OUR STREET PAVEMENTS.

The Triple Problem of Sewerage, Drainage and Roadway.

PRESENT CONDITION AND STATISTICS.

Belgian, Russ, Nicolson, Stafford and Concrete Roadways Relatively Considered.

THE PARIS ASPHALTIC ROADS.

Defects of the New York System and Their Remedy.

The subject of street pavements in this city is beginning to attract the attention and call out the criticism of practical engineers to an extent that seems likely to result in considerable benefit to the interested public. The fact, however, remains, and is but too obvious. In none of the several metropolises of the world is so large an amount yearly squandered in construction and repairs, and to so little purpose, as in this leading mart and metropolis of the Western Continent. Various causes have operated to produce this result; and various reforms, therefore, must of necessity be adopted before the effect, eventuating in the worst paved city of its extent within the circle of Indo-European civilization, can be obviated.

Legislative attention must be directed to the foundation of a bureau of construction and repairs, consisting of competent engineers, whose powers, within certain limits, shall be arbitrary, and not subject to the interference of the Common Council, except possibly in the matter of expenditure. This commission should be invested with the power to perfect and apply a thorough, comprehensive and scientific system of sewerage and drainage; and, with a board of this kind in operation, New York might expect and anticipate that within five years after its organization the triple problem of sewerage, drainage and pavement would be solved and applied with just regard to the health, convenience and necessities of its million of inhabitants. The sewerage system is particularly defective and unscientific. Were six weeks to occur in succession without appreciable fall of rain—a contingency liable to happen any summer—this city would be little more than a pest hole, the carrying off of the sewage being in so great a degree dependent upon the rain fall. In fact, there are points at which three weeks of drought would work a similar effect; as, for instance, at the corner of Eleventh street and Sixth avenue; and, as it is, with the ordinary meteorology of a summer, it may be remarked that the great prevalence of summer epidemics in this metropolis, which by virtue of advantageous situation ought to be more healthful than either London or Paris, is due principally to defects in the sewerage and drainage system. The reports of the Croton Board, which ought to be packed with the suggestions of practical engineers as to these important subjects, afford only meagre details of receipt and expenditure, very necessary in their way, to be sure, but by no means so valuable that they ought to be permitted to crowd out other and equally important matters.

The failure to adopt a practical and sufficient system of sewerage has had the effect to complicate the pavement problem to a considerable extent. No pavement in use in the city is susceptible of being taken up and put down in blisters of a few hundred square feet without injury to the whole adjoining fabric, and yet this piecemeal process is necessitated from year to year by the present system of sewerage. The laying down of a new gas main or of a new sewerage pipe necessitates a disturbance of hundreds of square feet or hundreds of square yards of pavement, and for no other reason than that no sufficient plan for carrying off the sewage of the city has been yet put in operation. That the sewers of the city should be large enough to admit of underground repair, without disturbing the surface, is, in the abstract, conceded; but the concession is qualified with so many objections that practical adoption is indefinitely postponed, and in the meantime the old and inadequate system prevails, at an expense of a quarter of a million or more per year. The truth is, no reason can be quoted why sewers should not be constructed sufficiently large to admit of the passage of gas mains, &c., by the half dozen, and yet preserve all the efficiency in carrying off refuse matter claimed for the pipes in present use. General Viele, than whom New York has no more unremitting student in the application of engineering to this purpose, has, in fact, digested a plan to effect a combination of the good qualities claimed for both systems, the application of which would obviate the necessity for disturbing the surface in the repairing of sewers and the putting down of new gas mains. The effect of its introduction would be to enable the gas companies to pass their mains along within the periphery of the sewer by the half dozen if necessary, thus relieving companies of a large expense and laying the foundation for a more active competition, by which the cost of gas to the city might be materially lessened; and that some more adequate plan must eventually supersede that in present use is quite unquestionable. The creation of a board of construction and repairs upon the plan hitherto specified would, no doubt, result in the adoption of this draining or something similar, and until that desideratum is attained New York will probably blunder on at an expense of half a million a year for the repair and extension of a system of sewerage which must be given up at last as inadequate.

The success which has attended the limited independence of the Park Commissioners in managing the details of the work committed to them is a proof of the policy and economy of eliminating the question of politics from the conduct of public works in as far as may be practicable, and of what may be done by a well selected board, comparatively independent of political considerations. The want of success which has attended the subjection of the appropriation for the removal of the Hell Gate obstructions to political influence is another proof (by *reductio ad absurdum*) of the same principle, and both point to the necessity for the creation of an independent board of construction and repairs for the evolution and carrying out of an adequate system of drainage, sewerage and street pavement, neither of which can be separated from the other two without involving a certain want of unity in the application of engineering to city improvement. The complication of the pavement question is mostly due to three causes:—First, the necessity for frequent taking up and relaying of the roadbed occasioned by the laying or repair of sewerage pipes, the laying or repair of gas mains and the laying or repair of city railroad tracks; secondly, the contract system, resulting in defective and unscientific construction, and equally unscientific and defective repair; and thirdly the speculative and experimental element, eventuating in the testing of new inventions at a considerable yearly expense to the city. A board of construction and repairs, consisting of competent engineers, would obviate all these objections and put the city in possession of the best attainable pavement at far less expense per year than is now disbursed in behalf of the piecemeal of construction and repair which has been going on for the past thirty years.

STATISTICS OF THE SUBJECT.

The new pavement which has been put down on Broadway, in sections exceedingly well done, forms a notable exception to the general workings of the contract system, for which the public is indebted, not to any adequacy of the system itself, but to the honesty and enthusiasm in his work of Mr. Guidet, the contractor. The total length of the stone block pavement now laid in the city is eighty-one miles and 3,431 feet, some of which (400 lineal feet on the Bowery) was put down in 1852; and in only a small portion of this amount, a few thousand lineal feet in all, has the Russ patent been infringed upon. The statistics of the several kinds of pavement laid down within twenty years, presented by a survey of the city, would stand approximately as follows:—

	Square Yards.
Stone block	1,913,342
Nicolson	58,564
Fisk concrete (estimated)	5,000
Stafford (estimated)	700
Cobble stone (estimated)	3,000,000

Since 1866 the disuse of the cobble stone pavement has become a feature of street improvement. During that year 17,254 square yards were put down—under contract 10,222 and at private expense 7,032—but one ordinance looking to the laying of it in any part of the city being passed while the previously mentioned work was going on. This ordinance provided for a cobble stone pavement on Bank street from West street to the river. The career of the Nicolson pavement began with the disuse of the cobble stone, in the putting down of 490 square yards on Nassau street in 1866, of 29,001 in 1867 and of 29,073 in 1868. A contract was also made for laying the Fisk concrete pavement along 174th street, from Third to First avenue, and an experiment with the Stafford pavement was tried at private expense in Wall street, between William and Hanover. An ordinance in favor of the latter on Seventh avenue, between Fourteenth and Fifty-ninth streets, was also passed, together with six ordinances, amounting in all to 60,000 square yards, in favor of the Nicolson, six ordinances, amounting to about [illegible] square yards, in favor of the McGonegal; two ordinances, amounting to 40,000 square yards, in favor of the Brown & Miller, and three ordinances, involving about 20,000 square yards, in favor of the Fisk concrete; fifty-six ordinances, summing about 400,000 square yards of stone block pavement, complete the provisions for the year.

