EVERY DAY SCIENCE.

Central African Methods of Smelting Iron and Steel.

MANY NEW USES FOR ALUMINIUM.

Electric Locomotives, Derricks and Hoisting Machines.

SCIENTIFIC AND INDUSTRIAL NOTES

[PREPARED FOR THE DISPATCH.]

Readers of THE DISPATCH who desire information on subjects relating to industrial development and progress in mechanical, civil and electrical engineering and the sciences can have their queries answered through this column.

A recent writer on Central Africa, who has spent seven years in that country as a missionary, gives an account of the methods that are employed by the natives to smelt iron and copper ores. He says that the copper miners constitute a distinct caste, and their methods of mining and smelting are carefully transmitted and faithfully followed from generation to generation. At one place he remarked that the copper was cast in sand molds in the form of the letter H, and at another the form of a Maltese cross was used, and both shapes were most accurately cast without the slightest variation in a number of castings he examined.

The copper ore is found principally in beds of malachite deposited on the summits of barren hills. Pits of from 15 to 20 feet are dug, and as these become too deep for working other shafts are sunk, but there are no lateral workings. Other families are devoted entirely to iron manufacture, their methods of smelting being to dig a hole in the ground, which they fill with charcoal and iron ore; this is covered with soft mud, openings being left at each end. The fire is lit at one end, and relays of boys who work night and day exact with small bellows the part of a blowing engine. After several days the trench is thrown open and the reduced metal removed. The iron workers are very skillful, considering their rude appliances, and manufacture hoes, axheads, spears, knives and bullets.

Uses of Aluminium.

The uses of aluminium have heretofore been greatly restricted. This is probably owing to its former high price, for no metal possessing the properties of aluminium could help coming into larger use if its cost were moderate. Much has been said as to the impossibility of soldering, it being against its popular use, but there is reason to believe that this difficulty will soon be overcome. The following are a few of the purposes to which it is now put: Telescope tubes, marine glasses, eye glasses and sextants, especially on account of its lightness; fine wire for the making of lace, embroidery, etc.; leaf, in the place of silver leaf; saber sheaths, sword handles, etc., statuettes and works of art, jewelry and delicate physical apparatus, culinary utensils, harness fittings, metallic parts of soldiers' uniforms, dental purposes, surgical instruments, reflectors (as it is not tarnished by the products of combustion), photographic apparatus, aeronautical and engineering purposes, and especially for the making of alloys. The various alloys of aluminium are not only adapted to take the place of bronze, brass and steel, but they also so far surpass all of those metals, both physically and chemically, as to make their extended use assured. But an even more important use of aluminium seems to be its employment in the iron industry, of which it promises shortly to become a valuable factor, owing to certain effects which it produces when present, even in the most minute proportions. Experiments are now being carried on at numerous iron and steel works in America, in England and on the European continent. The results so far attained, however, are greatly at variance, for while in the majority of cases the improvements made have encouraged the continuance of the trials, in others the result has not been satisfactory. This may possibly be accounted for by the act that many of the so-called aluminium alloys contain little or no aluminium, and again, others contain such varying proportions of carbon, silicon and other impurities, as to render their use highly objectionable.

Hoisting by Electricity.

Among the practical uses to which electrical power can be applied may now be added that of supplying the motor for hoisting machines and derricks. A New York company is now preparing a hoisting motor, which is expected to be on the market in a few days. The motor will be built on a much larger base than the stationary electric motor, and will have attached to it a large drum. These hoisting motors will be portable, so that they can be easily taken from place to place, much the same as a portable engine is now taken. They will be made in sizes anywhere from 3 to 15 horse power, and larger if desired. It is claimed that the cost of running these portable motors will be much less than any other form of power now used, as the efficiency will be greater and the necessary labor less. Like any motor, it can be run by any electric light or power circuit, whether it be a central station or isolated plant. The principal addition to the portable type of motor is the new brake, which, in the course of evolution, offered more difficulties than any other part of the new machine.

An Electric Locomotive.

Will trains eventually be run by electricity? The electrician is met by this question almost daily, and his only reply is that they will if the problem of their commercial success be finally solved. Of course, running machinery of any kind from primary batteries is commercially out of the question. There is now, however, being constructed at Rome, N. Y., an electric locomotive which is probably the first engine that it has been attempted to run on regular railroad tracks from storage batteries. The ordinary rotary type of electric motor will not be employed. Suction magnets are to be located on either side of the piston, and the current will be supplied from storage batteries in the firebox. The locomotive is smaller than the usual type, and has driving wheels of less diameter. The question of the economical utilization of fuel by means of storage batteries is one that has not yet been determined, but it may be possible to generate electricity by means of large compound condensing engines, with a final loss at the motor not much greater than that which is found in that great wasteful gormandizer of coal, the steam locomotive.

