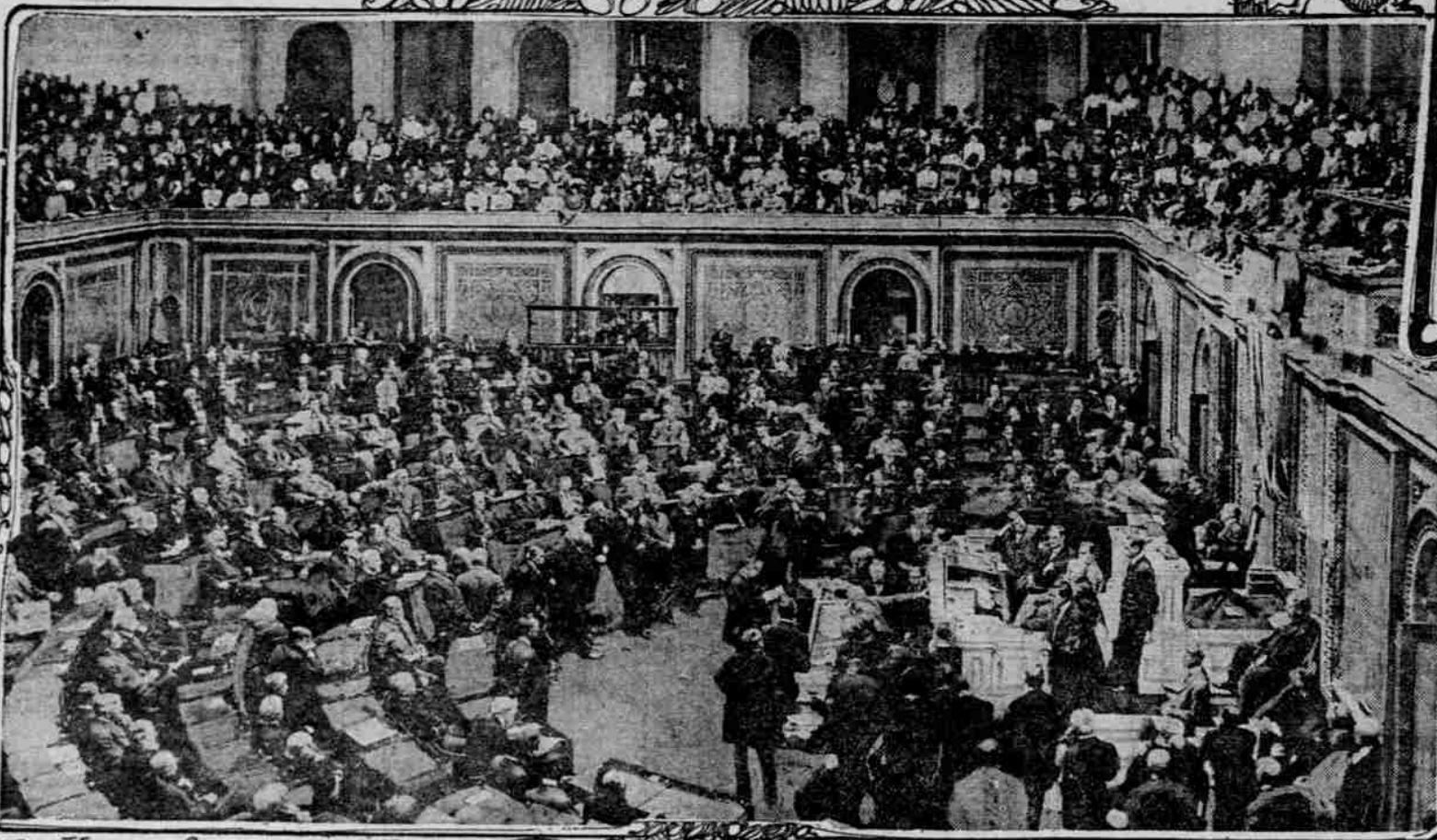


KEEPING THE MERCURY AT 75

Congressional Thermometer Will Never Again Go Aeroplaning in Face of Great New System for Cooling Congress



The House of Representatives in Session

TO HIM who sits in future hang-over Congresses that adjourn not as hot weather approaches, is to be granted the privilege of living in the midst of a refrigerated atmosphere that cools from the sides of the chamber, from beneath his seat, from the perforated legs of the very chair in which he sits.

