TRANSIT BOARD ADOPTS PLAN TO COOL SUBWAY

System of Air Renewal at All the Stations for Relief of Public.

HEAT TO BE DISPELLED.

Cooling Plants Will Be Installed at Once at Three Big Stations.

WORK ALREADY BEGUN.

Foul Air Is Forced Out Through Chambers Opening Through the Sidewalks.

The Evening World presents to-day for the benefit of a great many people who have communicated with this newspaper in relation to improving the ventilation conditions of the Subway the official plans accepted by the Rapid Transit Commission.

Chief Engineer George S. Rice and his assistant, D. L. Turner, devised the scheme, which has met with the approval of Chief Engineer George Pegram, of the Interborough system—$300,000 being appropriated by the city for the work, which includes experimenting at three stations for the cooling of the air.

The engineers hold that the problem of improving conditions in the Subway is one of heat disposal mainly and not ventilation, and the proposed relief is one of air renewal.

A careful perusal of the following will give the Subwayite a fairly comprehensive idea of the work undertaken, and which will be completed according to the engineers by July 1:

The most desirable manner of renewing the air, it has been decided, is to exhaust the air at points midway between the stations, thereby causing the inflow of air through the station openings. By this means the freshest air is always secured at the station, and such iron dust as may be liberated is also drawn into the interior and out through the exhaust openings there provided.

There are two mechanical means which have been adopted for exhausting the air—first, automatic louvres, or valves; second, fans operated by electric motors.

The louvres are movable and are operated entirely by the movement of the trains in the Subway. They are so constructed that they will only open outward, and balanced so that they always remain closed except when the interior air pressure is greater than that outside. The air pressure produced by a train as it approaches the openings in which the louvres are placed forces them open.

An outflow of air is thereby induced, and continues until the train has passed the louvres, when they immediately close. The air necessary to replace that removed can be drawn in only through the station openings. By this means a flow of air (more or less intermittent) is produced through the station openings into the station and thence through the subway to the interior outlets.

The operation of the louvres is automatic, dependent upon the train movement; therefore, the volume of air removed by them during any time of the day will depend upon the number of trains moving during that period. The fans installed in the air chambers will operate the louvres when there is a light movement of trains.

Between Brooklyn Bridge and Columbus Circle station it is arranged to provide fourteen outlet chambers. It is recommended that these chambers be constructed as louvre and fan chambers combined; the louvres to be continuously operated, but the fans only to be used for twelve hours (at night) out of the twenty-four hours, during the three summer months, when the heat condition is excessive, as also during any emergency period.

The chambers will be made slightly larger than would be required for fans and louvres combined, in order that an emergency exit may be provided through these chambers to the street at points in the Subway midway between stations.

To Renew the Air.

The louvres and fans are designed to effect a complete renewal of the air throughout all parts of the Subway once in thirty minutes. Except in three instances, the chambers are to be constructed under the sidewalks adjacent to the Subway structure. The air from the chambers is to discharge into the street through gratings in the sidewalk surface.

If it is found necessary, it is proposed that the fans be provided with cycloidal discharge tubes in order that the velocity of the discharge through the gratings may be reduced to five miles per hour, thereby overcoming the objectionable features of such method of discharge. As an additional adjunct, the grating bars are to be inclined so as to deflect the air toward the centre of the street.

If these sidewalk gratings are objectionable to the public, ornamental chimneys, about ten feet high and designed to discharge the air over the middle of the street away from the buildings can be provided.

This plan provides for a measure of renewal throughout the year by means of the louvres; it insures a maximum renewal during the night hours during midsummer by the fans, thereby attaining the maximum cooling effect possible due to renewal; it provides emergency exits throughout the Subway between stations, and finally makes provision for a positive removal of smoke from the Subway in case of fire.

The Cooler Section.

From Columbus Circle to Ninety-sixth street the Subway has been found to be invariably cooler than between Brooklyn Bridge and Columbus Circle. This is due to the fact that in the former section ventilating openings are provided over the Subway between stations.

To accomplish the same measure of improvement in this portion of the Subway as it has been planned to attain south of Columbus Circle it is determined to instal louvres in all the ventilating openings north of Columbus Circle to Ninety-sixth street, and as an adjunct to louvres, and for emergency purposes as above, fan houses are to be erected in the parkway over the central openings between each two stations, and fans installed.

To facilitate the action of the fans and louvres more openings should be provided at the stations for the inlet of fresh air. To accomplish this it is proposed to cut out 6,200 square feet of vault light work at the several stations. In these vault light openings gratings are to be provided. Where the gratings occur over station platforms copper pans are to be placed under them to provide for drainage.

