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If we take Labor Day as technically the last day of the holiday season and then sum up the reports from the different trade centres that have appeared since, we will find that the few days that have elapsed have made quite a little improvement in the situation. In the iron trade the opinion of the most cautious and conservative of observers is, that even if not wholly satisfactory, improvement is to be observed. In dry goods a sensational purchase of print cloths has brightened things up considerably, and in nearly every other line indications of moderate progress can be found. There is generally a cloud in the sky; the one present at the moment takes the shape of a threatened extensive strike in the anthracite coal fields. This movement is particularly unfortunate now when the economic position gives American coal a good opportunity to introduce itself into the foreign market. However, the operators do not seem to be alarmed by this threat, judging by reports, but are going ahead with their preparations for enlarging the area of their endeavors beyond the home market. Any way, however extended it may be, a strike is naturally a temporary thing, and as the operators have to look a good way ahead, they would not drop their plans for a permanent development because of an obstacle that can only be temporary. The events of the week have brought some buying into the stock market. The main cause may be the improved business situation, but Wall Street, in the main, attributes it to the fact that the result of the Vermont election foreshadows the election of the Republican nominee next November. Some people may doubt this conclusion, but that is not the question. The question is what is Wall Street's, meaning thereby the investor's conclusion and its influence on prices. The fact is so apparent that its mention cannot offend anybody, that Wall Street will buy or sell according to its varying views on the prospects for Republican success or defeat, and prices will fluctuate accordingly. If the faith in success aroused by the Vermont returns is not shaken by results elsewhere, there is before us quite a rise in the market between this and polling day. This opinion is not based on a measurement of the relative claims of the two Presidential candidates to the suffrages of the people, but simply on the Street's opinion of the results likely to follow the election of one or the other and on the movement of the market this week, which clearly shows not only what the Street anticipates, but also what it expects if its anticipations are realized.

It augurs well for the success of our coal abroad that the London papers are giving a great deal of attention to this new feature in American competition. Their remarks are not wholly flattering, except as criticism is more or less so always. The reported results of the experiments with American coal in England are, however, fairly satisfactory and that can be taken as a good offset to a great deal of adverse journalistic comment. Business in Europe has the same tokens of gradual awakening that our own presents, and events are tending in the main towards encouragement of operations. There has been a good period of rest with severe liquidation and shrinkage of values, and barring obstruction growing out of international politics, there ought now to be a period of recovery. The announcement of the formal and legal annexation of the Transvaal is also accompanied by the news that preparations are being made to set Rand crushers at work again, which more than the bulletins of the War Department shows how effective is the British occupation, and that, although scattered forces of Boers are in the field and drawing a good deal of attention on themselves, the every-day affairs of the country are getting into shape and business being resumed. The first shipment of gold ought to be marked by an improvement in prices on the London Exchange. The Far Eastern Question is the one that is now uppermost, but for that

Europe would be much more active commercially than it is. The United States, standing by itself, having no ambition to alienate territory and only demanding satisfaction for previous injuries and guarantees against others for the future, would find its problem comparatively simple. But the European Powers have among them those who desire and are working for the disintegration of China and those who, while not desiring it or working for it, have not only determined to share, but have prescribed their portions in case disintegration becomes inevitable. It has come about as a result of these facts that Germany is now as jealous of Russia as Great Britain is. The present Russian position, though not so unamiably regarded on this side of the Atlantic, is on the other taken to be that having rounded out her Manchurian accession sufficiently for the time being, Russia is now striving to get credit with the Chinese for relieving them of the allies at Peking, which would increase her influence in China tremendously. History justifies this suspicion, and it therefore has all the stronger influence in retarding the recovery of business.

Waste of Money.

MUNICIPAL ASSEMBLY'S MULISHNESS AGGREGATES LOSS FROM DEFECTIVE LAWS.

COMPTROLLER COLER gave out to the press this week a statement showing that the issue of \$5,668,649.20 of city bonds to pay for improvements was tied up by the Municipal Assembly, and that as a consequence the city was losing \$943.57 a day in interest, the indebtedness that these bonds are to extinguish carrying the legal rate of 6%.

That the action of the Municipal Assembly is sheer mulishness is shown by the remarks of the Comptroller, who says: "In all these cases the Municipal Assembly has no discretion to exercise. The awards have been made by commissions duly appointed by the Supreme Court under acts of the Legislature, authorizing the respective liabilities on behalf of the city. By reason of the delay of the Municipal Assembly in authorizing the respective liabilities on behalf of the city, the city is incurring unnecessary interest charges of \$341,118.95 per annum, or \$934.57 a day." The issues referred to by the Comptroller are:

Improvements.	Title vested.	Amt. bonds.
Hall of Records site.....	Sept. 18, 1897.	\$1,726,622.04
Eleventh Ward Park.....	June 22, 1897.	2,045,424.62
High-school, Bronx.....	Feb. 26, 1898.	112,637.40
23d Ward Court House.....	June 1, 1898.	147,078.84
Park, E. 111th to E. 114th sts.....	Feb. 16, 1900.	521,636.30
Park, E. 111th to E. 114th sts.....	Apr. 21, 1899.	365,250.00
Bronx grade damages.....		250,000.00
Lands to protect watershed.....	Various dates.	500,000.00
Total carrying interest at 6% per annum.....		\$5,668,649.20

The power of approval of the issue of bonds was placed in the Municipal Assembly by the makers of the Charter of 1897 experimentally, with the view of determining whether the tone of the popular representative body in the city could be raised. The revisers of the Charter now at work will not find much encouragement in the present attitude of that body to continue that experiment; nor would the taxpayers wish them to do so. The Municipal Assembly have consistently continued the obstructions to improvements that consolidation began, and the two together have cost the city millions in interest and many more millions in the retardation of that development that the improvements, if carried out, would have produced. The New East River Bridge is a case in point, although it happens that it does not figure in the table given above. The act of the Legislature authorizing this improvement was approved by the Governor five years ago last May. Work was put under way during Mayor Strong's administration, and had it been pushed to completion the bridge could have been opened to traffic at the beginning of 1901. We are now informed that there is still two-and-a-half years' work to be done upon it; that is to say, about two years have been lost through the financial embarrassment of the city produced by consolidation, by litigation and by the refusal of the Municipal Assembly to approve the issue of bonds from time to time.

