CENTRAL HEATING IN CANADA

FUEL BOARD COMPLETES INVESTIGATION.

Low-grade Fuels Can be Utilized in Central Plants—A Service of the Future.

That central and district heating can be profitably employed to a considerable extent in Canada and that the supplying of heat as a public utility in the denser sections of cities and towns may be looked for as a general service of the future are among the salient points brought out by the investigation into central heating recently completed by the Dominion Fuel Board. A widespread interest was found in the subject and much information, of practical value in the consideration of any particular application, has been compiled and is contained in the Board's report.

The present high cost of fuel and the frequent disturbances in domestic fuel supplies have led to considerable attention being given to possible economies and benefits to be derived from centralized heating. In almost every civilized country, during some period of the year, artificial heat is needed in dwellings, and buildings required for modern social and commercial life. The supply of such heat becomes a very large, in fact a vital, factor to contend with in northern climates where temperatures are low during the winter and where the heating season extends over more than half of the entire year. Under these conditions, efficient and economical methods of heating and utilization of fuels are of particular importance, and demand the most careful attention and study, both from the standpoint of the conservation of fuel and other natural resources, and of the health, comfort, and budget of the country and the individual.

40% Used for Heating.

Particularly is this the case in Canada, where nearly forty per cent. of the entire coal consumed is used for heating and where over sixty per cent. of the total coal consumed is imported, in spite of the fact that the Dominion possesses immense resources of coal within her own borders Economic and geographic conditions have necessitated the importation of the large percentage of coal. The most highly industrialized section of the country is in the provinces of Ontario and Quebec where there is an abundance of water-power for the generation of electricity. These provinces are fairly close to the large anthracite and bituminous coal-fields of the United States, but a consirerable distance from Canadian coal areas. Hence the bulk of the imported coal is used in these provinces.

Various methods of heating have been adopted and developed in different countries dependent upon the climatic conditions and the requirements and progress of the inhabitants. The tendency in recent years, especially on the continent, has been towards centralization of heating plants, the heat being distributed through pipes by the medium of steam or hot water to serve groups of buildings, or, as a public utility, entire sections of cities. As a general utility service, central heating replaces the wasteful methods of burning fuel in a multitude of small heating units. Each progressive step in other public services has involved an increased cost to the user, but the additional comfort and convenience therefrom have been sufficient to warrant a general adoption. So with the supplying of heat. The advantages of district heating are apparent and in general may be stated as being, to the user: cleanliness, comfort, health, convenience, safety, and saving in space and furnace equipment; and to the community: economy in fuel consumption, possible use of low-grade fuels, and appreciation in rental values of property.

Groups of Buildings.

In many cases central or district heating can be advantageously combined with the generation of electricity from steam stations, the steam being supplied for heating after it has passed through the engines or turbines driving the electric generators. In addition to actual heating service steam can also be supplied from large central stations for the requirements of laundries, hotels, manufacturies, and for miscellaneous industrial purposes with the same advantages, and as a rule at a lower cost than steam generated by small independent boilers. However the introduction of central heating in any particular locality should be preceded by a detailed and careful study of local conditions and of the factors bearing upon the problem in order that there may be reasonable assurance of financial success.

Central heating has been adopted in Canada to a considerable extent for groups of institutional buildings. As representative of the large central heating installations may be mentioned the University of Toronto (27 buildigns); the Parliament Buildings, Ottawa (7 buildings); McGill University, Montreal (9 buildings); Alberta University, Edmonton (18 buildings); and Queen's University and Kingston Hospital, Kingston (22 buildings). Examples of community heating in Canada are to be seen principally in the cities of Toronto and Montreal.

Although the application of methods of centralized heating alone may not be looked upon as a considerable factor in the solution of the "Fuel Problem" in the provinces of Ontario and Quebec, nevertheless the replacement of small anthracite burning units by centralized plants burning low-grade fuels will contribute towards the reduction in importations from the United States high-priced anthracite coal which is so rapidly becoming a luxury fuel of imdeterminate availability.