The application of the Russ patent has been very limited, though some royalty was paid in 1849 in the paving of Broadway, between the Battery and Franklin street, and between Canal and Fourteenth streets. The section between Franklin and Canal streets, put down in 1853, was laid in ordinary stone block; also the section between Seventeenth and Twenty-third streets, in 1862; also that between Twenty-third and Fifty-ninth, executed in 1863. Park row was paved with the Russ patent in 1856, and since then its advantages have been mostly disregarded. The statistical history of Broadway up to 1868-9 may be briefly put in table.

Year.	*Section.*	*Lineal Feet.*	*Pavement.*
1849	Battery to Franklin	5,780	Russ.
1849	Canal to Fourteenth	7,450	Russ.
1853	Franklin to Canal	780	Stone block.
1862	Seventeenth to Twenty-third	2,000	Stone block.
1863	Twenty-third to Fifty-ninth	9,420	Stone block.

These data serve to exhibit the fact that under ordinary conditions Broadway wears the stone block pavement too smooth for safety in something less than twenty years, and fixes the limit of the durability, provided the pavement be put down sufficiently well to defy strain and other causes of dilapidation. The attrition of vehicles and horses producing this result has been recently subjected to statistical observation by a curious engineer, whose notes afford the following tabulated returns as to the number of vehicles passing the Astor House between seven A. M. and eight P. M.:—

Seven A. M. to Twelve M.	*Up.*	*Down.*
Stages	714	691
Double trucks	397	616
Single trucks	1,151	1,213
Double carriages	168	158
Single carriages	70	93
Total	2,490	2,771
Twelve M. to Five P. M.		
Stages	710	683
Double trucks	512	476
Single trucks	1,335	1,214
Double carriages	191	205
Single carriages	101	85
Total	2,879	2,663
Five P. M. to Eight P. M.		
Stages	442	132
Double trucks	173	194
Single trucks	287	282
Double carriages	94	124
Single carriages	45	25
Total	1,041	1,057
Complete total	6,310	7,491
Up		6,310
Total in both directions		13,801

From these figures some idea of the tremendous daily attrition brought to bear upon the pavement of this thoroughfare may be gathered if for the remaining eleven hours an addition of only 3,000 be averaged, making in all a round total of 17,000 vehicles for the twenty-four hours; and if subjected to this wear, the stone-block pavement may be calculated upon the basis of renewal once every fifteen years, it must certainly take its place as the most economical which engineering skill has yet developed. Taking these figures, with the attrition indicated, as indicial of the capacity of the Russ pavement, it may be remarked that, under ordinary conditions, the Russ patent possesses few advantages over the stone block as generally put down, and, with the frequent necessity for removal in spots occasioned by the administration of the Croton Board, presents some grave disadvantages. It is now some years since General Viele conducted a couple of experiments, which resulted in the rejection of the Russ patent for ordinary purposes of pavement, except where heavy traffic was to be anticipated. One of these consisted in the laying of the stone blocks upon a bed one foot thick of sharp, clean sand, and was applied to a section of Thirty-fourth street; the other, in substituting a bed of broken stone one foot thick. The latter was conducted on a section of Fourth avenue. Both are inferior in durability, when subjected to great strain, to the Russ pavement; but both have the advantage over the Russ of being taken up and replaced in portions with less injury to the general fabric; and hence in connection with the present sewerage system are preferable, except here and there in sections where great strain is to be endured.

There seems to have been no reason, however, why the concrete bed of the Russ patent should have been adjudged subject to proprietorship under the patent law, there being nothing original in the idea historically considered. The concrete bed has been in use historically nearly or quite eighteen centuries, and is supposed to have been invented by the Romans, who, however, superadded an upper structure of sandstone, quite superior to the trap superadded by Russ, in that its tendency was to wear more roughly. An argument very strong in itself against the use of trap for the superstructure is found in the increased wear and tear of horses and vehicles occasioned by it, which is estimated by experts at an average of twenty dollars per year on the shoeing of horses, twenty-five dollars per year excess over the ordinary wear of horses by draught upon common and better adapted surfaces, and twenty-five dollars per year excess over the ordinary wear of vehicles on roadbeds of less grinding surface to tires. Estimating the number of horses and vehicles in use in this city, at 150,000 it will be seen that not less than $10,500,000 might be saved annually by the adoption of some less grinding substitute for the hard trap of the Russ and Belgian and stone block superstructure; and the inference may be drawn that the question of expense of construction and repairs is not the only important economical question involved. The relative cost per square yard of the several pavements in use may be averaged as follows:—

Stone block (Belgian)	$2 50
Russ, or stone block with concrete bed	3 20
Nicolson	4 00
Fisk concrete	2 60
Stafford	3 50

Reserving description of these pavements, wooden and stone, for the present, a brief survey of the system in use in Paris—the queen city of the world as respects the application of engineering to the solution of practical problems of improvement—may be attempted, involving incidentally the application of *béton Coignet* to the purposes of sewerage, flagging, sidewalks and the like.