For Congress is to be refrigerated. It has appropriated the money for the purpose.

Elliott Woods, the superintendent of the Capitol, has found out all about refrigerating large halls, such as those in which the Senate and House of Representatives meet. He has put it all down in a book and this week he has asked all the world to step up and bid upon the task of furnishing the requisite amount of air at the desired temperature, Summer or Winter. To the most likely bidder will be given the task and Congress shall forthwith be thrust into an ideal temperature, regardless of conditions out of doors.

When the thermometer registers 100 on the streets of Washington, the halls of Congress are to be maintained at an even temperature of 75. When the folks back home are sweating in the sultry air that blows off of the growing cornfields, their representatives in Congress will be sniffing the air that cools and buttons their alpaca about these protuberances that have developed since they took to statesmanship. When other folks everywhere are hurrying to the seashore, these members of Congress will be merely delaying the passage of appropriation bills that they may remain yet a while in that blissful atmosphere which their benevolent Uncle Samuel, with their own assistance, has provided for them.

The Cold Air Problem. Uncle Sam has found out how to manufacture cold air and keep it where it is most needed. Of course it costs money to do it but in Congress is no place to give an example of economy. Last year Congress appropriated \$70,000 to install a plant for the purpose of refrigerating the two halls. This is stated as an insufficient amount and Congress stands ready to make up the deficiency. Just what that deficiency will be will not be known until answers are received to the advertisement for bids.

This business of refrigerating any of the buildings such as man has come to live in, has proven a most baffling proposition. It is many times easier to raise the temperature inside a building seventy degrees than it is to lower it ten degrees. While the problem of keeping a house warm in the Winter



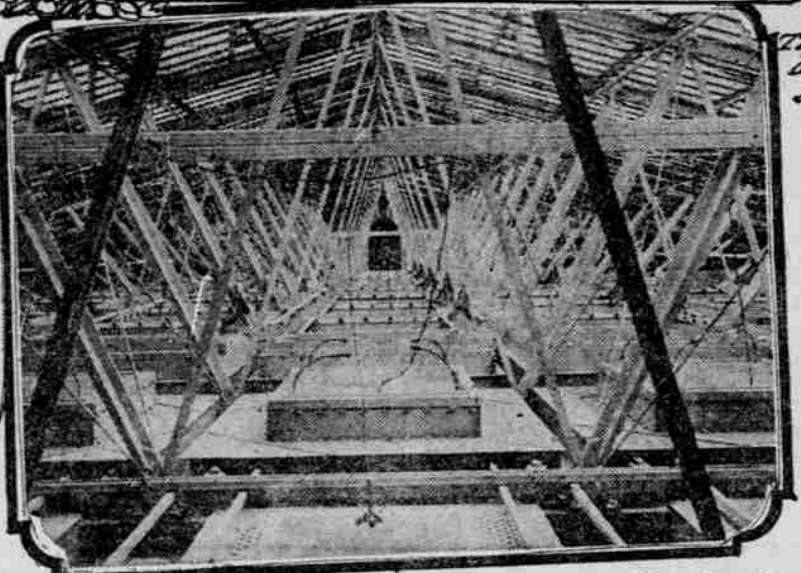
Elliott Woods, Super. of the Capitol Who Is Refrigerating Congress

was long ago worked out, that of keeping the same house cool in Summer, is still a puzzle.

