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THE ART CRITIC AND THE TALL BUILDING.

To say that the tall building is, architecturally considered, a monstrosity, is to give utterance to a commonplace which has of late become positively wearisome in its perpetual reiteration. It was pointed out years ago, when these structures were first put up, that a commercial building whose height was three or four times its base, and whose cornice towered some 300 feet above the curb, was a problem that was from a purely architectural point of view impossible of successful treatment. It was realized at the very outset that, inasmuch as the lofty building met an urgent economic condition and had come to stay, all that the architect could do was to mitigate its inherent ugliness to the best of his ability, and give its towering facade such treatment as would mercifully cloak, if it could not conceal, the staring abomination of glass, brick, and stone. Many of our architects have shown considerable skill in dealing with this, undoubtedly the most difficult problem of its kind in the history of the art.

In our recent article on the new Park Row building we presented the subject somewhat lengthily from an engineering and structural point of view, and dismissed the question of the architectural features of tall buildings with the following remark: "It cannot be denied that their exaggerated vertical proportions render it impossible to judge these buildings by the ordinary canons and pronounce them beautiful. The modern office building, however, is not to be judged by the usual architectural standards. It professes to be nothing more or less than what it is—a strictly utilitarian structure, admirably adapted to its purpose of housing the greatest possible number of businessmen upon a limited area in the city's busiest center." We naturally supposed that, having thus defined our position as to its architectural shortcomings, we might proceed to a discussion of the engineering and structural features of the building without any risk of being supposed to consider it an architectural embellishment of our curiously compounded city.

But we were mistaken. A recent edition of The New York Times surrenders three whole columns to its flamboyant and fantastically facetious art critic, who, being like Shakespeare's worthy evidently "graveled for lack of matter," takes up this old, old story of the tall building's ugliness, and labors to prove what all the world very well knows and by this time, surely, is utterly weary of being told. In this, of course, the art critic is entirely within his right. When, however, in the fervor of his imagination the writer goes on to misquote our article on the engineering features of the Park Row building as being full of "ecstasies of admiration" of its architectural beauty, he either willfully misrepresents or is incapable of understanding the point of view from which our article was written.

We are willing to believe that it is ignorance that has led him into error—the more so as we have rarely known the art critic, so called, to open his lips upon any great work of engineering, but what he has distinguished himself more by his assumption of superior knowledge than by his understanding of the true inwardness of the science.

We remember that when Wm. Morris, an art critic, we believe, who was an unimpeachable authority on carpet patterns, criticised the æsthetic features of that masterpiece of engineering, the Forth Bridge, Sir Benjamin Baker, the designer, replied that the question of the beauty of an engineering structure could only be intelligently passed upon by those who knew something of the meaning of the particular forms and proportions adopted for the structure. He suggested, incidentally, that while a classic column was an inimitable piece of work as it stood in the portico of the Parthenon, it would scarcely be beautiful if stood up on deck to do duty as the smokestack of a transatlantic liner! So with the tall building. It is the engineer's solution of one of the many economic problems that are forced upon us by the conditions of our crowded and complex modern life. It is the despair of the architect, for it is grossly and irredeemably utilitarian, from the shoe of its nethermost pile, 50 feet below ground, to the truck of its topmost flagpole from which the sacred flag of the country will do duty as the advertising agent of the exaggerated pile over which it floats. The raison d'etre of its existence is the necessity of accommodating a maximum number of people on a minimum plot of ground. The engineer-architect has been requested to work out this problem in the modern materials of construction at the least possible cost per pound and per foot; and he has done so, we venture to think, with the very best results that the hard conditions of the problem will allow.

To consume three columns of a daily journal in reviling these buildings as architectural abortions is to miss the mark entirely, and emphasizes the fact that even an art critic can be narrow in his outlook. The problem of the tall building is more one of engineering than architecture, and the structural features, as we have set them forth, are a subject which will always possess a positive interest for the intelligent reader. Sutor ne supra crepidam, says the old adage, "Let the cobbler stick to his last;" and, shall we add, "the art critic to his carpet patterns and bric-a-brac." There are some subjects which are to him a sealed book, and if he ventures to discuss them with that airy self-complacency with which his kind is apt to pass judgment upon any and all the works of God and man, we can only say to him, as someone said of old: "Sir, the well is deep, and thou hast nothing to draw with."

COMPRESSED AIR TRACTION IN NEW YORK CITY.

The rapidly growing interest in the development of self-propelled vehicles is resulting in a vast amount of experimental work in the effort to produce a satisfactory motor. Among the various forms of motive power that have been tested, compressed air has in the last two years shown very good results. To those who have not kept in touch with the subject, it may be surprising to learn that compressed air motors have been improved to such a degree that, in point of economy, they compare favorably with other and better known motors which of late years have been more in the public eye. During the earlier stages of the development of the steam locomotive, the attention of eminent engineers was directed to compressed air as possessing some excellent features for purposes of mechanical traction, and half a century ago the great Brunel, with characteristic boldness, equipped several miles of what is now the Great Western Railway, in England, with compressed air, building power stations and laying conduits between the rails. It was a failure, as were all the early attempts in this direction, chiefly because in the Great Western experiments, and those of later date, there was a great loss of power due to the unscientific methods of compressing and expanding the air in the compressors and motors. Brunel's system consisted of a pipe or conduit of compressed air laid between the rails and fed from central stations, and pistons, sliding within the pipe, which were attached to the cars by means of a plow in much the same way as the grips on our modern cable cars. The grips passed through a longitudinal slot on the top of the conduit, which was closed by leather strips which opened and closed to allow the passage of the plow. As was to be expected, the leather strips wore out and failed to close the conduit.