THE PARISIAN SYSTEM

has, since 1854, manifested strong preference for the asphalt road upon the concrete foundation. In 1854 960 square yards of asphaltic road were laid in Paris, and since then the use of the material has steadily increased, until, at present, it is ranked as well adapted for purposes of heavy traffic on the most frequented thoroughfares. Up to 1866, 96,000 square yards had been put down; in 1867 the surface added was 54,000 in Paris proper and 84,000 in all in the department of the Seine, making a total in thirteen years of 180,000 square yards. The contract of the Cie Générale des Asphaltes with the city of Paris covered at that date at least 96,000 square yards more, to be put down in 1868 and 1869. The ancient streets of Paris were without sidewalks, and were paved with large square blocks, with grades sloping from the sides to the middle, forming a gutter on the central line. Sidewalks began to appear in 1825, and in the same year the reversal of the surface, bringing the gutter to the sides, was introduced. In 1852 the system of Macadam was applied to the old boulevards, and in 1858 this method was improved for heavy traffic by introducing margins along the sides, from two to four yards in width, paved with small blocks of Belgian porphyry—the germ of the sidewalk as now used. The whole surface of streets and sidewalks is now constituted as follows:—

	Square Metres.
Streets—Paved	4,833,643
Macadamized	2,146,005
Of asphalt	165,164
Total	7,195,302
Sidewalks—Of granite	545,939
Paved	14,024
Bituminous	1,192,414
Total	1,752,377
Grand total	8,947,679
Equivalent in square yards to	10,701,416

The relative cost of the three as constructed is worthy of attention and may be added, together with the annual cost of repairs to the square yard. The generalization exhibits the following figures:—

	Cost per sq. yd.	*Annual Repair.*
Asphaltic road	$2 50	25
Belgian porphyry pav.	3 00 to $3 67	08¼ to 25
Macadamized	1 17	42 to 50

The first cost of asphalt streets is greater than that of macadamized, while the cost of repairs is considerably less; and, again, the first cost of the asphalt is less than that of the Belgian pavement, while the expense of repairing is greater. The asphalt coating, one-sixth of a foot thick, is supported upon a roadbed of concrete, composed of ninety parts gravel to forty parts of mortar, about a quarter of a foot in thickness and resting upon the compacted soil bed beneath. Provided the requisites of thorough surface and under drainage have been observed, the asphalt roofing being utterly impervious to water, the road bed of concrete waxes harder and dryer with age, and, once made, is imperishable. Repairs are easy, and consist simply in cutting away the damaged roofing of asphate and replacing it with new. As compared with the Belgian pavement, the liability to fall of horses being driven over the asphaltic road is 1 in 1,409 to 1 in 1,308 on the former, proving the superiority of the asphaltic surface in this respect—that is, in surety of foothold.

The concrete known as *béton Coignet* differs from the ordinary roadbed concrete in being an artificially formed sandstone of great durability and strength, and of extensive application in civil engineering in all its ramifications, from the manufacture of sewers to the construction of aqueducts, from the fabrication of roadbeds to that of underground vaults of the utmost possible capacity. The best *béton* endures a crushing strength four and three-fourth times that of the best brick, fifty per cent greater than that of limestone, fifty per cent greater than that of sandstone, and about forty per cent less than that of the strongest granite, to thirty-five per cent more than that of the inferior qualities. For common use a good *béton* is compounded of four parts of sand and one part of fat lime, to which, for extra strength, one-half part of Portland cement may be added. It could be manufactured here at an expense of four dollars per cubic yard, and for roadbed, a quarter foot thick, at sixty cents per square yard. An excellent concrete road might be constructed of it at half the scheduled expense of the Fisk concrete pavement, its durability being about the same as that of the best quality of sandstone. The embankment on which runs the avenue de l'Empereur, at the Trocadero, is supported by a wall of this material forty feet in height, for the distance of a quarter of a mile; and, in general, the subject of its application is now being discussed and experimented upon by the best engineers in France, with a view to extend to the utmost the constructive capacity in engineering of so inexpensive a material as that developed by the invention of M. Coignet; while in the sewerage system it is rapidly superseding everything else. In it no doubt is, at the end, to be sought the solution of the sewerage problem in this city, if the administration thereof ever falls, with the needed powers of discretion, into the hands of a competent board of engineers. What is wanted in the problem is the boldness to break loose from wornout ideas and apply the best invention of the age to the development of a better and more adequate system—a quality which has been startlingly exhibited, with equally startling and successful results, in the administration of the departments of the Seine and in the construction of public works in Paris for the past ten years.

Most foreigners travelling in France remark the excellence of the macadamized roads, and not unfrequently suppose that there must be something peculiarly favorable in the nature of the soil or something unique in the method of construction. The supposition is not true to fact, however, the quality of the roads in France being attributable to good engineering and care and exactness in all the processes of construction and preservation. In fact, in the system of Trésaquet and Simplon the system introduced into England by Macadam in 1816 had been anticipated more than half a century. Macadam copied Simplon in his roadbed, while Telford did nothing more than return to the system founded by Trésaquet in place of the still earlier roadbed of flat stones. The roads of France are simply illustrations of what may be done by good construction rather than of any superiority of facilities; those of the city of New York are to a great extent examples of the result of slovenly construction with sufficient facilities for the best of work; and this leads to the general principle, that of the several pavements in use any one is practically good enough for all purposes when well constructed. The defect is not in the theory of the pavement itself, but in the defective and slovenly application of it under the contract system. As in railroad building, with the result of innumerable accidents, so in street paving defective roadbed is the great sin of the contractor; and, as in railroad building, the United States cannot be compared with France or England for thoroughness and attention to the details which result in perfection, so, in the matter of pavement and the laying of it, American contractors on the average are slovenly and inefficient. Contracts for street paving are annually awarded in this city to persons whom a competent European engineer would not trust as workers under a superintendent; and thus, through ignorance in many cases, through greed in many cases, through both together existing in many cases, it is seldom that New York can boast of a section of pavement properly put down with due attention to all details. What is