Dross of Earth.

The fault of most biography is that it represents the one who sits for the portraiture as incapable of wrong and innocent of failure. We are given what Henley called a chocolate candy or barley sugar seraph in place of the real man with blood in his arteries and human frailties and passions. That is a mistake, against which Owen Wister lodged his protest when he wrote "The Seven Ages of Washington." Recently a biography appeared which, in describing the earlier career of a well-beloved English author, makes it appear that he was a prodigal son and an ingrate given to dissolute courses and impervious to rebuke. But it does not fail to show that the later man grandly redeemed the old Adam and left an example of the triumph of the spirit over bodily weakness that will inspire mankind more than the printed book of the writer through all days to come.

We are, in fact, more likely to be edified by the stories of failure than by those of shining and complete success. A play recently seen in this city statrized the average "uplift" story of the greenhorn who breaks into a business and goes by leaps and bounds to the top. The young hero is seen attending a directors' meeting, describing to his approving elders the story of his rapid ascent of the ladder and moving them to such enthusiasm that they jump to their feet and press upon him checks for hundreds of thousands of dollars. That is the way it happens in romance. In real life men must work for what they get. They must expect crushing defeat. They must learn to "meet with triumph and disaster and treat those two imposters just the same."

And men are not as gods nor as angels. There is dross in their make-up, and they must pass through the refiner's fire of adversity that shall bring out the best that is in them They must expect to endure hardness as good soldiers Grave peril to the soul it is to find a place where no storms come, and there is nothing but the lazy pleasaunce of a tropic isle as one drifts and dawdles through the unresisting hours.

There are human beings who seem so good one can hardly imagine any need or mode of improvement; but they know how imperfect they are. We call them saints, and they are fairly bewildered, for they know not that their faces are radiant of the spirit of goodness that is a lamp within. We know nothing of the battle they fought ere they won to the peace we see, but they could tell us that they came out of great tribulation and ate the bread of weariness and tears before joy came with the light of the morning.

Romance of the Bank Book.

An English writer recommends a bank book as good reading and adds: "The general reader will find therein a demonstration of the weakess of human resolves and the vanity of human wishes." That, however, is only one side of the story. There are better things to be found in most bank books. For example, you can find in them evidences of love and self-sacrifice and heroic thrift—a sum withdrawn to keep a boy in college, another to help a friend in distress; frequent deposits, perhaps of a few dollars, hard-earned, hard-saved, made in an effort to lay up something against old age. To get the real significance of a bank book you must read it with sympathetic imagination.

The Oldest Animals.

Efforts are to be made to prevent extermination of the great tortoises on the Galapagos Islands, believed to be the oldest living animals, by finding a refuge for them on some desert island near the United States.

Dr. William Beebe, the naturalist, told the National Geographical Society at Washington that the tortoises, some of which were in existence before Columbus came to America in 1492, are rapidly being killed off for oil, and will disappear unless an isle of refuge is found.

Accounted for It, Uo Doubt.

Grocer—"Eggs hit rock bottom, madam, last week."

Lady—"Then that accounts for why most of those you sent round were cracked."

The average life of goats is about 12 years.

STRAW GARDEN

By David Churchill

The winds of January howled round the house and slapped together the limbs of the big maple. Sleet beat a tattoo on the window pane. Mary had gone to ber, so I drew my chair to the fire and sat down with my garden notebook.

It was too early in the year for new catalogues with their gay covers and their inflammatory literature. It was too early in all conscience to plan a garden, but I couldn't wait a day longer. I simply could not keep out of my garden.

Before I opened my notebook I heard boots on the scrapper outside the door and Neighbor drifted in with a gust of wind and sleet. He blew on his hands and asked if I were busy. I drew him a chair.

"Making straw garden," I answered him; "you're just in time."

"Straw garden? How do you get that—straw garden?" he asked.