New Tanning Material.

Canaigre is a tanning material which has several times during the past few years been mentioned as new, or as a possibility for the tanner, and as giving promise of superseding the uncertain and much-adulterated gambier. Canaigre is found in large quantities in the sandy soil on both sides of the Rio Grande and northward over a large portion of Western Texas and New Mexico. It is said to have been used in tanning by the Mexicans for over two centuries. The roots of canaigre consists of clusters, resembling sweet potatoes. They are found near the surface or sometimes on the top of the ground, and if allowed to get very dry they become so hard as to resist any ordinary method of cutting. The ground root is at present used in a number of tanneries, and has been found more closely to resemble gambier in its action than any other tanning material. An extract has also been prepared and used, which contains from 40 to 60 per cent tannin, and it is thought that in this form it will probably replace gambier.

Application of Zinc to Iron.

By a new and interesting process zinc is now applied to iron in such a manner as to prevent liability of the zinc becoming detached, besides imparting to the metal the property of taking a polish or being galvanized with any desired metallic coloring. In accomplishing this result, the iron is first cleaned by being subjected to the action of a mordant, after which it is drawn through a solution of sulphate of zinc, a little ammonia is thrown upon it, and immersion in the zinc bath follows. The superfluous zinc is removed by the brushes while in a soft condition, so that only a clean zinc alloyed layer is visible after the operation. This layer is not a coating of zinc, but it is the original surface of iron, and therefore inseparable from it. Not only does it perfectly resist all influences of temperature, but it can be heated without injuring the layer of iron and zinc alloy.

A New Roadway.

A patent has been obtained by M. J. Dickins, of Bromley, England, for an invention which consists in placing wedge-shaped or round courses of stone, brick, terra cotta, wood, rubber, or other material (softer than the material of which the body of the road is composed) at regular intervals; such courses to be either at an angle of 90°, or less, to the direction of the road, according to the gradient of the same. These courses to be bedded on concrete and surrounded with asphalt, cement, or other paving as preferred, harder than the intermittent courses. The upper surface of the common paving will wear slightly rounded, leaving the softer courses slightly lower than the general line of surface; the corrugation will then give the necessary foothold, and from depressions for conducting the surface water to the channels at the side of the road.

Improvements in Cooking Apparatus.

A patent has just been taken out for what is claimed to be a new mode of cooking. The process is remarkable for its simplicity. A very simple form of oven, is heated by a lamp which is placed beneath it. The floor of the oven is covered with a thin sheet of water, in which the cooker or steamer is seated so as to form a water joint. By this method the inventor claims that no odor is permitted to escape, and the flavor of the food is perfectly retained. In cooking such articles as fish, cabbage, and other food which gives off an unpleasant odor, this process is extremely valuable.

Glycerine in Tempering Steel.

Glycerine is found to possess many advantages in tempering steel and cast iron. The specific gravity of the glycerine may be varied between 1.08 and 1.26 at 15° Cent. by adding water, according to the composition of the steel. The quantity of the glycerine should be from one to six times greater than the weight of the pieces to be plunged into it, and its temperature may be varied from 15° to 200° Cent., according to the hardness of the metal. The harder the steel to be tempered, the higher should be the temperature of the glycerine.

The Use of Ice in Pneumonia.

The London *Lancet* refers to the success which has attended the treatment of pneumonia by the application of ice. The method adopted is to apply over the affected lung an India rubber bag containing ice continuously for from 12 to 24 hours after the crisis. In addition to the local treatment the patients are given such medicines as are usually employed, that is to say, opium, ipecacuanha, digitalis, brandy, etc.

PEDAGOGUE AND PUPIL.

TEACHERS' warrants for the amount of $36,297 28 will be issued to-morrow.

MISS EULALIA A. GREAVES, of the Homewood school, has been elected to a position in the Grant.

ON Tuesday, it being Grand Army Day, the public schools will hold but one session, from 8 A. M. to 12 M.

NOTHING will likely be done toward the opening of night schools in Pittsburg till after the next meeting of the Central Board.

THE official announcement of the awarding of two gold medals to the Pittsburg educational exhibit is expected to be received this week.

SECRETARY SCANDRETT, of the Allegheny Board of Control, has now a regular assistant, and the educational rooms will be open during the whole day.

MRS. REV. BOONE, nee Annie E. Jamison, of Idaho Territory, is visiting at her mother's residence on Observatory avenue, Allegheny. She was formerly well known in educational circles as the assistant principal of the Luckey school.

LITTLE OLIVE, the youngest daughter of Prof. J. M. Logan, of the Peebles school, is lying, since Friday, quite sick with diphtheria. Mr. Logan has his present headquarters at Superintendent Luckey's residence. His many friends hope that the little sufferer will soon recover.