THE COMING PAVEMENT,

or which, of the several kinds now bidding for popular favor, is a question not easily answered. As a rule, competent engineers express doubts as to the merits of the Nicolson and of wooden pavements of all patterns. In the Nicolson structure the roadbed is of sharp, clean sand, of the proper thickness. A basis is then made by laying common boards, dipped in hot coal tar, lengthwise on stringers of like material laid from curb to curb. The blocks forming the superstructure are of Southern hard pine, three by four, and are set on end in rows, crosswise of the street—the blocks before setting being dipped to half their length in a bath of hot coal tar. Between the rows of blocks intervene pickets of thin boards set on edge and leaving an opening between the rows of blocks of a foot or nearly in depth. This opening is filled with clean screened gravel rammed down with a pavior's rammer and an iron blade made for the purpose, and the surface is covered with hot coal tar. The gutter exhibits its lowest point half a foot from the curb. The whole surface is covered with coal tar sufficiently boiled to be tough and fibrous, but not brittle, upon which is sprinkled a layer of fine gravel and common sand. The Stafford pavement differs from the Nicolson in the laying of large blocks prepared after the Seely patent, resting upon stringers, which in their turn may be supported by any specified roadbed. Provided the roadbed is sufficiently secure, say of strong concrete, and the upper deposit is made sufficiently complete, the Stafford pavement cannot but compare favorably with other wooden pavements, and, for simplicity, is quite superior to the Nicolson. Both obviate certain objections in surface way, which pertain to the Belgian, in the wear and tear of vehicles and horses and the noise or reverberation of wheels; but both are inferior to the asphaltic road in these respects, while the asphaltic has one great superiority valuable as a preventive of accident, to wit, the beating of the hoof of the horse is rendered very audible—audible above all other sounds—so as to be measurable by the ear in the matter of distance. This latter advantage can only be estimated by persons who have taken occasion to note the extent to which one falls into the habit of measuring the distance of a vehicle from any given crossing by the ear; and one of the main liabilities to accident occurring from wooden pavements is the muffling or comparative muffling of the hoof-beat. In this respect, in fact, any form of concrete pavement possesses material advantages over either the stone block, which exaggerates the rumble of wheels and obscures the hoof-beat, or the wooden pavement which reduces both in about equal proportions. In a word, a grave objection to the Nicolson pavement is the fact that in just one respect it is a trifle too noiseless for the safety of pedestrians in crossing especially in these days when every driver seems to be possessed with the devil to run over somebody. Again, in case of extensive conflagration in any part of the city, the wooden pavement might prove a dangerous ally by ignition, an instance of which has recently occurred in Philadelphia. Neither of the wooden pavements above named command the unqualified admiration of practical engineers as yet, though the test of use is the measure of merit in these matters, and neither has been in use here sufficiently long to warrant the expression of an opinion. In the great desideratum of simplicity, as well as in ease of repair, the Stafford seems to possess advantages over its elder in the field; but there is no likelihood that either will supersede the stone-block to any great extent. The coming pavement, in fact, from all indications included in the survey of the subject, is not to be found in any use of wooden blocks in any form or under any conditions. If the Belgian (stone block) is ever superseded—and it will be within the next twenty years—that supersession will have been brought about by invention in the way of practicable concretes. The asphaltic road in Paris has given an impulse to investigation in this direction which will not stop until some practicable substitute for the stone block (Belgian) has been developed. The age of block stone pavement is in its last quarter—to borrow a metaphor from the moon. The movement in favor of wooden structures is merely speculative and adventitious, and must of necessity prove exceedingly ephemeral in duration, exceedingly meteoric in its triumph over the fixed principles of practical engineering. Bubbles always burst, and need not, as a rule, be pricked by way of facilitating that operation; and that the mania for wooden pavements is merely speculative no practical engineer can doubt. The wooden pavement question has, in fact, been exhaustively settled in the negative by English experiments during the past twenty years. Its merits are its noiselessness, its reduction of the mortality of horses, its reduction of the wear and tear of vehicles and its effecting a utilization of the utmost percentage of draught force, and these are all merits to an equal degree of the asphaltic road—may be made merits of any concrete whatsoever. The increased mortality in horses occasioned by the Russ and Belgian and other stone pavements in this city is estimated at 3,500 annually—an item of considerable importance in the discrimination between pavements for thoroughfares. As between the two typical structures, the Belgian and the Nicolson, from data already supplied, it may be estimated that, with the attrition of Broadway, the former would last fifteen years against a last of half that period in the case of the latter, if, indeed, the Nicolson can be regarded as equal to the necessities of Broadway at all. It is seen, therefore, that while the stone block (Belgian or Russ) is open to grave objections on the one hand, the wooden pavements (Nicolson and Stafford) are open to equally serious objections, on the other hand, on the score of lessened durability. The concrete pavement—the value of which has been happily settled in Paris—effects a union of the better qualities of both without the objections appertaining to either, and, as the minds of engineers and inventors are already beginning to turn in this direction, nothing is hazarded in predicting that the ideal or coming pavement will be developed from the present crude concretes. The asphalt road, one triumph of concretion, the *beton Coignet*, another triumph in a direction of equal practical importance, the attempts at concrete from inexpensive material in this country, all point to the hypothesis that the solution of the long-mooted pavement problem is at hand in the evolution of a concrete roadway combining the durability of the stone block with the advantages of the wooden superstructure. Valuable hints as to the constitution of concretes may be found in the reports of Messrs. Beckwith on *beton Coignet* and asphalt and bitumen as applied to the construction of streets and sidewalks in Paris; and, in the way of American invention, the constitution of the Fisk concrete pavement, under the Hairm-Burlew patent, may be studied. This pavement is composed of gravel, broken stone, cinders and coal ashes (free from all foreign substances), mixed in definite proportions with tar, rosin and asphaltum. The roadbed, properly prepared, the composition is spread on in layers of moderate thickness, successively rolled with heavy rollers for uniformity and compactness. These layers form a sufficiently strong roadway of from half to three quarters of a foot in depth, and can be put down at an expense, per square foot, not exceeding the expense of the asphalt road as constructed in Paris. It remains for years and attrition to test the practical value of this concrete; but, in general, it may be remarked, that it is heartily and highly commended by thoughtful engineers as a step in the right direction. The sonorousness of the hoof-beat, as enabling the pedestrian to measure the imminence of passing vehicles, is an element of concretes over wooden pavements, illustrated in an eminent degree by the asphaltic road, the value of which as a preventive of accidents cannot be overestimated. A pavement may be too noiseless as well as too noisy for immunity in this respect, and by all means let the capacity of the concrete be developed to the utmost. The Commissioners of the Park have also developed some excellent roadways in their admirable system of earth roads upon a similar principle; though in relation to the Park the problem has been less difficult of solution, no necessity existing to provide for the contingency of heavy traffic. In its capacity for the combination of all the qualities which experience has proved to be desirable in a roadway for large cities the concrete must therefore be ranked as superior to either of its competitors, and as embodying in itself the germ of the coming pavement in this city, and, the suggested reforms in the sewerage system having been carried out, attention may be directed to the production of an inexpensive concrete, analogous to the asphaltic road. Dismissing speculation at this stage, the general

FAULT OF THE CONTRACT SYSTEM

may be specified in its result of putting the work into the hands of contractors of no knowledge as engineers, and practically unfit to be entrusted with the supervision of men in the construction of important public works. In most cases where work has been done at private expense a better pavement has been produced—a fact which should lead to the looking upon propositions from private parties with favor, and the preference of them, wherever practicable, to those of professional contractors. Unfortunately, however, the greedy members of the ring must have something to pluck of pecuniary feathers; and, the demands of the ring satisfied, little remains to be done. The system as now administered has not the merit of containing in itself even the germ of reform. Had it that merit reforms might be suggested; having it not, the remedy lies in the creation of something new—in the elimination of the matter from the compound equation of city politics altogether. The system adopted by the general government might be made to answer the purposes of States as well; and thus an efficient corps of engineers would be enlisted and made an army of conquest in reducing the city to subjection to just principles of engineering adapted to the topography and wants of the city as a whole and dovetailing with perfect harmony in all its separate parts. Discussion of the subject as it relates to the city would be incomplete without due consideration of the