It happens that the approval of the bonds mentioned in the Comptroller's list does not tie-up any work, and consequently the Comptroller's charge is simply of a wanton waste of money; but, reviewed as a whole, the conduct of the Municipal Assembly would be found to have delayed an enormous amount of public work the pecuniary loss from which is simply incalculable. The Municipal Assembly offers no way for remonstrance to reach it; it has no pride in itself as a functionary, because its individual members look upon it simply as an arena in which to carry on sectional fights, and to lay pipe and pull wires to achieve sectional ends. Consequently the public money will be wasted in the future as it has been in the past until the law is

changed to curtail the powers of the Assembly, or to abolish it altogether. Doubtless the Charter Revision Commission is watching events and will give special attention to the means to be applied to preventing waste of the public money. This is the most important matter that the taxpayer can take up to-day. Not only is waste engendered by a defective governmental machinery, but there is a tendency towards extravagance in public expenditure evidenced by the provisional department estimates referred to in another column that needs to be sharply checked, or tax valuations or tax rates, and perhaps both, must go up and property values suffer proportionately.

THE annual reminder that rural New York expects urban New York to eventually pay all its taxes comes to hand in the report of the State Equalization Board. This shows an increase in the assessed value of real estate in the State over last year amounting to \$397,744,563, and a decrease in the personal property subject to local taxation over last year of \$12,838,635. Further, that the total equalized value of real and personal estate has increased over that of last year to the extent of \$384,905,928. The rate upon which the tax will be estimated this year, is 1.96. The Board reduced valuations by \$170,867,975 which was distributed over counties that were supposed to be increasing in value faster than others, and which were, of course, the counties consisting of or containing the cities and large towns. New York County had \$123,536,875 added to its valuation, Kings \$25,103,227, and Erie \$10,989,591. A reduction of \$11,922,576 was granted to Queens County, but in spite of this total the increase on the counties embraced in Greater New York was \$151,467,960. Consequently the city of New York bears fifteen-sevenths of the burden taken from the rural and put upon the urban counties. The total tax valuation of the State is now \$4,811,593,059; of this \$2,178,605,905 or 45% is in New York County, or Manhattan and the Bronx; \$2,788,428,172 or 57% in New York and Kings counties together, consisting of the two boroughs already mentioned and Brooklyn added, and \$2,932,445,464 or 60% in the four counties comprising Greater New York. As a commentary upon this and as a sufficient exposition of cause and effect we quote some remarks as more effective than anything we could say—made by Assemblyman T. M. Costello, of Oswego County, at the annual dinner of the Builders' League last winter. Mr. Costello was speaking of the development of this city's trade and said, as we reported at the time: "The country members were interested in this matter, too. He would tell them why. They wanted New York to help pay their taxes. If New York could increase its business it would raise values and help pay the taxes of Oswego County, for instance. They wanted this great city to grow until it paid almost, if not all, the taxes of the State."

THE success of the moving stairway at the Third Avenue elevated stations, where it was tried this week, eliminates from the number of those who did not use the elevated railroad, those who refused to walk upstairs to it. This probably reduces the recalcitrants to the few who, having once declared that they would not employ this agency of travel, refuse even to be carried to it. The possibilities to the railroad of increased usefulness and consequently increased income created by this improvement are quite considerable, and the hope may also be expressed that it will encourage the management to further enterprise, for which there is still a very large field.

A PART from a little grumbling over the disturbance of the streets entailed, there are none but agreeable views expressed of the coming rapid transit railroad. Possibly the public is anxious not to impede by a breath of disapproval a boon long wished for, often appearing to be at hand and vanishing again; and whose great practical value will outweigh many times all of the small drawbacks and disadvantages that follow in its wake. Still no harm will be done if it is asked whether thought should not be given now to save our tunnel when built from the objection made to that of Paris, recently put into operation, namely, that the difference in temperature between the street and the railroad is so great as to seriously inconvenience those who suffer particularly through thermal changes. The temperature on tunnel railroads electrically operated would naturally be lower than that of the surface in summer time, and if it is known that this difference will be very great in the rapid transit railroad now being built in this city some means ought to be taken to counteract it. The best time to do this would be during construction. Our friends in Boston ought to be able to give us valuable data on this point; certain it is that

the complaint of the low temperature of the Paris underground railroad is a distinct one. We are accustomed to what are called sudden changes of temperature in this latitude, but if a substantial change is experienced in no more time than it will take an elevator to carry a passenger from the street down to the railroad, our idea of a sudden change is likely to be intensified, and those who struggle with bronchial and pulmonary troubles, and also those who are predisposed to them, may find themselves compelled to forego the luxury of rapid transit.

AMONG the decisions recently delivered by the courts, those forbidding "picketing" in its extreme forms by striking workmen are not the least important. A magistrate in this city forbade this practice to some striking clothworkers, or cigarmakers a few weeks ago, and now there comes the news that the High Court of Justice of England has taken a similar position by enjoining the Amalgamated Society of Railway Servants from besetting the Great Western railroad station and approaches with the view of inducing non-unionists to refrain from taking the places of men engaged in the recent Taff Vale strike. These decisions do not prevent striking workers on either side of the Atlantic from using moral suasion to accomplish their ends; they simply amount to the dictum that if any one opposes another in business he cannot go on the other's doorstep to do it. That this is the barest justice none can deny.

The Boulevard Trees.

A NEW AND INTERESTING VIEW OF THE QUESTION.

Space is given to the letter below not because it is an expression of the views of the Record and Guide on the question of the preservation of the Boulevard trees, but because the pecuniary stake involved makes it desirable that all sides should have a hearing and because it is known that it does, as it states, represent the views of more than one owner of property on the thoroughfare affected. The arguments used seem reasonable enough to deserve refutation if they can be refuted:

To the Editor of THE RECORD AND GUIDE:

Sir: May I trespass on your space to present a view of the "Boulevard Tree" question opposed to the only one that has yet had ventilation in the press, that the trees should be preserved at all costs, namely: that having to be removed it is better that they be not replaced?

