Kural Economu.

A BUTTER AND CHEESE DISCUSSION.

At the New York State Fair, held at Saratoga Springs on the last week in September, Tuesday evening was devoted to a tree discussion of matters pertaining to the dairy. Mr. S. S. Whitman, of Little Falls, opened the subject with a prepared address, treating mainly the uncleanly practices and the evil results flowing therefrom, which might be observed in many dairies of the country. Mr. W. observed that some dairymen do not deem it necessary that cheese shall be clean, in order to sell, but they seem to have adopted the motto, " the more there is in it, the more there is of it." The speaker thought all dairymen would concede that others might be filthy, though they would not call their own practices in question. Milk, in all its relations, requires more care than any other food product of the farm. Cleanliness in every stage of its management is necessary to success; the construction of barns-the appliances for milking-should insure cleanliness. We would not wonder that people are sometimes poisoned with cheese, if we considered all the uncleanliness attending the making. Factories do not obviate this evil, but rather encourage it.

President Gould said the facts mentioned by Mr. Whitman had long been known to the N. Y. State Agricultural Society, and it had been deemed an absolute necessity to' present them to the public. They are a cause of great complaint among cheese dealers.

Mr. McGraw, Tompkins Co., contended that a good article of cheese or butter cannot be made from the best grass and water in the country, unless the milk is rightly taken care of. He deemed what had been said on the subject of cleanliness in the dairy of great importance. Had bought a great deal of dairy product, and never handled any with loss that was well made. Milk should be put in the pans clean; no milker should put his fingers in the milk, to wet them when stripping, and the udder and teats should be cleaned with water and a cloth before milking. The dairy-house shoul be clean-the pig-sty distant-and dairy prosperity. But a fine article of butter and cheese cannot be made where there is not soft water and fine grasses.

Geo. Geddes, of Onondaga, thought the new one.

limestone regions. Had a favorable experience of twenty years in using butter made on limestone land.

to a false standard. The test for good butter is the market. The first question the dealer asks, is " where is your butter made?" If Mr. F. sent a lot of butter to market, part of it made in the soft and part in the hard water regions, he would find his returns greatly favoring the soft water butter.

Lewis F. Allen, Black Rock, said excellent butter was made in limestone regions, but the difficulty is, it will not keep ; it becomes rancid in three months. Soft water regions make the best long-keeping butter. The older the pastures, too, the better the dairy. The true dairy region of the United

butter to a distant market, it would be well to surround the packages with larger ones work it as soon as churned, and again the next morning.

Mr. Hawley thought that in sending |

making. The season makes a great differwell on whey alone-without even grassbest for us.

acid, and hogs eating it sour, run down and regular blast." die

THOROUGH CULTIVATION.

The probability is, that if the exact truth could be ascertained, we should find that quite one-sixth of the crop capacity of all have in abundance in this region, is iron, our cultivated fields everywhere is annual- and that is of excellent quality. In some ly thrown away in *clods*. Some surly old places it is obtained from what is called the no stench near it. Packages should be cynic, a great many years since, sneering-clean. Cleanliness is at the very root of ly applied to us delvers in the dirt the illnatured epithet of "clod-hoppers." Well, rations of nature, and contains a large prothe old vinegar cruet, whoever he might have been, was not so wide of the truth after all. There are more "clod-hoppers" idea of carrying a towel and water into the among farmers than gentlemen among barn-yard, among the cows, was certainly a | cynics. A great many farmers, intelligent | the quantity of oxide on the surface, and upon many points, make serious mistakes Mr. Faxton, Oneida, believed that good butter and cheese could be made in the limestone regions. Had a favorable experi-ing is requisite to produce the best results. Javelin of their own iron lighted on the Something far short of the extravagant cranium of a hippopotamus, it curled up range in either, ought always to give bet- like the proboscis of a butterfly, and the Mr. McGraw, Tompkins, thought the ter satisfaction. It is ploughing at the owner would prepare it for future use by last speaker's taste for butter was educated proper season—when the land is in the straightening it cold with two stones. I best condition, thus working its thorough pulverization. Many a fertile acre, after ploughing, re-ploughing and planting, carries through the season, locked up in clods from the size of a grape-shot to that of a a friend of mine in Birmingham has made tennis ball, more fertility than, liberated in an Enfield rifle of them."* the spring by better disintegration, would have added one-sixth-often a fourth to the yield, and saved a useless expenditure for manure to an equal amount. The mistake begins usually in ploughing land when it is too wet, thereby packing it like a pressed brick, so that a large per cent. of its fertility is sealed up, requiring a waste-