TYPICAL HISTORICAL PAVEMENT,

based upon the Roman system and its susceptibility for improvement; for it is a fact that a large class of conservative engineers still look for the advent of the ideal pave in some modification of the stone block on the concrete roadbed. The completion during the past week of the relay of the Broadway pave, at an expense of nearly $500,000, recalls the fact that no question exists as to the value of the substructure of concrete. The question is as to the superstructure. Large stone blocks on a roadbed of sand form the major part of the pavement of the city—the large block pave being less expensive than the small. On Broadway the unique feature introduced consists in splitting the blocks by a laternal fissure, leaving them in point of superficial appearance parallelograms a quarter of a foot in width against a foot or thereabouts in length. This, by quadrupling the number of joints, affords a sure foothold for horses, especially as the blocks are laid transversely—the line of travel crossing the linear of the nave and surface at right angles with the length, with the effect to afford an average of four clinging points for the horseshoe in the new pave to one in the old. This decreases the liability to slip, really dividing it by four, and, with the concrete bed, fulfils the ideal of the old Roman pave. The want of elasticity is, however, in nowise obviated; the difficulty of traction is by no means lessened, the jar and volume of sound are not in the leastwise subtracted from. The sanitary purpose is met, and percolation is prevented; but no part of the $10,000,000 annual wear and tear of horses and vehicles is saved; and this is a matter to be considered in the pavement of a city. The important question is to settle upon the desideratum in the way of superstructure. Wood is too unreliable; the stone block (trap) has superficial objections, due mostly to its want of elasticity. The problem has been solved in Paris by the superstructure of elastic asphaltic composition upon a strong roadbed of concrete; and the problem must be similarly solved here before the full measure of the popular need in the construction of a perfect pavement can be rounded over. Before the necessity for repaving Broadway shall occur again these questions will have been settled, and New York may then hope to promenade a thoroughfare comparatively noiseless. A new concrete has just been tested at Prospect Park, Brooklyn, which promises well. It is composed of a first layer of gravel; a second layer of fine gravel and cement, and a third layer of fine gravel, sand and cement. Like Fiske's concrete, this pave is sufficiently elastic, but whether either will last long enough for economy remains to be seen. The true method of invention would seem to be to make *béton Coignet* the basis, and to this to superadd some fourth ingredient to develop the needed elasticity. Tar boiled to the point of elastic solidity, or asphaltum, which can be procured at twenty dollars per ton, currency, might be added in small proportions to the *béton*; and in this way, by experiment, a concrete might be developed equal in all respects to the asphaltic road, now so popular with engineers in Paris. The huge quarries of trap along the East river render the Russ pavement tolerably inexpensive; and hence, in order practically to supersede it, something must be produced which can be put at $2 50 or less per square yard, and as durable as the block stone. An able and competent engineer estimates the loss in horses, extra wear of vehicles and extra horseshoeing in the cities of the United States, occasioned by block-stone and cobble-stone pavements, at—

On horses	$15,000,000
On vehicles	20,000,000
On horseshoeing	21,000,000
Total	$56,000,000

The province of invention in respect to pavements, therefore, is to save this vast amount by the substitution of a concrete upper structure as inexpensive and durable as the Belgian and as elastic and easy as the wooden, which has failed in the respect of durability as well as over expensiveness and can never be generally adopted.

PARIS FASHIONS.

Effervescent Spirits—Remedy Against Sunstroke and Its Inconvenience—Some Cases in Point—Musical Raptures—The Mysteries of the Temple of Art—Unassuming Simplicity and Aristocratic Finery—A Modern Fresco—Exciting Performances—The Empress' Toilet for Egypt.

PARIS, July 27, 1869.

Iced champagne propped up just a little on one side in a cooler and wired down tight to keep all its fun in could not look nor feel more knowing than your fashion writer at the opening of this correspondence. And why? Because fresh news is working in my bachelor spirit just like Roman candles; up and down they go, like the atoms that dance, flash and shimmer in one's goblet as soon as the cork does pop off; that seethe and that boil—not like the liquid described in Schiller's Song of the Bell, but like volcanic lava—and do all the—Mephisto with mankind. I said fresh news—not fresh only in the sense of cool, but fresh in the sense of novel.

Could I be satisfied with what is simply cool I should mention the latest method proposed by an Americal contemporary to prevent sunstroke. He says one has only to place a cabbage leaf between one's hat and one's skull. I really believe this to be an excellent system where cabbage leaves are not in great demand and rabbits few, but at first sight inconveniences are attached to it. A sudden feeling that prompts a gentleman who has adopted the plan to do unto a lady friend the sudden homage of a bow, then's limp sensation after exposure to the heat on the heads of the bald, of whom it could no more be said when satirically alluding to their shiny surfaces, "that the green has been cropped from their meadows"—I know this is only giving the lie to a metaphor, but I think something more inviting could be suggested than even the heart leaves of a cabbage; besides, sunstrokes do not always attack the region of the brains.

I have seen young fellows, as young as small pigeons, turn scarlet all over their faces on presenting a set of priceless diamonds to a diva, so timid and so nervous lest the belle should not consider the set had cost hundreds enough.

I once saw an old fellow, too, get the stroke full at heart, when he heard that a fair child, a poor orphan before he loved her, one who, from the lowest caste, he had raised to his level, had run away from his heart, home and protection with his stable man. No cabbage leaves could avail in these cases.

My fashion news of this date is fresher, and, to begin with, it proceeds from the solemnities of this week which have taken place at the theatre of the Conservatoire, the imperial academy for drama and music. Many of your readers who have been to church to-day must have heard the text signifying that the way which leads to heaven is narrow and difficult of access. It is a text one hears every Sunday. It illustrates exactly the style of the road that people have to follow if they wish to get into the theatre of the Conservatoire. We are further told that many are elected and few get to heaven; with the Conservatoire pupils few are elected and not many get through the ordeal of going up to examination. Those who can, after years and years of constant study and drilling, get up to the front ranks, there stand until noticed, and get their names put down on a list for trial before the jury, are heard on the occasions I am describing by a chosen and limited public. The relatives—the very nearest—are always favored with admittance—that is, with one and never more than two tickets. No money can buy this favor; some secret influence alone must be resorted to by those who, as in my case, are so bent on getting in that no feat of diplomacy is left untried. When once in the stifle is intense, but one's pains are rewarded by the aspect of real Parisiennes, by sensations and shivers and shakes and quavers of rare descent; by the aspect of toilets such as are not viewed at court, certainly, but no less charming and appropriate.

