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A REMARKABLE accident took place a few days ago, on Price's Hill, near Cincinnati, where a tank, constructed under the direction of the Board of Public Works of that city, and used for supplying one of the outlying districts, gave way in the night, flooding the neighboring cellars, and washing away some small buildings, but not causing any serious casualty. The tank was of steel plates, riveted together, one hundred feet in diameter and forty-eight feet deep. The steel appears to have been of good quality, the tests showing a tensile strength of seventy-five thousand pounds per square inch; but the riveting is criticised in some of the published accounts, so that no opinion can be formed as to the actual strength of the tank. However, at the time of the failure the water was but thirty-nine feet deep in the reservoir, giving a pressure of about seventeen pounds to the square inch at the bottom, and the break occurred twelve feet above the base, where the tension would be nearly a third less, so that it hardly seems possible to attribute the rupture to hydrostatic pressure. What other force was capable of causing the effect, it is impossible to say with certainty. The correspondent of the Cincinnati *Gazette*, observing that the edges of the broken plates showed signs of brittleness, due probably to the hardness of the rolling, suggests that the unequal expansion caused by the heat of the sun on the outside of the tank, and the coldness of the water inside, may have fatally weakened the steel at the lines of riveting, a more plausible theory than that of the *Commercial's* reporter, who attributes the catastrophe to a "hydrostatic explosion."

It would not, we fear, please certain amiable theorists very much if it should come to be acknowledged that the latter half of the nineteenth century owed its artistic advancement more to women than to men, but it certainly seems not improbable that the superior sex may be obliged before long to put forth unwonted efforts if it would avoid being distanced by the industry and single-minded devotion of the other. One of the latest instances in which something like a fair comparison may be made is afforded by the competition for the execution of two statues of distinguished Pennsylvanians, ordered by the State, to be placed in the Hall of Sculpture at Washington. As a result of the preliminary contest, one of the commissions was awarded to Miss Blanche Nevin, of Lancaster, and the other to Mr. Howard Roberts, of Philadelphia. Mr. Roberts's model, which we find described at length in the Philadelphia *Telegraph*, represents a man seated diagonally in a chair, with the apparatus of the workshop around him, "his shirt-sleeves rolled up at the wrists," and gazing at a tiny model of a steamboat, which he holds in his hand. This latter device alone makes it evident to the meanest capacity that the figure must be intended for Robert Fulton, so that the sculptor's purpose is, no doubt, fulfilled. Whether the other "ideal qualities of this fine work," as the *Telegraph* calls them, — that is, we suppose, the bare arms, the ungraceful attitude, and the workmen's tools, — still further express the character of the delicate and courtly Fulton, may well be doubted; and even if they did, there is at least a question whether all beauty in a work of art should be sacrificed in order to reproduce as many as possible of the unattractive qualities of a subject.

In striking contrast to this meagre conception of a rude workman staring at a little caricature of a steamboat, Miss Nevin has imagined her hero, the Rev. Major-General Peter Muhlenberg, as standing before his congregation that memorable Sunday when, after a sermon upon the duty of citizens to their country, he announced that "there is a time to preach and a time to fight, and now is the time to fight;" and stripping off his clerical robes, displayed himself to them in the uniform of a colonel, calling at the same time upon them to follow him into battle against British tyranny. A more dramatic incident, or one better lending itself to effective and beautiful sculpture, has never been put into marble, and although the *Telegraph's* commendation of the model, that "it is said that the artist has succeeded in giving the subject adequate interpretation," is perhaps the faintest ever awarded to a Pennsylvania sculptor by a newspaper of his native State, we may say without hesitation that Miss Nevin has far surpassed her rival in the most difficult part of the work, the artistic conception of her subject. Whether the conception will be carried out with sufficient feeling and skill is another matter. There is much encouragement, however, in the very fact that the sculptor belongs to the sex which in matters of art usually shows the truest instinct in pursuing its idea, free from the entanglements of buttons, boots, curls or feathers, which absorb the life of so many works of masculine artists; and we sincerely hope that design and execution will be found to co-operate equally in producing one of the best of American statues.

A CONFERENCE between the city plumbers and the Board of Health took place recently in Brooklyn, to consider the regulations which should be adopted in administering the new inspection law. As not unfrequently happens when practical men, that is, men educated to do a certain thing in only one way, attempt to discuss theoretical points which involve the comparison of methods unfamiliar to them, the suggestions of the plumbers, although generally good, were in some instances of rather questionable value. According to the report in the New York *Herald*, it was "generally conceded" that earthen pipes were the best for use below ground, an opinion in which few experienced sanitarians will coincide. Mr. Burns thought that lead was the most suitable material for soil-pipes above the ground, but this was disputed by other plumbers, some of whom asserted that sewer-gas would "eat holes through lead." The real argument against the obsolete practice of employing lead for large wastes, that the weight and ductility of the metal disposes the pipes to break away from their fastenings, and lose their shape or become torn, does not seem to have been mentioned. The proposed rules for the ventilation of traps, for sizes of waste-pipes and caulking of joints were all that could be desired, and much good will undoubtedly come from the continued relation which it is proposed to maintain between the Board and a committee appointed by the Master Plumbers' Association.

ONE of the most forcible appeals ever presented to a city council has been addressed by a number of ladies to that of Cincinnati, in support of the vigorous movement now going on to secure an abatement of the smoke nuisance. Chicago has had the courage to deal effectually with this great evil, and Cincinnati which suffers even more from it, should not hesitate to follow this good example. The ladies, after calling attention to the fact that the better class of population is rapidly deserting the town for the clearer air of the suburban hills, pertinently say: "Ask the dry-goods merchants, furniture, book, picture and carpet dealers what price they pay for the unlimited so-called interests of our manufactories. Ask each householder what he pays in actual dollars and cents to his neighbor across the way, or on the other block, who feels free to pour into his dwelling from his mammoth manufactory the smoke that stifles him and his family, that begrimes his dwelling and clothing to such an extent that the simple effort to live half decently absorbs all his earnings in refurnishing." "Domestic life," they say, "is an incessant warfare and defeat on account of the smoke;" and they inquire whether the inhabitants of Cincinnati who are not manufacturers have not some rights in the matter. To this question every unprejudiced person must reply in the affirmative, and if, as is believed in Chicago, there are appliances which will insure a smokeless fire, to the ultimate gain of those who employ them, their use

should be made compulsory without delay. The Cincinnati ladies have the best wishes, not only of those interested in the matter on this side of the ocean, but of very many on the other, who watch the progress of the Americans in dealing with the smoke nuisance most intently and anxiously. Hardly an article appears on the subject in one of our professional journals that is not copied at length in England and translated for the French papers; and every defeat here will be regretted throughout the civilized world.

THE medical directors of lunatic asylums usually exercise so much control, not only over the administration of the great establishments under their care, but over their planning and construction, that they may justly feel themselves as much interested as architects in comments or criticisms upon the more prominent institutions of the kind; and it is only justice to say that the most successful hospitals are almost invariably those which the doctors have had the largest share in designing. That there is no fear of devoting too much special knowledge and experience to the construction of those buildings which, next to school-houses, have the highest claims upon our care may, however, be inferred from a criticism made by Dr. Clouston of Edinburgh on the great asylum lately completed at Danvers, Mass. The wards in this costly building he describes as "producing an impression exactly like that of a den for wild beasts," and, as he says, "the patients responded to the influences around them, and looked and acted as if degraded below the level of humanity." "As there was nothing to break, and nothing to do, and nothing to hang themselves with, they walked up and down like tigers, or slouched on the floor, or chewed leather gloves that some of them had on to prevent them from tearing the unsightly clothes they wore; while the nurses were all in their own rooms, and might just as well have been in bed, there being nothing for them to do." With all possible allowance for the rather suspicious eloquence of this description, it is quite possible that economy in the matter of managing lunatic asylums may with us be pushed too far. It is absurd to suppose that our physicians do not know the advantage of separating the insane into small families, each with its own habitation, attendant, and administration, but they also know the expense, proportionally far greater here than in Europe, of such a system; and they have perhaps erred in not insisting more strenuously on its adoption, at any cost.

DURING a recent strike of plasterers in one of the Atlantic cities, an incident took place which, though trivial enough in itself, and by no means unprecedented, is worth reflecting upon by those who interest themselves in the future relations of employers and employed, or, according to the silly formula of cheap newspapers and designing demagogues, of Capital and Labor. The plasterers' union in this particular city, though compact, is not a rich one, and the struggle had not lasted long before it began to lose its resemblance to that prolonged holiday, — that "loafing about at ease on money contributed by other Unions, just as rich people go to Saratoga or Long Branch," to which an over-frank Cincinnati iron-worker compares the strike in his own trade; and the more enterprising members began to think of means for extricating themselves from their uncomfortable position. When an American really undertakes to better himself, he soon finds a way, and two journeymen solved the problem of promoting their own interests without violating their pledges to the Union in the same way that Henry Little did in Reade's story of "Put Yourself in His Place," by metamorphosing themselves from representatives of Labor into pampered capitalists. A large house was in the market for estimates, and forming a hasty copartnership they appeared as bidders. In this capacity they were masters of the field, as the regular contractors were compelled to reckon the cost of labor at the Union rates, while the new firm, proposing to do the work themselves, could set any price upon it that they pleased, and being known as good workmen, they secured the job. A few barrels of lime and sand were obtained without straining their credit very much, and it seems quite probable that their profit will be commensurate with their enterprise and good sense.

