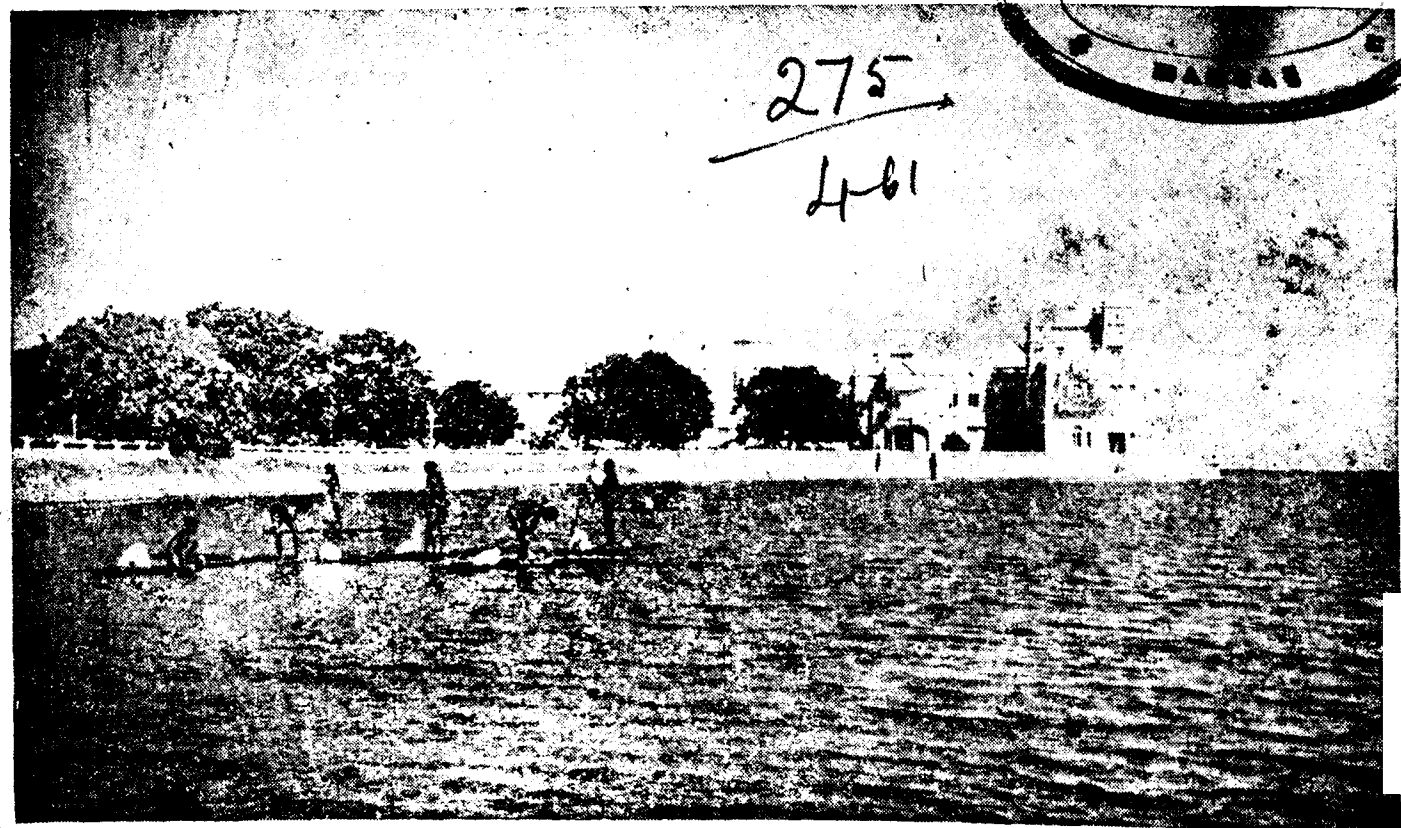


A JOURNAL FOR CIVIC AND MUNICIPAL AFFAIRS

Vol. 24

SEPTEMBER 1961

No. 4



ADYAR RIVER IN MONSOON

MONTHLY BY INDIA-HOUSE, MADRAS.

is righteousness in the heart, there will be beauty in the character. If there is beauty in the character, there will be harmony in the home. If there is harmony in the home, there will be order in the nation. When there is order in the nation, there will be Peace in the world.

—Chinese Proverb.

# THE MUNICIPAL GAZETTE

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**The MANAGER**  
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India House,  
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## FIGHTING CANCER

German scientists recently have won recognition abroad for these two contributions to cancer research:

\* A hypothesis—now apparently confirmed—that there is a connection between cancer and a lack of oxygen in the affected cells;

\* A method—the first of its kind—for learning more about cancerous cells by actually photographing them in the blood stream.

At the International Pharmacological Congress in Stockholm, an American research

worker, George Okita of Chicago, reported that he had confirmed through experiments on animals the theory of Otto Warburg, a German Nobel Prize winner, that cancerous growth is encouraged by a lack of oxygen.

At its 110th annual meeting, the American Medical Association awarded a prize for a German film on cancer. The film was produced on the basis of scientific work at the research institutes of Professor Hermann (in Munich) and Professor Domagk (in Wuppertal.) The film shows cancer cells in the circulatory system, and describes possibilities of fighting cancerous growths in the blood.

## PLAN TO BEAUTIFY CAPITAL

4,000 Acres to settle Slum-dwellers

NEW DELHI, Sept. 28 (PTI).

A plan to beautify the Union capital and to provide more amenities to the people in the countryside has been drawn by the Municipal Corporation of Delhi.

The Corporation would acquire 4,000 acres of land during the Third Plan to settle the slum-dwellers.

Improvement of street-lights, building of houses, establishment of seven more fire stations and community halls, more shopping centres, construction of school buildings and hospitals were the highlights of the plan.