A GENERAL session of the Teachers' Institute will be held October 12. Contrary to expectations, Superintendent Luckey does not expect to have the Superintendents of all the State Normal Schools present till a later date. A class drill and discussions by local personages will be the programme.

THE increase in attendance at the Washington schools, Seventeenth ward, is 81 over September of last year, and an additional teacher will be asked for at the next meeting of the Central Board. Another big increase is expected after the completion of some 30 new houses, now in course of erection, around the locality of the Main street building.

MISS L. E. MOORE, of the Bellevue Hospital, formerly a teacher in the Liberty school, is home ill. Miss Moore is the first and only Pittsburg teacher to break away from the ranks of her former profession to become a physician. This step required both courage and great perseverance, and that Miss Moore is endowed with these qualities can be seen from her success in the training school at Bellevue Hospital. She has been there for a year and will next year enter a medical school in New York. After graduating from which Pittsburgers will be able to see the sign, "Dr. L. E. Moore," on one of the principal streets of this city. Miss Moore is very much in earnest about her new profession.

THE September increase in the school enrollment is quite gratifying. Thirty-one school districts have been heard from with the Forbes, Homewood, Howard, Minersville, Morse, O'Hara, and Sterrett yet to report. The Oakland district heads with the biggest increase, (99), followed by the Hilland, (75), St. Clair, (69), Liberty, (67), Mt. Albion, (56), which lost so many last year by the opening of a parochial school; the Grant (55). The biggest decrease is at the North, (34), Ralston, (53), and Bedford (48). The Ralston school has one teacher less this year. The net increase in enrollment is 846. A remarkable fact is that the decrease is not where the parochial schools are situated.

THE Teachers' Academy held its regular session yesterday afternoon. Some 100 members were in attendance. Miss Katie Evans, of the Soho school, was initiated as a member. After much enthusiasm had been expended, it was decided to rescind the resolution passed at the last meeting, viz., that all members who were delinquent in paying institute dues or non-attendance should be placed on the retired list; so the members who expected to be decapitated at yesterday's meeting still remain full-fledged members. The great force of the arguments used to rescind the action that the academy intended to follow was that the institute and academy are two distinct bodies, and a member failing in his duties to the first body should not debar him from the second. A special meeting will be called to elect officers.

THE Allegheny schools were never in such a flourishing condition. The night schools start to-morrow evening in 13 of the wards. The new rule of having a teacher for every 25 pupils and an additional one when there are over half of this number, instead of 1 for every 40 pupils, as heretofore, goes into vogue. The Board of Control meets on Tuesday evening when writing and drawing teachers will be asked for the suburban wards. As the rule is at present only the schools having 12 or 15 rooms are allowed these special teachers, and the plan for the outside wards is to have two or three schools as one district to be supervised by a writing and drawing teacher. On Monday evening the High School Committee will elect three teachers for the High School. Fifteen applicants have been examined and 25 have since made an appearance. Just one week ago there was not a single applicant; now there are 40 in the woods for three positions. The increase in attendance is quite marked. The Fifth ward school added another teacher to its force last week.

A GREAT QUESTION.

Hints on the Revival of the Building Industry in Pittsburg.

CHEAP HOMES FOR THE PEOPLE.

Capitalists and Contractors in One Boat and Should Pull Together.

THE PROGRESS MADE AND A LOOK AHEAD

Manager Chaplin, of the Pittsburg Clearing House, smiled all over yesterday when he said: "The exchanges this week are about $3,200,000 greater than for the corresponding week last year. Baltimore put us in a hole last week, but I think we have her on the hip this week."

There is more in this statement than appears on the surface. It confirms all that has been said in regard to the expansion and healthy condition of business, and should strengthen confidence in the future, for if the opening of the fall season shows such splendid results, what may not be expected of it when at its height? But, better still, prosperity is not confined to Pittsburg. Every commercial and industrial center in the Union is experiencing a revival in legitimate trade. There will be substantial reason for a general and reverent observance of Thanksgiving Day this year, for never before has Providence smiled more benignly upon the efforts of the creators and distributors of wealth.

* * *

Outsiders, people who pass most of their lives in quiet country places, are more impressed with the bustling appearance of the city than those who have grown familiar with it. William Cook, who lives on a farm near Butler, and thinks highly of that thriving little city, spent several days in Pittsburg last week, taking in the Exposition and other places of interest. He lived here 25 years ago. In talking with THE DISPATCH representative he said:

"I am astonished at the growth of the city and the evidence of business that meets me on every hand. When I lived here I seldom had any trouble in crossing the streets. To-day I have several times narrowly escaped being run over by wagons and street cars. But what strikes me most is the large number of fine buildings on almost every street. Business must be good to justify such costly structures. They have changed the character of some of the streets so much that I can scarcely recognize them. Fifth avenue, Wood and Smithfield have undergone a complete transformation since I used to loaf around the post-office corner. I remember the rickety building that stood on the present site occupied by the Hamilton block. I think Colonel Fricker kept a saloon in it. Afterward it was turned into a beer hall, with girls for waiters. In my time the buildings on the corners now occupied by the Howard and the Kaufmann blocks were worse than anything we have in Butler. I can hardly realize the changes that have taken place in all parts of the city in so short a time. After seeing what I have I fully believe the statement that I have often read in the papers, that Pittsburg is growing."