This may seem vandalic and cold blooded, but I think it is the sensible view, and I know it is the view held by a number of owners of property on the Boulevard. The trees as part of the original idea that the Boulevard would be a grand residential thoroughfare were quite appropriate; but as part of a business thoroughfare that time and events are making and will continue to make of the Boulevard, they are not so. This is based upon my private opinion that the future will see great retail stores placed upon the Boulevard to meet the wants of the large population that will settle east and west of it, and which otherwise would have no adequate market in which to supply their multifarious wants. I mean something quite superior to the shopping facilities of Amsterdam avenue and Columbus avenue. In such a thoroughfare trees would be out of place. It would be better, I think, if there is any space to spare in the middle of the roadway to use it for openings to ventilate the underground railroad, which, there are many besides myself believe, will need all the openings it can get.

As to planting trees on the sidewalk I think that this is equally a waste of money; for I fear that they will not live. In old days trees flourished in our streets, but in these when the soil is so full of escaping gas and electricity and the modern system of paving, prevents the percolation of moisture into the soil, the trees have a hard struggle for existence, and the expense for renewals would be considerable, even if justified by a measure of success which I think the natural conditions forbid us to hope for.

BOULEVARDER.

The foregoing is also pertinent in view of the conference had by John McDonald—who has worked so hard for some months past to save the trees, and who represents the large Boulevard property interests included in the West End Association—with Comptroller Coler on Thursday on the possibility of obtaining money from the city to save the trees. At the last meeting of the Board of Estimate the matter was referred to the Comptroller, and since then Chief Engineer McLean of the Finance Department has had the matter under investigation. At the conference referred to Mr. Coler said that the city would have to be protected in the matter, and, if the money was provided, a guarantee would have to be given that the trees when transplanted would live. Otherwise, the contractor who undertook the work of transplanting would get no money. The matter will be reported upon at the next meeting of the Board of Estimate.

Delays in Condemnation Proceedings.

A well-known real estate lawyer having a large experience in condemnation proceedings pointed out to the Record and Guide that the sum of the bonds held up by the Municipal Assembly, to which the Comptroller drew attention this week, and which is given elsewhere, was swelled considerably by the interest on awards incurred through the unnecessary protraction of condemnation proceedings. This he attributed to the system under which land was acquired by the city. He said:

"The worst feature in the system is the payment of the commissioners by fees for each sitting. This is decidedly an inducement to them to prolong the proceedings and not to antagonize the interests of counsel who are to prove the claims before them. Both of these things are naturally antagonistic to the owners of property. One way to cure this, and, I think, the best way would be not to tax any bill of costs or pay any commissioners' fees until the proceedings are concluded; and then, where the commissioners have specially devoted their time and attention to bringing about an early result, they should be made a fair allowance therefor in addition to the usual per diem fees; to make a custom of what was done in the Elm st case specially. I think in that proceeding the city was saved a great deal of money through the expedition of the condemnation proceedings. The difficulty is to get a law, that is clear and precise, that will apply to all kinds of proceedings that can come up. We cannot pass a law for each condemnation case; nor do attorneys for owners on their part care to invoke the courts to make the commissioners report within a certain time. The suggestion I make to withhold bills of costs until the close of the proceedings would decidedly hasten matters. Mr. Whalen took that action last year toward the commissions condemning lands to protect the watershed, and it enabled him to close up a number of proceedings that threatened to drag along for years and for this he is entitled to a good deal of credit. The adoption of the same or a similar policy in condemnation proceedings in general would, I think, be followed by equally satisfactory results both to the city and to the property owners."

TAX BILLS.

David E. Austen, Receiver of Taxes, gives notice that taxpayers who desire to obtain their bills promptly, should make immediate written requisition (blanks may be procured in the borough offices), stating their property by Section or Ward, Block and Lot or Map number, making copy of same from their bills of last year. If a taxpayer is assessed for personal tax, the requisition should also request bill for such tax. Each requisition should be accompanied by an envelope bearing the proper address of the applicant and with return postage prepaid. In case of any doubt in regard to Ward, Section, Block or Lot number, taxpayers should take their deeds to the Department of Taxes and Assessments and have their property located on the maps of that Department and forward to the Deputy Receiver of Taxes with the requisition a certified memorandum of their property, which will be furnished by the Department of Taxes and Assessments. Taxpayers in this manner will receive their bills at the earliest possible moment and avoid any delay caused by waiting on lines, as is required in case of personal application. The requisition must be addressed and mailed to the Deputy Receiver of Taxes in whatever borough the property is located, as follows: John J. McDonough, No. 57 Chambers street, Borough of Manhattan, New York. John B. Underhill, corner Third and Tremont avenues, Borough of The Bronx, New York. James B. Bouck, Municipal Building, Borough of Brooklyn, New York. Frederick W. Bleckwenn, corner Jackson avenue and Fifth street, Long Island City, Borough of Queens, New York. Matthew S. Tully, Richmond Building, Richmond Terrace, New Brighton, Borough of Richmond, New York.

THE 1901 BUDGET.

The first budget of the new century promises to make a record for high figures. The several departments have shown unanimity generally in increasing their provisional estimates, and the figures in some cases are fairly colossal. So far the indications point to a gross total of something over \$100,000,000, but the Board of Estimate and Apportionment can prune this and probably will, because it is the unusual rather than the usual thing to grant the head of a department all he asks for. However, much pruning is done, next year's budget will be larger than this year's, because the Davis bill alone will add some \$5,000,000 to it, and the Department of Education is expected to ask altogether for something like \$20,000,000. The budget approved for this year amounted to \$90,778,000 in round figures, and this was reduced to \$79,200,000 by the proceeds of the general fund. Allowing that the gross budget of 1901 will be in excess of that of this year, the actual amount that will have to be raised by taxation cannot be determined until the deductions are ascertained, which is usually only on the eve of the fixing of the tax rate by the Municipal Assembly in August. Estimates so far presented show increases as follows: Department of Public Works, \$237,931

(needed to improve the Topographical Bureau); Police, \$415,703; Buildings, Lighting and Supplies, \$598,723.16; Brooklyn Parks, \$309,374; Bridges, \$19,000; Correction, \$100,000; Street Cleaning, \$700,000; Highways, \$2,000,000.

State Equalizations Explained.

