

we produced 1,701,662 net tons of Bessemer steel, the largest output in one year in our history to that date; in 1887, only two years later, we produced nearly double the output of 1885.—*U. S. Exchange.*

NATURAL GAS.—The total mileage of pipes in the United States cannot be far from 2,500 miles, not including small pipes for individual use. One fifth of this quantity of pipe is laid in the city of Pittsburgh. The gas wells of Pennsylvania produce from 1,500,000 to 15,000,000 cubic feet a day. High and low pressure wells are also found in Indiana, Illinois, Michigan, Ohio, and as far west as Kansas. The total consumption of gas for 1887, as estimated by coal displacement, was equivalent to 10,000,000 tons of coal. The value of this coal was calculated at about \$15,500,000. In 1886 the displacement was placed at 6,500,000 tons, nearly all of which occurred in Pennsylvania, about Pittsburgh. If the same ratio of increase in displacement could be given in 1887, as that of 1886 over 1885, the amount of coal displaced by natural gas in 1887 should be placed at 13,000,000 tons instead of 10,000,000 tons, as above, which is a reasonable estimate, as no official or authentic figures are at hand.

The Mahoning Valley Iron Company, of Youngstown, O., will soon commence the erection of a blast furnace, to cost about \$150,000. The number of furnaces in blast in Belgium is reduced to 31, while there are 19 furnaces out of blast.

A Nova Scotia religious paper asks, "Why do not our farmers raise more oats?" and goes on to say that the price of oatmeal is very high, etc. Maritime Province farmers are equal to the production of any quantity of oats, P. E. Island producing a large surplus, and the general complaint being that it is hard to find a profitable market. What appears to be needed is mills for grinding oatmeal in the most approved manner.

An electro magnet, with a carrying capacity of 800 pounds, is attached to a crane in the Cleveland Steel Works, which readily picks up billets and other masses of iron without the aid of any other device. A boy is thus enabled to do the work of a dozen men.

FARMERS AND MERCHANTS.—How often you meet a farmer coming to market with his load of grain. You ask him how much grain he has. He will reply that he cannot tell until he comes to town. The purchaser then tells him how much his load weighs, and perhaps the purchaser pays half cash; balance is to be taken out in goods from the store. The farmer orders his goods, and they are weighed to him, and the farmer takes the weight as correct, knowing nothing to the contrary. Every farmer should have a platform scale of his own, which can be purchased at a very low price from C. Wilson & Son, Toronto, and a five-year guarantee given by the makers. This is worth something.

WHERE DOES THE DAY BEGIN.

A correspondent of the *English Mechanic* writes to that paper. "It has been said that this subject has been thoroughly thrashed out; but I do not feel that this is the case, and I think it is rather one which will continue to grow in interest the more it is properly understood, and especially when it becomes known that the spot where the day begins can be accurately localized, and that something happens there quite unlike what occurs elsewhere. The theory of the subject is perfectly understood; but the facts of the case are very little known even to scientific men, for it is not a matter dependent in any way on science or astronomy, but a mere question of fact dependent on accident alone. One would expect that the starting point of time for the whole human race would have been a spot as interesting to travellers, and as celebrated as the source of the Nile or the Congo; and whenever the poets grasp the majesty of the ideas associated with this mysterious 'womb of time,' they will certainly not fail to sing it. Most people imagine that if we were living at the spot where the day commences, we should observe nothing extraordinary, but that the days would glide evenly by, as they do in Europe and elsewhere; but this is by no means the case. If the spot from which the new day sets forth should happen to be on land (and as a matter of fact it is so), we must be prepared to expect some interesting anomalies there. I pointed out in *Nature*, May 9, 1878, that the daily starting-point of time really occurs at Sitka, in Alaska, in what was the Russian portion of North America. After having long and in vain sought for this information among travellers and geographers, I met with it in a small book entitled 'The Geographical Reader,' by C. B. Clarke, M. A., London, 1876. At p. 19 the author says: 'At the town of Sitka, in Alaska, half the population are Russians who have arrived from Russia across Asia; half the population are Americans who have arrived via the United States. Hence, when it is Sunday with the Russians, it is Saturday with the Americans. The Russians are busy on Monday while the Americans are in church on Sunday, to the great interruption of business.' Here then, is evidently the answer to the question, Where does the day begin? As this territory has now been ceded to the United States, the Russian chronology must gradually but inevitably die out, and the starting-point will doubtless thereafter be where it ought to be—viz., on one of the Aleutian or Berhings Straits islands still owning Russian sway, so that no inconvenience will be felt by anybody.

