THE CONDITION OF LABOR IN THE CITY.

We have recently had a tour of inspection made among the machine shops and foundries of the city, for the purpose of ascertaining the actual state of affairs as they now exist, with reference to the number of men employed at the present time as compared with last year. The results, which are gratifying, are appended.

The Architectural Iron Works, foot of Fourteenth-street, D. D. Badger, Superintendent, was the first place entered by our reporter. Their business is to make patent rolling iron shutters, store fronts and all cast iron work required for building purposes. They state that their present force—consisting of mechanics of various trades, pattern makers, molders, blacksmiths and others—amounts to 225 men. At the same period of last year, the number employed was a little less than the force now engaged. Their orders to be filled during the coming season amount to $250,000, embracing an iron store front for I. S. & E. Condit, of White-street; the same for A. Higgins, Reade-street, this city; a large grain warehouse to be erected in Brooklyn, and miscellaneous work not yet begun upon; the orders last year did not exceed $100,000.

At the Novelty Iron Works, foot of Twelfth-street, after temporary suspension for shop repairs, they resumed work on Monday, the 18th of February. At present, they employ 600 men, mechanics and laborers; force at the same time last year not stated. There are now going forward two beam engines of 80 inches diameter of cylinder by 12 feet stroke, for the Norwich and Stonington route; one marine beam engine of 105 inches diameter of cylinder by 12 feet stroke, for the Pacific Mail Steamship Company; some quartz rock-crushing machinery for South America; an iron stern-wheel boat, fitted with two horizontal high-pressure engines and boilers; and hydraulic pumps and presses for a fish oil factory in the Eastern States, beside the usual repairs at this season of the year. Working time at present, nine hours per day.

At the Dry Dock Iron Works (I. S. Underhill & Co.), business was not very pressing; they employ about 30 men at present. Mr. Underhill is of opinion that, in a month or six weeks, there will be an abundance of work.

The Morgan Iron Works, foot of Ninth-street, E. R., employ between 500 and 600 men; for the same month last year, about the same. They have underway one marine beam engine of 80 inches diameter of cylinder by 11 feet stroke, for Messrs. Spofford & Tileston; one beam engine, 70-inch cylinder and 11 feet stroke, for the New Haven Steamboat Company; one 38-inch cylinder, 10 feet stroke, beam engine for the Sag Harbor and Greenport (L. I.) route; one inclined engine, 36-inch cylinder by 9 feet stroke, and machine for making ice, building for Professor Twining; in addition, they are repairing the steamers *North America* and *Granite State*, and making a pair of boilers for the Spanish steamboat *Christobal Colon*. Castings for the water pipe over High Bridge are also being delivered from these works.

At the Neptune Iron Works (Boardman, Holbrook & Co.) are now building one marine beam engine of 66 inches diameter of cylinder by 11 feet stroke, for trade between this port and Cuba; one engine, 36 inches diameter of cylinder, 10 feet stroke, for a Boston firm; one pair of beam engines, 32 inches diameter of cylinder by 8 feet stroke, for the South American trade; one engine, 36 inches diameter of cylinder by 8 feet stroke, for the cattle trade between Honduras and Cuba; also, one engine of 30 inches diameter of cylinder by 6 feet stroke, for a ferry boat; castings for a propeller engine, and boilers for the steamboats *Yankee* and *Underwriter*, with the usual repairs, comprise the list of operations in these works. The present force employed is 200 men; last year at this time there were but half of that number.

The Allaire Works (Cherry-street) have in a state of forwardness two steam engines of 50 inches diameter of cylinder by 10 feet stroke—parties for whom they are built not designated; one marine beam engine, of 76 inches diameter of cylinder by 12 feet stroke, for the Florida Railroad Company; one 42 inches by 9 feet stroke, for the Hoboken Ferry Company, and the necessary boilers for the above-named engines, with repairs on the steamer *John P. King*, finish this list. They employ at present 600 men; force last year not stated.

James Murphy & Co. (Fulton Iron Works) employ 300 men. Work now underway: four low-pressure boilers, with smoke pipes and general repairing, for the North river boat *Francis Skiddy;* one low-pressure boiler for the steamer *Rapido*, Havana; six oil reservoirs, to hold 35,000 gallons each; sixteen locomotive and high-pressure boilers; three sawmill engines and boilers; and three other high-pressure engines of respectively 30, 50 and 80-horse power.

R. Hoe & Co., machinists and press makers, Sheriff-street, employ at present about 400 men. They have orders to fill amounting to about $80,000; there is a very slight decrease in the number at work now, as compared with a year ago.

It will be seen that the prospects, so far from being discouraging and depressed, are the reverse. The shops which our reporter visited are those which employ the greatest number of men, and who are generally busy the year round. At the same time last year, there was not so much business going forward in the various shops as there is at the present moment, and the proportion of men discharged is not in excess of those who are generally idle at this season of the year.

Mason and Dixon's Line.

This is the boundary between Maryland and Virginia. It was surveyed by Charles Mason and Jeremiah Dixon, two distinguished English mathematicians, during the four years from 1763 to 1767.

In the early settlement of this country, grants of land were ignorantly made and arbitrarily revoked by the Stuart sovereigns of England, causing frequent conflicts of jurisdiction. At one time all the English settlements were in the hands of two companies, the territories being divided by the parallel of 40°, which is very nearly the latitude of Philadelphia; all south of this line being called Virginia, and all north, New England.