J. Edgar Leaycraft, of the State Tax Commission and of the State Board of Equalization, is quoted as follows regarding the work of the latter board, to which attention has been drawn this week: "I did my best to secure a high rate for each county in Greater New York. Last year the percentage was 64, and if this rate had prevailed this year the amount of increase would have been very much greater. After a long, tedious struggle I induced the board to grant me an increase of three points, thus bringing it up to 67. This practically represents about the same percentage as last year, with the increases in values added.

"The total increase in valuations in the past year in New York county is placed at \$322,137,982; the total amount expended on new buildings and improvements, as furnished by the Department of Buildings, is \$136,400,000. To get the real increase in valuation it is necessary to deduct the amount expended in improvements from the whole amount. This leaves us with a net increase of \$185,737,982. The real valuation in 1899, based upon the 64 per cent rate, would be \$2,900,730,000, and the increase this year would bring the total up to \$3,086,467,982. However, by securing the 67 per cent rate the amount is reduced to \$3,048,068,500, which amounts to a saving to the country of \$38,399,482 on the valuation.

The increase this year is much less than it was a year ago. Last year the state board added \$165,301,656, while this year the increase was less by \$41,764,781. The state tax levied on the whole of Greater New York in 1900 under the equalization of 1899 was \$7,878,720.25; the state tax to be paid in Greater New York in 1901 under equalization of 1900 is \$6,922,652.44. Thus Greater New York will pay \$956,067.46 less in 1901 than it does this year.

"After all this agitation concerning an outrageous increase, it only means an addition of \$273,489.35 in the tax. This is a very small amount, indeed, compared with the annual increase in our city budget, which now reaches the \$90,000,000 mark, and the enormous increase in the cost of our city government. It should not be forgotten that by this equalization and under the economical administration of the affairs of state the taxpayers of Greater New York have been taxed \$1,000,000 less than last year. This is due to the reduction of the rate to 1.96 from 2.40."

BRONX WATER SUPPLY.

Formal protest against the longer continuance of a water famine at Kingsbridge and vicinity was made on Thursday by a delegation of property owners and taxpayers who called upon Commissioner Dalton and Chief Engineer Birdsall. The Commissioner said:

"I have called attention to the matter in my recent reports to the Mayor, and in a quarterly report made on August 9 last I requested authority to undertake the erection of a high service pumping station adjoining the site of the Jerome Park reservoir, which, by drawing a supplementary supply from the Croton aqueduct by a 48-in. main, would afford relief.

"These works have been planned for some time, and have received favorable action of the Board of Public Improvements and the Board of Estimate and Apportionment and the Aldermen, but have been delayed in the Council."

He further explained that the manufacturing establishments and residences in the Bronx and east of Fordham Heights and the high ground about the Jerome reservoir took all of the water that entered the mains during the day and none flowed over the hill to Kingsbridge until night. He said that a high service station is badly needed to force the water to all parts of the district, and suggested that his callers see their Councilmen about passing the ordinance authorizing the beginning of the work.

A STRIKE THAT FAILED.

All the laborers belonging to the Laborers' Union Protective Society employed by Isaac A. Hopper & Son have been ordered to quit work to enforce the payment of the union wages of 33 cents an hour. The society usually enters into an agreement with the Mason Builders' Association every year, fixing the prices to rule during the coming year. This year, for the first time in many, no agreement was reached with the laborers because they wanted to join the Central Federated Union in violation of a long-standing rule against joining any central body. The union wages of last year were 33 cents an hour and this the laborers regard still as the union rate. The firm has now made an agreement with a union of Italian laborers organized by District Assembly 253 of the Knights of Labor to pay 28 cents an hour. The Knights undertake to supply all the laborers needed on the same terms and the strikers can return on these terms. Isaac Hopper & Son informed a representative of the Record and Guide yesterday that their work was not affected by the strike, they having obtained all the help they needed.

What the Building World Talks of

FACTS, IDEAS, NOVELTIES.

In our judgment the rock bottom, so far as prices are concerned, has been reached. Consumers and retailers in doubt have been buying from hand to mouth. Once let them be assured that "rock bottom" has been reached, and freer buying will commence. There is great probability that very soon a whole lot of people will want lumber at once, and when they do the consequences are not

The Lumber Situation.

hard to predict. In our judgment rock bottom has been reached, a lower bottom than will be seen again in the next three years. Conditions are considerably better in spruce than a month ago. Prices are about the same, but there is a great deal better demand. There is a great deal more inquiry. We feel that in the next four weeks prices will advance considerably. The buyers believe that they have got down as low as they will go, and are willing to stock up. We think the buyers are right on that proposition. The receipts at random are now almost nothing, and for the next four weeks there will be an extremely small quantity of any kind coming, although there are some order cargoes which, of course, are coming along all the time. This will steady things a great deal. On the whole, prospects are a great deal better.—Lumber Trade Journal.

Appropos of the recommendation of a special committee of the Underwriters' Electric Association that the limit of so-called low potential systems be raised from 300 to 550 volts, the *Electrical World and Engineer* says: "This is in line with recent progress both here and abroad, and it is certain that the assent of the underwriters will be welcomed by many who have until now been deterred from raising their working voltage to the higher figure. But it must be confessed that a 550-volt system is not devoid of danger, and to call it low potential is straining the ordinary meaning of the term. It seems to us that the continuous use of such pressure inside buildings should be hedged about with such restrictions as shall keep the outside wires so effectively separated that they are not likely to be simultaneously handled. On any system employing a neutral wire the practical danger can be limited to that due to the pressure between this neutral and the other wires, and the interior wiring should be so arranged that this shall be the maximum pressure between wires that are in any way exposed. Higher working voltages have got to come and may be safely employed, but considerable precautions are in order until they become familiar and proper appliances for their use are more generally available than at present."

Higher Working Voltages.