# THE MUNICIPAL GAZETTE

Vol. 24

September 1961

No. 3

## Reformatory Treatment of Convicted Persons

One of the characteristics of the position of convicted persons in Yugoslavia is the fact that repressive measures are being replaced by a reformatory and corrective treatment. Society does not reject the convicted person; it considers him to be its member even when such a person is serving a prison sentence. In this, efforts are made to reform all convicted persons and to return them to society as citizens capable of accepting social standards of conduct and to act accordingly.

Naturally, with such treatment, criminal law does not free the sentenced delinquents from the moral condemnation of the public, since crime as an anti-social phenomenon must inevitably be condemned. This and the deprivation of freedom of movement, i. e. the separation from society is the social sanction against crime, i. e. the punishment which is the greatest moral blow to the delinquent. By placing the emphasis on the re-education and reformation of convicted persons, with the most humane attitude towards them, society wishes them to understand this and to behave in accordance with social morals after being released.

## STUDY OF CONVICTS' CHARACTER

As soon as convicted person begins to serve his prison term, a thorough study is made of his personality—his life and work, physical characteristics, family and other sociological relationships. In this, the assistance is secured of a group of specialists, including educators, psychologists, social workers, psychiatrists and penologists. On the basis of recommendations made by these specialists, convicted persons are divided into separate groups so that corrective measures most suitable to people in each individual group can be applied.

Life in the penal-corrective institution, i. e. convicts' duties, obligations and rights all help promote this system of re-education and reformation.

The convicted person is obliged to respect the prescribed discipline and daily routine, to maintain cleanliness, protect the property of the institution, work and take part in other activities in accordance with his physical and intellectual abilities.

The list of the rights enjoyed by the convicts is a long one. In addition to furniture, clothing, shoes which must be such as to promote personal

cleanliness and health, convicted persons also enjoy other rights. For instance, they have the right to work and receive payment for their work, to an uninterrupted eight-hour rest every twenty-four hours, to one free day a week, an uninterrupted rest of at least fourteen days a year, free medical care and social insurance benefits in case of accidents or occupational illness. Furthermore, they can forward written petitions to State bodies in order to protect their rights, to send and receive letters and parcels, to send money earned during prison sentence to their dependants, and so on.

## WORK -- THE BASIC MEANS OF REFORMATION

Work as a means of re-education receives great attention. The aim of work in penal institutions is not to make the position of convicted persons difficult, but to maintain or develop convicted persons' habits of industry so as to prepare them for continuous useful life in freedom. Therefore, work has been applied for many years as the basic means of re-socialization, that is, as the right and obligation of all convicted persons in the country.

A large majority of convicted persons apply themselves diligently to work. They do so, not only because of the payment which they receive for their work, but also because work helps them maintain themselves in good physical and mental condition and because persevering work, with correct behaviour in the penal-corrective institution, is the surest way to earn a release before the expiry of the sentence. The law on penal-corrective institutions says that these institutions should organize industrial work-shops, small farms and similar establishments in which convicted persons can be usefully employed.

Special attention is paid to conditions suitable for work. In industrial workshops and on farms, productions is organized in a modern way. Convicted persons are trained and helped to acquire good working habits at technical schools, courses of study and practical work in the shop or on the farm. When convicted persons are being assigned to different kinds of work, due attention is paid to their physical and mental abilities, as well as to their aptitudes.

The working day of convicting person is 8 hours.

In addition to the basic payment, which varies in accordance with the kind of work and the necessary skill, convicted persons also receive additional payments - for innovations, improvements in production, greater work effect and so on.

Special decrees regulate the spending of money earned by convicted persons. One third of the earning of every convict is retained by the penal institution as his saving which are turned over to him when he is released; another third of his earnings the convicted person can spend as he wishes, while the remaining third he can send to his family, dependants, etc.

### THE RIGHT TO ANNUAL REST

Another significant innovation in the treatment of convicted persons is the granting of annual rest lasting at least 14 days which is provided for by the amended Criminal Code of 1959. However, it must be emphasized here that, in this field too, practice had preceded legal provisions. Namely, annual rest began to be granted to convicted persons who had spent eleven months in prison at the beginning of 1956.

The first experiments of this kind gave good results, and, consequently, steps were taken to sanction this right of the convicted persons by law. Per-

sons who, during their annual rest, enjoyed milder regime in the penal institution — spending their time as they wished: playing games, chess and engaging in other recreational activities, later endeavoured by their work and behaviour to secure the same benefits the following year as well. The annual rest had a positive effect, primarily on the working ability of the convicted persons. In all cases, the convicted persons took their annual rest as a proof that the community really thought about their welfare, endeavouring to strengthen their feeling of their own dignity and worthiness. This aim is also served by the decision to grant compensations to convicted persons during their rest in the amount corresponding to their average earnings prior to the rest period.

### SOCIAL INSURANCE

All convicted persons have the right to free medical care. The penal-corrective institutions have their own hospitals or infirmaries. If convicted persons need special treatment, they are sent to a proper medical institute. Persons who owing to accidents or occupational diseases, lose some of their working ability have the right to receive disability grants after being released. If a convicted person loses his life at work, his dependants acquire the right to receive a family pension from the day of the accident.

## LIQUID SLUDGE—II

### THE VITAMIN B FERTILIZER

[BY NASEEB, DAMOOSE, Superintendent, Sewage Treatment Plant, Battle Creek, Michigan, U.S.A.]

(Concluded from the issue April)

A PORTABLE 2-inch lift pump had always been a requirement at the plant for pumping out manholes, sumps and chambers but purchase had been delayed because of the infrequency of this need. Results with liquid fertilizer, however provided sufficient purpose intended. A steel bracket was built and fixed to the chassis of the plant dump truck and the pump thus made conveniently accessible for withdrawing sludge from the digestion tank, filling the delivery tank and spraying the contents of the latter at distant points.