At the close of the examination, during which the future stars of the opera are heard, or those who aspired to become stars are discouraged from the attempt, there is the nomination of prize pupils. A mere access is as much thought of as a laurel wreath elsewhere, for this entitles them to continue their studies within the temple of art. I say temple, I did not say "hallowed," but I will not dive under the mysteries of back scenes; I do not, moreover, believe that any public school, composed as is the Conservatoire, can be without its mysteries. The result of the musical education given gratis, the character and aspect of the actors, actresses and the audience are my subjects. I arrived early—earlier than the card of invitation mentioned. The ceremony was to begin at nine A. M. and to finish at five P. M. I was in my stall at half-past eight, and found the house full. An egg could not be more neatly replete inside. There sat the expectant fathers and mothers, the comrades also who had received honors and were going through some supplementary course of tuition; the children of the Conservatoire, too, who now reap fortunes and whose names are equivalent to triumphs; they all had flocked to encourage, applaud, judge or recall their first scenic emotions, to go back to the times when their first love songs were felt and their illusions pure. It was a treat to look at Auber so close, at Pasdeloupe, at the famed critics, at Augustine Brohan, at Arsene Houssaye, at Cham, G. Doré, but still a greater treat to look at the pretty girls, sisters of the artists, who were in fearful anxiety and suspense behind the side slips. My attention was first drawn to a father and daughter, whose seats were near mine. The young lady carried a small basket. She was in a square-bodied casaque and panier. Her skirt was frilled, and the material was striped white and pink cotton percale; the sash, bows and waistband of the same. Her hat was a toquet of black lace, with pink moss roses on her forehead. Her earrings pink coral; her lips ditto; her cheeks as pink as her roses; the tips of her ears ditto, and her eyes as black as berries. No duchess in velvet and Venice point could have swayed to her place with more elegant *désinvolture*. One look at the father told me he was a—well, undoubtedly a master of something—a teacher of drawing, very probably. The pretty girl seated herself and then opened the basket. I looked in. It contained her lunch, consisting of green figs, a piece of chocolate and a roll. She was going to sit there all day. She was not a singer herself—oh, no! She was her father's housekeeper. Her sister was a singer. These facts I collected from a dialogue which began with her neighbor, as soon as she had got her opera glass up and her father's stick, with her parasol, safe between them. Her sister was to play a scene from "Faust"—the prison scene. Then the conversation flagged, while she looked around with all the ease of a millionnaire, and I spied some one else. She was a classic beauty. She had come in without her hat, and her hair in wavy ringlets behind was ornamented in front with thrown back bandeaus and a round crimson bow. Her dress was plain black, a high bodice and skirt of fine alpaca, with crimson belt, sash and bow; on each epaulette a crimson bow. The fit of this dress was perfection; the width from shoulder to shoulder across the back of sculptural proportion, the slope of the shoulders and free neck not to be outdone. Still there was no handsome item on the wearer—it was beauty all due to a tasteful cut. Anywhere that girl, with her correct profile, soft gaze, quiet and refined, would have been singled out from a thousand. The pretty white chemisettes on muslin skirts next delighted me—so fresh, so inexpensive, so youthful. Then the tidy sailor collars and deep cuffs of Holland over goat's hair costumes, the pretty combination of shades, such as garnet foulard or sultane, with primrose bows in the hair or primrose sailor knots on the throat, brown and scarlet ruche mixed, on brown mohair, with carnations in the hat or on the bosom; then the plain muslins so much frilled at home and neatly edged, which form the loveliest trimmings round paniers and skirts and sleeves. The headdress, not all fashionable, but so suitable to the wearer, whether a plain chignon, a coil or curls, and through it all a ribbon to match the toilet so cleverhandedly negligent; the neatly gloved hand, the fun-loving or sentimental eye, the quick perception roused, the whispered repartee, and yet all this from young ladies rather in point of birth below the middle classes.

From these tidy and tasteful young creatures I looked up to the dress circles. There were the queens of art in its different branches and richly attired in flowing robes of the grandes dames who in the eighteenth century were called "galantes." Here the low cut bodice, quite sleeveless, worn with black lace, or net chemisette, having so tight a fit that it shows off the bust and arm to perfection. Here the towering hats, with feather and veil, or the toquet, with lime blossoms, mignonette and roses on a pyramidal top. Here the black velvet revers on all colors; here the Valenciennes border on all frills and flounces; here the rich natural flowers in open bodices, peeping out from snowy drapery on the fichu and bosom. Here the tulle Oriental scarf, brought down from the top of the chignon and passed under the chin, to fall over the shoulder back again. Here the cambrics, taffetas and Indian crêpe, the unbleached linen with cluny, the rolls of satin and lace on the shoulders and rich lace facings. For such high priestesses as these the days were over when they first heard untutored tenors sing "*Je vous aime*" at every other bar, and believed it—many, alas! since their girlish debut, have heard the same words so often that they cause no thrill.

But, to return to the little rosy girl with the fig basket. She kept her opera glass on the side scenes with such perseverance that I was roused from my observations by the following from her father:—"Nizette, what are you looking at?" "Oh, the Nine Muses, papa, on the wall," answered Nizette, coloring. "They are fine frescoes, my dear," rejoined the credulous papa; "quite Grecian school." Just then Nizette nodded to a jet, curly-headed youth, who peeped out and made her a sign, then put his hand on his heart and disappeared. This was the fresco work that had absorbed her. When the pieces began all caste was forgotten; every one of the wise and unwise virgins, of the toiling mothers and hopeful fathers, were absorbed in the drama. In time Marguerite came on with Faust, who was the curly-headed youth, and Nizette's heart beat so fast I could detect the heaving of it under her casaque; but when all applauded she turned pale, and when the audience shrieked out his name, and called and stamped, down went the fig basket, which emotion papa attributed to joy at his Marguerite's success. In all the other parts of the house every gush was responded to with almost sensitive appreciation; every defect caused a start, every ridiculous or awkward attitude was pitilessly laughed at, every affectation repudiated. And this, I thought, is what renders it so difficult for foreign artists to stand up before a Parisian public; all these girls, with their fine artistic bumps so painfully developed, are worse than the Council of Ten and the Torture Chamber. On the other hand, how warm their applause when it was deserved, and when at length the jury did give out its verdict, after deliberation in a private chamber, what clapping when their tastes were confirmed, and what threatening displeasure when they considered the sentence unjust. When this gathering broke up as good a scene took place in the lobbies. Then came the meetings, face to face, of parents and children. Tears of joy, sobs of grief, aspiring ambition and discouragement, despair, comfort and—Nizette in Faust's arms, for he had had the first prize, and the Muses on the wall were forgotten. Papa did congratulate him tenderly, while Marguerite was so pleased that Nizette and Faust had some chance of marriage before them now he was a laureate.