* * *

Yes, Pittsburg is growing. Everybody realizes it as completely as the gentleman from Butler. And it is not a mushroom growth, either. She can boast of some of the finest buildings in the country. Her industrial development keeps pace with the increase in population. Fourteen years ago she had no clearing house. Now she could not get along without one. Natural gas has given her manufacturing interests an impetus which has placed them beyond rivalry, besides attracting hither a large amount of outside capital and thousands of people who have settled down and become useful citizens. An interest to which Pittsburg owes so much, and which promises to do still greater things for her in the future, should be sustained, not only by public sentiment, but by liberal municipal regulations affecting its expansion and right to enjoy a reasonable income. But great as the growth of the city has been since the Butler gentleman shook its dust from his feet, it should and would have been more pronounced but for one drawback, which exists in full force to-day. That drawback is a scarcity of houses.

* * *

This touches a subject that has received considerable attention in this department of THE DISPATCH. The need of more houses to accommodate the people who desire to make their homes here is universally admitted, but how to get them is the difficulty. There is a disposition on the part of some to blame capitalists for want of enterprise and acumen in this matter. It is said they invest their money in bonds and stocks instead of buying land and building houses, which would pay them better. That is their own concern. Every man has a right to use his money as he pleases, so long as he keeps within the law. The fact is, too much is expected of the capitalists on short notice. It is only within a comparatively recent period that they have paid much attention to real estate. They are doing well and promise to do better. They are not idle, but it takes time to mature plans for large investments. Haste invites disaster. Between 3,000 and 4,000 houses will be erected this year. Without the co-operation of the capitalists this would be impossible. They are looking over the field and laying plans for next year which will eclipse all their former efforts in this direction. Having realized that investments in real estate are safe and profitable, they show a disposition to make the most of their opportunity, and prosecute the good work until every lot in Pittsburg and vicinity has a house on it. The zeal which they are manifesting justifies this conclusion. The Philadelphia idea of houses for the people will, in a few years, be the Pittsburg idea.

* * *

But there is another feature of the house question that is attracting attention from all classes of people, but more particularly from those of moderate means who aspire to proprietorship. The demand is for cheap houses. It is claimed that it costs more to build in Pittsburg than it does in Philadelphia. Perhaps it does, for they have reduced the business to a science there, where contracts are of a magnitude unknown almost anywhere else in America, frequently embracing entire squares. Two buildings, together, can be put up cheaper than one, proportionately, and 100 than 50. This constitutes the difference in cost between Philadelphia and Pittsburg, as claimed by local contractors. But concessions are being made. At least one contractor has recently offered to duplicate Philadelphia prices for the same class of buildings. This shows that the cost of building here will bear scaling, and may prove the entering wedge to lower prices all round. It is to be hoped that it will. If one contractor can stand a cut they all can, and as they are a wide-awake body of men, it is not likely that they will throw business behind their backs. Now that they have taken the matter into consideration there is reason to hope for good results.

* * *

Contractors and capitalists should work together. Like other merchantable commodities, houses should be built and sold on the principle of small profits and quick sales. There is a house in the East End that has been adorned with a "for sale" for over a year. The owner, who is contractor and capitalist in one, wants about $2,000 more than it cost him. He could have sold it for a reasonable price long ago, and been in a position to turn his money two or three times. By doing so he would have realized a larger profit than he will if he gets his price. He has not only kept his money tied up for a year, but kept somebody out of a home.

Having entered upon a career of housebuilding, capitalists and contractors will not cease from their labors until Pittsburg becomes a city of homes for a million people. Prices will come down and buildings go up to suit everybody. Only a little time is needed to adapt means to ends. Too much should not be expected at the start. Give capitalists time to think and contractors to act. Prudence and patience will solve what now seems a difficult problem.

FIRM BUT DULL.

Local Stocks Wind Up the Week in Good Shape.

Stocks were generally firm yesterday, but inactive. The sales were 110 shares. The only thing that exhibited decided weakness was La Noria, for which 1 was bid, and 1¾ asked. It is doubtful if it soon rallies from the effects of the exposure which has brought it into extreme disrepute. Traction and natural gas stocks were fractionally higher, with more buyers than sellers. Investors, after studying these properties thoroughly, seem to have made up their minds that they are good things to have about the house.

