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The Editor is always glad to receive for examination illustrated articles on subjects of timely interest. If the photographs are *sharp*, the articles *short*, and the facts *authentic*, the contributions will receive special attention. Accepted articles will be paid for at regular space rates.


## AMERICAN HOMES AND GARDENS—THE NEW MAGAZINE.

The publishers of the SCIENTIFIC AMERICAN begin this week the publication of a new monthly illustrated magazine, entitled American Homes and Gardens. It is at once a new series of the SCIENTIFIC AMERICAN Building Monthly, and a new magazine of the home—new in idea, new in spirit, new in form, new in plan and execution.

American Homes and Gardens will speak of the home and to the home. In speaking of the home it will present in the highest type of modern illustration, pictures and views of houses, within and without, already completed and occupied. In speaking to the home it will address itself to home betterment, home improvement, home uplifting in so far as the house—the building—is concerned.

The architectural point of view which was developed in the SCIENTIFIC AMERICAN BUILDING MONTHLY will be broadened and expanded in AMERICAN HOMES AND GARDENS. Good building is the foundation of good home life, and it is this aspect of building which will be treated in every possible phase. The importance of the garden in home development is almost as great as that of the house; for the garden gives that outward touch of beauty which adds to the perfection of a well designed home. The house and the garden are, in fact, but two aspects of the home idea; and it is of these that AMERICAN HOMES AND GARDENS will treat.

The programme is a broad one and will be developed in the broadest possible way. Home betterment is related to many things which do not enter immediately into the problems of house construction or of garden design. If these matters may be called lesser it will not be because they are of minor importance, but because not being concerned with actual problems of brick and mortar, of wood and stone, they are not always classed with building problems. AMERICAN HOMES AND GARDENS is not a building magazine, but a journal of the home, an infinitely wider, broader, nobler theme, concerned with some of the weightiest problems before the American people.

The new magazine begins with the number for July, now ready on all news stands. A half dozen houses of real interest, and thoroughly illustrated, with interior views and plans, form the architectural contents of the number. There is an elaborate account by Barr Ferree of Mr. Eben D. Jordan's fine country seat, "The Rocks," at West Manchester, Mass. Harry Dillon Jones describes the successful experiments in manufacturing cement garden statuary by Mr. M. R. Mercer. Joy Wheeler Dow begins a notable series of papers on "Principles of Home Decoration." Alice M. Kellogg writes on "The Dining Room of the Past and the Present," and Charles F. Holder contributes an entertaining account of "The Spanish Missions in Texas and Arizona." Other articles include "Helps to Home Building," "Furnishing the House," "Science for the Home," "The Garden," "The Household," "Civic Betterment—The Kitchen," "New Books," and many valuable and practical notes on house building and equipment. The magazine is beautifully and copiously illustrated, and is the handsomest home magazine yet published.

## ATMOSPHERIC CONDITIONS IN THE SUBWAY.

Much surprise has been expressed that the temperature of the Subway should have been so nearly equal to that of the street surface during the periods of hot weather that have recently visited this city. When on a hot day the suburban resident had occasion to enter the cellar of his frame cottage, he noticed the refreshing coolness of the air as soon as he had descended below ground level. He argued that the Subway, being entirely below the street, would be relatively as cool as or even cooler than his cellar. His expectations were strengthened by the fact that whenever he happened to enter the Subway during the closing weeks of its construction, he found that the interior atmosphere was particularly cool and refreshing. With the advent of the warm weather, these expectations have been cruelly disappointed, and it is a fact that at various times during the recent hot spell, especially after a sudden drop of temperature on the street, the Subway has been many degrees warmer than the street.

The explanation is not far to seek: It is to be found in the fact that the movements of the trains, and the abundant entrances at the stations, together cause a very thorough circulation of air, the cold air being driven out of the Subway, and warm air from the surface sucked in, with the result that temperatures on the street and in the Subway are soon equalized, and the expected cellar-like coolness is altogether wanting. Although these facts are pretty well understood by engineers, the general public has mistaken the high temperature for a lack of ventilation, interpreting the "stuffiness" as an indication that the Subway air is impure. As a matter of fact it can be safely said that the more nearly the temperature in the Subway approaches that of the street, the more thorough is the ventilation—the high temperature being the price we pay for the circulation of air. If the Subway, for some reason, were to remain unused for a week or two, with no trains running, no passengers on its platforms, and with the entrances closed up, the temperature would fall steadily until on the hottest days it would be found to be, between stations, a great many degrees cooler than at the surface.

There are, of course, secondary causes that add to the discomfort, such as the heat of the motors, of the electric lights, and that due to the presence of so many hundred thousands of people within the Subway, to say nothing of the effect of the glass-roofed stations. In connection with the last-named cause of discomfort, the question of the abolition of the glass-lighted roofs becomes a legitimate subject of discussion for the engineers who now have the question of Subway atmospheric conditions under consideration. The abolition of these lights would undoubtedly render the stations cooler in the hot weather, and the addition of a few arc lights would give all the necessary lighting.