THE attention of the professional mischief-makers in Russia has, as it seems, been devoted of late to inanimate victims, and, true to the instinct of the tribe, to advertise themselves at other people's expense by any or all means, they have selected the most noted cluster of buildings in Russia, the Kremlin at Moscow, for their incendiary practices. Without discussing the

opinion of those who see "supreme audacity," or "the signal that the hour of imperialism has struck," or any other imposing abstraction in the simple act of crawling at midnight up to a church window, throwing in a few dirty rags dipped in petroleum, and then scuttling off in the darkness, we may as architects console ourselves with the thought that notwithstanding the costliness of several structures in the Kremlin group, neither art nor science lose much by their destruction. The most ancient of the buildings dates back only to the fourteenth century, and one, perhaps the most gorgeous of all, was finished in 1850. It is not too much to say that each one of the poor neighboring hovels whose occupants were driven homeless into the streets by the spread of the flames is more to be regretted than all the splendors of the imperial palaces; and we may hope that in the quickened sympathy and charity which such calamities excite among all who try to do their duty to their fellow-men, the growing artistic sentiment of Russia will find both inspiration and expression which will more than compensate it for what it has lost.

THE telegraph brings the news that the pretty village of Aarburg, in Switzerland, has been totally destroyed by fire, with considerable loss of life. It is only a few months since the town of Meyringen met a similar fate, and there is only too much reason to fear that the beautiful and ancient wooden towns of the northern cantons are doomed one by one to disappear, victims, perhaps, of American kerosene. Many of our readers will recollect that Viollet-le-Duc, who spent much of his life in Switzerland, and was thoroughly familiar with its characteristics, repeatedly expresses his opinion that the wooden constructions of the Alpine valleys exhibit perhaps the most ancient living architecture in the world. Centuries before Rome was founded, he thinks that the primitive Helvetians may very probably have built their wide-roofed chalets, framed with hewn timbers ingeniously dovetailed together, and covered with huge shingles, held in place by poles weighted with stones, just as their descendants do now, and there is hardly anything in the construction of a modern mountaineer's dwelling, put together, as many of them still are, without nails or metal of any kind, which is not quite within the reach of an ingenious barbarian, furnished with tools of well-sharpened flint or bronze. To their antiquarian interest the timber structures of Switzerland add a picturesque beauty, and richness of light and shadow, that is all their own; while the crowding of the houses in the villages along a single narrow street, once necessary for mutual protection, adds as much to their charm as it does to the danger in case of conflagration. For this reason, such towns as Meyringen and Aarburg will never be rebuilt as they once existed, and those who care to study one of the most instructive phases of the art of building should make themselves familiar with the Swiss villages without unnecessary delay.

ONE thing appears to be still needed in Cincinnati to give that city the complete character of a metropolis of the fine arts, — that is, a competent critic of the works, native and foreign, which are from time to time exhibited there. Speaking of the objects now being collected in Europe for the new Museum, a writer informs us that they embrace, besides paintings and antiquities, "carvings in oak, ebony and other expensive woods," together with "marble portraits of eminent persons, elegantly mounted on elaborate pedestals," and a large variety of "rarities which will enrich any collection, public or private." It seems hardly worth while to take up forty or fifty lines of print in imparting this information, but perhaps the labor was as well expended so as in producing the criticism which follows on the works shown by the pupils of the School of Design. The first of these is complimented by saying that it possesses "much smoothness and naturalness in the rendering of the face;" the second is classed as "a good specimen;" while the third is characterized somewhat equivocally as a "portrait of a lovely subject." Of comment which could be of the slightest use either to the authors of the works mentioned or to the public there is none. Such writing about art, which is, indeed, not peculiar to Cincinnati, but prevails almost to the exclusion of other kinds in all our cities, is far worse than useless. It inflates the young performers with a vague sense of their own importance, and nourishes that provincial impatience of just criticism so characteristic of our artists; while it misleads and corrupts the naturally healthy judgment of the public. There is no lack of artistic enthusiasm and talent among us: what we now need most is the wholesome discipline which only wise and fearless critics can administer.

CIVIC MONUMENTS IN NEW ENGLAND.¹—V.

[In the last paper the authorship of the various statues in the Lexington Memorial Hall was incorrectly given. The Minute-Man and Union Soldier are by C. Conrads, the John Hancock by T. R. Gould, and the Samuel Adams by Martin Milmore.]

THE WASHINGTON STATUE AT NEWBURYPORT.

The bronze statue of Washington at Newburyport is replete with interest. It represents four important facts concerning statue making in the United States. First, that of public-spirited citizens erecting at their own expense in their native towns statues of illustrious men. Second, that this statue was made by a sculptor who is regarded, by general accord, as the ablest of the known American sculptors. Third, that it is an excellent, perhaps the best, example of his work. Fourth, that it illustrates the popular progress and present condition of what is called American sculpture. Large expenditures for monuments, art museums, fine paintings and sculpture by generous and wealthy individuals are now so common an occurrence in the United States that they quickly pass out of daily notice into the sober domain of beneficent history. Mr. D. I. Tenny, a resident of New York, gave this statue to his native city. The sculptor was J. Q. A. Ward, of New York.

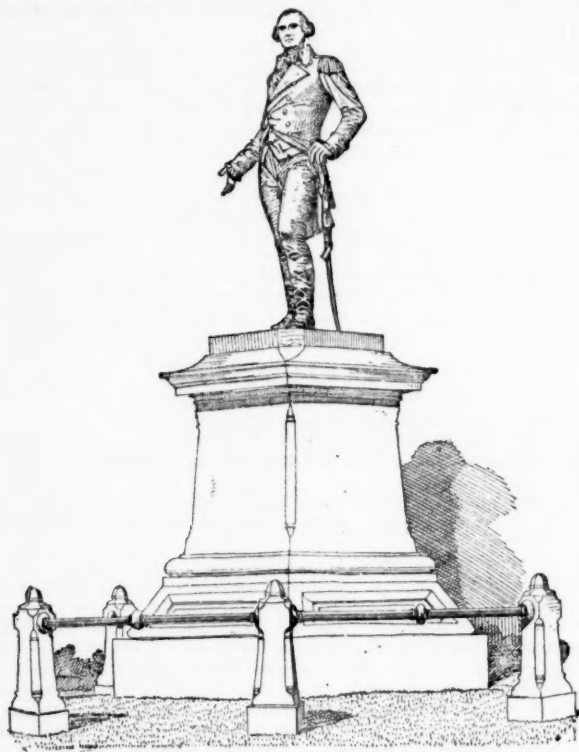


Fig. 41. George Washington. By J. Q. A. Ward.
At Newburyport, Mass.

From a pamphlet published by the city of Newburyport entitled "Presentation of the Statue of Washington to the City of Newburyport" we take the following authoritative description of the statue:—

"Washington is represented in the half military dress in which he was accustomed to appear while commander-in-chief of the army. The coat is carelessly fastened at the middle button, and sweeps away on either side well up to the collar, showing the ruffles on the shirt, and downward falls away from the thighs. The silk lappets of the coat, and the displacement of the cords of the bullion on the epaulets caused by the position of the arms, are perfectly rendered. He stands firmly, with nearly equal weight on both feet. The left foot is slightly advanced, making a bend at the knee. The right hand is open and slightly extended, showing the palm, while the left rests on the pommel of the sword, poised on the ground. The face wears an expression of mildness and benevolence, softening somewhat the gravity it usually has in other representations. The marks of action are slight, and may be those of salutation or of slightly animated conversation. The figure is picturesque and striking from all points of view."

It will be observed that the above description is particularly concerned with the costume of the statue. Of its position very little is said and that little is quite unintelligible. As to the purpose or the design of the statue, that is left to the understanding or pleasure of the

¹ It has been found desirable to enlarge and develop the scheme upon which these articles were based. Intended originally to treat only of Boston statues, they have been extended so as to take in some of the more important monuments in the neighborhood of that city. Moreover, it has been found desirable to supplement the illustrations of these statues and monuments by others which serve to show what the master-hands of foreign artists have done when striving to embody similar ideas and sentiments: they may be considered, in fact, among the writer's strongest arguments in support of the criticism and analysis he has undertaken to make. — Eds. AMERICAN ARCHITECT.

observer, "and may be those of salutation or of slightly animated conversation;" interpretations somewhat differing in character, but of sufficient elasticity to please the "masses of the people."

A writer in *Harper's Magazine* for April, 1879, speaks as follows of this statue: "The subject is not a new one; in fact, it has been treated so many hundred times in one form or another that especial originality was needed to treat it again with any degree of freshness and interest. But the effort has been crowned with success. There is in this statue, which is of colossal size, a sustained majesty, dignity and repose, and a harmony of design, very rarely attained in modern sculpture, entitling it to rank as a work of pure genius by the side of such works as Powers's 'Eve' and Akers's 'Pearl Diver.'"

These observations lose their weight, if they could possibly have any, by the bad judgment of the writer in referring to Powers's "Eve" as a standard of merit, a piece of marble never mentioned among artists as a work of art. They also leave us in the dark as to the design of the Washington, and in what its "originality" and "freshness" consist. The *New York Tribune* of January 6, 1879, interprets the statue "as representing the hero addressing his countrymen on some public occasion, and that not a sad one. The figure, of heroic size (eight feet in height), is firmly but lightly poised on the left foot, and the left hand rests strongly on the sword which, with its belt hanging about it, serves as a still further support. The right hand is thrown out backward from the body with excellent effect as if it were just on the point of being brought forward and up, in a swift concluding gesture. The head is animated and moves with the body, while the usually grave features are lighted up with a benevolent smile, the expression of that deep feeling which formed so essential an ingredient of Washington's nature, but with which he is so little credited."

This description is confined to the position and action of the several members of the body of the statue rather than that of its direct intention as a whole. In what respect the statue is an original or recognizable interpretation of any distinct phase of Washington's character, or of any significant event in his life, it does not inform us.

Compared with the vast majority of American statues, the Washington at Newburyport is indeed noticeable; especially, because the work on it is thorough and honest, earnest and intelligent in the attempt to reproduce in bronze the facts of a human figure and the costume which it wears, without imagination or the poetic sense of form, thus distinctly marking the line between art and workmanship. In this respect it represents what is popularly called the progress of American sculpture, and evidences that we are at least exacting in the representation of the material facts of garment and figure. This strikes the observer as the important element of the statue. The impression is correct. The statue is that and nothing more. But this would hardly be accepted as progress in the art of sculpture, however interesting as showing that improvement in this respect is quickly recognized.