It is very desirable to find some useful purpose to which the exhaust steam of large and small power plants can be put during hot weather. Such a purpose exists in the production of artificial cold, either for the manufacture of ice or the cooling of apartments near the steam plants. That method of temperature reduction, for which exhaust steam is well suited, is known as the absorption process. On this plan, water is charged with some vapor of a low boiling-point, ammonia being much used. This ammonia-charged water is heated in a boiler, called a generator, and the ammonia evaporated. The ammonia vapor passes from the generator to a condenser, where it is reduced to a liquid in pipes that are subject to a flow of cold water over their outsides. A pipe conveys the ammonia-liquid to a refrigerator, a closed vessel where compartments containing the substance to be cooled are surrounded by other compartments that receive the ammonia. Sensible heat is absorbed from the substances to be cooled in the refrigerator, and becomes latent heat in vapor from the liquid ammonia. Connected with the ammonia compartments of the refrigerator is a space filled with water and known as an absorber. This water rapidly absorbs the ammonia vapor. Two pipes connect the absorber with the generator, and a pump joining one of these pipes maintains a constant circulation between the absorber and generator. The two pipes are so arranged that one conveys a strong solution of ammonia from the bottom of the absorber to the top of the generator, and the other a weak solution from the bottom of the generator to the top of the absorber. The pump moves the ammonia solution from the bottom of the absorber to the top of the generator. Application of heat to the generator supplies energy to vaporize the ammonia held in solution. This energy and more is absorbed by the cooling water of the condenser, where the ammonia becomes a liquid. In the refrigerator the liquid ammonia absorbs less heat when it becomes a vapor that it gives up in the condenser. To this absorbed heat from the refrigerator an addition is made in the generator and the total sum then rejected at the condenser. As the process goes on, the ammonia vapor and water that are separated at the generator are united at the absorber, since the weak solution goes from the generator

Use For Exhaust Steam.

to the absorber, and the strong solution is returned to the generator. The amount of heat required to melt one pound of ice at 32 degrees to water of that temperature is commonly taken to be 142 units. A convenient measure for the cooling effect of refrigerating-machines is found in this absorption of heat per pound or ton of melting ice. Large variations in the cooling effects of refrigerating machinery result from the conditions and adjustments of operation, and depend to a large extent on the skill of the engineer. Under first-class working conditions in absorption-machines an ice-melting effect of about forty pounds per pound of coal burned may be obtained, but in ordinary circumstances results as low as a cooling effect of 20 pounds of ice per pound of coal are not uncommon. The ice-melting effect, being the total heat absorbed, does not represent the amount of ice that may be made by the apparatus. Owing to losses, the ice actually frozen by refrigerating-machines is usually only 6 to 10 pounds per pound of coal burned. The steam to operate pumps that force the ammonia solution from the absorber to the generator is included in the figures just given. A pump consumes one-fourth to one-fifth as much steam as the generator with which it works. As 58 per cent of the total heat of boiler steam is available in the engine-exhaust after the feed-water has been heated, more than one-half of the cooling and ice-making results that can be obtained from a given weight of coal are available from the exhaust-steam of a power-plant in which the same weight of coal is burned. In other words, the exhaust-steam for each pound of coal burned in a power-plant can be made to yield a cooling effect equal to that obtained by 20 to 40 pounds of melting ice, or to freeze 3 to 5 pounds of artificial ice. Boiler-steam should be used in the pumps and their exhaust added to that from exhaust-steam at central electric stations and many isolated plants.—Alton D. Adams, in the *American Architect*.

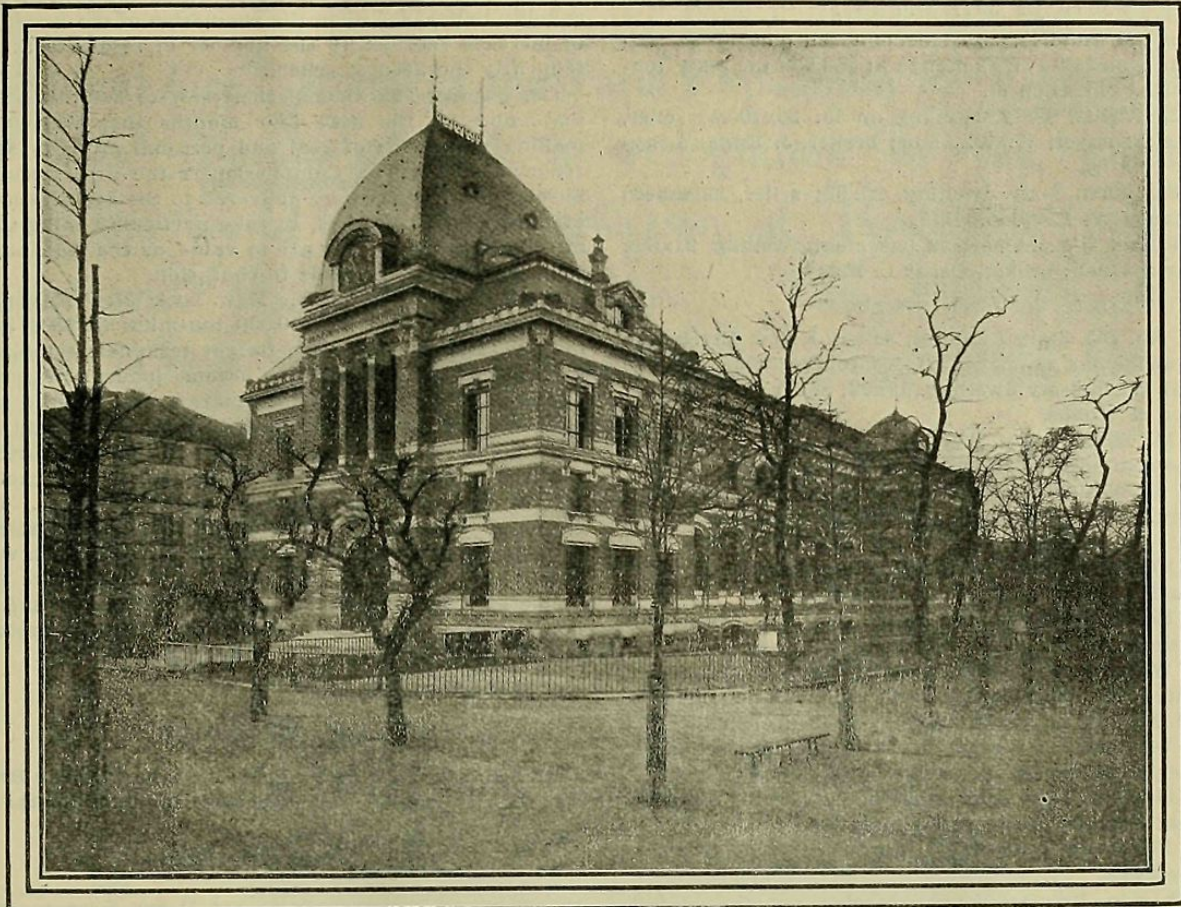
Professor Hyatt, a weather observer of St. Louis, unhesitatingly asserts that the skyscraping buildings that have become so numerous in our cities in the past few years are responsible in a large measure for the increased discomfort from heat experienced by city dwellers. He declares that the tall buildings of New York and Chicago, and to a less degree in the other big cities of this continent, absorb and retain the heat to such an extent that a cool wave may pass over the neighboring country and not affect these cities, owing to the radiation from their great structures. Exposing, as these buildings do, so much stone and iron to the sun, and at the same time cutting off the breezes and the free circulation of air, New York and Chicago, although subject to cooling airs from the ocean and Lake Michigan, respectively, lose their benefit by being walled in, as it were, with their skyscrapers. These big buildings, it is claimed, are regular reservoirs of heat and accumulate great quantities. Even when the sun goes down they do not cool off, but retain their heat during the night, denying that relief which is absolutely necessary to humanity. The upper stories of skyscrapers afford more coolness and better air than could be secured in the often small stuffy rooms of the old buildings in which daily work was carried on in times gone by. Moreover, it is very doubtful if Prof. Hyatt could prove his theory either by the thermometric records, or the bills of mortality for the hot spells of the ten years that high buildings for commercial purposes have been in vogue.