Summarizing, the total estimated cost of the work laid out for renewing the air from Brooklyn Bridge to Ninety-sixth street once every thirty minutes is $235,000.

Ways of Cooling the Air.

Three ways in which the cooling may be accomplished are:

(1.) By evaporation of water.

(2.) By refrigeration.

(3.) By disposing relatively cold water throughout the subway in such a manner that it will absorb the surplus heat without the water coming in direct contact with the air. Ground water could be pumped for this purpose, and it might be cooled by some refrigeration.

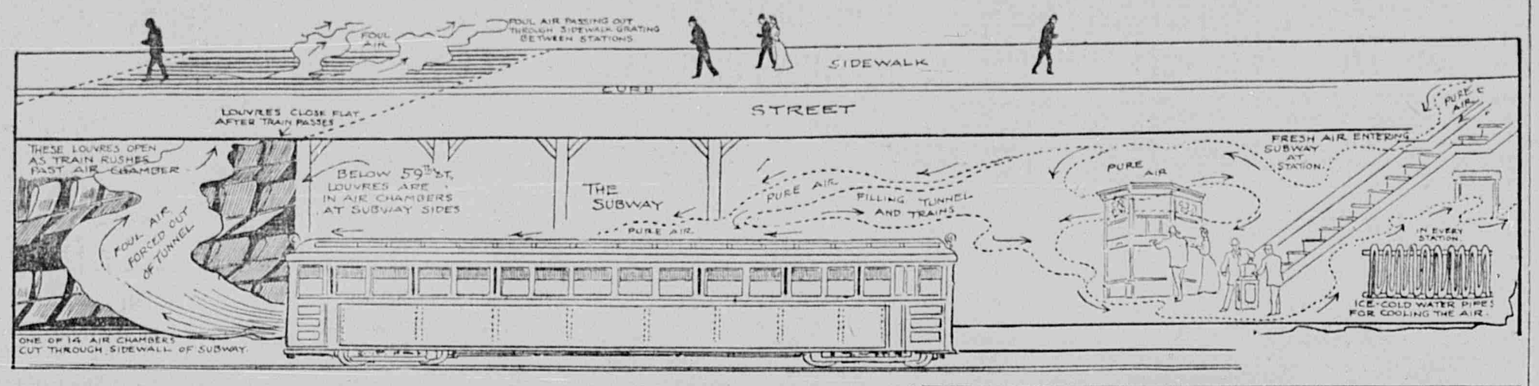
To accomplish the cooling no method has been determined upon. The problem is so unusual and of such magnitude that no definite plan can be devised until extensive experiments can be made in the Subway itself. There is absolutely no precedent to guide the engineers.

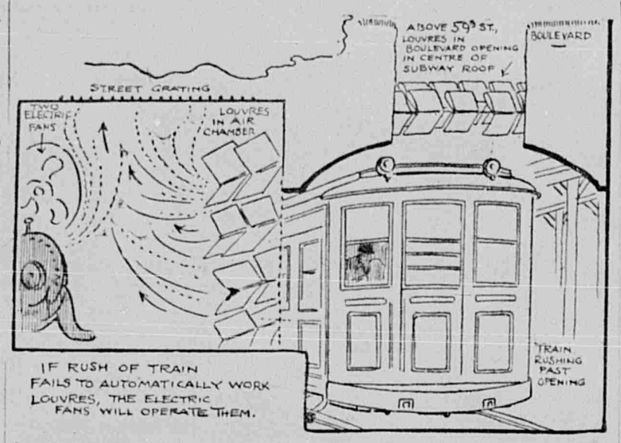
J. E. Starr, refrigerator engineer, of No. 358 Broadway, has been engaged by the Rapid Transit Commission to conduct experiments at cooling the Subway this summer. This will be done at several Subway stations and the Subway between them. The principal objection to cooling by evaporation is its possible effect toward increasing the humidity in the big underground trench.

The condition in the Subway do not permit of any control of the air supply. Refrigeration as adopted to air cooling for buildings is yet in an experimental stage, even where the air supply can, in a measure, be controlled. It is doubtful, therefore, if refrigeration could be satisfactorily applied to the cooling of the Subway.

This brings the cooling plan down to the third way of giving relief from the heat in the subway. Mr. Starr is understood to favor this plan, and his experiments will be made along this line during June, July and August at three stations—Brooklyn Bridge, Fourteenth street and Grand Central—where coils to hold iced water will be installed.

HOW FRESH AIR WILL BE TAKEN INTO SUBWAY AND FOUL AIR EXPELLED





AUTOMATIC DEVICE USED TO VENTILATE SUBWAY.