Fifteen feet of 2 in. suction hose and 100 ft. of 1½ in. discharge hose were strung along the sides of the truck body on brackets and facilitated connection and use in various ways.

A 600-gallon wood stave tank was fitted with a cover having a six-inch opening for filling and a

two-inch valve at the bottom for unloading. The truck, equipped with the tank, pump and hose, made a convenient, self-contained unit, permitting wide flexibility of use in the distribution and application of liquid sludge fertilizer.

Several tank loads were spread about the plant grounds to test the equipment and its maneuverability, and the results far exceeded expectation. The pump proved highly efficient, filling the 600-gallon tank in six or eight minutes. A half-inch shut off nozzle on the discharge hose delivered a stream 30 to 40 ft. in length and also made it possible for one man operation in filling the tank, delivering and spreading the fertilizer.

### FIRST PRACTICAL APPLICATIONS AND RESULTS

Officials of the Board of Education and several interested persons permitted the use of their lawns

for the first practical applications of liquid fertilizer away from the plant grounds. In response to obvious apprehensions, assurances were given in every instance that the sewage plant would be entirely responsible for the slightest damage to lawn or sod. Many of these lawns required only 600 gallons of wet sludge and several were treated with 1200 gallons.

The equipment worked most satisfactorily and the sludge went on with no difficulty whatsoever. The heavy, black layer of sludge naturally aroused some concern but it was not long before the original color of the grass was restored, leaving a black back ground as the only evidence of application.

These lawns were visited every day and carefully observed. In 5 or 6 never more than 8 days, the effectiveness of the liquid fertilizer was revealed and grass took on a far more intense green colour than it had originally.

To arouse greater interest, the City Park Department was induced to permit trial of a few loads of liquid fertilizer on various grounds in their 550 acre park system. They consented to liquid fertilizer treatment of the diamonds of their 10 baseball fields located in Bailey Park, where the National Amateur Baseball Congress was to be held. From the highway skirting this park, at a distance of more than a quarter of a mile, these diamonds stood out as clearly as the experimental plots at the plant. The results so impressed the Park Department that in three months this department hauled between fifty and seventy-five thousand gallons of liquid fertilizer and practically eliminated fertilizer costs from its 1941 operating budget.

This experience, the enthusiastic endorsement of the City's expert lawn builders and care takers, their frank admission of the ease, economy and assured complete coverage with such a material encouraged the first attempts at commercialization.

Several lawns were covered on a semi-experimental basis, the customer paying a service charge of \$4.00 to \$5.00, depending upon the size of lawn to be treated. No charge was made for the material itself, until the post spring and summer when a price of 1.1c per gallon, applied, was established. To date, eleven such applications have been made at a charge of \$6.50 and at this writing the job of covering a large estate has been accepted and 1,800 gallons have already been applied.

### POSSIBLE DISADVANTAGES

The only disadvantage thus far encountered in the use of wet sludge as a liquid fertilizer is its odor nuisance but this even has been almost

entirely eliminated as will be shown directly by the immediate watering down process which is now insisted upon for the best results.

As to the possible hazards from pathogenic bacteria it may be said that such danger is rather unlikely. Several bacteriological examinations have been made and while there was an abundance of B. Coli, no pathogenes have thus far been isolated. These results have been confirmed on two occasions by the City Health Department laboratories.

### IMPROVED TECHNIQUE OF APPLICATION

While these results were most encouraging there prevailed a rather firm conviction that the ultimate effectiveness had not yet been reached. It was difficult at the time to explain this but it was hoped that continued application would produce results that would be completely satisfying.

An unusually small lot was covered in mid-August of 1939, using approximately 450 gallons of wet sludge. The remaining 150 gallons were returned to the plant and for quick disposal were sprayed on one-half of the main building lawn. To avoid unsightliness, water sprinklers were set and continued to run for 16 hours. By the next afternoon the black discoloration was almost entirely removed, restoring the grass to its burned brown color. Two days later it took on a greener hue and in 5 days the lawn had become a luxuriant green and was so thick that it was virtually impossible to separate the grass and reach the soil itself. Actual measurements of grass blades averaged better than 5 inches and made the lawn sponge-like, springy and resilient.

A thick grass and a matted root growth was obtained only when a treated lawn was watered down immediately after applying the wet sludge.

This change in technique not only produced the results desired but practically eliminated serious objection to the use of this material. The question of odor caused some concern and this was believed due to entrained gas in the liquid sludge. The extensive watering down process seemed to disperse the gas and permit its dissipation almost immediately.

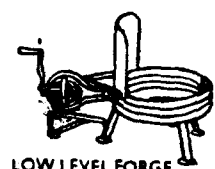
### CAN IT BE VITAMIN B1?

The astounding and incredible results finally obtained completely changed the picture as far as appraisal of the material and its nutrient element were concerned. Nitrogen was almost 200 per cent more abundant in the liquor than in the solids, but this, as well as phosphorous and potash, have been available and have been used for many years.