It is probable that the first iron ever made was in the form of malleable iron, containing sawdust or salt. These sub- highly carbonized in consequence of the stances are non-conductors, and the heat manner of its production. The methods of would not affect the butter. An ounce of smelting iron ore to this day practised by salt to a pound of butter is the right quan- the natives of Central Africa, are probably tity for salting, but care should be taken in most respects the same as those adopted not to work the butter when it becomes by the ancient iron workers. Mungo Park pasty or salvy. The hand should be kept | thus desceibes the process employed at Kaout of the butter as much as possible; it malia on the Niger :- A circular hollow should not be washed too much with water; | tower of clay, about 10 feet high and 3 in diameter, was erected to serve as a furnace, being bound round with withes to prevent Mr. McGraw, Tompkins, said that in the clay cracking and falling to pieces making butter and cheese, three pounds of through the heat. Numerous tubes of clay the latter can be made to one of the former. were placed near the hollow bottom of this Nine and a-half pounds of milk make one | tower, through which air was admitted pound of cheese. There is not much differ- into the lower part of the furnace. A ence in the profit of cheese and butter | bundle of dry sticks was first put in, then a quantity of charcoal, over that a stratum of ence in the quality of butter. Of course, iron-stone, then more charcoal, and so on that made in some months is better than until the furnace was full. Fire was then in others. The food of cows has a great applied through one of the tubes at the influence, as the milk is flavored by what bottom, and kept up by blowing with belthey eat, hence the sweet grasses and soft lows made of goats' skins, until the flame water are the best. In reply to a question, appeared above the furnace. The people the speaker said that hogs would thrive who attended kept filling in more charcoal. This went on for three days, when the fire but they must be sold before cold weather | was allowed to go down; and some days comes. In cold weather they will not drink after, when the whole was cool, part of the enough whey to keep them thriving. When | furnace was taken down, and the iron apcows are worth one hundred dollars, it pays peared in the form of a large irregular mass to raise calves of the best milkers. Both at the bottom, with pieces of charcoal adparents of the calves should descend from a hering to it. The mass was sonorous, and long line of good milkers; we cross our when any portion was broken off the frac-cows with Short-horn bulls; such do the ture exhibited a granulated appearance, like broken steel. "This iron, or rather steel," Mr. Ralph, Oneida, believed that profit- says Park, "is formed into various instruable feeding of whey depends much on its ments by being repeatedly heated in a forge, age. It should not be fed less than twelve, the heat of which is urged by a pair of nor more than twenty-four hours after double bellows of a very simple construcbeing made. The sugar of milk is the tion, being made of two goat skins, the article of value in whey for feeding pur- tubes from which unite before they enter poses; if it gets too old, this turns to an the forge, and supply a constant and very

PRIMITIVE MODES OF PREPARING IRON.

Dr. Livingstone also found the African tribes on the Zambesi well acquainted with the use of iron, and making it after a like simple process. Speaking of the neighbor. hood of Kilimane, he says :---

spicular iron ore, and also from black oxide. The latter has been well roasted in the opeportion of the metal. It occurs generally in tears or rounded lumps, and is but slightly magnetic. When found in the beds of rivers, the natives know of its existence by they find no difficulty in digging it with brought home some of the hoes which Skeletu gave me to purchase a cance, also some others obtained in Kilimane, and they have been found of such good quality that an Enfield rifle of them.' Dr. Livingstone adds, that on sending

specimens of this iron to a practical Birmingham blacksmith, he pronounced it to be highly carbonized, strongly resembling Sweedish or Russian, and added, that when chilled, it had the properties of steel.

Du Chaillu gives a similar account of the native methods of producing iron among States is very limited. As good cheese ful supply of after labor in counter-plough- the Fans, who are said to be among the cannot be made in the hard water regions as | ing, harrowing and rolling in order to pul- | cleverest blacksmiths in Africa. They will