The current issue of the *Journal of the London Society of Chemical Industry* contains an abstract of a paper upon cement testing recently communicated to the New York section of that society by Messrs. Klein and Peckham. The authors consider that the sample to be tested should be analyzed precisely as it is brought into the laboratory, and should not be dried either at a low or a high temperature before analysis. The active constituents of a cement are said to be wholly soluble in 10 per cent hydrochloric acid, and to consist of soluble silica, lime, alumina and iron. The results obtained from two cements are discussed. A large amount of water, volatile at a red heat, some of which would have been expelled and lost in drying, was present. One sample also contained 12 per cent of carbon dioxide, which is equivalent to 27.276 per cent of carbonate of lime or unburned limestone. As the total lime present amounted to 58.16 per cent, only 42.884 per cent of lime could have been present in combination with, or with the power of entering into combination with, the silica, alumina and iron. As the cement contained altogether 39 per cent inert matter (including the carbonate of lime) only 61 per cent could be regarded as true cement. Such a cement, say the authors, would be expected to stand fairly well on a seven days' neat test, and to nearly or quite fail on a seven days' mortar test. The mixture is 61 to 39 to begin with, and when 300 more parts of sand are added it becomes 61 to 339, or 1 to more than 5.

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Cement Testing.

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NATURAL HISTORY MUSEUM AT PARIS, FRANCE.—GENERAL VIEW.

From the "Architectural Record," for July.

Real Estate Market.

Chief Croker of the Fire Department has announced that the provisions of the Building Code relating to appliances for the protection of tall buildings from fire will be rigidly enforced. These provisions will be found on pages 83, 84, 85 of the Record and Guide Building Laws.

The following are the comparative tables of Manhattan and the Bronx of the Conveyances, Mortgages and Projected Buildings for the corresponding weeks of 1899 and 1900:

CONVEYANCES.

1900.		1899.	
Aug. 31, Sept. 6, inc.	Total No. for Manhattan	Sept. 1 to 7, inc.	Total No. for Manhattan
114	114	144	144
\$684,837	Amount involved.	\$1,207,038	Amount involved.
62	Number nominal	82	Number nominal
1900.		1899.	
Aug. 31, Sept. 6, inc.	Total No. for Manhattan	Sept. 1 to 7, inc.	Total No. for Manhattan
64	64	91	91
\$162,877	Amount involved.	\$81,385	Amount involved.
39	Number nominal	49	Number nominal
1900.		1899.	
Aug. 31, Sept. 6, inc.	Total No. for The Bronx	Sept. 1 to 7, inc.	Total No. for The Bronx
64	64	91	91
\$162,877	Amount involved.	\$81,385	Amount involved.
39	Number nominal	49	Number nominal
1900.		1899.	
Aug. 31, Sept. 6, inc.	Total No. for The Bronx	Sept. 1 to 7, inc.	Total No. for The Bronx
64	64	91	91
\$162,877	Amount involved.	\$81,385	Amount involved.
39	Number nominal	49	Number nominal
1900.		1899.	
Aug. 31, Sept. 6, inc.	Total No. for Manhattan and The Bronx, Jan. 1 to date.	Sept. 1 to 7, inc.	Total No. for Manhattan and The Bronx, Jan. 1 to date.
178	178	235	235
\$846,714	Amount involved.	\$1,288,423	Amount involved.
101	Number nominal	131	Number nominal

MORTGAGES.

1900.		1899.	
Aug. 31, Sept. 6, inc.	Manhattan.	Sept. 1 to 7, inc.	Manhattan.
115	115	166	166
\$36,405,848	Amount involved.	\$3,187,447	Amount involved.
58	Number over 5%.	66	Number over 5%.
\$439,906	Amount involved.	\$696,338	Amount involved.
28	Number at 5%.	42	Number at 5%.
\$5,389,142	Amount involved.	\$510,259	Amount involved.
29	Number at less than 5%.	58	Number at less than 5%.
\$576,800	Amount involved.	\$1,980,850	Amount involved.
13	No. above to Banks, Trust and Insurance Co.'s.	46	No. above to Banks, Trust and Insurance Co.'s.
\$5,330,000	Amount involved.	\$1,673,400	Amount involved.
1900.		1899.	
Aug. 31, Sept. 6, inc.	Total No., Manhattan, Jan. 1 to date.	Sept. 1 to 7, inc.	Total No., Manhattan, Jan. 1 to date.
178	178	235	235
\$186,812,412	Total Amt., Manhattan, Jan. 1 to date.	\$305,216,733	Total Amt., Manhattan, Jan. 1 to date.
3,034	Total No., The Bronx, Jan. 1 to date.	4,263	Total No., The Bronx, Jan. 1 to date.
\$20,110,335	Total Amt., The Bronx, Jan. 1 to date.	\$24,592,927	Total Amt., The Bronx, Jan. 1 to date.
1900.		1899.	
Aug. 31, Sept. 6, inc.	Total No., Manhattan and The Bronx, Jan. 1 to date.	Sept. 1 to 7, inc.	Total No., Manhattan and The Bronx, Jan. 1 to date.
212	212	331	331
\$206,922,747	Total Amt., Manhattan and The Bronx, Jan. 1 to date.	\$329,809,660	Total Amt., Manhattan and The Bronx, Jan. 1 to date.