Bank and insurance stocks were very firm, and the demand for them extended throughout nearly the entire list, but as orders were below holders' figures, there were no transactions. The outlook is for an active market this week. Bids, offers and sales follow:

EXCHANGE STOCKS.

	Bid.	Asked.
Pitts. Pet., Stock & Metal Ex.	440	465

BANK STOCKS.

	Bid.	Asked.
Arsenal	65	....
Commercial National Bank	95	....
City Savings	90	....
Duquesne National Bank	160	....
Exchange National Bank	81½	....
Farmers' Deposit National Bank	400	....
Fourth National Bank	....	132½
Fifth Avenue	43	....
Freehold	56	67
Iron and Glass Dollar Savings	131	....
Masonic Bank	60	....
Merchants & Manufacturers' Na. Bank	62½	....
Metropolitan National Bank	97	....
Monongahela National Bank	110	....
Pittsburg Nat. Bank of Commerce	220	....
Safe Deposit Company	62½	....
Tradesmen's National Bank	250	....
Union National Bank	3½	....
Enterprise Savings, Allegheny	50	....
German National, Allegheny	150	....
Real Estate Loan and Trust Co.	80	....
Second National Bank, Allegheny	185	....
Third National, Allegheny	135	....
Workingman's Savings	73	....

INSURANCE STOCKS.

	Bid.	Asked.
Allegheny Insurance Co.	51	....
Allemannia	46½	50
Birmingham	40	....
City	20	....
Citizens	36½	38
German American	81	....
Humboldt	....	40
Man. & Mer.	48	....
Monongahela	37	....
Teutonia	55	60
Union	44	....
Western Insurance Co.	60	....

GAS STOCKS.

	Bid.	Asked.
Allegheny Gas Co. (Illum.)	38	....
Consolidated Gas Co. (Illum.)	38	....
East End Gas Co. (Illum.)	55	....
Pittsburg Gas Co. (Illum.)	62	....

NATURAL GAS STOCKS.

	Bid.	Asked.
Allegheny Heating Co.	....	112
Bridgewater	....	42
Chartiers Valley Gas Co.	....	49
Natural Gas Co. of W. Va.	....	81
Ohio Valley	....	31
Pennsylvania Gas Co.	....	16
Philadelphia Co.	35½	35¾
Pine Run	....	90
Westmoreland and Cambria	....	27
Wheeling Gas Co.	28	30½

OIL COMPANY STOCKS.

	Bid.	Asked.
Forest Oil Co.	1/0	....
Hazelwood Oil Co.	81	....
Tuna Oil Co.	....	65

PASSENGER RAILWAY STOCKS.

	Bid.	Asked.
Central Traction	31¼	31½
Citizens' Traction	....	50
Pleasant Valley	....	19½
Pittsburg, Allegheny and Manchester	....	233

RAILROAD STOCKS.

	Bid.	Asked.
Allegheny Valley	1	....
Chartiers Railway	43	....
Pitts., Youngstown & Ash. R. R., pref.	53	....
Pitts. Junc. R. R. Co.	28	30
Pitts., McK. & Yough. R. R. Co.	30	....
Pitts., Cin. & St. Louis	18½	20
Pitts. & Western R. R. Co.	....	12½

BRIDGE STOCKS.

	Bid.	Asked.
Ewalt (Forty-third st.)	58	....
Monongahela Bridge	20	....
Pittsburg & Birmingham Bridge	72	....
Point Bridge	3½	....
Do. preferred	18	....
Suspension Bridge Co. (Sixth st.)	72	....

MISCELLANEOUS STOCKS.

	Bid.	Asked.
La Noria Mining Co.	1	1¾
Yankee Girl Mining Co.	....	....
Allegheny County Electric	....	8
Westinghouse Electric	50	56
Monongahela Water Co.	....	3
Union Switch and Signal Co.	....	2
Do. preferred	....	9
Westinghouse Air Brake Co.	15	....
Pittsburg Plate Glass	130	....

The sales were: Ten shares Pittsburg Traction at 48, 40 Central Traction at 31¼, and odd at 31½. R. J. Stoney, Jr., sold 20 Pittsburg Traction at 48½, and 10 Philadelphia Gas at 35½. Henry M. Long sold 10 Pleasant Valley at 20. Edward P. Long sold 35 shares Philadelphia Gas at 35¼, and 201 shares La Noria at 1¾.

The total sales of stocks at New York yesterday were 100,966 shares, including Atchison, 3,112; Erie, 3,800; Lake Shore, 2,465; Louisville and Nashville, 9,620; Missouri Pacific, 1,590; New Jersey Central, 2,920; Reading, 6,100; St. Paul, 8,717; Union Pacific, 4,8.5.

