

New York's Forty-Two Story Building

WILL BE 652 FEET ABOVE THE PAVEMENT—THE SKYSCRAPER. ERS RAISE GRAVE QUESTION OF FIRE PROTECTION.

Will one of the future disasters that from loss of life and property shock the entire civilized world result from the building of skyscrapers hundreds of feet in the air?

Will these supposedly fireproof structures be at some time death traps in which will be caught the unfortunate denizens who occupy offices so far up toward the clouds that the fire-fighting apparatus of the best regulated cities will be unavailing?

Will the occupants of the upper floors of skyscrapers one day be compelled to choose between a precipitous jump from a suicidal height through a mass of roaring flames sufficient to kill, or slow suffocation from smoke and consumption by fire on their eerie funeral pyres?

These questions have been made pertinent to all occupants of skyscrapers through the prophecy of George W. Babbs, president of the New York board of fire underwriters, that such a disaster is inevitable. Mr. Babbs' declaration came in the course of consideration of the fixing of a limit to which skyscrapers in the metropolis may be built, and the proximity to each other in which they may be erected. His observations applied to New York in particular, but also may apply to ultra high buildings in any city.

He was speaking from the practical standpoint of a representative of a vast body of businessmen who may be called upon at any time to face the payment of huge insurance liabilities. He declared that in New York fire insurance companies are face to face with the certainty, under existing conditions, that one day or another, sooner or later, they will have a conflagration that will sweep off "the roof of the financial district," and that as an outcome the underwriters will be unable to pay more than 20 or 25 cents on the dollar on the risks they hold.

SEES DISASTER IN SKYSCRAPERS

Mr. Babbs upheld his declarations by a reference to the experiences of the San Francisco fire, following the earthquake, when alleged fireproof buildings fell an easy prey to the fearful element.

"With our present unlimited height of buildings in the financial center, where the streets are being converted into narrow canyons, and where thirty and forty story buildings, we are courting disaster," said Mr. Babbs before a commission appointed by the building codes revision committee of the board of aldermen of New York.

"The San Francisco disaster," he has taught that so-called fire-proof buildings cannot withstand the attack of an uncontrolled wave of flame."

Does the same danger confront Chicago? The opinion of the New York fire underwriters was advanced as the result of an agitation to prevent the continuance of the erection of such buildings as the new Bourne-Singer structure, which is now almost completed to its full forty-two stories, extending 625 feet in the air, only fifteen feet less than twice the height of the Masonic Temple in Chicago, until within the past year the tallest office building known. The Singer building, as it has come to be known, is now the highest structure in the world built by the ingenuity of human engineers, save the Eiffel Tower.

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The French "wonder of the world" was not designed as a business habitation for human beings during half the hours of every day. It is an engineering freak simply; while the Singer building is a practical test of a pressing need; the outgrowth of the congested conditions in lower Broadway.

The Park Row building in New York is 369 feet to the top of its roof, but it has a tower extending 382 feet above the sidewalk. A recent addition to New York's group of skyscrapers is the City Investment Company's building, near the Singer building, which is 420 feet high. The dome of St. Peter's in Rome is 400 feet high, while the mountainous bulk of the highest Egyptian pyramid has its peak 485 feet in the air.

SINGER BUILDING ECLIPSES ALL.

But all these heights of many-constructed edifices pale into insignificance when compared with the Singer building. The tower itself is to be completed before the beginning of cold weather makes work impractical, and will be 625 feet above the sidewalks of Broadway and Liberty street, the highest of which it stands. At its top will be a huge lantern, the dimensions of which make possible a comprehensive estimate of the tremendous proportions of this levitating skyscraper.

Little more than a soaring ornament to the perspective of the building, this beacon light to mariners out on the ocean, and towering above the tourists seeking the thrilling business center of Gotham, will be 61 feet square at the base, 60 feet high, 28 feet wide at the top. The tower will be surmounted by a flagstaff rising 625 feet above Broadway, its top being twelve feet higher than twice the height of the Masonic Temple of Chicago.

The height of this building is so great that, although it is being surrounded by other skyscrapers that are advanced examples of the best in modern engineering skill, it towers above them all, attracting the immediate attention of the passerby.

"Fire experience has taught," Mr. Babbs said to the commission, "that a high building of great area nurses the hottest fires. It is not only beyond the range of possibility, but the fire underwriters fear there is a very strong probability of a fire starting in the nest of skyscrapers and heating across the street from the windows on the top floor to other buildings. All systems of sprinklers and all attempts at fireproofing would not avail in the least in an instance of this kind."