It is different from many American statues because it is persistently consistent in that all that is in the statue is carefully attended to. As a matter of construction it is heavy, without a sense of weight. It stands in the air, not on its plinth. There is no internal movement. It is a determined surface. This explains the reason of its representative function. People like a pretty exterior. The tailor is deified in bronze. It is individual, for it evinces not only an absence of the perceptive, but of that acquired sense of sculpture only to be obtained by a varied personal familiarity with productive sculptors. It is a production without relationship. It embraces nothing, it gives nothing.

Originality and freshness are the distinctions claimed for the Newburyport Washington. It is true that it is not like other sculptured representations of Washington, but a difference is not sufficient to substantiate a claim to originality, although it might be to that of freshness. It is fresh. There is no statue of Washington that can be called original in its true sense; none that reveals an intuitive comprehension of the whole or of any positive phase of Washington's character; none that illustrates or symbolizes any important event or epoch in, or period of, his life. The bombastic combination by Canova could never be thought pleasing. Chantrey's statue has to do with its subject to the extent of the head only. What to make of Houdon's representation, we do not know. The remainder of the Washington statues are all fanciful in their design, with the exception of Greenough's, and like Ward's might be taken for any indefinite personage.

An original treatment in art of a great character involves a consideration of what he was, what he did, and how he did it, and those facts suggest and necessitate an arrangement as sculpture, embracing certain principles of composition. The copying of the forms of nature or drapery however faithfully done is not sculpture. One temperament will do it one way and another temperament in a different way. All may be original art compositions, representing and embodying vital impressions and truths. The Newburyport Washington is not vital in its directness, or noble or noteworthy in its design. It is not true in any large sense of the personage it assumes to represent. If Washington is "addressing his countrymen" and emphasizing his words by the gesture of his right hand, what part is the left arm and sword taking in the performance? Evidently none. The sword is not needed to illustrate the military period or character of Washington, for the costume does that. Then the moment or purpose of the statue is not of active military signifi-

cance. The design of the statue having no characteristic purpose could not formulate itself into any harmonious composition. The left arm has really nothing to do in accenting or composing with the rest of the figure, so it holds a sword that is put in to fill up, a contrivance certainly not characteristic of good design. There would have been a reason for its appearance in the composition of the statue if it had been used with some reference to its character, and not as now performing the humble function of a cane, where even that is unnecessary. The Washington as a composition is fragmentary, lacking in movement and continuity, and uninteresting as sculpture. In singleness of illustrative idea it is as inferior to Miss Whitney's Adams, or Story's Everett, as it is to Miss Stebbins's Mann in simple but direct reference to the character of the subject. It has none of the naturalness of the Houdon, the impressiveness of the Chantrev, or the poetic dignity of the Greenough Washington. Compare the Newburyport Washington with Hammatt Billings's Minute-Man. The latter is a noble conception of the subject, a direct and complete expression of a purpose, consequently a fine composition. It is a monument of itself. The former would not disturb a drawing-room. The latter answers to a force in history. The former might represent any gentleman. It suggests nothing to the next sculptor who shall undertake a statue of Washington. It is not the beginning or germ of a symbolic, or even an illustrative, idea of one of the few universal men of the world. If it had been such, though executed with none of its care for costume, it would have marked a positive condition and defined a prospective development of sculpture in the United States. Progress in sculpture does not mean well-made clothes as much as well-comprehended ideas. There are bronze men, and statues in bronze. This is a bronze man.

The commonly made observation that Washington is "a threadbare subject to treat" seems appalling to the unimaginative artist, a sufficient excuse for the neglect of its serious consideration, and an ample reason why anything with his head and costume on it may be called by his name.

The favor shown to the preservation of costume in a statue in this country is so pronounced that the poetic and dignified work of art by Horatio Greenough is the standing gibe of vulgarity, and the memory of one of the most refined artists the country has ever produced is submitted to a continuous national insult because he indulged in the unpardonable sentiment that between clothes and character the latter might well receive on certain occasions the chief consideration. He is the only sculptor who has attempted, with a spirit and intelligence in keeping with his subject, to treat the varied and commanding nature of Washington.

The same favor for costume, and the indifference to what is real sculpture, has brought, and is now bringing, into existence the ghastliest army of forms and effigies, called soldiers' monuments and statues, that has ever inflicted a people since the earth was made.

One of the questions suggested at the beginning of this article was, whether Boston monuments and statues represented its best intelligence and capacity. The writer has thus far spoken of the artists' part in this representation; it remains to consider the relation in which the people stand to these works, and how far they are responsible for them. The desire to erect monuments and statues manifested itself at the earliest opportunity, and the public gave money with the greatest generosity. The committees having them in charge were composed of the representative citizens, and with a few exceptions the best sculptors were selected. The exceptions must be set down to the side of a disposition to favor friends rather than to get better sculpture, and by this manner of proceeding grave errors were committed. The people have made some mistakes of neglect as well as haste to favor some particular artist. No more sufficient evidence of a lack of any positive sentiment on their part for sculpture is needed than a reference to the fate of David d'Angers's statue of Thomas Jefferson¹ (Fig. 42),



Fig. 42. Thomas Jefferson. By David d'Angers.
In the Capitol, at Washington, D. C.

¹This statue was made between forty and fifty years ago by one of the most distinguished sculptors that France has ever produced, David d'Angers. It was commissioned by an officer of our navy, who resided in Paris. He brought it to Washington and presented it to Congress, but as tradition goes, it was never accepted, sculpture being at that time a subject of little interest, and this statue in particular appearing to the ordinary Congressman of that day of no more importance than any image of bronze. The gardener of the White House, out of compassion, placed it in a clump of bushes in front of that building, where it remained for nearly forty years as much forgotten as though it had never existed. When General Babcock became superintendent of the public grounds and began to clear away the incipient forests that were fast hiding the stately grandeur of the home of the presidents, he came across the Jefferson, blued, greened and blackened with the merciless vinegar of the same atmosphere that had deco-

red to the history of the Falling Gladiator, by the late Dr. William Rimmer. It is now twenty years since it was made and exhibited in Boston. It produced no lasting impression, and was soon forgotten. After the Doctor's death it was found in the rubbish room of the Cooper Institute, because it had become an object of disgust in the gallery of that institution of art. It remains to-day in plaster, as left by the hands of the author. Its great merit has met no response from the people. Another instance of public indifference is the present condition of the Washington in the State-House. This statue ought to be, as was intended, freely accessible to the public, and duplicated in plaster and bronze,—in plaster for dissemination, and in bronze for some public place.

Curiosity at least should lead to an investigation of the merits of the original Washington, by Houdon. If it is a good statue the fact ought to be known, and a worthy copy made in both plaster and bronze, so that the people and the artists might benefit thereby. The fact that certain statues, so poor that they shock good taste and impose themselves upon the sensibilities of the people, are permitted to remain where they were first placed is still another proof of a want of interest in the influence of art.

If public ridicule and condemnation of a statue or other work of art means anything, it has two ways of practically expressing itself. One is to take down the object, the other to set about getting something better.

When the peculiar limits of New England life are considered in all its phases of religion, politics, education and climate in comparison with like facts in countries where art has had a perfect development, it is no wonder that we have not produced the artists of Greece, Italy or France, or that the people are not so susceptible to the charms of art as those of more favored climes. The conditions did not exist. The task of making such a work as Ball's Washington twenty-five years ago is hardly to be appreciated. The courage of beginning it is quite wonderful.

The surprising thing is not that so little, but that so much, has been done. Not as a solid and progressive beginning, but more like going through the unfortunate preparation of a beginning, a process inherent in the nature of things. It is a wonder that there are any persons who have the art instinct. There has been no moment in the history of New England when "the simplicity of innocence, the power of great convictions," the religion of art, would have lived, if it had been born. Art for art's sake, as one of the essential factors of a people's greatness, is a fact not recognized even at this time. How far is it from just, then, to answer the above question in the affirmative? — to say that the monuments and statues are a fair representation of Boston intelligence and capacity of production?

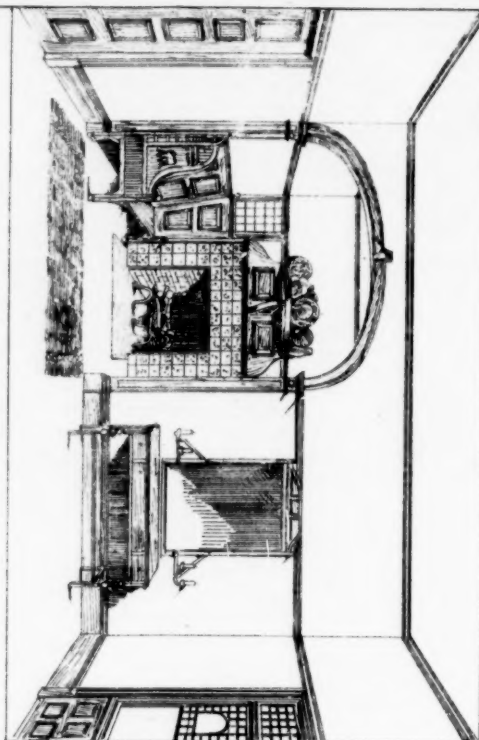
The second, and by far the most vital, of the questions suggested at the beginning of this paper relates to the future prospects of sculpture.

Upon this subject there is a wide difference of opinion. The least hopeful view is that the future promises nothing because of the race tendencies of the New Englander and the circumstances of his life and development. The Anglo-Saxon, say those who hold this opinion, has produced no true art in form. Even did the art instinct exist, the rigor of our climate would absorb that vitality which in more favored lands has found its perfect art expression. We are without religion, and, more than that, the belief dominant during our formative days has been a creed which regarded any beauty but that of morals with abhorrence, and as a snare of the enemy of souls. Our people, simply to exist, have been forced to cultivate the sterner virtues at the entire sacrifice of natural spontaneity and frankness. They are unimaginative, and life in New England is from necessity destitute of local color. We have, it is true, a history, but it is brief and totally without any deep hold upon the popular respect; while the attitude of the race towards art is at once epitomized and rendered hopeless by the fact that the art feeling is regarded, not as a God-given instinct of humanity, but as a trade to be taught by an artificial system of galleries, museums and so-called art schools, directed by men not themselves artists.