PILING IT UP.

Clearing House Figures Leaving Last Year's Record Out of Sight.

A very good business was transacted at the banks yesterday, the demand for discounts being liberal and routine business fair, with checking a strong feature. There were no changes in conditions other than a steadily broadening tendency. The week's exchanges were over $8,000,000 greater than those for the same week last year. The Clearing House report for the day, week and year follows:

Exchanges	$ 2,091,193 88
Balances	366,249 47
Exchanges for the week	13,304,664 36
Balances for the week	3,046,575 36
Exchanges week of 1888	10,113,286 60
Balances week of 1888	2,261,123 75
Exchanges previous week	12,248,189 93
Balances previous week	1,992,417 37
Exchanges to date 1889	471,454,923 95
Exchanges to date 1888	424,741,914 54
Gain, 1889 over 1888	46,716,009 41

The *Wall Street News* of Friday has this to say: "The course of the money market bears out the force of our remarks made the past few days. That it has been manipulated heretofore goes without saying, for yesterday funds were in reasonable supply at comparatively low rates, and there was less evidence of manipulation than any day during the week, so that it looks as though the worst was over. Only a small amount of money is now going West, and the rates in the Western cities are growing easier from day to day. The condition of the domestic exchanges at the leading cities shows that the efflux has reached its height, and that the reflux movement will soon be in order.

"These rates indicate that the next move on the programme is likely to be in favor of this center. We are nearing the October disbursements, also, and should the necessity arise and the Treasury should not intervene to prevent stringency, although the department is already pledged to easy money, these disbursements would be of very material service, as the Government alone pays out $6,600,000 next week.

Money on call at New York yesterday was easy at 4@4½ per cent, last loan 4, closed offered at 4. Prime mercantile paper, 5½@7½. Sterling exchange dull but steady, at 84 83½ for 60-day bills and $4 88 for demand.

The weekly statement of the New York banks, issued yesterday, shows the following changes: Reserve, decrease, $1,043,950; loans, decrease, $230,600; specie, decrease, $1,424,000; legal tenders, decrease, $330,700; deposits, decrease, $2,844,300; circulation, increase, $14,200. The banks now hold $665,750 in excess of the 25 per cent rule.

Closing Bond Quotations.

U. S. 4s, reg	126½	M. K. & T. Gen. 5s	88¾
U. S. 4s, coup	127½	Mutual Union 6s	102½
U. S. 4½s, reg	109½	N. J. C. Int. Cert.	115¾
U. S. 4½s, coup	109½	Northern Pac. 1sts	114¾
Pacifics of '95	118	Northern Pac. 2sts	110¾
Louisiana stamped 4s	87	Northw'n consols	147¼
Missouri 6s	101	Northw'n deben's	112
Tenn. new set. 6s	107	Oregon & Trans. 6s	104¾
Tenn. new set. 5s	101	St. L. & I. M. Gen. 5s	90
Tenn. new set. 3s	73½	St. L. & S. F. Gen. M.	119
Canada So. 2ds	96½	St. Paul consols	128
Cen. Pacific 1sts	106	St. Pa. Chi & Pac. 1sts	118¾
Den. & R. G. 1sts	121	Tx., Pac. L. G. Tr. Rs.	20½
Den. & R. G. 4s	79½	Tx., Pac. R. G. Tr. Rcts	27¾
D. & R. G. West. 1sts	110	Union Pac. 1sts	114
Erie, 2ds	104½	West Shore	109½
M. K. & T. Gen. 4s	69¾		

Government and State bonds are dull and firm.

*

NEW YORK—Clearings to-day, $118,261,745; balances, $4,973,258. For the week—Clearings, $634,910,008; balances, $30,127,936.

BOSTON—Clearings to-day, $14,899,977; balances, $1,170,284. For the week—Clearings, $79,858,640; balances, $11,063,269. For the corresponding week—Clearings, $84,191,425; balances, $8,898,148.

BALTIMORE—Clearings, $1,765,072; balances, $368,734.

PHILADELPHIA—Clearings to-day, $10,138,621; balances, $1,568,657. For the week—Clearings, $66,579,955; balances, $10,618,975.

LONDON—The amount of bullion withdrawn from the Bank of England on balance to-day is £80,000.

PARIS—Three per cent rentes, 86f 42½c for the account.

CHICAGO—Money firm and unchanged. Bank clearings, $10,356,000.

ST. LOUIS—Clearings to-day, $3,045,672; balances, $542,869. For this week—Clearings, $18,064,738; balances, $1,316,728. For last week—Clearings, $19,783,289; balances, $3,650,471. For same week last year—Clearings, $17,062,070; balances, $3,107,328.

JUST ALIVE.

The Oil Market Almost Given Up by the Doctors.