The reasons for these conditions are interesting. In the Winter houses are kept tightly closed. Under these conditions if the inside air is heated it remains confined and requires only such additional quantities as may be needed for ventilation to maintain an even temperature. It is likewise true that warmed air, being lighter than that which is colder, rises and permeates the house. The top of a house or a room is, to a considerable extent, airtight and the warm air is kept in. Just the opposite conditions exist in Summer and the opposite rules apply to cold air. In the Summer, houses and public buildings are quite generally left open. Were the air within them cooled it would be almost immediately blown out the windows. An entirely new generation of janitors grown away from the influence of the janitors of today, would be necessary before any other arrangement could be put into operation.

Aside from this, houses are not properly built for refrigeration. As a scientific fact cold air is heavier than warm air. When it is introduced into a room it immediately sinks to the floor. Everybody has noticed that, in the Winter time, when a window is opened, the first feel the effect of the incoming air. This is because the cold air settles to the floor because of its greater weight.

So it develops that pouring cold air into a room is exactly like pouring



Between the Two Glass Roofs of the House of Representatives

water into a bucket. If there are holes in the bucket the water runs out. Likewise if there are openings at the bottom of the room the cold air runs out. Practically all rooms are built with openings at the bottom. The doors are at the bottom and the windows are near it. The cold air runs out of these as it would out of a leaky bucket. The room is no sooner filled with cool air than it is emptied again. Dr. Alexander Graham Bell, the inventor of the telephone, last Summer worked out the principles that underlie the problem of refrigerating living rooms. He had just completed a year-long trip around the world and much of his time had been spent in tropical countries. He noted that practically no efficient endeavor was anywhere made to keep the houses in which the people lived cool. Returning to Washington in mid-Summer the problem of keeping cool in his own home faced him.

He investigated the problem of cooling living apartments, and found that practically the only step made toward accomplishing the given result had been taken by Dr. Willis Moore, chief of the Government Weather Bureau. Dr. Moore had invented an "ice stove." This apparatus consisted of an ice box placed in the ceiling, through which a fan drew cold air and poured it into the room in question. The cooling effect of this ice stove seemed, however, to be immaterial.

Dr. Bell sought for the reasons. As a scientist he knew of the greater weight of cold air as compared with

warm air. He immediately demonstrated the fact that the cold air would run out of the ordinary room. He saw that the solution was to get a bucket with no holes in it. In this connection he remembered that in the basement of his house was an unused natatorium. Why not, he asked himself, pour cold air instead of water into this natatorium and use it as a living apartment? He arranged his ice stove in such a way that the cold air it furnished would be poured into this natatorium. In it he reduced the temperature 25 degrees. He found that by regulating his ice stove he might maintain an ideal temperature regardless of weather conditions outside. With a room that will hold water the principle may be applied anywhere.

The Old System at Capitol. Congress has been strenuously endeavoring to keep itself cool in the past Summers, but it has failed to work out the scientific problems that surround the task of refrigerating itself. Likewise has the tendency toward holdover sessions seemed to increase of late and the need of a method of keeping cool grown accordingly. The old methods were, however, not so bad in their way.

Under the Capitol buildings, two or three stories down, there is an inconceivable network of tunnels and an array of catacombs such as might well make ancient Rome look to its honors. One of these systems of passageways serves the purpose of furnishing fresh air to the two chambers of Congress and to the innumerable

There are Air Tunnels Like These Beneath Every Desk in Congress

committee rooms in the giant building. This system has as its supply source two 12-foot tunnels which run 600 yards out into the Capitol grounds and there come to the surface and draw underground the pure, fresh air of the park. Underneath the building are located huge fans whose business it is to pull this fresh air through these tunnels from the outside. Winter and Summer these fans are busily at work and the result of their labors is such a current of fresh air as would be furnished by a 50-mile-an-hour gale blowing through these passageways. This fresh air is so distributed that it creates a constant current through all the rooms of the Capitol.