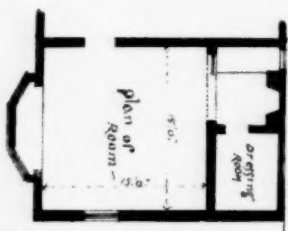
Another, and more hopeful, view is that however unsatisfactory the past or the present, the future will make amends: as from the mixture of many bloods, Celtic, Teutonic and Anglo-Saxon, is to be expected the production of a great race, so from the varied elements

rated the masterpieces of Clark Mills. To find such a mass of poisonous verdigris within breathing distance of a human habitation was a sufficient reason for the adoption of vigorous measures of reform, and the neglected, despised, and unfortunate Jefferson was started towards the junk shop. At this time the National Hall of Sculpture in the Capitol had begun to attain a more than local notoriety. Several disjointed and cob-like images had already arrived, more were on the way, and the speculative sculptors were busy planning for a greater prospective increase. Some were proposed that as copper was rated low in the market, the Jefferson would not bring a price due its age and distinguished origin, and that it would be better to clean it, place it among its kind and wait for a rise in metal. The suggestion was practical and amusing. It was adopted. A generous bath of soap and water was given the assiduous author of the Declaration of Independence, and lo! a beautiful piece of bronze appeared to astonish and charm the metallic speculator. Such an example of statuesque reform was sufficient glory for any single administration. Important political changes succeeded this rejuvenating process, and the brilliant spirit of Monticello was lost in the maze of his rapidly increasing marbled contemporaries. So far as the public is concerned, it has remained lost and is likely to be for some time to come. The existence of a good statue is not even recognized, so busy is the average American with matters he considers more vital, and so indifferent is he to the influence of art. Congress has never even accepted the Jefferson. It is an uninvited guest in the old hall of the House of Representatives, and it is the only member worth mentioning. It is not only the finest portrait statue in America, but it has more art in it than all the public sculptures in Washington put together.

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Sketch of Bed Room.



Plan of Room.

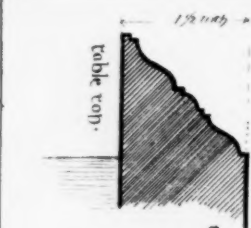
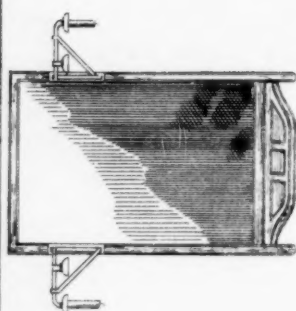


table top.

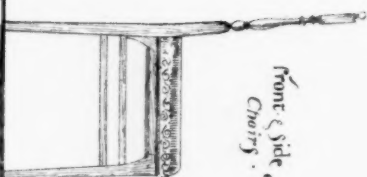


table leg.

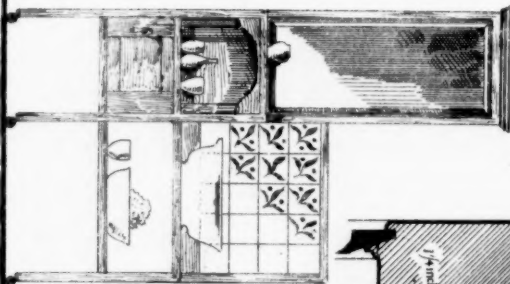
Twice Table.



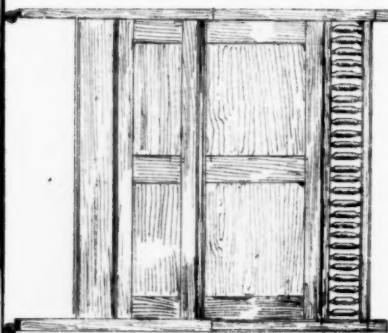
Front & Side of Chair.



Front elevation of wash stand.



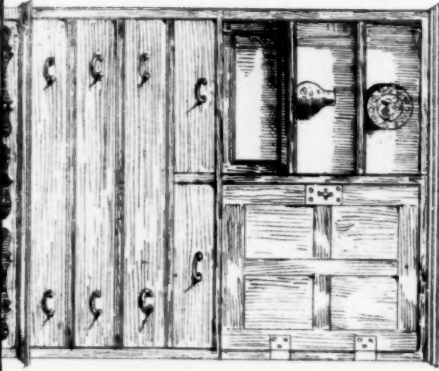
Front side elevation of bed.



Detail of head board.



Front View of Locker.



top mould of Locker.



base mould.

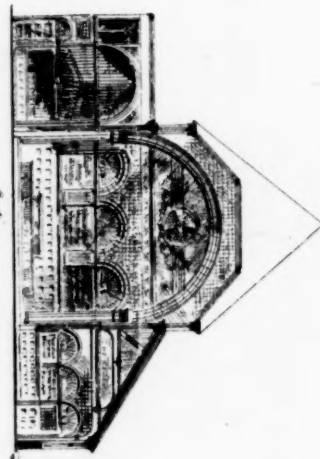
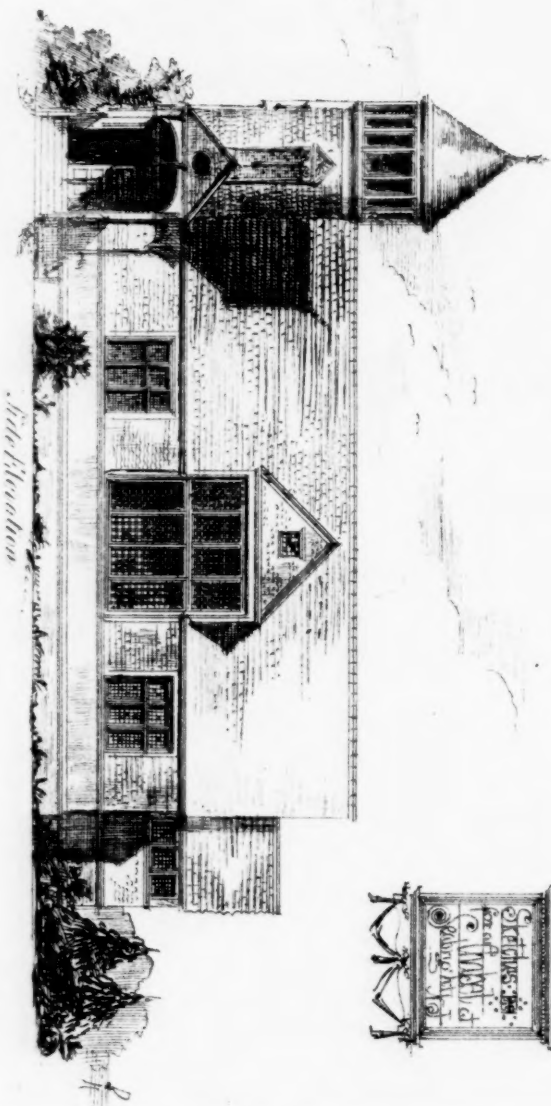
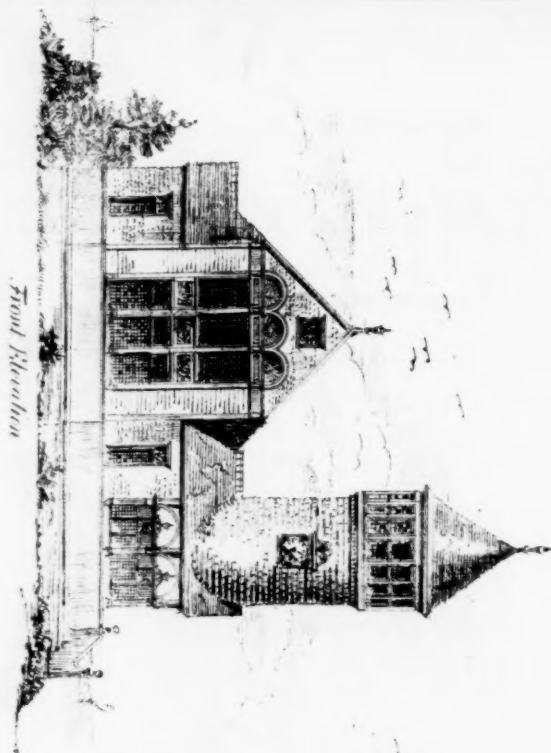


Scale to details.

Furniture in Bed Room of Small Country Hotel.