# simpsons



TIPPING WHEEL BARROW

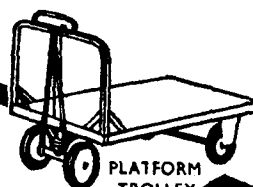


LOW LEVEL FORGE

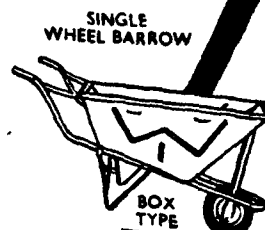
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**Engineering**

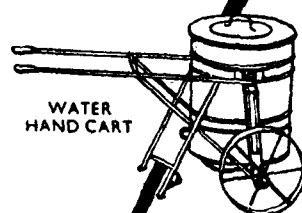
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PLATFORM TROLLEY



SINGLE WHEEL BARROW  
BOX TYPE



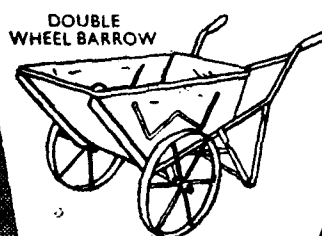
WATER HAND CART



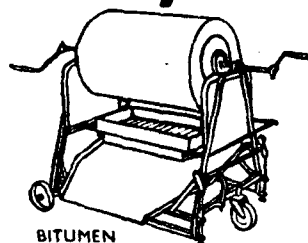
MECHANICAL TROLLEY JACK



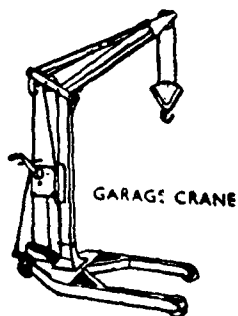
HEAVY DUTY SACK TRUCK



DOUBLE WHEEL BARROW



BITUMEN DRUM MIXER



GARAGE CRANE

Manufactured by:

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SEPTEMBER 1961

a matter of fact, beyond certain limits these elements become injurious to plant growth.

These considerations seemed to indicate clearly that an agent, heretofore not associated with sewage sludge, was responsible for its effectiveness as a plant food. This provoked a rather cursory investigation of the most recent literature on plant life and plant foods.

The rage of the horticulture world was and is, it seems, vitamin B1, which filled the pages of all the garden magazines and books. In the course of reading, it seemed feasible to consider the addition of this element to liquid fertilizer, should the latter ever attain any considerable degree of development and, upon contemplating this possibility, it occurred at once that this was the secret of liquid fertilizer's superiority.

## VITAMIN B1 AS A PLANT NUTRIENT

It seems that medical science has clearly shown that :—

1. Vitamin B1 is essential to the human body, whether healthy or not.
2. Many common foods supply it in abundance.
3. Its use and consumption, deliberately or unconsciously, is quite general and becoming more universal very rapidly.
4. The human body can absorb only a limited amount, destroys part of the supply and readily "expels the excess."

5. In addition to the vitamin B1 introduced through food or medication, the human body synthesizes this element through the medium of *Bacillus Colon*.

6. Vitamin B1 is readily soluble in water.

On the basis of these facts it is logical to expect the presence of this chemical in digested sludge.

In view of the fact that the quantity recommended for use as a plant food is infinitesimally small, it would seem that enough of this chemical (thiamin chloride) remains in the sewage and sludge to produce the excellent results that have been obtained.

It must be stated again that this claim is purely supposition and has no basis of fact, but wet sludge nevertheless possesses some element other than nitrogen, phosphorus or potash that is conducive to very rapid and vigorous growth as well as prolific root propagation. In the absence of positive analytical evidence, prospective users are being advised that vitamin B1 content is highly possible and very probable and that the guaranteed excellent results are due to this chemical or to an element that is absolutely unknown. Due credit is given to the familiar plant nutrients in sludge but it is firmly believed that they are not responsible for the almost fabulous effectiveness.

## The Parking Problem

Can it be solved?

Various solutions of the so-called parking problem have been proposed. In reality the principal justification for public expenditures for its solution is the necessity for relieving the congestion which results from the appropriation of street capacity by parked or stored vehicles. Various remedies have been proposed.

One of these is to widen traffic congested streets by cutting back the fronts of buildings. The result is to provide new space for parkers, opening the way for two traffic lanes each way by releasing the space at the kerb, theretofore appropriated by parkers. Obviously, this will be prohibitively expensive if an extensive programme is to be undertaken along a heavily travelled street, which certainly will be a high value real estate business district. Not only will there

be the cost of the real estate taken and the cost of reconstructing the cut-back buildings but, in addition, there will be the cost of reconstructing the street. In order to accomplish street widening as painlessly as possible, it has been proposed to establish set-back lines which would be observed when old buildings are replaced with new ones, the expectation being that most of the frontage eventually will be set back. This has been accomplished in a very few instances, but the process takes too long to be of practical value in solving the problems of today.

## Express Highways.

The latest proposal for the minimising of congestion is by means of so-called express highways running right into the interiors of the cities. Express highways are usually of two or even three traffic

lanes each way, and they are generally elevated or depressed so that there shall be no crossings at grade. Access is limited and effected at special places by means of ramps. The right-of-way acquired is generally the full width of a block between two streets. Representative cost figures of urban express highways are not available, but such costs must run into the millions of dollars per mile when the highways are located in the interiors of the cities where they have any basis of justification.

Though expressways may be justified in certain situations affecting the greatest metropolitan centres, their justification in cities of lesser magnitude is questionable at least. Certainly they can not be justified in cities of 100,000 population or less. Yet many such cities are plagued by a congestion of their most heavily travelled streets that is intense, to say the least, and which they desire to abate. A few are solving such problems along lines which are practicable financially. Parking on traffic congested streets is severely restricted, in fact, prohibited, in the ordinary sense. Automobiles may pause at the kerb only momentarily to take on and discharge passengers. Buses stop only in the middle of blocks, thus leaving approaches to intersections unobstructed. Truck loading and unloading at kerbs is prohibited if alleys are available; otherwise limited to hours of light traffic. In this way the maximum use of streets needed for the movement of traffic is made possible. Two lanes each way are available during rush hours except for the short pauses of vehicles for the accommodation of passengers. The capacity thus afforded is sufficient to cure many cases where serious congestion presently exists. It costs little, if anything, to put it into effect. It should be tried everywhere, if congestion is serious, before something expensive is put into effect.