He who casually drops into the Senate chamber or the House of Representatives, little appreciates the remarkable system of ventilation that is constantly at work. Underneath the floors of those chambers is a second false floor four feet down. This floor is of glazed tile and immaculately clean. The space between the two floors forms a fresh air chamber. A strong current of fresh air is constantly being forced into this chamber. From it there are innumerable openings into the legislative halls above. There are gratings around the edge of the halls. Each tier of seats is a few inches higher than that in front and the jog that furnishes this raise boasts ornate gratings. The very legs of the seats occupied by members of Congress are hollow and perforated and the pure air of the outside. Through constantly breathe into the chambers all these inlets is constantly being forced gentle currents of this good air. There is not a floor surface four feet square in these chambers that does not have its air inlets.

Had Air Outlets. This elaborate inlet system is duplicated by an outlet system at the roof. These legislative chambers have very ornate ceilings composed largely of inlays of stained or painted glass. To the observer from below this ceiling seems to have no vent. As a matter of fact there are, at regular intervals, apertures formed by setting one piece of glass three inches above another, thus providing a sidewise exit for the air. Above this obvious ceiling is a great apartment with a network of braces and yet above this a second glass roof. It is into this chamber between two glass roofs that the bad air of the regions below rises. From this chamber this bad air is drawn off

by other great fans and shot into the open above the Capitol building. So is a constant flow of fresh air maintained through these great chambers. This system of intake and outlet air system has long been admirable and could hardly be improved upon as far as it goes. Into these air passages are introduced different networks of pipes for heating purposes which serve no purpose in the Summer but work busily in the Winter time. When it is desired to raise the temperature of the incoming air five degrees, a given coil is put on. An additional result may be accomplished by turning the heat into an additional coil. There are special coils for every room in the Capitol and wherever the temperature is too low additional heat may be applied.

In the office of the chief engineer in the basement is installed that remarkable system of electric thermometers which makes it possible to read the temperature in any room in the Capitol from this point of vantage. It is but necessary to make connection with a given thermometer as a telephone connection might be made, to determine what is the temperature at the point at which it is located. If a member of Congress complains that it is inordinately hot on the floor of the chamber, the chief engineer has but to connect with a thermometer near him to determine whether his heat is due to the condition of the atmosphere or anger that may be welling up within him. By putting on or off a switch that is at his elbow, the chief engineer may switch on or off certain heating coils that will affect the atmosphere which surrounds the complaining Congressman.

Work of Making It Cold. This method of overcoming undue heat was long ago mastered. The task of overcoming undue heat is but just now being solved. At present certain precautions against superfluous heat are being taken but the new system to be the ultimate solution. Great streams of the fresh air of the parks are being crowded through the chambers being switched on or off certain heating coils to reduce the temperature of this outside air and it is, at times, not over cool. It is, however, being washed of its dust and cooled somewhat during its passage through the tunnels that bring it into the building. To accomplish this sprays are being arranged for great lengths of the tunnels. As the air is blown through these passageways these sprays are turned on. The first end accomplished is to wash the air clean of all dust or other particles. The second is to reduce its temperature. Swift winds blowing through moisture causes much evaporation and evaporation is a cooling

Pipes that Temper Congressional Air

process. It is in this way possible to cool the incoming air some five degrees. With it is a pretty good grade of air that is at present the condition of the chair legs of the members of Congress. But the temperature is not reduced the 25 degrees that would convert the chambers of Congress into condition where life is found to be ideally livable. Therefore the appropriation for the new system.

The new system of refrigeration in the first place takes into consideration the closing up of the chambers of the Senate and the House of Representatives with the exception of the openings at the top and bottom. Then, when the cold air is forced in it will not spill out at the doors and windows but will rise as might water in a tube. The occasional opening of a door will not allow a great quantity of cold air to escape. The water in a tube, the occasional opening of a door will not allow a great quantity of cold air to escape and will be fanned out at the ceiling.

75 Degrees in Summer.

But back of this accomplishment lies the production of cold air. The recent appropriations have been for a plant. This plant is to reduce the temperature to produce this atmosphere of a reduced temperature. The basis of the plan is a refrigeration plant such as are maintained in cold storage houses. Of great quantities of brine to a point far below that of freezing water, say to about zero. When the brine is this cold it is to be circulated through coils of pipe that are introduced into the chambers of Congress. The brine will be coil after coil and one after another may be put on until the temperature of the air is reduced to any desired degree of coldness.