In this and in all the later attempts to use compressed air, however, there was a serious loss due to the fact that a large portion of the energy expended in compressing the air was transformed into heat, which subsequently was lost by radiation. Moreover, where the compressed air was utilized in motors, its expansion was accompanied by a reduction of temperature which produced accumulations of ice sufficient to choke the exhaust.

These difficulties have been overcome by better methods of compression (the work being done in successive stages with intermediate cooling) and by reheating the air prior to its introduction into the cylinders of the motor. During the past two or three years careful experimental work has been done in this direction on two of the leading street railways in New York city. On the One Hundred and Twenty-fifth Street line of the Third Avenue Railway Company several motor cars have been running which were constructed under the Hardie patents, and on the Lenox Avenue line of the Metropolitan Street Railway Company a thorough test has been made of the Hoadley & Knight compressed air motors. In both systems the air was carried in storage flasks, and was heated, by passing it through a tank of hot water, before being used in the cylinders. The Hardie motors were of the single expansion and the Hoadley of the compound type; and in the former the cylinders were direct connected to the axles, while the Hoadley cylinders were connected to a countershaft whose pinions engaged a gear wheel on the axle.

The compound system is said to have given the best results, and it has proved so satisfactory that the two companies have been consolidated into what is now known as the International Air Power Company. A large factory is being built adjacent to the present works of the American Air Power Company, and the company is now busy upon the new motors for operating several important cross-town lines in this city. At an early date the Twenty-eighth and Twenty-ninth Street lines will be in operation, and other main arteries of cross-town travel will be similarly equipped as soon as the motors can be built. It is expected ultimately to have the whole of the Metropolitan Company's great system under either electric or compressed air operation; the former being used on the great trunk lines, running north and south on the avenues, and the latter handling the cross-town and branch lines.

Contemporaneously with the consolidation of the Hardie and Hoadley interests in the International Company comes the announcement of the formation of the New York Autotruck Company, a companion concern to the former. The autotrucks are to use the Hoadley-Knight system, and they will be designed for handling the heavy trucking which is now entirely moved by horses. The press reports speak of the new autotruck as having in active service proved more economical than the horse. This is, we believe, a trifle premature, as the only actual motor thus far constructed is a rather crude affair used for carting material at the works which supply some of the compressing machinery.

As a competitor in the field of automobilism, compressed air will have to prove itself at least the equal of electricity, steam, gas, hot water storage, and other systems before it can hope to fulfill the promise of the promoters that it will remove the horse from the streets of this or any other city. If the motors do as well on the trucks as they have on the street cars, the autotruck may not only replace the horse, but prove to be the coming and abiding type for all forms of automobilism. This, however, has yet to be proved, and if the curiously named vehicles make their appearance on the streets of New York, their performance will be watched with no little interest.

Until, however, an experimental truck has been made and fully tested, and has proved that it can stand the test of actual and continued service in our city streets, it seems premature to expect the public to take very much interest in the extravagant notices which appear in the daily press, stating that a company has been formed with $10,000,000 of capital for exploiting these vehicles. It looks as if the autotruck should and probably will become an actuality, but its serviceableness for the purposes for which it is designed has yet to be proved.

THE BUSINESS OF THE PATENT OFFICE IN 1898.

The year 1898, which will ever be memorable as a year of victories, can also be looked upon complacently when the arts of peace are considered, for, notwithstanding the trying nature of the year, our export trade has been the most wonderful ever known, and only on one point have we fallen below the prosperity of former years. This is in the failure of the figures of the business of the Patent Office to show an increase. Indeed, the business of this important branch of the government service, which serves to protect industrial property, shows a falling off of 25 per cent in the applications filed. This is, of course, readily accounted for by the war, which turned the energies of many inventors into other channels and crippled the means of others to such an extent that the protection of a patent could not be obtained by them. In brief, the number of patents, designs, reissues, trade marks, labels, prints, and caveats filed in the last five years is as follows:

1893	43,020		
1894	43,161	Increase	141
1895	45,513	"	2,352
1896	48,353	"	2,840
1897	52,119	"	3,766
1898	39,663	Decrease	12,456

The average number of applications for the years 1893–97 was 46,433, so that the applications in 1898 fell behind this average some 6,770. This decrease may at first seem appalling, but with the advent of peace and stable conditions in the business world, we do not doubt that in a short time the work of the Patent Office will be restored to normal and show a substantial increase.

The small number of applications, together with the special appropriation made by Congress, enabled the office to clear up the arrears of cases. Before the war there were 14,000 cases awaiting action, now there are only 5,000 in this condition, a gratifying advance. Such activity has naturally caused the number of patents issued to be large, compared with the smallness of the number of applications. In 1893 there were 23,769 patents, designs, and reissues; in 1894, 20,857; in 1895, 22,057; in 1896, 23,273; in 1897, 23,794; while in 1898 they only dropped to 22,267, the difference in the two last years being 1,527 patents issued against the loss of 12,456 in applications filed.

In still another branch of the operations of the Patent Office is a decrease; this is in the number of trade marks issued. In 1897, 1,946 trade mark applications were filed, 1,671 trade marks were issued; in 1898 there were 1,796 applications, but only 1,238 were issued. It will be seen that the war did not bear as heavily upon this branch of the business of the Patent Office, and the decrease in the number of trade marks issued may rather be laid to the very restrictive attitude which the Patent Office has assumed for some time past toward the registration of trade marks.