#### Off-Street Parking.

The prohibition of kerb parking and storage will, of course, make it necessary to provide other space where vehicles whose owners have business in congested districts can be parked or stored without being molested. This is by offstreet parking and storage space. The movement to provide such space is being accelerated regardless of the objections which usually are raised when such acquisitions are first proposed. Such objections generally have been of three kinds. The first is on the part of individuals who believe they have an inalienable right to park or store their automobiles where and when they wish and as long as they wish, without regard to the effect on the movement of traffic. The second objection is on the part of merchants who have believed that kerb parking is indispensable to their businesses, certainly business will be facilitated if prospective purchasers can always leave their motor vehicles close to the establishments they wish to patronise. Such is not

always practicable, however. Parking meters which make it convenient for traffic officers to check the parking time of parked vehicles are an aid to the enforcement of short-time parking restrictions. They will enable more parkers to get up to the kerbs but will not help the movement of traffic. Occupancy of kerb space reduces the street with available for movement, whether a space at the kerb is occupied all day by a single vehicle or by many, each of which remains at the kerb for a short time only. Off-street parking conveniently located will afford shoppers reasonable access to mercantile establishments, and do it without appropriating the street to the detriment of the movement of traffic.

The third objection has been the cost of real estate for off-street parking. This objection has been raised by individuals who object to the price for parking and by the municipalities which must provide the space.

#### Alternatives to Streets for Storage.

As regards the individual, he has no inalienable right to use "the King's Highway as a stable yard." If, due to public necessity, kerb parking is prohibited on a particular street and the individual who has been in the habit of appropriating space on that street is obliged to go to a parking lot and pay for the privilege, he should not object because he is no longer able to chisel on the public. He should rather be thankful for the length of time he has been able to get away with it. If the cost of off-street parking is considered too high, there is the alternative of common carrier transportation (in the cities where it is available), which is still the transport medium used by most people. Generally it is reasonably satisfactory and much cheaper than the use of an automobile by a single individual, which generally is uneconomical. An increase in the volume of bus travel would be welcomed by the public utility providing it, and would tend to justify improved service and lower rates.

People coming to the city to transact business which will make it necessary for them to store their automobiles, should derive satisfaction from the possibility of leaving them in a safe place. As regards the municipality which may hesitate about investing its money in parking lots, it should consider factors other than the financial returns from the investment. If such returns are sufficient to pay interest on the investment and an amount equal to the taxes which would otherwise be paid by private owners of the property, the municipality is to be congratulated. But if the returns are less, the municipality should reflect that after all the provision of public parking is an alternative to something far more expensive, either a continuation of congestion, street widening with its costs, or express highways. At worst, the city is

investing in good property, real estate which has a value on which the city will be able to realise if it should so desire. Certainly the immediate investments in real estate will be small compared with what will be involved either in street widening or expressways. Public opinion is getting around to recognising that to provide off-street parking is the most practical way of meeting its problem of traffic congestion as aggravated by kerb parking, and what is worse, kerb storage.

As the great Napoleon is reputed to have said one cannot make an omelet without breaking some eggs. Traffic congestion has fastened itself on many of our cities, if not most of them. Its mitigation is going to involve some costs. It is confidently asserted that they will be less according to the method outlined herein before than by any other. This is especially the case with the smaller cities.

## WHO IS A BEAUTIFUL PERSON

### STEP OUT WITH GRACE

A pretty face and an attractive figure don't produce charm if they are not accompanied by grace and motion. Everything you do, whether it is talking, smiling, walking, sitting, descending the stairs, or using your hands, must be done the graceful way—or what Nature gave you to work with is going to waste.

Graceful walking is a most essential charm. To walk gracefully, the body must first of all be lithe of limb. Stiff muscles are enemy No. 1 to grace of walk. Good posture is an absolute must. So be faithful to those bending and stretching exercises which will keep your body in the necessary state of suppleness, and watch the posture, keep your spine straight, hold your head high, chest up, and abdomen pulled in. Relax your arms, keep the knees flexible and avoid tenseness in any part of your body. Remember too, that economy in motion is necessary to grace. Don't use jerky movements. Let them be deliberate but not lazy. When walking across a room, don't stride as though you were making a beeline for a bus. Here again in checking up on your walking a mirror will tell the tale. You'll want to practise, of course in front of a full-length mirror. Try to see yourself as others see you and be as critical as others would be.

#### SITTING DOWN

Can you sit down gracefully? If in doubt, you had better take stock. Place a chair in front of you a full-length mirror and then walk up to it and ensconce yourself, while watching your reflection. As

with graceful walking, the posture must be correct and yet the body must be flexible. The motion of seating yourself must be smooth and unlaboured. Don't lower yourself into a chair as though you were afraid weren't going to make it. On the other hand, don't try to get it over with a bounce. Keep your back straight and chest high and ease into it. You should feel no tenseness but a slight pull at the waistline and at the knee joints.

How are you at descending a staircase? There should be no sudden drop from one step to the next, letting the weight of the foremost foot fall so that the motion is stopped. You should move forward and down by transferring the weight from the down pointed toe to the heel as the toe of the other foot touches the next step merging into the other.

Last not but not least, on your grace-of motion programme is the way you use your hands. Do you make too many gestures as you talk? Hands, of course, can be used for expression as you talk but not waved around in exaggerated style. Do you twiddle your thumbs or claps or unclaps your hands in a restless manner? Don't this is motion but not graceful motion. When you reach out to pick something up, do you grab it with a quick motion as though you were trying to swat a fly? Don't do this, either. Make a deliberate movement towards the object getting your whole arm into play. These hand-and arm motions are something else you can rehearse in front of a mirror. So go after and achieve that grace in motion that opens charm and beauty.