"The firemen away down below could do nothing. The fire would rain such headway that when the edge of the skyscraper zone was reached there would be a blaze of such proportions as to imperil the whole city. Reliance cannot be placed in any fire department even under the most favorable circumstances when once a fire is sweeping uncontrolled."

TO GUARD AGAINST FLAMES.

The danger from fire and the impossibility of its being fought in the higher stories by ordinary fire apparatus has been recognized by the constructors of the Singer building, and every possible precaution has been taken to prevent such a disaster.

Although there will be nothing in this inhabited tower to burn except the furniture of the offices, it will have water storage sufficient for three skyscrapers of the ordinary sort. There will be a 5,000-gallon tank on the 29th floor, a 7,000-gallon tank on the 29th floor, and a 3,000-gallon tank on the 42nd floor, just under the lantern.

These will be independent of the 5,000-gallon tank in the Bourne-Singer building, which, with the Singer building proper, makes the foundation for the tower, and three 6,000-gallon tanks in the Singer building proper.

Every hour 15,000 gallons of water will be used in the great structure, to say nothing of the 120,000 gallons available for the fire pumps.

Seven gallons of ice water will flow every minute through the foundations on each floor, and down the throats of thirsty occupants.

Surely if water alone were sufficient to stop a conflagration such as the insurance men fear there would be sufficient. But the men who would put a low limit on the height of buildings for the sake of absolute safety from dangerous conflagrations put small faith in the modern sprinkler services, such as have been installed in all the newer skyscrapers.

Again, in the high office buildings the danger to occupants in case of panic from fire or any other source it was once thought would be a deterrent feature in making them profitable investments. When the plans of the Singer tower were first made public, this question was one of paramount agitation. A quarter of a mile up in the air is a pretty high altitude at which to work and travel back and forth on elevators.

Then what if, as sometimes happens even with the best regulated machinery, an elevator car should drop from the top

story? And of what avail would fire escapes be on the walls of a building 625 feet high?

These were questions which it was thought would deter even hardy city people, insured every day to risking their lives, from renting offices in such a structure.

Four elevators will run from the level of Broadway to the 34th story of the Singer tower, being the longest elevators run in existence. Another will carry tenants and their visitors from the 34th to the 38th story. Not much chance of escape by way of the elevators, in the event of a fire panic.

The necessity for such buildings in New York, or the desirability, is indicated by the fact that the Singer building, if one story in height, would occupy 25 of the city blocks surrounding it. These blocks, or most of them, are not large, however. Still, if one of these modern buildings requires such space if built low, the objection to the placing of such a restricted building as the Singer tower, which is suggested by the fire underwriters, becomes apparent, and, to all appearances, prohibitive, even though the risk to property and life is imminent.

In the event of such a fire starting high above the pavements it would gain velocity much more rapidly than would be possible in cases of fires starting on lower floors, such as would be the case with the limit New York is asked by the underwriters to establish. The question of combating the increased wind force at a high altitude was an engineering problem which, so far as construction is concerned, was mastered. D. H. Burnham, the Chicago architect, declared that engineering skill has reached the point where the possibilities of effect of forces without a building may be calculated to a nicety, and even provision made to combat them.

"In working out the more difficult points of possible forces from without,"

Mr. Burnham says, "the engineer consults the United States meteorological report for fifty years, in order to secure the benefits of all human experience available. From these sources and in other ways he calculates the force that would be exerted against the proposed building if a wind of, say 100 miles an hour were to blow against the building for a considerable length of time. Of course, this is improbable, for winds of extremely high velocity seldom are maintained."

PROVISIONS MADE IN PLANS.

"A high wind striking the surface of the building at an angle would exert comparatively little force against it, because it would glance off. The engineer, therefore, bases his calculations on a wind of extreme velocity directed for a sustained period directly against the side of the building."

"Such a force produces pressure at certain points in the framework of steel. As the tendency of the building is to topple over, the points of greatest pressure from windage usually are near the ground on the side opposite the wind. There is no guesswork about these points. Their location is worked out with the greatest nicety."

"No matter what the height of the building may be, the same process of calculation must be followed, and when a structure is run up to an extraordinary height the problem for the engineer remains the same, except that he must base his calculations on the additional height."

"The stress of a skyscraper, stress in a forty-story building will be different from the points of greatest stress in a twenty-story building, but in both instances the methods of calculation are the same, and the results just as accurate. Consequently as great a degree of security can be assured the occupants of a forty-story building as can be assured of a twenty-story one, and the danger of collapse or wreckage from outside causes is no greater."