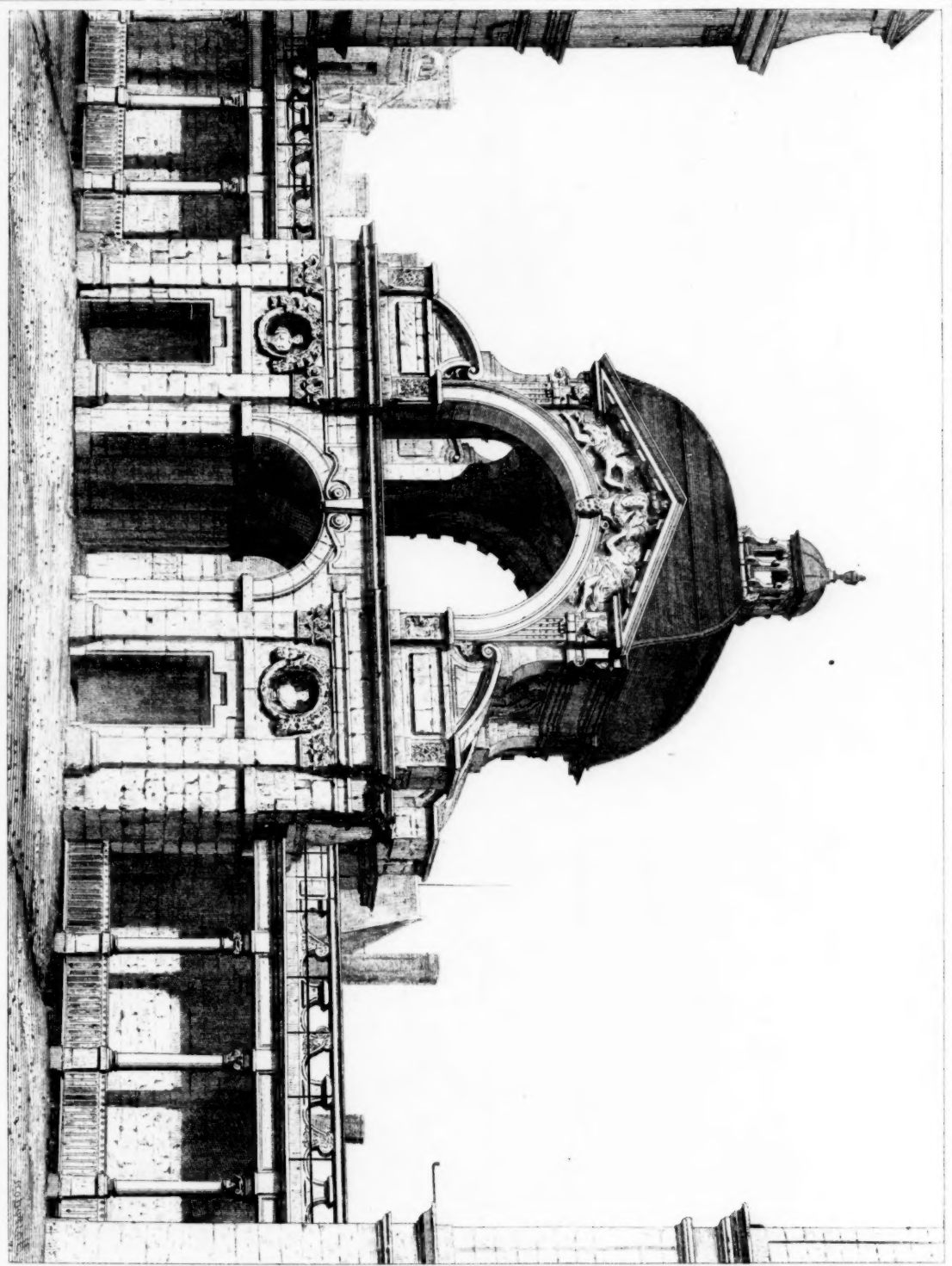
Nov. Vernon.

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St. James' Episcopal Church

Designed by James R. Osgood & Co.



PORTE DITE DU BAPTISTÈRE CHÂTEAU DE FONTAINEBLEAU

Moniteur des Architectes.

James R. Gordon & Co. New York.

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at war to-day shall be formed a great and pure art; that every effort, however misdirected, is good, if not in anything else, at least in keeping alive an interest, and leading to a true appreciation of art; that the history of art in Old World countries will repeat itself here, and a true feeling and a high productiveness developing themselves in due time.

There is much truth in both these views, yet neither seems to the writer, wholly to cover the ground. It should be taken into account that American life has a freedom and swing impossible in older countries; that the very circumstances which seem most to cramp development also tend to build up strong individuality, and to foster to an extraordinary degree the great qualities of patient spirituality and love for ideal things. Especially is this true of woman. Particularly significant is the large number of girls who manifest a desire and an aptitude for the study of art, and even if in themselves they arrive at no great results in work, we may yet hope much from the sons who shall inherit keen art instincts from such mothers.

But more than all else is the fact that here and there have sprung from New England stock, amid all the discouragements of her savage climate and hardy life, men in whom this art instinct has been powerful enough not only to protect itself against an unfortunate environment, but to demonstrate itself as well, by the production of significant expressions of art in form. Their life and development is in advance of that of the people; it is an evidence, not of the existence of a general sentiment, but of the self-protective power of the spiritual and ideal part of their individual natures. It is to these isolated artists that we are to look for our first art, and indeed for the existence among us of art at all; and the question of public advancement is a question of how quickly and how soon the people will respond to the call of these leaders with sympathy and aid.

T. H. BARTLETT.

THE ILLUSTRATIONS.

FORTE DU BAPTISTERE DU CHATEAU DE FONTAINEBLEAU, FRANCE.
COMPETITIVE DESIGN FOR FURNITURE OF A HOTEL BEDROOM.

"*Nous Verrons*" has some excellent points neatly set forth in the drawing, but it is meagre in details, and lacks evidence of study. The perspective, in spite of a cosy scheme for the fireplace, is bare and uninviting, showing an exaggerated height of frieze with a thin, neglected cornice. The washstand is so pretty and convenient that we appreciate "*Nous Verrons*'s" modesty in thinking he could not improve upon the design he has taken directly from plate 90 of the *Illustrated Wood-Worker* for December, 1879. Thus not to "*Nous Verrons*," but to Mr. E. W. Godwin, it may be suggested that casters on a washstand are inconvenient things. The chair should be wider in the seat towards the front; its back is fairly in keeping with "good old colony" times, though a trifle extravagant. The bulbous spindles of the toilet-table are also exaggerated, and out of harmony with the legs of the rest of the furniture."

PRELIMINARY SKETCH FOR CHURCH AT SEABRIGHT, N. J. MR.
R. H. ROBERTSON, ARCHITECT, N. Y.
STORES ON SUMMER STREET, BOSTON, MASS. MESSRS. KIRBY &
LEWIS, ARCHITECTS, BOSTON, MASS.

THE RIGHT TO LATERAL SUPPORT.

THE right to lateral support from the adjoining soil has at last been laid down and legally defined by the highest court in the country. After a long course of litigation the well-known case of *Angus vs. The Commissioners of Public Works* has been decided by the House of Lords in the plaintiffs' favor. Upon no other question, perhaps, has there been of late years so great a division of opinion amongst the most eminent lawyers. The case was tried in the summer of 1876 before Mr. Justice Lush, who ruled that there was a legal right to such lateral support; but this was reversed by Chief-Justice Cockburn and Justice Mellor, while their decision was set aside by a majority of the Court of Appeal. So important was the principle involved, that the House of Lords consulted with the judges who recently gave their opinions, and in which they seemed to be almost equally divided. But now, by the judgment of the Lord Chancellor, this question is set at rest, and the easement of support has been legally recognized and explained. It must, however, be admitted that there still remain some practical points upon which doubts and difficulties are likely to arise in the future. Seeing the very complex character of the rights themselves, and the complicated state of facts upon which they may often depend, it is impossible that one case should settle everything. But this decision does a great deal in the way of solving a very puzzling problem, and, as it affects all who have to do with house-property and with building, its result and consequences need to be carefully considered.

The material facts upon which the case turned are such as may happen any day to any one concerned in rebuilding upon an old site. Messrs. Angus & Co. are coach-builders of Newcastle-on-Tyne, and in the year 1849—which, it will be observed, was more than twenty years ago when this action commenced—they converted an old dwelling-house into a coach factory and warehouse. In doing this, they took out the internal walls, and erected upon their own soil, but close to and adjoining the neighboring house, a large stack of brickwork, which served both as a chimney-stack and as a support to the main girders, which were fixed also into their own opposite wall, and carried the

floors of the factory. This large new stack of brickwork was, of course, far heavier than the old wall it succeeded, and so required more lateral support from the adjoining soil. But it must be taken to be good law that the owner may build as he chooses upon his own land, and so that Messrs. Angus were entitled to erect this stack of brickwork although it pressed more heavily upon the adjoining soil. Yet, as they had no grant to do this from the owner of the adjacent land, their claim to receive lateral support from his soil could only be based upon prescription, or upon uninterrupted enjoyment for over twenty years. This was the foundation of their case, for from 1849 down to about 1874 there had been no attempt at interfering with this enjoyment. At that time, however, the Commissioners purchased the adjoining premises, and forthwith proceeded to pull down the old house, intending to erect a public office on the site. For this purpose they employed Mr. Dalton as their contractor, and he, in the course of the work, excavated the ground adjoining the plaintiffs' factory, leaving a thick pillar of clay around the new stack of brickwork, and also shoring up as usual. Notwithstanding this, however, the ground beneath the plaintiffs' stack gave way, for want of lateral support, and their building fell down. At the trial a verdict was given for the plaintiffs, with £1,943 by way of damages; and that verdict has now at length been affirmed by the House of Lords.

These facts are common enough in this age of rebuilding, and are such as cannot fail to come before every architect and builder in the course of an average business. It must first be observed that the plaintiffs sued both the owners and the contractor, and that both sought to get rid of their liability,—the Commissioners alleging that Dalton alone was liable as their contractor, while he tried to throw the responsibility upon his sub-contractors. But these contentions wholly failed, as the House of Lords affirmed the ruling of the court below, and held that both the Commissioners and their contractors were equally liable. This they did upon the well-known and recent case of *Bower vs. Peate* (Law Rep. 1, 2, B Div. 321) which was decided in 1876. In that case it was held that a house-owner who orders work to be done, from which, in the natural course of things, injurious consequences to his neighbor must be expected to arise, unless means are adopted by which these may be prevented, is responsible for such consequences even if he has intrusted the work to a contractor, and even if he has used the necessary precautions in engaging such contractor. It follows from this, that if an adjoining house ought to have been underpinned, and from an omission to do so by the contractors it was injured, the house-owner who employed the contractor is also liable for the damages. Passing lightly over this point, the Lord Chancellor said the questions arising upon the appeal were really two. First, whether a right to lateral support from adjoining land can be acquired by over twenty years' uninterrupted enjoyment for a building proved to have been newly erected at the commencement of that time. Secondly, whether, if so, there was anything in the facts of this case sufficient either to disprove the acquisition of such right, or to make it dependent upon some question of evidence which ought to have been submitted to the jury.