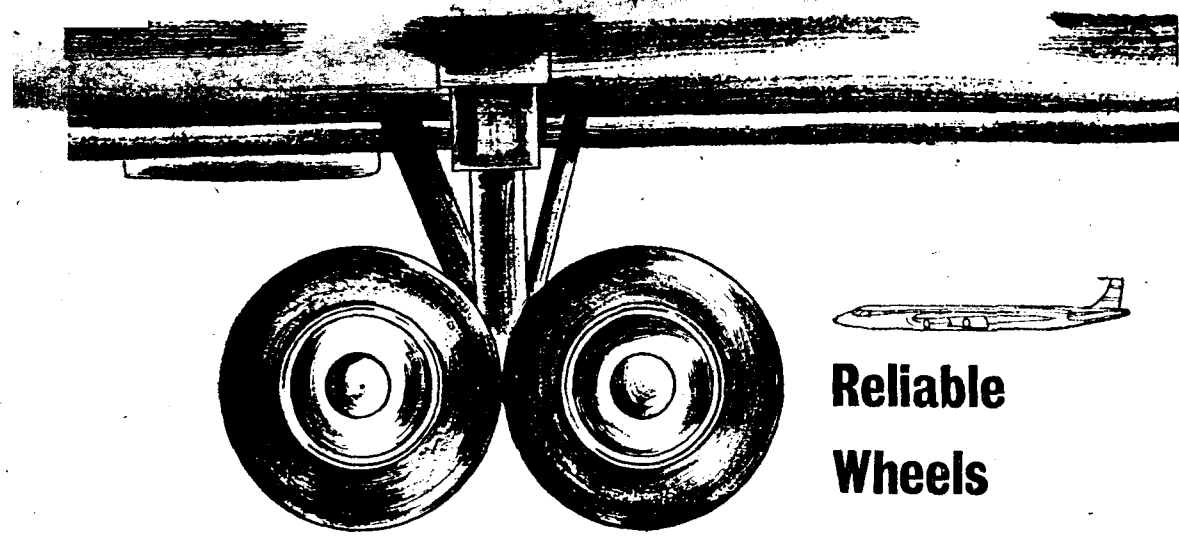
## TOWNSHIPS NAMED AFTER HIGH DIGNITARIES

A town has been named after Mr. Chester A. Ronning, High Commissioner for Canada in India.

The High Commissioner and his family might retire to the town—christened after him. The "town-

ship" which was expanding rapidly on account of farther extension schemes of the Kundah Project, would ultimately be renamed "Churchill City"—after the visiting Canadian Minister—when it would be fully developed.

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Reliable  
Runways**

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**BURMAH-SHELL BITUMEN FOR RELIABLE RUNWAYS**

## ULTRASOUND PURIFIES AIR

By L. Yavich

The dust thrown off by industrial enterprises into the atmosphere is extremely dangerous to the health of the people. It enters the lungs, poisons the organism, causes tuberculosis and other diseases. The simplest method of suppressing dust has been a kind of equipment in which the force of inertia arising at sharp turns of the gas flow is used. The ventilation ducts in this equipment are arranged so that the air, being exhausted from the room, flows through a system of cranked pipes. The dust particles strike by force of inertia against the pipe walls at each turn of the air flow and accumulate in receivers. However, these units are not sufficiently effective. Take cloth-filters, for example, in which the flow of polluted gas or air passes through several folds of fleecy cloth. The fleece detains the large dust particles but lets through smaller particles. Besides, these filters are bulky become often choked and require constant supervision. Oil filters—boxes packed with metal rings or metal chips soaked in oil—are not more reliable. The polluted air flows through the tortuous labyrinths formed by the rings and chips and leaves the dust on their surface. But these filters also require careful maintenance and systematic flushing.

Until recently electric filters were considered the most up-to-date type of filters. They provide the dust particles with an electric charge. Plates with the opposite charge are placed in the path of the air flow. The electrified dust particles deposit on the plates to which they are attracted when passing between them. However, the finest particles are hardly caught by even such an apparently perfect method. Besides, these units are very expensive and occupy much space.

A few years ago enlargement of the dust specks by their collision with each other or with water drops, was suggested. Ultrasound is especially useful in this case.

E. Mednikov, a young Soviet Scientist, has developed in the laboratory of the Moscow Power Institute a unit for air purification. The unit is a chamber which sucks in polluted air by a fan. The chamber is equipped with a shower moistening the passing air flow. The latter is then treated by ultrasound of high intensity produced by a powerful ultrasound siren.

The dust particles and the water drops carried by the flow, collide under the action of the ultrasound and form large flakes. The air is then supplied together with the dust flakes to the air cleaner where it receives a strong rotary motion. The dust flakes are thrown against the walls of the unit under the action of centrifugal force and enter the dust collector located beneath the chamber. The purified air is exhausted into the atmosphere.

Better effect is obtained when the water spray is replaced by an atomized oil fog. Tests have shown that in this case it is possible to remove 99 per cent of the dust present in the air flow. Such units can purify also various gases from hard dustlike particles.

This work is being continued at present at the Institute of Combustible Minerals of the U.S.S.R. Academy of Sciences. An installation is being designed here which combines the positive properties of an ultrasound unit and those of electric filters. The dust particles in this installation are treated by ultrasound, electrified, and deposit, being attracted to special plates carrying the opposite charge.

The use of ultrasound units at enterprises will make working conditions more congenial and hygienic. They will reduce also the losses of valuable material. Tons of cement, coal, flour, etc. are at present being lost, as at every loading and unloading a certain part goes off into the air. With the use of ultrasound units, this loss could be prevented.