We may record the boundary line between Alaskan and American territory as a portion of a meridian, and some very amusing and seemingly paradoxical results must occur there, quite opposed to our common notions. Let us, for example, consider the coming New Year's Day of 1888. The longitude of Sitka is such that the new year will commence there about 9 o'clock in the morning of next Saturday, December 31 (Greenwich time);

during the first three hours the new year will only have spread about as far as New Zealand, all the rest of the world will still be in 1887. Any person born in this region will date his birth from January, 1888; but his cousins, born in Europe many hours afterwards, will date their birth from 1887. He will be the younger in age, but the older in date, and if he chance to inherit family wealth and title, he may possibly afford some day an interesting case for the ingenuity of the lawyers and an apt illustration of the utility of universal time. Fifteen hours later the new year will have reached England, and the midnight bells will joyously herald its advent; after twenty-four hours the earth will have completed its revolution, and for a single instant only, before the next day starts, the entire world will be living under the date of January 1, 1888. But, now, let us for a moment consider the case of the people living on the American side of the line: The first of January will have only just commenced for them, and they will have to wait twenty-four hours longer before it will terminate; it follows from this that each day exists on some part of the earth for forty-eight hours and for the same reason the year endures for 366 days; during the whole of the first twenty-four hours we have 1887 on one side of the line and 1888 on the other. A Russian can at any time cross the borders and spend yesterday with his friends, or an American can enter Russia (where he will find it to-morrow) and enjoy the New Year's dinner with his Russian neighbours and return in ample time to spend the evening of the old year with his family. If he stands astride on the boundary line there will be an instant during which his feet will be the one in yesterday morning, the other in yesterday night, while his body will be still in to-day—that is the day just expiring—and, if he enjoys the position, he may remain there throughout a day forty-eight hours long. The whole problem is an instructive one, and sufficiently interesting to be more generally known and understood."

OUR COSY CORNER.

Glaze the bottom crust of fruit pies with white of egg and they will not be soggy.

White spots can be removed from varnished furniture by pouring on them a few drops of alcohol and rubbing briskly for a few minutes. Sometimes a second application is required.

The International News Co., 91 Beekman St., New York, are publishers of a very high class Fashion Magazine, which has lately come under our notice. Subscription price \$3.50 per year.

The latest novelties in hats clearly tell us brims will be worn *turned up very high* in front and the space filled up with flowers or bows set on a velvet strap. As for dress bonnets to match the toilettes, they will be made of silk with gold or silver turned up brims. The silk must match the dress and the brim be lined with dark velvet. Refined taste chiefly displays itself in the choice of feathers.

As regards the openwork *hats*, which are sure to be much in demand for warmer weather, much is being said and done in the "Directoire" shape. These have no brim at the back, but sit like a jockey cap close to the head and gradually extend to a wide straight brim, whose size requires a good deal of trimming, generally consisting of shaded ostrich feathers and ribbon to match. Sometimes shot silk ribbon—and faille ribbon striped in two distinct colors is chosen; picot edges are now old fashioned. Light contrasting colored ribbons are worn on dark hats; with yellow, dark blue, with ivory or ash grey, dark red.

As regards *evening shoes* the greatest novelty is, that instead of a formal pattern of beads or embroidery, beads and *hole* embroidery cover the point of the shoe in a pretty design, the color of the stocking showing through the insertion, the effect is charming, the feet looking most dainty; even children's slippers in satin and moire are carried out in this description; I hear the idea is French.

We also noticed that *embroidery* of untarnishable gold trimmed a dress, and looked very handsome. It is worked on to a pattern traced on the material, which material is afterwards cut away, so that the braiding stands out in relief on the underskirt. One of the newest materials is black *silk* with narrow wavy lines of black satin running over it; handsome velvets and brocades are fashionable for skirts and trimmings, hence the reason of the polonaise being again favored.

It has long been prognosticated that we were to throw aside the flat bands, puffs and beaded ruffles now in fashion, for frills and collars of lace and linen, but the time has not come yet, and we have still to be satisfied with folds of silk in three or four layers, the last tipped with beads either large or small, gilt or small beaded shapes, etc., ruffles of etamine, and ruffles of loops of white or cream ribbon. Velvet collars embroidered in silk or covered with gold, silver, or bead braiding and steel lace may be worn with a variety of dresses, and plastrons, collars and cuffs of passementerie or embroidery are most useful, as they are bought ready-made in all colors, and easily tacked on.

Jersey bodices are again finding increased favor with ladies, for they can be worn as waistcoats to jacket costumes, without in the least altering the figure. Besides these comparatively simple bodices we see very elegant ones almost covered with gold embroidery. A third variety imitates a low *brice* with chemisette, and is made in two parts; the bodice of brown Jersey, the chemisette and cuffs of blue trimmed with braid. The skirt should be some pretty light color, with darker drapery, lightly puffed behind, and the whole is a very pretty and becoming dress, especially for young ladies.