LOUVRE—An automatic device of galvanized iron operated upon a rod by air pressure produced by the movement of the Subway trains. The pressure of an approaching train forces the louvre open, and an outflow of air is induced, which continues until the train has passed. It then closes automatically and a fresh current is induced through the station openings to replace the foul air thus forced out.

PORTCHESTER ROAD GETS ITS FRANCHISE

After four years of fighting the New York and Port Chester Railroad Company to-day obtained from the Board of Estimate and Apportionment a franchise to construct and operate an electric railroad in the Bronx. The franchise is the first granted by the Board under the authority and powers conferred by the act which took all power in franchise matters from the Board of Aldermen.

The money compensation the city is to receive from the company is, during the first five years, commencing from the day when the contract is signed, an annual sum of $8,000 and during the next succeeding five years an annual sum of $13,000, and during the succeeding fifteen years, an annual sum of $35,000.

From the date of the commencement of the operation of any portion of the railroad until the end of the first five years of this grant an additional sum of 5 4-10 cents per linear foot per annum of single track, including all crossovers, switches, turnouts, sidings and stands, within the present boundaries of the city of New York, and for the next succeeding five years an additional sum of 7 7-10 cents per linear foot per annum of single track, and for the next succeeding fifteen years an additional sum of 20 cents per linear foot per annum.

The term of the franchise is twenty-five years with a provision, on a readjustment of price, for a revival of twenty-five years. The fare within the limits of the city of New York must never exceed five cents.

Within two years of the execution of the contract between the city and the company the company must expend $800,000 and within three years $1,000,000 upon the actual construction of the road between Westchester avenue near the Southern Boulevard and the city line. The money is not to include the cost of any real estate or of any price paid for right of way.

COLER SUGGESTS MAYOR LAY OUT NEW SUBWAYS

Borough President Bird S. Coler, of Brooklyn, to-day sent a strong letter to Mayor McClellan, in which he told of the great disappointment felt in Long Island over the delay in completion of the Brooklyn tunnel. Mr. Coler suggests that the Mayor take the laying out of new subways out of the hands of the Rapid Transit Commission and have the city do that work itself. He writes:

"In common undoubtedly with every other resident of Brooklyn I read with dismay the report of your discovery of serious defects with the Interborough tunnel under the East River. You who are familiar with the efforts Brooklyn has been making for years and years to get proper transit communication with Manhattan Borough and with the distress that the people here have suffered because of the intolerable conditions, first, at the terminal of the old Brooklyn Bridge, and more lately at the Williamsburg terminal, will understand how deeply is the disappointment on this side of the river because of the probability that completion of the Subway will be delayed two or three years.

Mr. Coler then suggests that the Mayor proceed to have the Rapid Transit Commission legislated out of office and that he personally look after the interests of the citizens in the matter of laying out new subways. The Brooklyn Borough President charges that the Commission solves transit problems to its own likings and not with any idea of satisfying the wants of the public at large.

Mayor McClellan takes a very serious view of the collapse of the East River subway tunnel, and is anxiously awaiting further details in order to place the responsibility for the trouble where it belongs. He stated to-day that until Engineer Rice's report is in the hands of the Rapid Transit Commission it will be impossible to determine the question. The contractors are trying to place the blame on Engineer Rice, and in turn he has placed the blame on the contractor. If the engineer is to blame the cost will fall on the city, otherwise the contractor will have to bear it.

"I received my first knowledge of the collapse in the subway tube," said Mayor McClellan to-day, "about six days ago from a city commissioner, whom I will not name. I did not consult personally with Engineer Jacobs, but had the substance of his report from my informant, and did not quote him personally to the Rapid Transit Commission. I found that he had been quoted correctly to me, however, and his statement is that the repair will take something like three years. Others agree with him, and the only one who does not is the very cheerful and optimistic gentleman with the freezing-machine, Mr. Pegram, who thinks it can be done in sixteen months.

"Mr. Rice stands against all these and continues to maintain that the subway will be ready for use January 1. Mr. Rice says he is fully as well qualified to give an opinion as Mr. Jacobs, and I do not pretend to say who is right. I think that the matter is very serious, however, otherwise I would not have brought it up. I have no doubt that the Rapid Transit Commission will take all the necessary steps to fix responsibility and protect the interests of the city."

The Mayor declined to answer questions as to details of his discovery of the defect in the tunnel, and suggested that the engineers who have been consulted by the contractors might be in possession of all details of interest.

TAMMANY MEN TO MEET.