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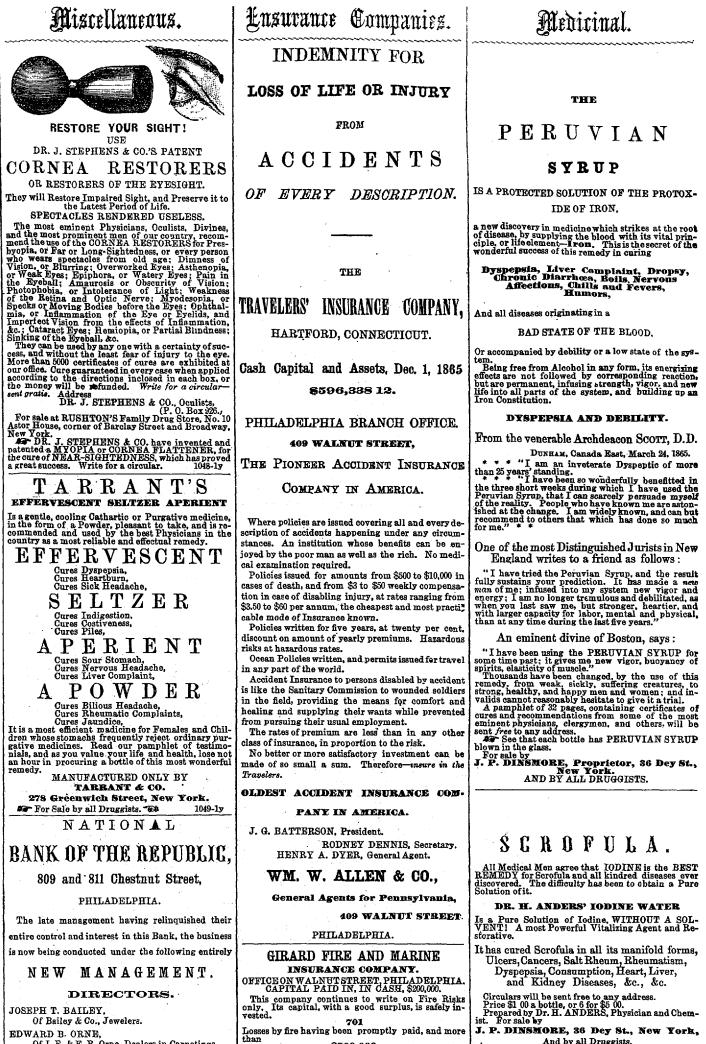
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Geo. Geddes, Onondaga, said that the question relative to the merits of the hard and soft water regions for dairy products, had been agitated a long time and never settled; nor would it be now. Many good butter regions are limestone; on the Mohawk Flats-a limestone region-the best of butter 1s made. He did not believe such fine discrimination could be made in dairy products. The market is the best test. If the dealer wants to send butter once or twice round the globe, let him take the risk.

cause of bad butter and cheese was the allowing of too long intervals between milking, and using impure or diseased milk. Farms that grow large crops of red clover cannot produce good butter. If milk will Dr. Percy, "none are to be compared with boil without curdling it is good. If the those of carbon in practical importance; cows eat red clover the butter wont keep; it is the fine, old grasses that produce sweet and aromatic butter.

qualities of butter depended a great deal most extraordinary phenomena in the whole on the packages. These should be soaked range of metallurgy. Under the common with salt water to prevent the wood from name of iron are included virtually distinct with salt water to prevent the wood from drawing salt from the butter. Cellars in which butter is kept should be free from | far more from each other than many chemiall foul smells. Vegetables should not be cally distinct metals. Without carbon, the stored in the cellar with butter. In taking manifold uses of iron would be greatly it to market, care should be exercised not Ashton and Onondaga Factory are the only | applied to these uses. When carbon is kinds fit to use. Thought the representations of dirty milkers too strong; it was | tity, we have wrought iron, which is comwrong to publish such statements to the public.

Mr. Burgess, Vt., stated that the water is hard in his section, yet good butter and cheese are made. The grass is mainly timothy. Farmers are turning their attention from wool-growing to dairying. Fancy sheep may pay better, but not wool-growing proper. He could make three pounds of butter to one of wool; sold the wool at 55 and the butter at 45 cents per pound. hogs

Mr. Thomas, Herkimer, said the best way to prepare firkins for packing butter is to put buttermilk in them, let it remain two days, scald, and then fill with salt. He complained that some factories in Herkimer were managed dishonestly, thereby entailing loss on the farmers. He thought cheese factories were bound to go down, for it could be made cheaper at home, and mand for large sizes had changed, those cream.

in the soft. In fifty years, good dairy lands verize it, and after all, in too frequent in- not use European or American iron in makstances, the work can be but imperfectly ing their knives or arrowheads, but prefer accomplished, and there is so much of the | their own, which has greater tenacity, and soil absolutely thrown away.

> Scientific. IRON AND STEEL.

From an interesting and valuable article, rather historical than scientific, on "Iron and Steel," in the July number of the London Quarterly Review, we make extended extracts. It is based upon a work on Mr. Thomas, Herkimer, said that one Metallurgy, by Dr. John Percy, from which our opening extract is taken :--

COMPOUNDS OF IRON AND CARBON.