Across these coils of cold brine will be run currents of water, so regulated as not to remain in contact with the pipes long enough to be frozen but to attain a greatly reduced temperature. This cold water will be sprayed into the cooling air and will aid in its refrigeration. Likewise will it serve the purpose of washing it. So will the currents of air go on to the halls that are to be cooled and so will an ideal atmosphere be induced for the Congresses of the future that labor in the torrid heat of July and August. So may the members of Congress luxuriate in temperatures that are regularly maintained at 75 while outside the thermometer is playing in that range which in Washington, varies from 90 degrees to 105.

In this work the scientific ventilators and refrigerators have made an additional discovery. That has been that there are, upon occasion, peculiar atmospheric conditions that make the scheme of putting in the new air at the bottom and taking it out at the top of a room not advisable. When the humidity is very great it has been found that the bad air sinks to the floor. Under these conditions, many people are confined in a room, the air which they breathe becomes very objectionable. Almost everybody has been in some room, at some court, where it was damp and humid and has been well overcome by the foulness of the air and the oppressive human odor that hangs in it. This is because the atmospheric conditions are such that the bad air does not rise as it does under normal conditions.

The members of Congress who patriotically work in the Summer time are to be protected from this condition. The system that is to be installed is of the reversible type. When the damp days come and the bad air hovers above the floor the fresh air is to be put into the legislative chambers from the top and taken out at the bottom. So are the legislators to be maintained in comfort despite varying and unfavorable conditions. So are their heads to be kept clear that the laws which they make may be for the benefit of the 90,000,000. The advertisements for bids are now out and the system is to be installed as soon as sufficient time has elapsed to complete the detail of such an adjustment to better conditions. (Copyright by W. A. DuPuy.)

"RUBE" MARQUARD'S Baseball Story

"JOHN J. MCGRAW is entitled to all the credit possible for my success as a pitcher," is the way Richard de Marquis, better known as "Rube" Marquard, the great southpaw pitcher of the New York Giants, expressed himself when I found him near the clubhouse at the Polo Grounds. "Manager McGraw had more confidence in me than I had in myself, and he kept plugging at me even when I was getting worse instead of better. "Wilbert Robinson, the head coach of the New York's pitching department, is another who worked hard to make me what I am. He showed me little tricks in the art of twirling without which I would not be what I am today. "Robbie" was at me morning, noon and night. It was he who installed the confidence in me that enables me to face the hardest hitters in the league always with the idea that I have got an "ace in the hole." "Control is what I lacked when I first came to the Giants, and the morning after each game I worked in I hated to look at the papers, knowing I would see a headline something like this: 'McGraw's \$11,000 lemon gets his bumps again.' I never pitched a game but I was sure of encouragement from McGraw and Robinson. They were always there with a good word of advice, no matter how bad my work was, and that I have been able to prove that they knew what was what will always be a source of great satisfaction to me. "I doubt very much if I could have



How the "Rube" Holds the Ball When He Throws a "Turkey Trot."

made the record this year that I have if it were not for the great work of the team behind me. The 1912 Giants are, to me, the greatest set of ballplayers ever assembled in one team. There is not a man on the team who is not a star, and when you have a team like that behind you why shouldn't you feel that whatever situation arises will be handled in the proper manner? "It is poor playing behind a pitcher that helps to take his nerve away more than anything else. I speak from my own knowledge. When infield flies begin to count for base hits, bunts are handled badly and the catcher perhaps allows an easy foul to get away from him, then is the time a pitcher generally begins to get that 'going up' feeling. No matter how good a pitcher may be, he has got to have gutted support in order to win. "I don't suppose any man in the big leagues today had a harder time making good than I did. When I came from Indianapolis in 1908 with what was then the record price of \$11,000 attached to me the fans seemed to expect more of me than any one else. If I lost I got as artistic a roasting as one could desire, and when I did manage to land a game the best I'd get was: 'Well, it's about time that misfit put one over.' I wouldn't wish my early experience in the major league on my worst enemy, and if it hadn't been for McGraw, Robinson and the players on the team I doubt if I would have had

