are which are mixed with the flour." You have, yourselves, justly and generously admitted that tartaric acid and alkalis are very excellent and safe, yet adding, "but if alum be used, a trick common among English millers, we deprecate its use." It scarcely seems necessary for us to disclaim the resort to *tricks* of any kind, either of English or American millers, yet we frankly here avow that no alum or other deleterious substance is ever used in any article manufactured at the Croton Mills. The advancement of the public health proving as equally gratifying to us as the enjoyment of the profits of our labor.

The Self-Raising Flour, then, being patented, and thus partially shielded from fraudulent imitations, no motive exists for us to withhold from the public that the effervescing materials are tartaric acid and bicarbonate of soda of the purest and most unadulterated quality, with due proportions of the finest sugar and salt. That these articles are not only innocent and harmless, but in a great degree conducive to health, and promoting a gradual and easy digestion, we have the written testimony of over 50 of the medical faculty of this city to verify.

The method and proportions of these healthful ingredients, their comminution, dissemination, and mode of thorough incorporation with the flour, is of course exclusively our own affair. These articles, used by inexperienced or unscientific persons might possibly impair the health of those who may partake of food with which these chemicals are commingled. But the due care and attention exercised under the especial supervision of the patentee, and the very small proportion of the ingredients used (being less than 1½ per cent.) warrants the assertion that bread is rendered more porous, palatable, and digestible by it; and that no one can have the slightest objection freely to use it thus prepared.

Dr. Lewis C. Beck, of Rutgers' College, N. J., in a letter addressed to us, says of the Self-Raising Flour, "I have made sundry trials of it, and find it to come up to the character given in your printed circulars. The only difficulty I see of complete success, is carelessness in the preparation and fraudulent imitations."

We entertain no doubt but the Self-Raising Flour will ultimately supersede the use of all other flours which have to be raised by yeast fermentation. The labor it saves, too, by its capability of being immediately baked as soon as mixed into dough by the addition of cold water only, renders it of invaluable mo-

ment to the over-wrought laborers and housewives of both city and country.

With an apology to you, Messrs. Editors, for the necessity of the length of this communication, called out by your own article being written before you were in possession of all the facts relating to this great improvement of the age, We remain, yours truly,
HECKER & BROTHER.

REMARKS.—We were not aware of Hecker & Brother being the owners of the Jones' patent, the claim of which is "mixing the acid and alkali with the flour in a *dry state*;" sugar and salt is mentioned in the specification, but the claim is principally for the acid and alkali. The patent was taken out in England on March 13, 1845, by Henry Jones, of Bristol, and in the United States on May 1st, 1849, and assigned to John Fowler, of this city. It has long been known to every chemist that carbonic acid gas was the one produced by fermentation, and that the gluten of flour, by forming a skin to the dough or bread, retained the gas, which, by this means, swelled, or, as it is technically termed, *lightened* the bread in the act of baking. Thus our knowledge of chemistry has enabled us, for twenty years, to tell that the sub-carbonate of magnesia, or soda, mixed along with cream of tartar, tartaric acid, &c., and mixed with flour in cold water, would act as a quick ferment when the dough was placed in an oven. We know that, in 1837, a Mr. Whiting took out a patent in England for hydro-chloric acid and soda as a substitute for yeast, but this was different from mixing a dry acid and alkali with the flour. The following receipts have also been long known and used for making quick or unfermented bread:—"good flour, 1 lb.; bi-carbonate of soda, 40 grains; cold water, half a pint; muriatic acid, 50 drops." The salt formed by these fermenting substances, is common table salt. Bread made by this receipt was attempted to be introduced into this city two years ago. Such bread had a great run in London at one time, as some great chemists said it was more nutritive than the yeast fermented bread, but it had not the fine taste of baker's bread, and it failed of success in our city. The famous egg powder, for making biscuits, is composed of 56 parts, by weight, of carbonate of soda, 28 of tartaric acid, 112 of flour—all colored yellow with turmeric, to gull the people respecting the eggs. The mixing of the bicarbonate of magnesia, with flour in a dry state, was practiced many times, as long ago as we can remember, but the mixing of the acid and alkali with the flour in a dry state, is new, we believe, but the principle of action is old and well known.