I now hasten to describe some of the toilets made for the Empress' voyage to the East. A white gros grain and white tulle, above which a tunic of Indian cashmere, embroidered with gold and edged with gold fringe. The crossed bodice is one piece of gold work and Indian glow. Another, a pearl gray poult de soie, frilled up the skirt, each frill being bordered with Valenciennes, somewhat narrower than the frill itself. A tunic of the same, edged with Valenciennes, and a tight bodice, are the upper parts of this costume. The cuffs are à revers and edged with lace. A second costume is of straw-colored gros grain. The underskirt is covered with flounces, the tunic is of crêpe de chine, of the same shade, looped en paniers. It is bordered with a wreath of worked violets in mauve silk of variegated shades and open up the centre of the back.

A tunic that is to be worn with any toilet is made of black crêpe de chine, fringed round with scarlet fringe and worked all over with bouquets of roses. A pale nasturtium ball dress is made of poult de soie. The skirt is trimmed round with folds of China crêpe of the same shade, edged with lace. One of the evening dresses is a pale green silk covered with muslin, striped with insertion lengthwise, and bordered with Valenciennes. This is to be looped up with flowers. The bodice is all muslin and Valenciennes.

BOILER EXPLOSION.

Two Persons Killed and Several Others Injured.

[Corunna, Mich. (August 9), correspondence of the Detroit Free Press.]

A sad and fatal accident occurred a short distance from this city, on the farm of Mr. Nelson Coles, resulting in the death of Mr. Hart Castle, and a boy named Cephus Hatch, about sixteen years old, the particulars of which are as follows:—A Mr. George Collier, of Owosso, an experienced engineer, engaged some time ago to furnish a boiler and engine on wheels, the power of which was to propel a threshing machine for threshing wheat. It having been completed it was placed in the field of Mr. Coles, as above stated, to test its power and capability to perform what was recommended. The boiler was a small one and considered safe to stand a pressure of seventy pounds of steam, as indicated by the escape valve and the weight attached to the lever. Steam was got up, but it was found that in order to get the required power it was necessary to place some weight upon the end of the lever of the escape valve to keep the steam from escaping. A large wrench, weighing five and one-half pounds, was used, but still was not sufficient to confine the steam and to give the required power. Mr. Collier then requested the lad Hatch to step upon the wheel of the carriage upon which the boiler was placed, and hold it down with his hands. This he did, but occasionally allowed some steam to escape, when Mr. Collier said to him, "Hold it down," repeating it over twice. The boy did as directed, but a bystander remarked that it was a dangerous place and thought the boy had better get down. Before the friendly warning could be heeded a tremendous explosion took place, throwing the boy over one hundred feet, and tearing every particle of clothing off from his body except his boots and one wrist-band, and, it is supposed, killing him instantly. A piece of the boiler struck Mr. Castle just below the hip, severing his right leg entirely from his body, from which he died in less than an hour. Those present say he suffered the most intense agony, and repeatedly asked for a knife with which to cut his own throat to end his sufferings. Andrew Phillips had his leg broken below the knee. Mr. Collier was badly injured in the left arm and hand, but to what extent is not fully known, as the arm is very badly swollen. Robert Ketchum had his hand badly scalded and his shoulder burned. There were several others who were slightly injured. I visited the scene of the disaster and found the boiler thrown some sixty feet from the wheels upon which it stood. The steam chest was thrown about twenty feet, when it struck the ground, ploughing a deep hole in the earth and coming very near killing some half-dozen men who stood almost directly in the line it took. The safety valve and lever were thrown fully ten rods, and it is certainly a wonder that more were not killed, for there were a number of spectators of the experiment.

PHILADELPHIA BOOT AND SHOE MARKET.—The trade among the jobbers is increasing quite rapidly, and during the week there have been buyers from Texas, Alabama, Mississippi and Arkansas, as well as from towns in this State. The manufacturers are also quite actively employed, and the auction rooms are well attended.—*Philadelphia Ledger, August 14.*

AMERICAN STOCKS IN THE LONDON MARKET.

LONDON, July 29, 1869.

In looking over the quotations of foreign stocks here I have been struck by the very low figure at which our United States and State stocks range in comparison to most of the South American countries. I find that Brazil, with an exhaustive war on hand, an enormous and increasing debt, her Finance Minister proclaiming that "if the Paraguay war lasts ten months longer the country will be ruined," has a better credit than we have. Her five per cent bonds stand at 84½. The Argentine republic has an income of about $15,000,000 (gold) annually. This year there is a deficit in the budget of over $5,000,000. Her six per cent bonds stand at 79⅜. Chile stocks are deservedly high. The government is progressive and peaceable. The peculiar geographical form of the country is a guarantee against any long continued revolutionary disturbance. Their six per cent bonds stand at 94. Peru, depending entirely upon her guano deposits to pay the interest upon a very heavy debt, still has a better credit than we. Her four and one-third per cent bonds stand at 96. And yet guano does not grow, nor does it increase to any extent worthy of mention. Peru is, moreover, one of the most revolutionary of all the Spanish American States. Six weeks ago Bolivia had an offer from the Paris bankers to negotiate a six per cent loan for her at 82.

Conversing with Mr. Edward Haslewood, one of the leading and best known members of the London Stock Exchange, I have drawn from him as a result the following interesting and very pointed letter upon United States government, State and company stocks. It will serve well for those who are disposed to look at American finances and politics through English spectacles. He makes several good hits:—

FOUNDERS COURT, LOTHBURY, July 29, 1869.

DEAR SIR—In accordance with your request I now put into writing the substance of my verbal answers to your inquiries—what can be done to restore the confidence of the British people in the different State stocks, public enterprises and government securities, and to place them at a better quotation when compared with those of other nations?