## A CITY OF TOWERS.

The announcement that one of the largest insurance companies, whose premises cover an entire block in the center of this city, is about to enlarge the capacity of its offices by the erection of a tower over 500 feet in height, suggests that in the coming years the skyline of New York city may be pierced by many such structures. That a tower of this height is not considered to be architecturally impossible of successful treatment, is suggested by the fact that in the plans submitted under the last administration for the erection at the Brooklyn Bridge terminus of a combined railroad station and department offices, the architect contemplated a tower building which was to be something over 600 feet in height. The statement has been frequently made that although there is no structural reason why buildings should not be carried up to a height of 500 feet or more, the area required for the elevator service would be so large, and would cut so deeply into the rentable floor space, as to render such a building commercially unprofitable. That question, however, would be determined by the relation of the area of the ground plan to the height of the building. In the case of the insurance company's building, above referred to, the ground plan of the tower is to measure 150 by 75 feet, a total of over 11,000 square feet. On a ground plan of these dimensions, it would be possible to establish an ample elevator service to the very top of the tower, without encroaching too heavily upon the rentable floor space. Of course, every one who is interested in the architectural appearance of this city deplores the exaggerated height of its buildings, many of which, even though they do not exceed 250 or 300 feet in height, are still, as regards the proportion of base to height, veritable towers. Unfortunately, in the earlier days of construction of such buildings, our architects made the fundamental mistake of trying to reduce their apparent height by accentuating the horizontal lines thereof. This was a radical error. What they should have done was to accept the situation, and endeavor to accentuate the vertical as against the horizontal lines, and honestly endeavor to make the buildings look the towers that they were. In one or two cases, in such buildings, this has been done with very happy effect, and it still remains for one of our less conservative men to take, let us say, one of the beautiful cathedral towers of Europe as a model, and by grouping the window spaces and accentuating the vertical lines, reproduce something of the effect of the great Gothic windows and other characteristic effects of these handsome structures.

The reasonableness of this suggestion is shown in the undeniably handsome effects produced by the Gothic treatment of the new Trinity building. If Gothic details can do so much to redeem the vast blank wall of this structure, what might it not have accomplished if applied to such a tower as the American Surety or the St. Paul building?

## ARE FAST TRAINS DANGEROUS?

The fact that one of the new 18-hour trains to Chicago has been wrecked, with a long list of fatalities, and that immediately after the wreck the company reduced the speed to the former twenty-hour schedule, will naturally lead the general public to the belief that such trains are inherently dangerous. They will think so, in spite of the fact that in the official notification made by the president announcing the withdrawal of the train, it is expressly stated that such withdrawal is not to be taken to indicate that there are any physical dangers attending its operation. At the present writing, the evidence seems to point to the fact that the train was wrecked through the misplacing of a switch by some maliciously-disposed person, and if this was the case, the disaster is no more due to the high speed of the train than it would have been to that of a train running at one-half the speed. We will go further and say that the chances of the engine breaking through or jumping over a misplaced switch, and taking the main line again beyond it, would be greater in a fast than in a slow train.

The reducing of the schedule from eighteen hours to twenty is due to considerations, not of any engineering difficulties attending an eighteen-hour train as such, but to the popular prejudice which will inevitably consider the speed of the train and the accident in the relation of cause and effect.

Not only has the recent accident no bearing one way or the other on the safety of high-speed trains, but as a matter of fact a fast train such as this is, for several reasons, the safest one that a passenger can select out of the many trains that are at his service. This will be evident from the following considerations:

First. Because of the prestige which attaches to a "flyer" the company selects its very best rolling stock, and places at the head of the trains its most reliable engines, the master mechanic taking particular care that they shall be in perfect running condition.

Second. The train crew is specially selected, the enginemen and conductors being chosen on their records, and being in every case men of long experience on the divisions of the road which they have to cover.

Third. Since the eighteen-hour train represents the highest development of the constructive and operative departments of the railroad, it becomes an object of special pride and solicitude to every one on the system who is concerned directly or remotely in its successful running. It is given the right of way over all other trains. Switchmen, signalmen, station agents, the crews of other trains that it may overtake or meet, follow the movements of the "flyer" with close attention, watch for its coming, and in the earlier days of its running, give it God-speed as it flashes by. Whatever train may come to grief through forgetfulness (that fruitful source of train disasters), it is safe to say that your "eighteen-hour" trains, your "lightning expresses," "flyers," and what not, are not likely to be among the number.

Fourth. On the straight stretches of the line the fast train, because of its higher velocity, is less likely to be thrown from the track by some obstruction than the slow train. The writer was once on an engine that was thundering down grade, through the "Bad Lands" of Dakota, with a ten-car train behind it, at a speed of over sixty miles an hour, when the engine struck and swept through a band of wild horses, that dashed out of a neighboring canyon across the track just as the train was upon them. The engine and train kept the rails unharmed. At another time he was on an engine that was crawling slowly up grade, when a small band of sheep crossing the tracks proved enough to derail the engine. It takes but a very small force to deflect a billiard ball that is rolling slowly across a billiard table, but if that same ball were moving at the rate of 100 feet a second (a frequent speed for these fast expresses) it could only be deflected by the exercise of considerable force. It is the instinctive recognition of this fact that has led some engineers, when they have seen that they must hit a comparatively light obstruction, to increase rather than retard the speed of the train. Indeed, it is a matter of record that on one occasion the "Twentieth Century Limited" cut through a box car that had been thrown across the track immediately in front of it, with so little disturbance to the train that the passengers knew nothing of the occurrence. On a slow train, a derailment would have been almost certain.

Fifth. On moderate curves the danger of jumping the outside rail, even by the fastest trains, is practically eliminated by the superelevation of that rail. On sharper curves, where the running instructions call for a slowing down of the speed, the risk of derailment is, we think, less with the train having the fastest schedule than with the slower train. And this for the reason that while the engineer of the flyer knows that he must slow down in any case, the engineer of the local or slower train, not being accustomed to slacken speed at such and such curves, is liable, and often does, when he is late and making up time, negotiate these curves at a speed much higher than is allowed. During a ride which the writer took some years ago on an engine of