We do not propose to follow Lord Selborne through his learned and laborious judgment; but to get at all a clear idea of the point at issue, it must be borne in mind that the right in question is an easement, and, therefore, that it is not a natural right, but one purely conventional, and which must be based either upon an actual grant or upon prescription. As was said by that very able and acute judge, Mr. Justice Willis, in the leading case of *Bonomi vs. Backhouse* (Ellis Bl. and Ellis, 655), "The right to support of land and the right to support of buildings stand upon different footings as to the mode of acquiring them; the former being *prima facie* a right of property, analogous to the flow of a natural river or of air; while the latter must be founded upon prescription or grant, express or implied; but the character of the rights when acquired is, in each case, the same." Thus, then, before an owner can acquire a right to lateral support for his building from the soil of an adjoining owner, something must have been done or happened. If that adjoining owner has given his neighbor leave to build as high as he chooses, and of what weight he likes, then the right to lateral support has been granted, and there is an end of the matter. But where nothing is said or done by either party, the question arises, when and how does the claim made by the owner building or rebuilding to a lateral support from the soil of the adjoining owner ripen into a right? The answer to this question is now given by the House of Lords, and is, putting it shortly, "after over twenty years' uninterrupted possession." As soon as this lateral support from the adjoining soil has been enjoyed for more than twenty years without interruption, then the land adjacent becomes affected by the lateral weight as an easement or servitude; and the adjoining owner is placed legally in the same position as if he had from the first granted the right of support to his neighbor's buildings. When, therefore, twenty years had passed since Messrs. Angus altered their old dwelling-house into a new factory, they had, by virtue of this period of enjoyment, acquired the same right to lateral support from the adjoining land as if its then owner had granted them that right by deed and with all due formalities; but this would not have happened had the adjoining owner done anything to prevent this enjoyment by taking such steps as might have been necessary upon his own land.

But here we come to the real knot of the question, the very *crux* of the case. For, how is it practically possible for such an adjoining owner to prevent this enjoyment from running on into a right? He can hardly be expected to dig up the foundations of his own house,

so as, by the excavation, to dispute the claim which is actually made by his neighbor to lateral or increased lateral support. Yet, in no other way can the acquisition of this right be disputed, for merely to protest would be useless. This point was pressed upon all the courts in argument, and was, in fact, the main reason why the Queen's Bench Division decided against the plaintiffs, holding that it was practically impossible for the servient owner to prevent the easement from becoming complete. But the Lord Chancellor disposed of this question by laying it down that "The policy and purpose of the law, on which both prescription and the presumptions which have supplied its place when length of possession has been less than immemorial rest, would be defeated or rendered very insecure, if exceptions to it were admitted on such grounds as that a particular servitude (capable of a lawful origin) is negative rather than positive; or that the inchoate enjoyment of it before it has matured into a right is not an actionable wrong—or that resistance to, or interruption of, it may not be conveniently practicable." But, though this must now be taken as the law, it may easily put people in a very serious dilemma. Supposing the owner of one of two old houses to pull it down and rebuild an edifice twice as high and more than twice as heavy, what course should be taken by his neighbor? If he does nothing, then time will run on. At the end of twenty years the right to lateral support from his soil will be acquired for the new building, and he will hold his land subject to this burdensome easement or servitude. Should he also wish to pull down and rebuild, then he will be put to great expense in the way of underpinning and the like; and should anything happen to the adjoining building, he will now be liable to make compensation. In other easements this difficulty does not arise. It is true the owner of a building may open as many lights as he chooses over his neighbor's land. But should that neighbor object to their becoming ancient lights, he can erect a hoarding upon his own land, and so shut them up effectually or compel him to come to terms and enter into an agreement by which the right will be stopped from becoming complete; so also with a claim to a right of way. Obviously, with regard to lateral support there is no such simple method possible. Yet the House of Lords have held that the law is the same as to both classes of easements, although practically there is so serious a difference. Of course no one can secretly acquire a right, and thus, if the old building in this case had been altered internally, so as to require more lateral support, but in such a way that the change could not be easily discovered, then the plaintiffs would have failed to make good their claim. But as to this the Lord Chancellor held that an alteration of a main wall was a thing that the adjoining owner could not help seeing, and that it was, in effect, a notice to him that an extension of lateral support was being acquired, and that it should put him upon inquiry, and lead him to take such steps as might be necessary to stop the right accruing.

But though this last case has laid down an important principle, it still leaves open a point of even higher importance. The Lord Chancellor assumed that the owner of land had a right to build thereon as he chose, and, as a consequence, that the adjoining owner could not legally object to the additional servitude which was thus being imposed upon him in the way of lateral support. He held, in short, that this building or rebuilding would not be an actionable wrong for which the adjoining owner could sue and recover damages. Yet it is clear that this point is by no means certain, and that it still remains to be decided. If the courts held that an owner had a right of action against his neighbor for imposing a heavier burden upon his soil, this could be quite in accord with the Lord Chancellor's view as to the policy and purpose of our law, while it would also put the parties in a fairer position than they are at present. Although the Lords will not allow the fact that it is, to say the least of it, very inconvenient for an adjoining owner to prevent the ripening of this right to lateral support, by pulling down his own premises and digging up his own foundations, to interfere with the theory of the law, still, the existence of this awkward fact must be admitted, and cannot be denied. How it will go with any one who will be bold enough, in the future, to raise this point, we cannot guess; but we are sure that the making it an actionable wrong is the only way to reconcile the claim to lateral support with common sense and common justice. Apart from this question, however, the existing law shows that the owners of house-property have to face a new danger, and that it behooves all who propose to build or to rebuild to make careful inquiries before purchasing as to what rights have been acquired in the way of lateral support by the adjoining owners.—*The Building News*.

GAS FOR LIGHT AND HEATING.

ON Tuesday, June 14, Dr. C. W. Siemens, F. R. S., read a paper before the conference of gas managers held at Birmingham, on "Gas-Supply, both for Heating and Illuminating Purposes." When, within the memory of living men, the gas-burner took the place of the oil-lamp, the improvement was so great that the ultimate condition of perfection appeared to have been reached. It is only in recent years that much attention has been bestowed upon the utilization of by-products with a view of cheapening cost, and that the consumer has become alive to the importance of having a gas of high illuminating power, free from noxious constituents, such as bisulphide of carbon, thus providing a stimulant for progress on the part of the gas-works manager. This condition of things has been rudely shaken by the introduction of the electric light, which, owing to its greater brilliancy and cheapness, threatens to do for gas what gas did for oil half a

century before. The lighting of the city of London and of public halls and works furnishes proof that the electric light is not an imaginary, but a real, competitor with gas as an illuminant; and it is indeed time for gas engineers and managers to look seriously to their position with regard to this new rival. For my own part (Dr. Siemens said), I present myself before you both as a rival and a friend,—as a rival, because I am one of the promoters of electric illumination; and as a friend, because I have advocated the use of gas for heating purposes during the last twenty years, and am not disposed to relinquish my advocacy of gas both as an illuminating and as a heating agent. Speaking as a gas engineer, I should be disposed to regard the electric light as an incentive to fresh exertion, confidently anticipating achievements by the use of gas which would probably have been long postponed under the continued *régime* of a monopoly. Already we observe, thanks chiefly to Mr. Sugg, both in our thoroughfares and in our apartments, gas-burners producing a brighter light than was to be seen previously; and although gas will have to yield to the electric light for the illumination of our light-houses, halls, and great thoroughfares, it will be in a position, I believe, to hold its own as a domestic illuminant, owing to its convenience of usage, and to the facility with which it can be subdivided and regulated. The loss which it is likely to sustain in large applications as an illuminant would be more than compensated by its use as a heating agent, to which the attention of both the producer and the consumer has latterly been largely directed. Having, in the development of the regenerative gas-furnace, had opportunities of recognizing the many advantages of gaseous over solid fuel, I ventured, as early as 1863, to propose to the Town Council of Birmingham the establishment of works for the distribution of heating gas throughout the town; and it has occurred to me to take this opportunity (when the gas managers of Great Britain hold their annual meeting at the very place of my early proposal) to lay before them the idea that then guided me, and to suggest a plan of operation for its realization which, at the present day, will not, I hope, be regarded by them as Utopian. The proposal of 1863 consisted in the establishment of separate mains for the distribution of heating gas to be produced in vertical retorts, that might be shortly described as Appold's coke ovens, heated by means of "producer" gas and "regenerators." The Corporation applied for an Act of Parliament, but did not succeed in obtaining it, owing to the opposition of the gas companies, who pledged themselves to carry out such an undertaking, if found feasible by them. I am ready to admit that at the time the success of the undertaking would have involved considerable difficulties; but I feel confident that the modified plan which it is my present object to bring before you would reduce these difficulties to a minimum, and would open out a new field for the enterprise of those interested in gas-works. The gas-retort would be the same as at present, and the only change I would advocate in the benches is the use of the regenerative gas-furnace. This was first successfully introduced by me at the Paris Gas-Works in 1863, and has since found favor with the managers of gas-works abroad, and in this country. The advantages that have been proved in favor of this mode of heating are: economy of fuel; greater durability of retorts, owing to the more perfect distribution of heat; the introduction of an additional retort in each bed, in the position previously occupied by the fire-grate; and, above all, a more rapid distillation of the coal, resulting in charges of four hours each, whereas six hours are necessary under the ordinary mode of firing. The additional suggestion I have now to make consists in providing over each bench of retorts two collecting pipes, the one being set aside for illuminating and the other for a separate service of heating gas. I shall be able to prove to you, from unimpeachable evidence, that the gas coming from a retort varies very greatly in its character during progressive periods of the charge; that during the first quarter of an hour after closing the retort the gas given off consists principally of marsh gas (CH_4) and other gases and vapors, which are of little or no use for illuminating purposes; from the end of the first quarter of an hour, for a period of two hours, rich hydro-carbons, such as acetylene (C_2H_2) and olefiant gas (C_2H_4) are given off; whereas the gases passing away after this consist for the most part again of marsh gas, possessing low illuminating power. According to the figures given in the experiment of M. Ellissen, President of the French Society of Gas Engineers, it appears that nearly two-thirds of the total production of gas takes place in the above period, while the remaining third is distilled during the first quarter of an hour and the last hour and three-quarters. It hence follows that by changing the direction of the flow of gas at the periods indicated, allowing the first results of distillation to flow into the heating-gas main, then for two consecutive hours into the illuminating-gas main, and for the remainder of the period again into the heating-gas main, one-third volume of heating and two-thirds of illuminating gas would be obtained, with this important difference, that the illuminating gas would be of 16.16 instead of 13.5 candle-power, and that the heating gas, although possessed of an illuminating power of 11.05 candles, would be preferable to the mixed gas for heating purposes in being less liable in its combustion to deposit soot upon heat-absorbing surfaces, and in giving, weight for weight, a calorific power superior to olefiant gas. The working out of this plan would involve the mechanical operation of changing the direction of the gas coming from each bench of retorts at the proper periods of the charge. In order to distribute the two gases, a double set of gas-mains would certainly be required, but these exist already in the principal thoroughfares of many of our great towns, and it would not, I think, be difficult to utilize them for the separate supply of illuminat-