"Of all the compounds of iron," says and, in a scientific point of view, none possess greater interest. The influence of this element in causing variation in the Mr. Hawley, Onondaga, thought that the | physical properties of iron is one of the metals, which in external characters differ restricted; and, so far as is yet known, no to expose it to a hot sun. For salting, other metal or mixture of metals could be Iron. absent, or only present in very small quanparatively soft, malleable, ductile, weldable,

easily forgeable, and very tenacious, but not so fusible, except at temperatures rarely attainable in furnaces, and not susceptible of tempering like steel; when present in certain proportions, the limits of which cannot be exactly prescribed, we have the various kinds of steel, which are highly elastic, malleable, ductile, forgeable, weldable, and capable of receiving very different degrees of hardness by tempering, even Considered whey valuable for fattening so as to cut wrought iron with facility, and fusible in furnaces; and lastly, when pre-

sent in greater proportion than in steel, we have cast iron, which is hard, comparative-ly brittle, and readily fusible, but not forgeable or weldable. The differences between these three well-known sorts of iron essentially depend upon differences in the proportion of carbon, though, as we shall learn hereafter, other elements may and often do occur in modifying, in a striking there is no cheating then. Besides, the de- degree, the qualities of this wonderful metal. Ours is emphatically the iron age; weighing from forty to sixty pounds being and it may be confidently asserted that no now called for. A cool temperature has other element has contributed so largely to much to do with the production of a good the civilization and happiness, and may we article; 60 deg. is the proper temperature. not also add, paradoxical as it may seem, to If too warm, cool by surrounding the the misery of mankind. But let us not forchurn with ice, but put nothing in the get that earbon has done its share in this good and evil work."

in many respects possesses the properties of steel. The Fans have plenty of iron-stone and wood fuel; and when they want fron, their process is very simple. They build a pile of wood over a hearth in the open air, heap on a quantity of the ore broken into bits, then more wood, and when the pile is complete, it is set on fire. Wood continues to be thrown on for several days, until there are signs that the iron has been smelted, when the whole is allowed to cool, after which they find the iron in a lump on the hearth at the bottom. This is subjected to a tedious process of repeated heatings and hammerings, until at last, by patience and labor, a very excellent piece of metal is obtained.

The process adopted by the natives of Hindostan, of Madagascar, and Borneo, is of like simplicity and rudeness. They all obtain the malleable iron direct from the ore. instead of by the indirect modern process in which cast iron is first produced. It is probable that a like primitive method of producing iron was adopted in the infancy the process of smelting iron direct from the ore, compared with the manufacture of bronze, in which much greater skill and knowledge are required, leads Dr. Percy to dispute the favorite theory of antiquarians, that the age of Bronze preceded that of

*Livingstone's "Africa," 650. (To be Continued.)

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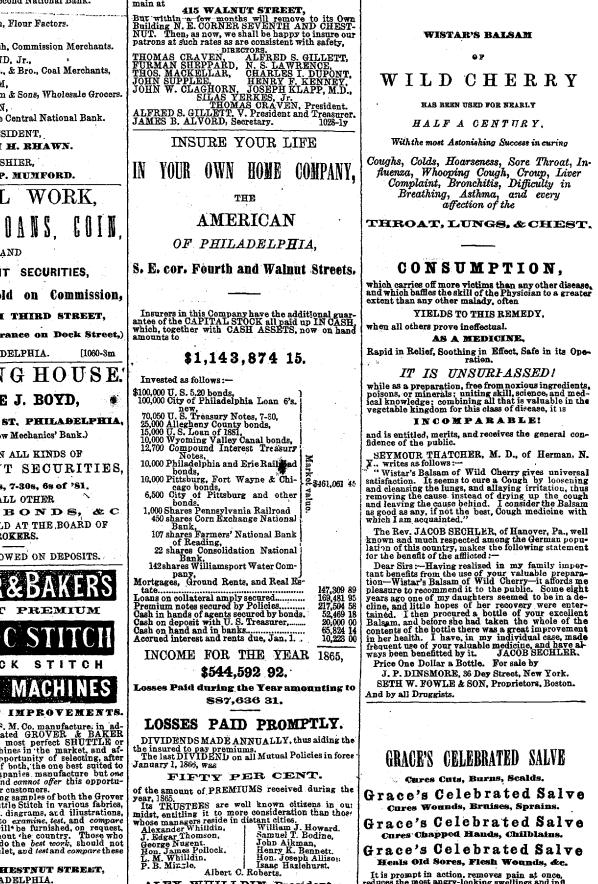
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