Searching for the South Pole; British Expedition on the Way

MOTOR CARS TO BE USED ON THE GREAT ICE PLAIN—PARTY WELL EQUIPPED WITH FOOD—SIBERIAN PONIES TO BE TRIED—SCIENTIFIC OBSERVATIONS.

The vessel which is to carry the exploring party to their base of operations on King Edward VII. Land, and which is designed, moreover, to carry out the expedition, sailed from London early in August. A Newfoundland sealer of 227 tons net register, the Nimrod, as the vessel is called, is adapted to withstand great ice pressure and has an excellent record of work behind her. Since her arrival in the East India Company's docks at Blackwall in the middle of June she has been completely refitted and is now in a state of thorough repair. New quarters were put in not only for the officers and scientific staff, but for the crew, and the accommodation forward is now exceptionally good for a vessel of her class. Two new masts have been inserted, and having entered the Thames as a schooner she left as a barkentine yacht. With auxiliary engines of about 60-horsepower, she can develop, under favorable conditions, a speed of seven knots.

In charge of the vessel is Lieutenant Rupert England, R.N.R., who was second in command of the Marmion on her voyage of Antarctic search, and who was also in charge of the Discovery expedition. Others on board during the outward voyage of the Nimrod are Mr. James Murray, the biologist of the expedition, who has had five years' experience as assistant to Sir John Murray; Mr. W. A. Mitchell, the ship's surgeon and zoologist; and Mr. A. F. McKay, the junior surgeon of the expedition, who will also engage in zoological work.

Four months have been allowed for the voyage to Lyttelton, New Zealand, where the vessel will be joined by the remaining members of the expedition. These include, besides Mr. Shackleton, Mr. Eric Marshall, the senior surgeon of the shore party and the cartographer of the expedition, Lieutenant Adams, R.N.R., who will be in charge of the meteorological work; Sir Philip Brocklehurst, who has also had experience of survey work and field geology; and Ernest Joyce, lately first-class post office clerk in the navy, who did excellent work on the Discovery expedition, and who will be in charge of the dogs and sledges. Dr. David, professor of Geology in Sydney University, is arranged to accompany the expedition south to King Edward VII. Land; and, all told, the officers and staff and crew of the Nimrod on the last stage of her long voyage will number about 24 persons.

On King Edward VII. Land winter quarters will be established for a party of 12 with provisions for a couple of years, and the Nimrod, engaged, if there is time to do so before winter sets in, in a preliminary voyage of exploration eastwards in the direction of Alexander I. Land. Except to the westwards, from which direction King Edward VII. Land was approached first by Sir James Ross and sixty years later by the Discovery expedition, the region around that patch of coast has been almost unknown, and the landing party will have before them an excellent field for exploring work. Mr. Shackleton does not conceal the fact that the main object of his expedition is to reach the South Pole, and, apart from the appeal to the imagination made by such an enterprise, the journey southwards which he proposes to undertake in the Antarctic winter of 1908-9 is scarcely fail to make most interesting additions to geographical knowledge of the Arctic area.

In addition to two dozen dogs, the equipment of the landing party will include twelve Siberian ponies and one, if not two motor-cars. Away from the land the surface of Ross' great ice barrier—at the eastern end of which King Edward VII. Land is situated—was found by the Discovery expedition to be a perfectly level plain, and a motor-car which is being presented to the expedition by the New Arrol-Johnston Company, of Paisley, has been specially constructed to run at very low temperature, and will be provided with sets of runners for surfaces of varying softness; so there is at least a reasonable chance that the car will prove a really useful and not merely a fanciful adjunct to the expedition. The ponies also, although their employment will be quite an experiment, will, it is hoped, be found to possess several advantages over dogs for transport purposes, requiring much less food in proportion to their weight and pulling power. Every care has been taken to provide suitable food for both ponies and dogs. For the former

there are being taken out twenty tons of food, and for the latter one thousand pounds of specially-prepared pemmican. Food supplies for the numerous members of the party as well as the arrangements for the living but have also been the subject of the most careful attention, and in this respect the expedition will be one of the best-equipped which has ever left these shores.

Not only southward in the direction of the Pole, but eastward into the interior of the continental area which is being explored, the survey along the coast of King Edward VII. Land, and east-northeast along the coast which is supposed to stretch around to Alexander I. Land and Graham Land, exploring the Arctic route will be continued on the homeward voyage, which will be across the Pacific and Atlantic Oceans; but previously it is hoped, before the Antarctic winter of 1909 sets in, to conduct soundings along the edge of the continental shelf which is conjectured to exist off the patches of coast to the south of the Indian Ocean collectively described on the maps as Wilkes Land. In this way it will probably be upwards of two years before the Nimrod reaches these shores again.