ing and heating gas, the latter being only taken into the houses and establishments where it is asked for by the occupiers. The public could well afford to pay an increased price for a gas of greatly increased illuminating power, and the increase of revenue thus produced would enable gas companies to supply heating gas at a proportionately reduced rate. The question may be asked whether a demand would be likely to arise for heating gas similar in amount to that for illuminating gas; and I am of opinion that, although the present amount of gas supplied for illuminating purposes exceeds that for heating, the diminution in price for the latter would very soon indeed reverse these proportions. Already gas is used in rapidly increasing quantities for kitcheners, for the working of gas-engines, and for fire-grates. As regards the latter application, I may here mention that an arrangement for using gas and coke jointly in an open fireplace, combined with a simple contrivance for effecting the combustion of the gas by heated air, has found favor with many of the leading grate builders and with the public. As regards the use of illuminating gas, I have one more suggestion to make, which I feel confident will be viewed by you with interest. The illuminating effect produced in a gas flame depends partly upon the amount of carbon developed in the solid condition in the body of the flame, and partly upon the temperature to which these particles are heated in the act of combustion. Having shown how by separation a gas of greater luminosity may be supplied, it remains to be seen how the temperature of combustion may be raised. This may be effected by certain mechanical arrangements, whereby a portion of the waste heat produced by the flame itself is rendered available to heat the gas and air sustaining the combustion of the flame—say to 600° Fahrenheit, or even beyond this point. The arrangement I have adopted for this purpose is a burner of the ordinary Argand type, mounted in a small cylindrical chamber of sheet copper, connected with a vertical rod of copper, projecting upwards through the centre of the burner, and terminating in a cup-like extension at a point about four inches above the gas orifices, or on a level with the top of the flame. A small mass of fire-clay fills the cup, projecting upwards from it in a rounded and pointed form. The copper vessel surrounding the burner is contracted at its upper extremity with a view of directing a current of air against the gas-jets on the burner, and on its circumference it is perforated for the admission of atmospheric air. The bottom surface is formed of a perforated disk covered with wire gauze, and wire gauze also surrounds the circumference of the perforated cylinder. The external air is heated in passing through these "regenerative" surfaces, and the flame is thus fed with air, heated to the point above indicated, which, by more elaborate arrangements, might be raised to a still higher degree. The ball of fire-clay in the centre of the burner, which is heated to redness, serves the useful purpose of completing the combustion of the gas, and thus diminishes the liability to blackening of the ceiling. The arrangement for transferring the heat from the tip of the flame to the air supporting its combustion was applicable also to an open bat's-wing burner, but I have not yet had time to ascertain accurately the amount of increase of luminosity that may be realized with this class of burner. From a purely theoretical point of view, it can be shown that of the calorific energy developed in the combustion of gas a proportion (probably not exceeding one per cent) is really utilized in the production of luminous rays; and that even in the electric light nine-tenths of the energy set up in the arc is dispersed in the form of heat, and one-tenth only is utilized in the form of luminous rays. It would lead us too far here to go into the particulars of these calculations, but it is important to call attention to them in order to show the large margin still before us for practical improvements. I may here mention that another solution of the problem of heating the incoming air by the waste heat of the products of combustion has lately been brought under public notice by my brother, Frederick Siemens, which differs essentially from the plan I have suggested, inasmuch as he draws the flame downwards through heating apparatus, and thence into a chimney. In practice, both these methods of intensifying a gas flame will probably find independent application, according to circumstances. By the combined employment of the process for separating the illumination from the heated gas with the arrangement for intensifying the luminosity of the gas flame, the total luminous effect produced by a given consumption of coal-gas may, according to the figures given, be increased threefold, thus showing that the deleterious effects now appertaining to gas illumination are not inseparable from its use. My principal object in preparing this communication has been to call your attention generally to the important question of an improved gas illumination, and more particularly to the subject of a separate supply for heating gas, which, if carried into effect, would lead, I am convinced, to beneficial results, the importance of which, both to gas companies and to the public, it would be difficult to over-estimate.

LEGAL NOTES AND CASES.

Mechanics' Lien. — Mirror-Frames.

In the case of *Ward vs. Kilpatrick*, decided by the New York Court of Appeals on May 31, 1881, which was brought to foreclose a mechanics' lien for mirror-frames prepared to be set in the parlors and halls of eight houses, — those in the halls to be arranged to serve the purposes of hat-racks and umbrella-stands, — the work was done and the frames set in, but payment was refused, and this action was brought. Finch, J., delivered the opinion, and said: "Had the articles furnished become so attached to the buildings in progress of

construction as to justify a lien under the act of 1875? The language of its first section is, 'every person performing labor upon, or furnishing materials to be used in the construction, alteration, or repair of, any building, etc., shall have lien upon the same.' Labor upon the building, materials used in its construction, are the tests of the lienor's rights. In other words, the work and the materials, both in fact and in intention, must have become part and parcel of the building itself. The inquiry approaches so nearly the doctrine of fixtures as to make the decisions in that respect authoritative, and the necessary guides to our conclusion. If, as between vendor and vendee, the mirror-frames in question would have passed by a deed of the real estate, without special enumeration or description, it will follow that they formed part of the house and were elements in its construction, and so furnished a basis for the lien claimed. The general subject was much discussed in this court in *McRea vs. Bank*, 66 N. Y., 489. The results arrived at were as precise and definite as the nature of the subject would permit, and must form the basis of our judgment. The question arose between mortgagor and mortgagee, and three requisites were named as the criterion of a fixture. These were: first, actual annexation to the realty or something appurtenant thereto; second, application to the use or purpose to which that part of the realty to which it is connected is appropriated; and, third, the intention of the party making the annexation to make a permanent accession to the freehold. The mirror-frames in the present case were actually annexed to the realty; they were so annexed during the process of building, and as part of that process; they were not brought as furniture into the completed house, but themselves formed part of such completion: those in the hall filled up and occupied a gap left in the wainscoting; they were an essential part of the inner surface of the hall, and of a material and construction to correspond with and properly formed part of such inner surface; and those in the parlor fitted into a gap purposely left in the baseboard. Both those in the hall and those in the parlor were fastened to the walls with hooks and screws, and they could be removed, but their removal would leave unfinished walls and require work upon the house to supply and repair their absence. They were fitted to the use and purpose for which the part of the building they occupied was designed; they formed part of the inner wall, and their construction and finish was made to correspond with the cabinet-work of the rooms. In each house they faced each other and formed the most prominent feature of the internal ornamentation. They were intended by the owner to be permanently attached to the buildings and to go with them when sold as essential parts of the construction. Three of the houses were in fact thus sold. The owner testified as to these frames that he regarded them as 'the most attractive portion of the house'; that he stated to the agent of the maker that it was very important to have a few of the frames in immediately, 'so that a party who would be desirous of purchasing the house could see these mirrors and hat-racks'; that the agreement with Mr. Evers was that he should go on immediately and put in the frames in two or three of the houses, 'so as to be able to show what the houses would be, without delay'; that the kind of work he called this particular work that was to be done was 'cabinet carpentering'; that on one or more occasions he complained of the work not having been done, adding 'and that I could not get my houses ready for market'; and that he was very strenuous about having the frames put up, 'because he wished to show the houses to some parties.' These facts indicate very plainly the purpose and intention of the owner to permanently attach the frames to the building and make them a part of the structure. It follows that they become parcel of the realty, and as between vendor and vendee would have passed by deed. The recent case of *McKeage vs. Hanover Fire Ins. Co.*, 81 N. Y., 38, does not conflict with this conclusion. In that case the proof showed that the mirrors 'were not set into the walls'; were put up after the house had been built; were capable of being easily detached without interfering with or injuring the walls; and were as much mere furniture as pictures hung in the usual way. The difference between the cases is obvious. We are of opinion, therefore, that the work done by the lienor was work upon the house, and the materials furnished were used in its construction. The objection that no lien attached cannot be sustained."

Erecting Barriers against Surface-Water. — Liability for Injury to Adjacent Land-Owner.

It is the general rule that upon the boundaries of his own land, if he does not interfere with any natural or prescriptive water-course, the owner may erect such barriers as he may deem necessary to keep off surface-water or overflowing floods coming from or across adjacent lands; and for any consequent repulsion, turning aside, or keeping up, of these waters to the injury of other lands, he will not be responsible; but such waters as fall in rain or snow on his land, or come thereon by surface drainage from or over contiguous lands, he must keep within his boundaries, or permit them to flow off without artificial interference, unless within the limits of his land he can turn them into a natural water-course. *Cairo & Vincennes Railroad Co. vs. Stevens*, Supreme Court of Indiana, May 4, 1881. H. E.

ATTEMPT TO RESTORE THE BIBLIOTHECA PALATINA AT HEIDELBERG.