Undoubtedly the first and most important step for the restoration of confidence in the bonds of the individual States is to compel the State of Mississippi to recognize both her debts and come to a compromise with her creditors. The argument is this:—If Mississippi can default on the bonds issued through the Planters' Bank and repudiate her bonds issued through the Union Bank, why should not New York or Massachusetts do the same? There is neither a Superior Court with power to judge or to enforce that judgment over a sovereign State, nor is the voice of public opinion exercised or of sufficient weight to compel a State to continue in the path of honesty. The European view of the matter is that these States are sovereign and independent when they choose to cheat their confiding creditors, but are part and parcel of the federal government for all other purposes. At this moment Mississippi is held to be out of the Union and is not to be admitted unless she complies with certain legislative enactments, not one of them being that she shall do anything to restore her own credit or to repair the damage done to the general character of her sister States by her wrong doing. I have said that she must come to a compromise with her creditors, for of all the States this one appears to be the poorest.

The bonds of private enterprises are not favorites, they are so liable to overissue. The bonds of foreign governments, countersigned by their agents in London, who are amenable for overissues to English laws, are very different things to shares or debentures of public companies whose power of creation is only limited by the demand. Another objection to these private companies is the system gaining ground of issuing scrip for dividends instead of *bona fide* cash payments.

It is a well known fact that for some months prior to the publication of Sumner's speech there had been a steady demand for small real investments in the five-twenties on the part of the British public, which ceased the instant the speech was reported. The London market is now, in reality, the mere pipe by which the Continent is fed. Very doubtful, indeed, if the tenth part of the federal securities held abroad are held in this country, and the common sense view of it is that until the Alabama claims are settled, or at least that Sumner is snuffed out, that tenth part is more likely to be decreased than increased. Want of confidence in the securities of the general government has been fostered by the senseless bowing down of your rulers to the lowest classes. I am certainly not a worshipper of the peerage, and put my confidence more in the House of Commons, who look forward, than in the House of Lords, who are anti-progressive, but I would rather commit the future of this nation to any peer than I would do as the Americans are doing, bowing themselves down to the statue of ignorance, which is half black and half white. By your laws you require that no American born on the soil shall vote until he is twenty-one years of age, and you have, to your honor be it said, provided schools to educate him; and yet you unhesitatingly grant the ignorant foreigner, who possibly cannot write his name, cannot read, or perhaps even speak your language, full powers of voting equal to your most distinguished citizens. Worse than this, as election day approaches, your speeches and addresses are all made, not to the intellectual classes, but to the lowest of the low, so as to catch the largest quantity of votes. If the question under discussion in the village green is a well or a pump, then all can understand it and the decision can be given by the villagers without any educational qualification; but if the question is the foreign policy of the country, let it be reserved for those who can at least read a newspaper. When the November elections are progressing Fenianism will be in the ascendancy; each candidate will promise everything that every Fenian can desire. When the elections are over these promises will not be remembered by the givers for one moment. But there is a class which will remember them, and that class is the real investors, who will turn aside from the securities of your nation, not knowing how soon the smoke may be flame. In other words, investors will not purchase the bonds of your people when judging by the stump orations. Freedom for Ireland means war with Great Britain.

The price of all things depends solely upon supply and demand, irrespective of the quality of the article. Sinking funds limit the supply and ultimately must tell on the price. For this reason the action of the sinking fund is narrowly watched, and the smallest latches or deviation from the strict compliance with the engagement sharply commented upon. In February, 1862, when the five-twenty loan was created, the law distinctly required that the sinking fund was to be one per cent per annum in gold on all the debts of the United States, and the interest saved thereon to be applied at the discretion of the Treasurer. Now I ask has your own law been carried out? The proof that it has would give confidence. If it has not, how do we know that another solemn engagement will not be broken? The late decision of the Secretary of the Treasury to sell, once a fortnight, the quantity of one million of gold is very near the mark, and so long as the premium on gold is more than the premium on any one of the federal stocks he will liquidate in less than one hundred years. But if the construction of the act should be found to be that the sinking fund is accumulative, then any compound interest table will tell us that one per cent per annum plus the compound interest at six per cent will pay off the entire debt in thirty-three and a half years, or at five per cent in thirty-seven years. Such being the case, I am fully justified in dwelling on the importance of the law of February, 1862, which requires that one per cent in gold shall be applied annually to the extinguishment of the debt. Under the Peruvian sinking fund, its three per cents are higher than British consols.

In conclusion, to recapitulate in few words, had the conduct of Mississippi been discussed in Congress and reparation insisted upon; had the doctrines ennunciated by Sumner been at once annihilated by the Senate; had the elections for Congress been in the hands of native born citizens, so that Americans, and only Americans by birth, might rule your international policy, then we should have a very different quotation of your six per cents, which are under British consolidated three per cents.

EDWARD HASLEWOOD.

Fortunately for us it has ceased to be absolutely necessary financially that England should think well of us. The remark in the above relative to the movement of our bonds towards the Continent helps tell a story that English dulness will not appreciate until it is too late. In 1866 London was the financial centre of Europe and of the world, the Arab story, on the Nile, that the Americans had sacked London and were spending the proceeds there, to the contrary notwithstanding. In that year came the failure of Overend, Gurney & Co., and that of Peto & Betts, amounting in the aggregate to nearly thirty million pounds sterling. A great number of large firms followed suit. Then came the crash of the "limited liability" companies. These toppled over by the hundred. All this gave a terrific blow to English faith and enterprise. For centuries their capitalists had distrusted everybody abroad, only to find at last that those whom they could least trust were themselves. The English mind has not yet begun to recover from this stroke dealt three years ago. In the meantime Paris and Frankfort have pushed ahead rapidly, the former in the absorption of great continental enterprises, the latter in general securities. When England awakens from her lethargy she will find that Paris and Frankfort are the financial centres of Europe, and that, as a result, what she thinks of us financially or politically will be of secondary consideration in the United States.

THE PHILADELPHIA BONDED WAREHOUSE FIRE.—The walls which remained of the Patterson warehouse after the fire are being removed, preparatory to the bricks and charred timber being taken from the cellars. It is believed that a number of barrels of whiskey will be found under the ruins, though the intensity of the heat on the night of the burning would seem to render such a supposition rather improbable.—*Philadelphia Ledger, August 14.*

The initials C. 7. R., with a crown, intended for the partisans of Don Carlos, have been publicly offered for sale in Valladolid, and when the authorities interfered and ordered their removal the venders asserted that the initials indicated the cost only—viz., Cuesta 7 Rls. (cost seven reals).