*Includes a mortgage for \$5,000,000 to the Knickerbocker Telephone & Telegraph Co. to secure bonds.

PROJECTED BUILDINGS.

	1900.	1899.
Total No. New Buildings:	Aug. 31-Sept. 6, inc.	Sept. 1 to 7, inc.
Manhattan	16	14
The Bronx	14	37
Grand total	30	51
Total Amount:		
Manhattan	\$1,321,000	\$475,700
The Bronx	54,700	345,500
Grand total	\$1,375,700	\$821,200
Total Amount Alterations:		
Manhattan	\$67,750	\$42,644
The Bronx	10,550	27,000
Grand total	\$78,300	\$69,644
Total No. New Buildings:		
Manhattan Jan. 1 to date	671	1,731
The Bronx, Jan. 1 to date	608	1,451
Manhattan-Bronx, Jan. 1 to date	1,279	3,182
Total Amount New Buildings:		
Manhattan Jan. 1 to date	\$36,219,670	\$70,999,114
The Bronx, Jan. 1 to date	5,193,375	14,428,678
Manhattan-Bronx, Jan. 1 to date	\$41,413,045	\$85,427,792
Total Amount Alterations:		
Manhattan-Bronx, Jan. 1 to date	\$5,475,071	\$5,289,647

Officers of transportation companies in interviews published in the daily press make the statement that passenger traffic to this city was exceptionally heavy this week. Many summer hotels close on Labor Day and the public schools open on the first Monday after Labor Day, so that the real estate market will undoubtedly be benefited by the return of a considerable portion of the summer absentees, although the reports of private sales will not be increased in volume for some little time to come. From now on brokers will be in a position to close deals that have been in abeyance during the outing season and to take up new negotiations. There is an unusual amount of money lying idle and seeking an opportunity for profitable investment, owing to the protracted period of dulness in both real estate and general business. This ought to counteract in some degree the depressing influence of the election campaign. The prospect, therefore, appears to be encouraging, despite the fact that it is a Presidential year, particularly in view of the excellent features of the renting market which have been previously commented on in this column and which still continue to be very satisfactory.

Many brokers are spending large sums of money in maintaining an office record of real estate transactions. Such a record is indispensable, and can now be obtained for \$5 a year, by subscribing to the Record and Guide Quarterly. All records, alphabetically and numerically arranged, with illustrations and annotations. Subscribe now and be equipped for your business. 14 and 16 Vesey St.

Gossip of the Week.

SOUTH OF 59TH STREET.

Henry st, Nos. 241 and 243, two tenements on plot 46x80; seller, David Cohen, who takes in exchange at \$30,000 the 5-sty tenement 25x87.6, No. 105 Allen st.

45th st, No 224 West, 4-sty dwelling on lot 26x100.5; seller, Mrs. Isabella Helm; buyer, W. W. Astor; broker, J. Edgar Leaycraft.

20th st, No. 313 East, 3-sty dwelling, 20x92; seller, Elizabeth Begg; buyer, Henry W. Kreykenbohm.

49th st, No. 49 East, 5-sty American basement dwelling, 21x60x100; seller, Charles Buek; broker, Oscar L. Foley.

NORTH OF 59TH STREET.

West End av, No. 755, 3-sty dwelling; seller, Joseph Etzel, who takes in part payment a residence at Montclair, N. J.

71st st, No. 267 West, 3-sty dwelling, 17x92; seller, A. J. Thorp; brokers, Slawson & Hobbs.

75th st, No. 157 East, 4-sty brownstone single flat, 18.9x70x102.2; sellers, Lowenfeld & Prager; buyer, Hyman Rosen.

105th st, No. 61 West, 5-sty double flat; seller, John Harper; buyer, Mrs. Sarah J. Collins; broker, John R. Davidson; price, \$24,500.

115th st, No. 159 East, 3-sty and basement brick dwelling, 20x50x100; seller, a Mr. Hunt; broker, W. P. Mangam.

105th st, No. 105 West, 3-sty brownstone dwelling, 18x55x100; seller, Neils Hansen; brokers, Jesse C. Bennett & Co.

Central Park West, No. 403, 50.5 north of 100th st, unfinished 7-sty apartment house on plot 50.6x100; seller, Mrs. Lucy E. Lynn; broker, J. Edgar Leaycraft.

113th st, Nos. 540 and 542 West, two 4-sty dwelling; seller, H. Robinson; broker, J. Edgar Leaycraft.

85th st, No. 344 West, 7-sty apartment house, 50x102.2; seller, E. W. Kilpatrick; brokers, Slawson & Hobbs.

117th st, No. 134 West, 5-sty flat; seller, Charles R. Murphy; buyer, James Galligan.

176th st, south side, 100 feet east of Wadsworth av., 50x100, vacant; seller, Max Marx; buyer, George C. Tarler.

Washington Terrace, No. 4, 186th st, west of Amsterdam av, 3-sty dwelling; sellers, M. L. and C. Ernst; buyer, John M. Palmer; broker, Morris Marks.

THE BRONX.

Hughes av, east side, 150 feet south of 187th st, 25x100, vacant; seller, John Martin; buyer, Joseph Lesoro; brokers, James Cullen and William Stonebridge.

Clirton av, No. 1987, dwelling; seller, P. McCormack; buyer, W. G. Gerth; brokers, W. D. Haynes & Co.

169th st, north side, 40.2 east of Barrette st, 3-sty frame flat, 20x87; seller, Jacob Wirth; brokers, Sharrott & Thom.

Kelly st, No. 39, 3-sty brick dwelling, 25x100; seller, Herman Unger; buyer, Julius Wolf; broker, Jacob Kronenberger.