Mr. Shackleton's expedition will open an international campaign in the Antarctic regions which promises to be no less fruitful in its results than that which marked the opening years of the century. At least, two other expeditions

are in course of organization. In France, Dr. Jean Charcot proposes to renew the explorations which he carried out in 1903-5 off the west coast of Graham Island. As announced by The Times Paris correspondent, he has been voted a grant of £12,000 by the French budget commission, with promise of another £12,000 next year; and there seems no reason to doubt that the chamber will confirm this vote in November next. Dr. Charcot's last expedition was valuable for its scientific researches rather than its geographical discoveries. Scientific research figures prominently in the programme of his new expedition, but Dr. Charcot also realizes the importance of exploring work in the present state of ignorance concerning the distribution of land and water in the South Polar area. This time he hopes to link up the patches of coast that have been sighted between Graham Land and King Edward VII. Land, and, in addition, will undertake sledging expeditions into the interior of the supposed Antarctic continent. It is this same section of the Antarctic regions, which, according to the latest information, will be the field of operations of a new Belgian expedition. For some

time past M. Arctowski has been carrying on a propaganda in favor of the renewal of Belgian exploring enterprise in the South Polar area. He himself was a member of the scientific staff of the expedition on board the Belgica in 1897-9. The cost of his expedition it is estimated will be about £50,000, and regional committees have been established all over Belgium with the object of gaining public support for the scheme. Neither the French nor the Belgian expedition can start before summer of next year, and it would not be surprising if their departure should be delayed till 1909.

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A German newspaper has been started at Tangier, Morocco, in the interests of the ever-growing German trade.

SCIATICA CURED

MRS. CHAS. F. HALEY RESTORED BY DR. WILLIAMS' PINK PILLS.

"I was utterly helpless with sciatica. I could not move in bed without aid. Doctors treated me, but I did not improve. I used Dr. Williams' Pink Pills and today am a well woman. This is a tribute to the merits of Dr. Williams' Pink Pills made by Mrs. Chas. F. Haley, of Yarmouth, N. S. Two years ago she suffered most severely from an attack of sciatica, and for a number of months was an invalid confined to her bed. She further states: 'It is impossible for me to describe the pain from which I suffered. I endeavored to continue my profession as a music teacher, but was forced to give it up. The doctor said the trouble was sciatica, but his treatment did not help me. I could scarcely take a step without the most acute pain shooting through my back and down the limb. Finally I took to my bed and lay there perfectly helpless, and could not move without aid. The pain was never absent. I consulted another doctor, but with no better results, and I began to think I would always be a sufferer. One day a friend who was in to see me asked why I did not take Dr. Williams' Pink Pills, and on her advice I decided to do so. The result was beyond my most hopeful expectations. All the pains and aches disappeared. I have no hesitation in recommending Dr. Williams' Pink Pills for the trouble from which I suffered.'"

When the blood is poor, the nerves are starved, then comes the agony of sciatica, neuralgia, or perhaps partial paralysis. Dr. Williams' Pink Pills actually make new, rich, red blood, which feeds the starved nerves, drives out pain and restores health. It is because these pills actually make new blood that they cure such common ailments as rheumatism, anaemia, backaches and headaches, heart palpitation, indigestion and the painful irregularities of growing girls and women. You can get Dr. Williams' Pink Pills from any medicine dealer or by mail at 50 cents a box, or six boxes for \$2.50 from The Dr. Williams' Medicine Company, Brockville, Ont.

PANDORA RANGE

Pandora Ventilated Oven is a Real Success

That the Pandora oven is ventilated in reality you can prove for your own satisfaction beyond a shadow of a doubt. Just moisten your finger and place it in close proximity to the three small vents between oven and fire-pot doors. You can then feel quite distinctly the current of air being drawn towards and through the vents. Try this little experiment on your neighbor's Pandora.

So scientifically perfect is the Pandora system of ventilation that the air in the oven is constantly being renewed with fresh air and the cooking fumes carried out through another set of vents in back end of oven and from there to smoke pipe.

The arrows in illustration show how the fresh air is distributed throughout the oven and the way the odors escape from the oven.

No indiscriminate mixing and re-mixing of cooking odors in the Pandora oven, consequently there is positively no chance for one article to be tainted with the flavor of another. Rather, the delicious natural flavor of every article is retained to the fullest extent.

The Pandora ventilated oven is a real success. When you open the door,

the oven never smells close and stuffy, as do the great majority of range ovens.

Food cooked in the Pandora is more healthful, as well as more appetizing and satisfying.

If your local dealer cannot give you complete information about the Pandora, write direct for FREE BOOKLET.

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