## Organisation and Structure of Local Government in U. S.

By Miss Beatrice Dinerman

The legal status of local government in the United States, is based upon a system of delegated powers embodied in the United States Constitution. As no mention was made in the Constitution of local

government, and as all powers not specifically delegated to the national government is reserved to the states, responsibility for the local government rests with the states.



## HOW MANY GRAMS IS A SEER?

Metric Weights have come into use. Prices are expressed in terms of Metric units. And yet, transactions involve irksome calculations.

### WHY?

Because the Metric concept is not followed. Commodities are asked for either according to old weight or its equivalent:

930 grams for one seer  
454 grams for one pound.

The right way is to ask for

1 Kilogram (1,000 grams)  
500 grams

This way transactions will be simpler and calculations much easier.

*Ask for your requirements in*

**ROUND  
METRIC  
UNITS**

*it helps you  
and the trader*

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### Legal Position

Thus local governments are created at the pleasure of the states and exercise their duties and responsibilities within a framework of state constitutional provisions and legislation. Their legal positions, therefore, largely depends upon whether they have municipal or quasi-municipal corporate status.

Municipal corporations have a considerable degree of autonomy. They are established by state legislation only through the initiative and consent of people living in the area and their primary purpose is to provide these people with services. Their role as an agent of the state is of secondary importance.

Quasi-municipal corporations, on the other hand, are established for the primary purpose of serving as agents of the state. They are created solely through state initiative, without the consent of persons inhabiting the area, and are generally subject to detailed state regulation.

As of January 1957 there were 102,328 government units in the United States, almost half of which number represented local school districts. The remainder, not including the federal government and the then 48 states, represented the five major types of government at the local level; counties, cities, towns, townships and special districts. Within each of these categories, it should be noted, there are wide variations in powers, functions and internal organization.

The COUNTY, a quasi-municipal corporation, is a legal agent of the state and possesses only those powers conferred upon it by the state. In recent years, the county has also come to assume municipal-type services related to health, law enforcement, fire protection and libraries.

The typical county is governed by a county board which is either elected at large or is representative of districts within the county. The board possesses both legislative and executive powers and can generally pass local ordinances and levy taxes for authorized county purposes. In addition to the governing board there are many independently elected county officers as well as a large number of administrative officials appointed by the county board or by the elected boards of county departments.

### Common Type

The CITY is the most common type of urban government in the U. S. It operates under the provisions of an incorporation charter which is provided through special or general laws that are enacted by the state legislature. Home ruled cities, however, have the power to frame and amend their own local charters.

The primary duty of the cities is to provide municipal-type services such as fire and police protection, library and health services, public works, water supply and sewage treatment and disposal.

The four major forms of government used by American cities are: the weak-mayor council, the strong-mayor council, the commission and the council manager plans.

The weak-mayor council plan is characterized by many elected officials, short terms of office and frequent election. The result is often confusion and a lack of focus of responsibility.

Under the strong-mayor council plan, which predominates today in very large and very small cities, virtually complete control over administrative affairs rests with an elected mayor.

Other features are clearly defined legislative and executive responsibilities and the election of only the most important city officers.

### Dual Responsibilities

The commission plan of city government is used in only 12 per cent. of the American cities. In this system a five or seven-man commission has both administrative and legislative responsibilities.

Individually, each commissioner is designated as Mayor-President and serves as ceremonial head of the city as well as president of commission meetings.

Of increasing importance today is the council-manager plan. Its main features include a small council elected at large on a non-partisan ballot and entrusted with determining municipal policies, enacting ordinances and appropriating funds. The mayor is usually selected by the council from its own membership. The council, in turn, appoints a city manager, who is usually trained in administrative management, to serve at its pleasure.

The manager is vested with control over all departments, in accordance with civil service regulations, prepares and submits an annual budget and advises the council of the financial status and future needs of the city.

The TOWN, which has initially rural in character, today often contains both rural and urban territory. Although they are quasi-municipal corporations, board legislative grants have enabled many towns to enjoy powers and prerogatives similar to a municipal corporation.

The focal point of town government is the annual town meeting where town officers are selected.

appropriated, taxes levied, local ordinances enacted and a governing board of three to nine selectmen chosen.

Generally there is no chief executive although some towns employ town managers, who are subject to the supervision of the selectmen, to oversee administrative affairs.

TOWNSHIP government, which is found in 16 states, is essentially rural in character, although the larger townships in some states include both rural and urban territory. Legally the township is a quasi-municipal corporation and possesses only those powers granted to it by the relief and highway and bridge construction and maintenance. Where they serve urban areas. However, townships also provide extensive municipal type services. The township is generally governed by an elected board which may employ an officer to serve as administrative head under the supervision of the board.

SPECIAL DISTRICTS are really separate governments operating apart from the regular, general governmental machinery and ordinarily performing one particular function.

#### Categories

The approximately 64,851 special districts in the U.S. fall into four major categories: agricultural, irrigation and soil conservation; fire protection, street lighting, water supply and other municipal services in unincorporated urban areas; metropolitan districts which render the same services as those in unincorporated urban areas but cover a wider geographical area; and school districts. Initiative for establishing a special district comes from landowners located within the proposed boundaries of the district.

The country board frequently acts as the district governing body although district boards may also be composed of trustees or commissioners selected by the country governing board, the voters, a local court or even by the state. A major portion of district funds, other than school districts, is derived from borrowing. Many district projects are self-supporting through charges on services rendered.

The relationships of the local units of government with the state and federal governments is becoming increasingly interdependent. Not only do the states formulate the legal framework within which local self-government can be achieved, but they also have administrative supervision over the local units, especially in regard to finance, education and welfare activities for which states grant financial aid to the local governments.