The Thomas J. Brennan Association, the Tammany organization of the Thirty-second Assembly District, will hold a special meeting to-night at the clubhouse, One Hundred and Fifth street and Madison avenue, to discuss the reapportionment plan and arrange for a continuance of the organization under the new conditions.

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If you never sat down to a box of the real "CHOCOLATE SPONGE," you have little idea how rich and satisfying a combination can be made of blown molasses candy and chocolate when both are absolutely pure and used in just the right proportions. You must get Greenfield's, with the name on every piece. Ask for it wherever candy is sold.

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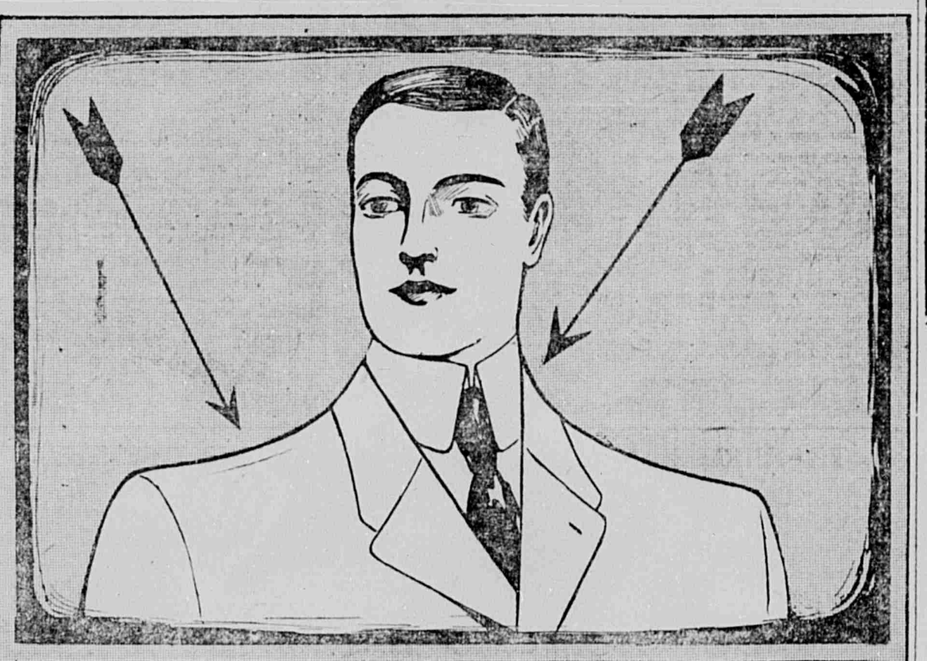

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Our "Concave" Shoulder & "Close-Fitting" Collar.

Consult the higher authorities in modern clothes-making for men, and they will tell you that the shoulder is the vital issue in a coat. Without a perfect shoulder the result is an imperfect coat. Nothing will so mar the lines or the fit of a garment as a poorly made, drooping shoulder. The shoulder is the pivotal point upon which the success of a Coat turns.

For years the shoulder of a Coat has been with us a deep study, and out of all has come our "Concave" Shoulder—a thing great in itself, yet greater in what it means to the entire garment.

Our "Concave" Shoulder is modelled and shaped by hand, it gives the desired height and breadth without exaggeration, and eliminates all superfluous wadding. More than that, it holds the Coat in perfect balance and gives the true proportion. It is incorporated together with our "Close-Fitting" Collar in every one of our

Fifteen Dollar Suits for Men.

These Suits take form in a series of single and double breasted models of conventional or radical styles, medium length and long coats with deep side or centre vents. Fashioned of black thibets and velour finished cassimeres in monotones, herringbones, stripes and overplaids.

Other Spring Suits and Overcoats, $15 to $40.

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⅓ to ½ Less Than Regular Prices.

Women's Full Length Storm Coats, made of medium weight shower proof materials; colors: tan, grey and olive; regular value $22.50. — At *10.75*

Women's Full Length Storm Coats of fancy overplaid materials, loose pleated belted models; regular value $25. — At *13.50*

The coats are suitable for Automobile, Driving, Train and Steamer wear, and at prices quoted are most wonderful values.

100 Misses' Walking Skirts of fancy light weight materials in very pretty grey and tan mixtures, pleated models; regular value $10.00. — At *6.95* each.

250 Girls' Wash Dresses, made of mercerised linens; colors: tan, rose and blue; high neck or guimpe effects; regular value $3.00. — At *1.95* each.

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Men's and Boys' Sorosis Shoes.

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Boots and Ties of Patent Leather, "Health Calf," Tan Russian Calf, Vici Kid, etc.

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