There was very little trading in oil at this point yesterday. The opening quotation was 98⅞, the highest 99¼, the lowest 98⅞, and the closing 99¼. The only strength developed was caused by a few shorts covering against delivery day. The week's clearings were 2,142,400 barrels, about an average day's business in the good old times.

There will be a special meeting to-morrow afternoon at 3 o'clock of the brokers for the purpose of voting on the proposed plan of adopting the old system of dealing. Feeling is divided, but it is thought the bulk of it is in favor of eating crow.

Features of the Market.

Corrected daily by John M. Oakley & Co., 45 Sixth street, members of the Pittsburg Petroleum Exchange.

Opened	99¼	Lowest	99¼
Highest	99¼	Closed	99¼

	Barrels.
Average runs	51,044
Average shipments	60,237
Average charters	42,954

Refined, New York, 7.10c.
Refined, London, 5 11-16d.
Refined, Antwerp, 4⅞c.
Refined, Liverpool, 6¼d.

A. H. McGrew & Co. quote: Puts, 98¾c; calls, 99⅞c.

Other Oil Markets.

TITUSVILLE, September 28.—National transit certificates opened at 98⅝c; highest, 99¼c; lowest, 98½c; closed at 99¼c.

OIL CITY, September 28.—National transit certificates opened at 98⅝c; highest, 99¼c; lowest, 98½c; closed, 99¼c. Sales, 88,000 barrels; clearances, 194,000 barrels; charters, 86,507 barrels; shipments, 81,150 barrels; runs, 42,135 barrels.

NEW YORK, September 28.—Petroleum opened steady at 98⅝c, and moved up to 99¼c on light trading, closing firm at 99¼. Stock Exchange: Opening, 98⅝c; highest, 99¼c; lowest, 98⅝c; closing, 99¼. Consolidated Exchange: Opening, 98½c; highest, 99¼c; lowest, 98⅝c; closing, 99¼c. Total sales, 126,000 barrels.

PITTSBURG IS GROWING.

Permits for Fifty-Two Buildings Taken Out Last Week.

Several days of bad weather last week caused a slight reduction in the number of building permits taken out, as compared with the week before, but the record is a good one, nevertheless, and indicates that this important industry has staying qualities, founded upon a permanent demand for houses, which will keep it well to the fore. The time is not far off when 100 or 200 permits a week will be about the regular thing.

The number granted last week was 52, involving $149,487. The largest issued was for the Pittsburg Natatorium, a two-story brick on Duquesne way, to cost $22,000. The next in size were: W. A. Nimick, brick three-story dwelling, corner First avenue and Ross street, cost $ 0,000. A. S. Birchfield, brick two-story, on Negley avenue, Twentieth ward, cost $14,000. Dr. C. Spahr, brick two-story, on Hiland avenue, Twentieth ward, cost $7,000. Jos. Hufnagle, brick four-story, corner of Butler and Forty-fifth streets, cost $12,000. James Magee, six two-story brick dwellings on Bluff street, $17,800. The full list is appended:

William Shireman, frame one-story, 20x35 feet, on Gist street, Fourteenth ward.

Ph. Blatton, frame two-story, 20x65 feet, on Pearl street, Sixteenth ward.

William Alor, frame two-story, 20x46 feet, on Mifflin street, Sixteenth ward.

Joseph Hufnagle, brick four-story, 20x65 feet, on corner of Butler and Forty-fifth streets, Seventeenth ward.

Anna Karnealy, frame two-story, 20x40 feet, on Butler street, Eighteenth ward.

S. A. Brien, frame two-story, 19x32 feet, on Harvard street, Nineteenth ward.

Dr. C. Spahr, brick two-story, 28x50 feet, on Hiland avenue, Twentieth ward.

William Berger, brick two-story, 22x42 feet, on Homewood avenue, Twenty-first ward.

Mrs. L. D. Barker, frame two-story, 22x28 feet on Collins avenue, Twenty-first ward.

H. Staggart, frame two-story, 14x16 feet, on 133 Eighteenth street, Twenty-sixth ward.

William Kramer, frame three-story, 25x65 feet, on Boggs avenue, Thirty-second ward.

J. H. Hagemann, frame two-story, 16x16 feet, No. 43 Boggs avenue, Thirty-second ward.

William Reynolds, frame two-story, 18x18 feet, on William street, Thirtieth ward.

William Doune, frame one-story, 14x20 feet, on 131 Nineteenth street, Twenty-sixth ward.

—— Matthews, frame two-story, 21x30 feet, on Sylvan avenue, Twenty-third ward.

William Blakley, frame two-story, 23x24 feet, on Sylvan avenue, Twenty-third ward.

Mrs. C. Hearley, frame three-story, 20x60 feet, on Second avenue, Twenty-third ward.