#### Grants

The same degree of supervision applies to national grants intended for use by localities but administered through the state. As for relationships with the federal government, it has been estimated that over 100 federal agencies supply services to local units. The federal government also supplies local units with grants-in-aid for such activities as highways and housing.

As for the history of American local government the towns and countries first established by American settlers were direct transplantations of the English system. These transplantations, however, did not all survive nor did local government remain the same in different parts of the country.

By the end of the 19th century local government was firmly based on the principles of "Jacksonian democracy" named after the administration of President Andrew Jackson. These principles stressed a new-found faith in the common man coupled with a distrust of bureaucratic experts and emphasis on the separation of powers.

In every-day practice the result was short terms of office coupled with frequent elections and the dispersal of the powers of the council among special elective boards to administer individual functions such as water supply, lighting and sewage.

Ironically, the final outcome of this system, initially developed to increase popular control over government, was corruption and irresponsibility. As a counter-action to this state of affairs in American local government all across the country reform organizations were instituted during the end of the 19th century and assumed major importance in the early years of the 20th century.

Evils were exposed and a popular reaction developed against political spoils and inefficient government.

Moreover, accelerated urbanization raised the need for expanded public functions which were difficult to achieve with an unwieldy and inefficient government machinery.

The goals of the 20th century reformers is as follows: the reduction of the number of elected officials; non-partisan local government, so that candidates could be judged on the basis of their qualifications rather than their connection with the party in power; small, single chamber councils composed of councilmen elected from the community at large rather than through the device of the wards; the vesting of greater administrative and executive powers in the office of the mayor; and greater local freedom from state

restrictions through the establishment of constitutional home rule.

At the same time beginnings were made on an expanded civil service and increased use of such popular government devices as the initiative, referendum and recall.

#### Significant Trends

In the 60 years since the local government reform movement was launched, certain trends are evident on a nation-wide basis. Perhaps the most significant is the appointive executive. In addition to

the council-manager form of government, a hybrid consisting of elements of both this and the mayor council plan is being instituted in many cities.

In this plan the chief administrative officer appointed by the governing body and acts in its name. He does not, however, possess direct authority over administrative affairs, but is limited to the presentation of recommendations which must be reviewed by the governing board and has fewer duties than the city manager. There is also a growth of civil service movement toward non-partnership government, similar councils and fewer elected officials and various improvements in country government.

## URBAN WATER SUPPLY

### FINANCE FOR SCHEMES

### STATUTORY BOARDS SUGGESTED

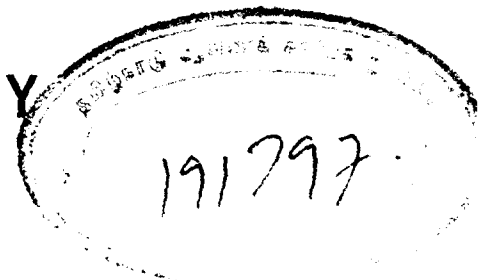
The setting up of "water and drainage boards", either State-wise or region-wise, with adequate statutory powers to promote and finance water supply and sewerage schemes for all urban local bodies has been recommended by the Water Supply and Sanitation Committee, headed by Srimati Lourdhammal Simon, Madras Minister for Local Self-Government, it is learnt.

In order to suggest the necessary legal enactment, organisational reforms and other measures to be taken for creating such boards the appointment of a highpower by the Union Health Ministry has also been suggested.

The committee, appointed by the Government of India in July 1960 to assess the country's requirements of water supply and sanitation and to suggest ways and means of financing these programmes effectively held its final meeting here yesterday when

Srimati Lourdhammal Simon and other members signed the report.

The committee, it is learnt, has emphasised the need for exploring the prospects of securing foreign aid for the implementation of urban water supply and sanitation schemes and also for starting industries to manufacture pumps, metres and other water works appurtenances. It has been pointed out that nearly 60 to 70 per cent of the cost of urban water supply schemes comprises the value of cast iron pipes and specials and it will be worthwhile for the State to participate in the manufacture of these items so that the quality and price of pipes will be controlled and regulated. In view of the common complaint of short supply of cast iron pipes in the smaller sizes cast iron specials and valves and other water works fittings the committee felt that the proposed high-power committee might work out the details of future requirements and indicate the extent and scope of industrial expansion needed in this field.



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# Nine Rules

Nine rules for a long life have been drawn up by doctors from seven nations who attended a "Longevity Congress" sometime ago at Vittel in France. Here they are :—

1 — Everyone reaching the age of 50, even if they feel well should have their hearts examined by a specialist.

2 — Everyone should be examined by a doctor six months after recovering from any serious illness, even if they feel perfectly well make sure the illness, has not left them with possible concealed ill-effects, such as cancer.

3 — Have a good family doctor and have entire confidence in him, particularly if he has known you since your birth. His word should be accepted first and the "influence of state medicine should merely be a complement to the family doctor."

4 — Mental happiness is one of the biggest factors in longevity. It has been found that generously inclined people live longer than other persons and that people with children and grand children who are always trying to help their descendants tend to live longer than other persons.

5 — If you have been used to working hard all your life up to the age of 50, try to continue to work your later years. But make sure before hand that your occupation is suited to your capacity.

6 — Don't rely on last-minute efforts to prolong your life. It is necessary to build the foundations of longevity when you are young.

7 — Don't attach importance to stories claiming that you can live longer than other people if you have a "change of air."

8 — Don't believe the old saying that because many members of your family have lived to a great age you also are certain to live to a great age.

9 — It is worth while to pay attention to the way of living and thinking of certain Oriental peoples. The oriental idea of seeking and longevity and happiness by contemplating of nature in solitude and by achieving serenity of outlook warrant close investigation by Western peoples.

## FOR A LONG LIFE