As it respects the use of alum in bread, respectable bakers in London used it, and some chemists assumed that the small quantity in each loaf could do no harm. The use of *alum* however, and any other mixture but yeast, except by liberty of the Assize, in bread, is prohibited by a statute of Geo. III., which is a dead letter in England.

Messrs. Hecker & Brother will see, by another letter in our columns, that it was a proper and just way for them to send us the above, it is a straight-forward, simple, and manly way of meeting any assertion which may be set up against their self-raising flour, and it will throw light on the minds of many, and this was required. Hecker & Brother have the name and the character of manufacturing and selling the very best quality of flour, and we have never known an instance to the contrary.

Self-Raising Flour.

Messrs. Editors—In the "Scientific American" of the 22nd inst., I notice you speak in advocating terms of the "Self-raising Flour," manufactured in New York. This flour, when first introduced, met with many consumers, and was called "first-rate," as most new articles are. I wish to undeceive you and the public, by saying that I believe this self-raising flour can be bought as low as from 20 to 24 shillings per barrel, and is nothing more than sour flour, only fit to make starch of—it is chemized (allow me the term) to destroy the excess of acid and produce artificial raising, and any person continuing to use it might as well take as much slow poison. I know in one family, where only 28 lbs. were consumed in eight days, it made them all sick, although I told them it would, notwithstanding it was

so handy to use. To make this "puff" worse, it is charged 12 per cent. more than the best flour. All artificial raisings destroy the nice flavor of good flour, disorders the stomach, weakens the digestive organs, brings on dyspepsia, shortens life, and renders the time we do live miserable; therefore use good flour at a less price, ferment with common yeast, but commence the operation half an hour sooner.

H. A. SMITH, North 2nd st., Williamsburgh.
[Friend Smith would see that we did not advocate the self-raising flour, but only believed it would be good if the raising materials were healthy. We have no conception of sour flour being used. In alluding to the said article of food, our object was to do good, by drawing out such information as that furnished by our correspondents.]

Overman's Metallurgy.

This is a large volume of 740 pages, published by D. Appleton & Co., this city. The author of it, Frederick Overman, is no more; he died on the 7th of last January, in Philadelphia, from the effects of arsenited hydrogen, inhaled while engaged in a chemical analysis. One hundred and fifty pages of this work are devoted to mining, as connected with the metals. The subject is well illustrated. The operations of reducing the ores are very minutely described, also the treating of metals, all of which processes are illustrated with 377 wood engravings. It is an entirely different work from that on the "Manufacture of Iron," published by Henry C. Baird a few years ago. This work contains more information on metallurgy, we believe, than any work ever published in our country. A short biography of Overman is contained in the "Preface." As was known to us, from a perusal, at one time, of some of his manuscript, he was a German; his native place was lovely Alberfeld. His parents were humble, and he was first bound to mercantile pursuits, but this was not the life suitable for one who had such a hungering and thirsting after science. He went to Berlin, and became a pupil of the Royal Polytechnic Institute, and while there his talents were appreciated, and he became acquainted with some of the most eminent men in that city, including Alexander Von Humboldt. He conducted, at one time, the great engineering establishment at Chemnitz, in Saxony, and was once in the employ of Austria, for ascertaining the industrial resources of that country. He came to the United States in 1842, and during the past four years was principally engaged in technological writings. Such men do great good to our country; we have his researches, and all the practical information attained by him in Europe during many years of toil and study. This is the boon which many intelligent foreigners, like him, confer upon our country, many of whom live to reap the reward of their toil here, a thing they never could have done in their own loved but still oppressed lands. Overman, however, was not permitted to do this; he died at the vigorous age of 49 years. But it is well; He who worketh as He will, eth gave him to the world and then took him away; and so far as science is concerned, he lived for some purpose; he fulfilled his destiny; he has left us some monuments of his labors, and his last work is no doubt his greatest and best.

Trial of Fire Engines.