149th st, No. 959 East, 2-sty and basement frame dwelling, 25x100; seller, Leo Hutter; buyer, Christopher Cashin; broker, A. L. Gruetzner.

173d st, No. 786 East, 4-sty flat; sellers, M. L. & C. Ernst; buyer, M. Manassa; broker, Morris Marks.

LEASES.

Charles E. Duross has leased the following houses this week: No. 52 Charles st, for Reed & Reed, at \$900; No. 346 West 15th st, for John H. Armstrong, at \$900, for a term of years; also the store, No. 302 West 4th st.

REAL ESTATE NOTES.

Work on Broadway line is to be completed by 15th inst.

The use of the "escalator" at the 59th st station of the 3d av elevated railroad was successfully inaugurated on Wednesday.

Extensions of High Bridge Park, between 155th and 159th st, to the Speedway, and of 140th st from Bradhurst to St. Nicholas av, have been approved by the Board of Public Improvements.

It is announced that the southeast corner of Broadway and 33d st, 100x100, is to be improved by the construction of a 30-sty office building, work to begin next May. Hugh Lamb has the plans.

Real estate owners and agents will be interested to learn that a new concern, the Commercial Display Advertising Company, No. 225 4th av, is in the market to rent advertising privileges on gable walls, vacant lots or roof tops.

Press dispatches report the formation at Chicago of a national association for the mutual protection of the real estate owner and investor. The names of the men given as representing New York are not known in realty circles here, and it is, therefore, assumed that the movement is a provincial one.

The first work on the actual rapid transit tunnel downtown was begun this week at 10th st and 4th av. There has been considerable work downtown in moving sewers out of the way of the tunnel route, but until this excavation was made in 4th av there has been no work in the lower part of the city on the tunnel proper.

President O'Brien of the Board of Education says: "Among the matters to which I shall henceforth give particular attention is the securing of an ample number of well-chosen sites for school

buildings in the Borough of the Bronx. It would be very short-sighted not to foresee the effect which the rapid-transit subway is going to produce upon the population of the Bronx. It is going to increase enormously the number of residents there, and consequently the need of schools."

The Deputy Tax Commissioners were set to work on the 1st inst., and for the next four months they will be engaged in making valuations of real and personal property which will be reported to the Tax Commissioners the first week in January. Special instructions were delivered to the deputies having charge of the outlying districts, to take particular pains to locate definitely the property they are to value, as the indefinite location of such property often leads to confusion.

The freight traffic on the New York, New Haven & Hartford has increased from 200,000,000 ton-miles in 1891 to 900,000,000 in 1898, and naturally the freight terminals established in 1876 at Harlem River Yard have become inadequate for their work. Foreseeing the necessity for enlargement, a large tract of land at Oak Point has been gradually acquired, and early in 1899 plans were completed and the work begun for the yard. The plant required a total expenditure of about \$400,000, exclusive of the cost of the land—approximately \$1,000,000 more. The ultimate design of the road is to extend the four-track system from New Rochelle, the junction of the Harlem River Branch with the main line, to the Harlem River. The four tracks have already been completed from New Rochelle to Pelham Manor and their extension, at least as far as the Oak Point Yard, is probably a work of the near future.

Brooklyn.

The following are the comparative tables for the Brooklyn Conveyances, Mortgages and Projected Buildings for the corresponding weeks of 1899 and 1900:

CONVEYANCES.

	1900. Aug. 31-Sept. 6, inc.	1899. Sept. 1 to 7, inc.
Total number.....	248	240
Amount involved.....	\$412,086	\$338,535
Number nominal.....	151	161
Total number of Conveyances, Jan. 1 to date.....	11,137	10,920
Total amount of Conveyances, Jan. 1 to date.....	\$19,165,029	\$28,964,501

MORTGAGES.

Total number.....	198	177
Amount involved.....	*\$5,489,649	\$624,625
Number over 5%.....	61	79
Amount involved.....	*\$5,091,644	\$142,275
Number at 5% or less.....	137	98
Amount involved.....	\$398,005	\$482,350
Total number of Mortgages, Jan. 1 to date.....	8,764	9,107
Total amount of Mortgages, Jan. 1 to date.....	\$36,516,146	\$118,090,814

PROJECTED BUILDINGS.

No. of New Buildings.....	61	90
Estimated cost.....	\$413,875	\$499,415
Total number of New Build- ings, Jan. 1 to date.....	1,999	3,039
Total amount of New Build- ings, Jan. 1 to date.....	\$10,644,314	\$16,599,386
Total amount of Alterations, Jan. 1 to date.....	\$1,500,123	\$2,004,894

*Includes a mortgage to the Knickerbocker Telephone & Telegraph Co. for \$5,000,000 to secure bonds.

The Board of Public Improvements have approved the opening of streets as follows: Euclid av, from Belmont to Jamaica av; Granite av, from Bushwick to Evergreen av; 83d st, from Shore rd to 4th av; 67th st, from Kowenhoven Lane to Fort Hamilton av; 51st st, from former city line to 9th av.

The title to the Long Beach real estate will on September 10 pass from the town of Hempstead to the Long Beach Land Company, and from that company to a syndicate of capitalists composed of prominent hotel proprietors of Atlantic City and officials of the Pennsylvania Railroad. This syndicate has obtained an option on the \$360,000 of first mortgage bonds held by the J. P. Morgan Company, trustees, which cover the hotel and other improvements. It has also obtained an option on the assets of the Long Beach Improvement Company, now in the hands of Paul K. Ames, the receiver, and on the real estate to come into the possession of the Long Beach Land Company from the town. Included in the plans for the development of Long Beach are an iron pier, a trolley line from end to end of the beach and a board walk similar to that at Atlantic City.

President Grout yesterday sent to the local Board of Public Improvements of the Fifth district a report made by a subordinate of his office relative to the construction of a concourse and board walk along the Coney Island water-front. In an accompanying letter he said: "The city can, by condemning land 100 feet inland from high-water mark and parallel with the shore from West 5th st, adjoining the concourse lands, to Beach 37th st, procure sufficient land on which to construct a substantial board walk 50 feet wide and about 8,000 feet long, leaving a beach of 50 feet at high tide and at low tide a beach varying from 100 to 200 feet. The apportioned estimate value of the land required would be about \$190,000. The value of buildings and other ob-