On the 20th of June, 1632, Charles I. granted to Cecilius Calvert, Lord Baltimore, the lands between the Chesapeake Bay and the Potomac, and a portion of those east of the bay, extending north to the "40th degree of latitude, where New England terminates." In 1681, Charles II. granted to William Penn the territory of Pennsylvania, and from that time, for more than seventy years, there was a constant dispute between the heirs of Penn and those of Lord Baltimore, in regard to the boundary line between their possessions. In 1732, they made an agreement; but this soon became the subject of lawsuits between them, which were not finally settled till 1760. The line finally agreed upon was to be a due east and west line in latitude twelve miles south of the southernmost part of Philadelphia. This part of the line is that which divides Maryland from Pennsylvania, and is now known as Mason and Dixon's line. It was fixed by a very simple plan, but that part of the line which separated Maryland from the portion of Pennsylvania that now forms the State of Delaware was determined by a very complicated arrangement.

In 1760, a company of surveyors, of whom John Lukens and Archibald McClean, with his six brothers, were the chiefs, were sent out to run the lines. They commenced by measuring the circle around Newcastle, and running the lines which form the boundaries between Maryland and Delaware. Their labors in the woods and swamps were so slow that, in three years, their employers became dissatisfied with their progress, and sent out Mason and Dixon to supersede them. These gentlemen commenced by going over the work already done, which they found to be correct. They then began that east and west line which will probably bear their names down to the latest time. This portion of the survey occupied them from 1764 to 1767. At first the Indians were troublesome, but a treaty was made, and a large escort of friendly Indians employed; these, with the chain men, ax men, &c., made quite a numerous and very motley company. When the party arrived within thirty-six miles of the western boundary, they came to a noted war path, and here, their Indian escort told them, it was the will of the Six Nations that the surveys should terminate. As they were completely in the power of the Indians, they had no resource but to return.

In the course of these surveys, Mason and Dixon measured a degree of longitude, one of those few measurements of degrees by which the size and shape of the earth have been determined.

The stone at the northeast corner of Maryland having been removed, and a desire having arisen to have the old surveys revised, in 1849, commissioners were appointed by the States of Maryland, Pennsylvania and Delaware, and they employed Lieut. Colonel James D. Graham, of the United States Topographical Engineers, to go over the work with the more accurate instruments now in use. Colonel Graham found that the twelve mile radius of the circle around Newcastle was 2 feet 4 inches too short; the tangent point had been placed 157 feet too far to the north, and the point of intersection of the three States 143 feet too far to the south. This resulted in giving Maryland 1¼ acres more land than she received by Mason and Dixon's surveys. The other lines were found to be correct. The latitude of Mason and Dixon's line is 39° 43′ 26.3″, very near the old southern boundary of New England.

Wood and Wold—The Scientific Difference.

It is not surprising to witness frequent errors committed by those who write upon scientific subjects without being themselves acquainted with science. Nothing else can be expected, especially as scientific distinctions are sometimes so exceedingly subtle to the uninitiated, while they may be very plain to the skillful. An example illustrative of this is to be found in the New York *World*, of the 1st inst. In an account of some transactions which lately took place in the Paris Academy of Sciences, the following occurs:—

M. M. Schartzenberger and Parof sent in a communication on *luteoline*, the coloring matter of *wood*. The *wood* is first exhausted by alcohol; the solution thus obtained is then heated in water, raised to a temperature of 546 Fah. (two and a half times that of boiling water) in a cylinder of cast steel, closed by a steel screw. After the fluid has cooled, the inner surface of the cylinder is found covered with yellow crystals in the form of needles, and at the bottom there is a button of resinous matter. These crystals, when purified and analyzed, yield 62.5 of carbon, 3.8 of hydrogen, and 33.7 of oxygen per cent.

The great error in this simple extract is the substitution of one letter for another in the word *wood;* it should have been *wold*. Various kinds of wood contain as many peculiar substances.

Weld or wold is not a tree, but a plant which is cultivated in France and some other parts of Europe, for the purpose of dyeing yellow. Both the seeds and stalks are used, and the coloring matter approaches very nearly the American quercitron—yellow oak bark. Of all vegetable dyes, it is perhaps least acted on by acids and alkalies, but it soon fades when exposed to solar light. It is chiefly used in France for coloring silks and fine woolen fabrics; so far as we know, it is not used in America. The coloring principle *luteoline* has been long known, but until now its elementary composition remained undiscovered.

Whitewash for Stables.

Mr. Whitewash should always be appointed Chairman of the General House-Cleaning Committee. His qualifications for filling this situation are unquestionably great. His sanitary influence is undoubted, and he imparts an air of cleanliness and cheerfulness wherever he appears. The best way to initiate him into his situation is as follows: "Take a clean watertight barrel or other suitable cask, and put into it half a bushel of lime. Slack it by pouring water over it, boiling hot, and in sufficient quantity to cover it five inches deep, and stir it briskly till thoroughly slacked. When the lime has been slacked, dissolve it in water, and add two pounds of sulphate of zinc, and one of common salt. These will cause the wash to harden, and prevent its cracking, which gives an unseemly appearance to the work. If desirable, a beautiful cream color may be communicated to the above wash, by adding three pounds of yellow ochre; or a good pearl or lead color, by the addition of lamp, vine, or ivory black. For fawn color, add four pounds umber—Turkish or American—the latter is the cheaper—one pound Indian red, and one pound of common lampblack. For common stone color, add four pounds raw umber, and two pounds lampblack. When applied to the outside of outhouses and to fences, it is rendered more durable by adding sweet milk, or some mucilage from flaxseed; about a pint to the gallon will suffice." All stables should be whitewashed once or twice every year, as the increased white light which it reflects tends to promote the health of animals. Hand round this information to every man who owns a horse or a cow; because for one stable that is whitewashed there are a hundred on the walls of which no brush was ever laid.