GOETHE required an edifice to be so perfectly beautiful that even a blind man shall perceive and appreciate its beauty. It sounds absurd. But a moment's reflection tells us that it applies to highest symmetry of internal arrangement, and the demand, therefore, is by

no means so unreasonable as at first sight appears. The dictum is characteristic of Goethe, who worshipped order, and preferred the Romans to the Greeks, asserting that he had himself lived on earth before in the time of Hadrian. But in Heidelberg a novel application has lately been made of the Goethian dictum.

Heidelberg has its university, and among the German universities, some twenty in number, competition, polite but ceaseless, furious and jealous, prevails. Each seeks to gain the most illustrious lights of learning and outshine its brethren, and the students, of course, flock round the greatest names. Fame and fashion, no doubt, play herein as great a part as real teaching and learning power, but money, certainly, the chief. The higher the emoluments attached to a chair, the more learned its occupant, the larger the number of students, and the grander, more renowned, and in every way more illustrious, the university. And as each university draws its revenues from the one or the other state, the rivalry extends to the various governments, each fostering its high school, financially, to the utmost of its ability. And, of course, the citizens of the university town are equally interested in the matter, for the money, after paying for all the wisdom of Germany, eventually, one way or the other, finds its way into their pockets. Heidelberg, for example, not being a manufacturing town, is largely dependent for its prosperity upon the university with its students and foreign visitors. So much is this the case, that the town has just erected barracks, bought a large exercising ground and rifle range, and made a present of the whole to the Government in order to obtain a garrison. And it pays. It is a method of rendering the huge German army useful to at least some people. Then there are the professors, the most abused and ridiculed race under the sun, especially in former times in Germany. With Prof. Teufelsdrückh and Hofrath Heuschrecke, most illustrious specimens of the order, may fairly be compared Prof. Kopfer, who, some years ago, astonished the German world with the discovery of the "Trinity of the Devil," as if to every reasonable mind unity in this respect was not sufficient, and even more than sufficient. Prof. K. was a man of extraordinary erudition, but his idea has not been universally accepted. German professors, as a class, deserve our highest respect; and especially courteous are they to foreign students. But they are indeed human, and between themselves as much, or even more, jealousy prevails than among certain learned colleges and societies at home. Each wants to burn his own candle most bravely. But surrounded by a hundred or a thousand other torches, all flickering, flaring, and spluttering to utmost individual ability, how, in such a blaze of light, shall his shine with due, that is, pre-eminent, glory? Extinguish them all! There is some use in darkness. So all the rest ought to be extinguished in order that his beam alone amidst the universal gloom. But this not being possible, one university must wholly outshine the rest. It is the first duty and object of a German university to reduce all the others to comparative obscurity. The reader will now be fully able to appreciate an event — a calamity — that has thrown the whole world into consternation, — that is, in this small part of the world, — Government, people, professors, learned and unlearned.

Heidelberg has its library, the famous Bibliotheca Palatine, rich in precious manuscripts. And this ever since last summer has been undergoing a process of restoration, including among other things, the construction of a fire-proof chamber, an excellent idea. We remember with sorrow the fire at the Midland Institute in Birmingham, and wish, with all our heart, every great library had its fire-proof chamber. Well, the restoration, at considerable cost, was completed, or, at least, supposed to be so, and the library again thrown open daily. Readers who had long been restricted in their attendance again rejoiced. But not for long. In less than a fortnight the library is again closed. To universal astonishment it is declared to be *baufällig*, ruinous, decayed, tumbling down, — and this after architects and builders had been at work at it for six months!

A commission is instantly summoned to search and examine, and pronounce it to be in such a dangerous condition as not to be entered without risk of life. The restoration is declared to be finished. It is perfect, complete, and nothing remains to be done but to take down the edifice and erect a new one at a cost of a million of marks. Meanwhile the 200,000 volumes are to be fished up out of the ruins and put away somewhere for an indefinite period. The Government of the little state, having no money, are aghast, the burghers are aghast, for all the students will leave, and the professors are — unanimous. And, most distressing, it is nobody's fault; not in the least, so there is no consolation at all. The builder has only fulfilled his orders, and his work is irreproachable. But the architect? Well, what architect can possibly be responsible for ancient foundations? He did not lay them. And after the lapse of centuries who shall venture to say what weight they will or will not support? One must try. Who shall say what our poor relations in hopes of a legacy, or an elderly damsel who thinks herself charming, will or will not stand? Try, indeed! Foundations, dear my lord, foundations! It is a chapter profounder than the wit and wisdom of man has ever yet penetrated. What, indeed the Baden Landtag, who will have to vote the money for a new edifice, may say on the subject matters very little. The restoration of the Bibliotheca Palatine has been fundamentally accomplished. And only the moral remains, that, though new houses really need no foundations whatever, or mere supporting, if only disposed of in time, those of ancient edifices must be thoroughly examined before restorations! Which, of course, is perfectly practicable. — *The Builder*.

MISAPPROPRIATING DRAWINGS.

JUNE 28, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — Will you oblige us by giving us any information, or refer us to any suits, brought in any part of the country, to recover damages or commission for, or to obtain injunction to prevent, the use of drawings for a different purpose than that for which they were intended? We have had drawings placed in contractor's hands, for a certain work, employed for another, before the work for which the drawings were intended has been commenced. We wish an injunction or damages, but our attorneys say no such case has ever occurred in this State, and are doubtful as to cause for action. We believe we have a good case, and think there have been similar ones, but do not know just how to get at them. Any information you can give will be thankfully received.

Very respectfully yours,

J.

[We do not quite understand our correspondent's case. If the drawings were made in the usual manner, for a third party, and the contractor appropriated them to his own purposes, we should think that the architect and his client together could bring him to account without difficulty, although we do not know of any adjudicated cases of the kind. If, however, the contractor was the client, as may possibly be the case, the attempt to interfere with any use which he saw fit to make of the drawings might involve the question of their ownership, concerning which decisions differ. We could, perhaps, be of more service to our correspondent if we knew more of the circumstances. — *EDS. AMERICAN ARCHITECT.*]

NOTES AND CLIPPINGS.

THE ALBANY CAPITOL. — The State Legislature has already appropriated \$950,000 for the new Capitol this year, and there remained \$200,000 unexpended of the appropriation of last year when the Legislature met. For the present year, therefore, the sum of \$1,150,000 is in the hands of the New Capitol Commissioners to expend. The Albany members, not satisfied with this large appropriation, introduced a bill a week ago appropriating \$500,000 additional for the great structure. Senator Braman secured its passage in the Senate without difficulty. It was then considered by the Assembly, and notwithstanding several protests, it was passed by a vote of 69 to 30.

ROOFING-SLATES. — Last year the capital invested in the manufacture of roofing-slates in this country amounted to more than \$8,000,000. Over 3,000 men were directly employed, producing 600,000 "squares," or sufficient to cover 60,000,000 square feet. The quantity produced in the several States having slate quarries was: Maine, 60,000 squares; Vermont, 130,000 squares; Pennsylvania, 320,000 squares; New York, 10,000 squares; Virginia and Maryland, 20,000 squares; other localities, 60,000 squares. The Pennsylvania quarries, which produce more than half the slate turned out during the year, have been worked about fifteen years. The largest quarry was opened in 1865. It contains 60 acres, gives employment to 200 men, and produces 40,000 squares a year. The most durable slates are those from southern Pennsylvania (Peach Bottom) and the Maine slates. The latter rival the best slates of Wales. The dark blue or blue-black slates are most durable. The fancy colored slates — green, purple, red, variegated, etc. — do not hold their color. Red slate is most expensive: during the past season from \$7 to \$9 per square. The Peach Bottom slates have ranged from \$5.50 to \$6.50; Maine slate, \$5.50 to \$7.75; common Pennsylvania, \$4.50 to \$5.25; Vermont purple, \$5 to \$5.50; green and variegated, \$3.50 to \$4.50. — *Scientific American*.

"OLD NAHL," A PICTURE COLLECTOR. — A beautiful collection of paintings has just been sold at Kassel. It was the property of "Old Nahl," an eccentric enthusiast of that bygone class who in their younger, and even older, days did not dream of such things as electric railways. In two miserable attic rooms he watched to his last breath the precious treasures come to him from a long line of ancestors. He slept among his pictures, and not wishing to build a fire in winter (which by the way he was unable to afford had he wanted it), he shivered day and night in his little gallery, complacently and proudly looking at his Rubens, and rubbing his cold, emaciated hands until they grew warm. At times the cold would drive him down from his lofty eyrie and into the warm room of a friend, at whose stove he could thaw his frozen limbs. Once the King of Hanover came to Kassel and sent a chamberlain to old Nahl for the purpose of negotiating a purchase of some of the old man's favorites. After many an obstinate refusal, he finally yielded, driven to it by sheer want. The pictures were taken down and forthwith sent to the king's apartments. The next morning the poor old man, with tears in his eyes, implored the chamberlain, "by all that was holy, to give him back his pictures: he had not closed an eye the whole night, but mournfully stared at the vacant places on his walls, feeling as though he had sold his very children." There was nothing for it but to cancel the bargain. The king proposed to him to make him the custodian of his own gallery at Hanover, with a liberal annual pension, if he would agree to finally cede his collection to the King at a good round sum to be fixed beforehand. But, when told that he could not be allowed to sleep among his pictures, Nahl refused point-blank, and lived on as miserably, but as contentedly, as before. Later on the Governor of Hesse-Nassau, President von Moeller, endeavored to lighten the eccentric old fellow's lot, and among other delicate questions and proposals asked him what he could do to please him. "Oh, Mr. President," joyfully exclaimed Nahl, "you might, indeed, do me a great favor by ordering that wretched poplar tree to be cut down which sadly interferes with my view of Wilhelmshöhe. That has been a wish of mine for many years." Mr. Von Moeller shrugged his shoulders and left. When Nahl awoke the next morning and went to his window the poplar tree had disappeared. The authentic favorites were sold to the highest bidder for several hundred thousand marks the other day; the good, inoffensive old man had died as he had lived — poor as a church mouse. — *American Register*.