Edward H. Crawford, six brick two-story, 12x32 feet, on Long alley, Seventeenth ward.

James Shaughnessy, two brick two-story, 25x32 feet, on Fulton street, Eighth ward.

Jane Magee, six brick two-story and mansard, 18x53 feet, on Bluff street, Sixth ward.

E. S. Cook, brick two-story, 17x32 feet, on Webster avenue, Thirteenth ward.

Mrs. A. Acker, frame one-story, 15x15 feet, on Craig street, Thirteenth ward.

Mrs. Mary Gloninger, frame two-story, 30x39 feet, on corner of Thomas and Fifth avenue, Twenty-first ward.

W. D. Ireland, frame two-story addition, 8x14 feet, on Forty-second street, Seventeenth ward.

W. C. Knowlson, brick two-story, 20x48 feet, on Liberty street, Sixteenth ward.

Dan Haggerty, one-story brick, 25x60 feet, on 1826 Penn avenue, Ninth ward.

G. T. Bushfield, three frame two-story, 19x43 feet, on Larimer avenue, Twenty-first ward.

J. H. Drape, frame two-story, 20x31 feet, on Marlepoe avenue, Twentieth ward.

Thomas Crawford, frame two-story, 17x18 feet, on rear of Pearl street, Twentieth ward.

Mary J. Arbuckle, frame two-story, 17x12 feet, on Natrone alley, Eighteenth ward.

E. M. Ganster, brick two-story, 20x32 feet, on Butler street, Eighteenth ward.

Jos. Tetral, frame one-story, 12x16 feet, on East Boquet street, Fourteenth ward.

Jos. Wolf, frame two-story, 18x32 feet, on Wayne street, Thirteenth ward.

N. Rickenwald, frame one-story, 14x16 feet, on 89 Washington street, Thirty-first ward.

M. M. Garland, frame one-story, 16x16 feet, on 22 Maple street, Thirty-first ward.

A. Stuchenberg, frame two-story, 14x14 feet, on 49 Washington street, Thirty-first ward.

J. S. Maple, frame one-story, 22x28 feet, on Lovat alley, Thirty-first ward.

E. B. Williams, frame two-story, 20x48 feet, on Maple avenue, Thirty-first ward.

John Hughes, frame two-story, 20x32 feet, on Freeland street, Thirty-first ward.

M. M. O'Connell, frame two-story, 16x16 feet, on Flora alley, Twenty-first ward.

B. F. Wilson, brick two-story, 21x55 feet, on Fisk street, Seventeenth ward.

Emil Bischel, frame one-story, 14x16 feet, on Center avenue, Thirteenth ward.

W. A. Nimick, brick three-story, 60x80 feet, on corner of First and Ross streets, Second ward.

Fred Lynch, two frame two-story, 30x26 feet, on Allegheny street, Twenty-third ward.

D. R. Speer & Co., iron one-story, 24x50 feet, on Duquesne way, First ward.

Pittsburg Natatorium, brick two-story, 60x100 feet, on Duquesne way, Fourth ward.

D. Crowley, frame one-story, 10x12 feet, on Julius street, Fourteenth ward.

H. Reineman, brick two-story, 20x48 feet, on Meyran avenue, Fourteenth ward.

George Hertel, two frame two-story, 30x30 feet, on St. Clair street, Nineteenth ward.

Murphy & Diebold, frame two-story, 16x32 feet, on Collins avenue, Nineteenth ward.

Jeremiah Damius, frame one-story, 14x20 feet, on Penn avenue, Twentieth ward.

A. S. Burchfield, brick two-story, 48x52 feet, on Negley avenue, Twentieth ward.

MOVEMENTS IN REALTY.

A Fifth Avenue Residence Changes Owners —Other Good Deals.

Alles & Bailey, 164 Fourth avenue, sold for R. McCracken the fine residence property, No. 559 Fifth avenue, opposite the Fifth avenue Music Hall—a brick dwelling of eight rooms and improvements, lot 45x190 to Colwell street, to John Guntz for $9,500 cash.

W. C. Stewart, 114 Fourth avenue, sold for R. H. Douglas, attorney-at-law, 15 acres for $15,000 cash, located on Squirrel Hill, near the proposed Schenley Park, to a prominent real estate broker in the East End.

Kelly & Rogers, No. 6315 Station street, sold for L. Hickine to S. D. McIlwaine, a lot 30x135 on Bond street, Nineteenth ward, for $1,140; sold to Hamilton J. Rogers for A. King, a house and lot on Harvard street for $2,200, and to Mrs. M. Turner, a lot 25x135 in the Speer plan, Grazier street, for $700.

Ewing & Byers, No. 93 Federal street, placed a mortgage of $3,000 at 6 per cent for five years on Lacock street property, Alleg