A friendly trial of fire-engines took place on Monday afternoon, in Brooklyn; the engines were Nos. 5 and 16. The former was built in New York, by James Smith, the latter was built at Pawtucket, R. I. In two trials to test which threw the greatest quantity of water, No. 5 beat No. 16 by eight and two-thirds pails. The engines changed places in these trials, the one supplying the other. They then tried which of them could throw the highest stream, by playing to the top of a liberty pole, 206 feet high, when it was found that No. 5 had again the advantage of about from five to ten feet. In testing the merits of fire engines in this manner, success depends as much on the management as the capacity of an engine. The way to have tested which of them was the most capable of throwing the greatest amount of water in a given time, was to have made a certain number of strokes in a given time, and then measured the quantity of water.

The New Found Lake.

Some of the Eastern papers doubt the statement, recently published, says the Buffalo Commercial Advertiser, of a newly discovered lake, of considerable size, within fifteen or twenty miles of the falls of St. Anthony.—The St. Anthony Express gives a circumstantial account of the discovery, which we append:—

"Calvin A Tuttle and J. H. Stevens, two of the oldest and most reliable settlers in Minnesota, together with several others, including the writer hereof, some two weeks since, spent three days in the exploration of this lake. They found it to be from thirty to forty miles in width, containing an area of four hundred and fifty square miles. They also found numerous islands in this lake, many of which they visited; and one in particular, that will be found, on survey, to measure full three thousand acres.

Wonderful Discovery.

The Fairmount, (Va.) True Virginian says: "We are informed by Col. Haymond and others, that a portion of a regularly Macadamized road has been discovered on the opposite side of the river from this place. We have not seen it ourselves, but learn that it extends pretty much along the bank of the river. Its width is about 16 feet, and the track well graded. The bed of stone seems to be about two inches thick, and made precisely after the plan of our Macadamized roads. The discovery was made by the washing away of a hill-side, which partially covered the road. When and by what race of people this road was made is unknown at the present day, but it gives evidence of the existence of a population here at some former age of the world, as far advanced in civilization, or at least in the art of road making, as ourselves. There was found in the bed of the road a stump of the chestnut tree, which was found to be about 150 years old at least and how much older our informant could not tell, as the stump was hollow."

[We have oftentimes seen round stones deeply imbedded in what is called "hard pan" stratum, and so thick that they looked like an old Macadamized road; but they were merely hard worn water courses of the olden time, never made by mortal hands.]

A Relic of a By-Gone Age.

A few days ago a powerful blast was made in the rock at Meeting House Hill, in Dorchester, a few rods south of Rev. Mr. Hall's meeting house. The blast threw out an immense mass of rock, some of the pieces weighing several tons and scattered small fragments in all directions. Among them was picked up a metallic vessel in two parts, rent assunder by the explosion. On putting the two parts together it formed a bell-shaped vessel, 4½ inches high, 6½ inches at the base 2½ inches at the top, and about an eighth of an inch in thickness. The body of this vessel resembles zinc in color, or a composition metal, in which there is a considerable portion of silver. On the sides there are six figures of a flower, or bouquet, beautifully inlaid with pure silver, and around the lower part of the vessel a vine, or wreath, inlaid also with silver. The chasing, carving, and inlaying are exquisitely done by the art of some cunning workman. This curious and unknown vessel was blown out of the solid pudding stone, fifteen feet below the surface. It is now in the possession of Mr. John Kettell. Dr. J. V. C. Smith, who has recently travelled in the East, and examined hundreds of curious domestic utensils, and has drawings of them, has never seen anything resembling this. He has taken a drawing and accurate dimensions of it, to be submitted to the scientific. There is no doubt but that this curiosity was blown out of the rock, as above stated; but will Professor Agassiz, or some other scientific man please to tell us how it came there? The matter is worthy of investigation, as there is no deception in the case.

[The above is from the Boston Transcript and the wonder to us is, how the Transcript can suppose Prof. Agassiz qualified to tell how it got there any more than John Doyle, the blacksmith. This is not a question of zoology, botany, or geology, but one relating to an antique metal vessel perhaps made by Tuba/Cain, the first inhabitant of Dorchester.]