the nerve to stand up under the abuse I received. "But that's all passed now. The men who roasted me the worst are now the ones who insist on printing my picture every day or so. Still the 'knocks' these writers gave me only had the effect of making me more determined to succeed. I remember one morning when I reported for practice a New York paper had handed me a very pretty panning for losing the day before. "McGraw saw me coming, and I guess he knew, from the expression of my face, that I had seen the paper. He walked toward me, put his hand on my shoulder and said: 'Rube, you did great work yesterday, and if you had had 25 per cent of the luck that was against you there would have been nothing to it.' "In the early days the only place I felt at home was with my fellow players. "I always had lots of 'stuff,' but I wasn't sure of my control. When I got a signal for a 'fast one' I was afraid to put all I had into it, because I didn't know with any certainty that it would go near the plate. I got my confidence from 'Robbie,' who would stand behind me and say, 'Aim for the plate and let her go.' I'd do it, and I soon found that I could put it over just as easily with a fast one as I could with a slow. "This year's success, in my judgment, is due to a great extent to a new ball I discovered and developed. I call it the 'turkey trot.' Not long ago some one named it the 'buzzard wing dip.' How I learned it was by fooling around

trying to throw that one of Mathewson's, which some people call the 'quiver.' Matty perfected it at Marlin one Spring. "Using the same hold on the ball that I do when I throw a 'fast one,' only allowing it to slip through the first and second fingers, I found that as I turned it loose it took a most peculiar break. The one thing I needed was a slow ball, so I kept pegging away at it until now I can do anything I want with it. "The one best thing about my new ball, outside of being a strength saver, is that I use the same motion to deliver it as I do my fast one. Thus the batter is unable to tell from my position or motion just what is coming. "Heide Zimmerman, of the Chicago team, is the hardest man for me to puzzle. He doesn't seem to hit any particular ball. I'll try him on a slow one, just over the corner, and he'll miss it; and when I come right back with the same ball he pushes it out for a two or three-bagger. Next time up I give him a fast one close to his body, and again the game is delayed while the fielders chase the ball. "Judging from the record he's making I'm not the only pitcher that dislikes to see him come to bat. Tinker, of the same team, is another who causes trouble to a pitcher. He is a natural hitter and is liable to put almost any kind of a ball out for a hit. "The one ball that is said to keep old Honus Wagner on the jump is a 'splitter.' I don't handle it, and as the greatest of all spit-ball artists is on the same team with the Dutchman he isn't handicapped very heavily. "While these players make me work harder than most others I could mention, there are pitchers who don't have much trouble with them. Of course, they are dangerous at all times, but what I mean is that Mathewson, for instance, would rather have Tinker at bat than Roger Bresnahan of the St. Louis team. Archer, of the Chicago Cubs, is an Al hitter, but I'd much rather have him facing me in a pinch than lots of other pitchers. "This proposition works both ways. Archer, on the other hand, may like me to be doing the pitching in preference to someone else. We all have our little peculiarities. It is seldom that two pitchers have the same opinion regarding the same batter, and vice versa. "When it comes to making me extend myself to the limit, the Pittsburgh bunch, with Marty O'Toole in the box, is the prize package. He is the toughest pitcher I have to stack up against. Not only is he a puzzle to the New York batters, but he takes undue liberties with my offerings. In that 11-inning game at the Polo Grounds he touched me up for three hits, and if I remember rightly one of them was for three bases, another for two and the third for one. "Baseball luck played a great part in that game, as a review of the hit column will show. Pittsburgh got 11 safe hits off me, while we secured only eight off O'Toole. Marty now wears the crown of the highest-priced pitcher, and it won't surprise me if some day he should beat my record. He is young and is now going through the school (Continued on Page 7.)