"Straw vote—straw garden. Greatest of indoor sports."

Neighbor sat down and stretched his feet to the blaze.

"Go on with your plantin'," he said, "your ground ain't frozen more'n a foot deep."

The wilder the night and the colder it is, the better for straw gardening.

Neighbor took up my notebook, open on the table. He read aloud: "Go back to first garden plan, 70 by 70 feet, fenced. A little more work but considering time spent chasing out neighbor hens and dogs, no loss."

"My hens?" he querried.

"No," I told him. "Pacific Coast hens."

He studied my diagram. A lot of work, he agreed.

"But," I explained, "it means a vegetable garden pretty as a posy bed—laid out like one, with paths where I can take my friends when I want to show off."

"Remember you've got an asparagus bed this year as well as young trees to take care of," he suggested after I had finished.

"I am remembering—I never forget. It makes me warm on cold nights and happy on dull days; it makes me gay and young, just to think of those trees out there, clipped and collared with tar paper, their buds all set for the first spring day."

"Mary feel like that?"

"Only more so."

"Go to it," said my neighbor. "Go right to it. Anything to make the girls happy."

"That garden 70 by 70 was the nearest available ground to the house. There was just a lane between it and the kitchen, a green lane down to the lake. Mary's sweet peas had the fence outside. She says she got out into the garden a hundred times as often because it was so near—that have no idea how it rests her to run out a minute and pick a dish of berries, choose her vegetables, a sprig of parsley. She says it helps her feed us better."

Neighbor nodded. "That ground near the house ain't much but clay. Have to fatten it up," he suggested. "Better make your gate big enough to let the wagon go through with manure if you are going to plant berry bushes all round next the fence as you show here. You can have a small gate, too, a light one for the womenfolks. Neighbor lost his wife. Now there isn't much flavor to his success.

"I've got dead chestnut you could use for that seat I see," he said, "and for a couple of uprights to hold a crosspiece for the grapevine."

I was wondering if the path round the garden, inside the berry bushes, ought to be four and a half feet instead of four feet as I had it. Also about the hill system I used with the strawberry borders along the sides of my paths—it was a nuisance because of the bother of keeping runners down.

"You've got one of those new-fangled cultivators now," Neighbor reminded me; "it will cut off most of the runners for you. And if you keep the hills fourteen inches apart you can use them for markers top and bottom of the bed. It makes a good distance for carrot rows and most of the little stuff. An a multiple of fourteen would be good for anything else—corn, tall peas, tomatoes."

"About resetting strawberries the third year——"

"Let them set a runner between and grub out the old plant in the fall. You say you don't mind the work."

"I don't mind. There is more satisfaction in a garden that is beautiful, complete, inclosed and laid out with paths bordered with bloom and fruit. Even in the fall when most things were brown, that border was bright as a sugar tree. We really had more out of that square garden 70 by 70 than we ever had before or since."

"Because you had to plan close and keep your succession going and because you piled on the manure and fertilizer—kept turning it over and over," Neighbor said. Then he picked up my plan.

"Now this diagram—with the space off for bushes and rhubarb and for the path all round leaves 62 by 62. Is that a path across the middle?"

"Yes, two feet wide.

"Sixty-two by sixty-two divided by a two-foot path that crosses in the middle, leaves four beds thirty feet square."

"What's to go in those thirty-foot beds to satisfy hill appetites?"

I read: "First plot, ten rows of seed onions, fourteen inches apart They could be a foot, but I will keep them to the strawberry markers this year. Next come five rows of early carrots, five of early beets, two rows of early cabbage plants set alternating with head lettuce plants between the rows and between the plants in th row.

"The onions will be ripened in time to plant winter spinach in September; the early carrots will give place to top-set onions for winter and the early beets to the last planting of lettuce in August.

"The whole plot will be under cultivation at the same time and be leaf mulched to last for our tabe as late as possible."

"Across the centre path, the next plot reads: Early radish followed by cauliflower—the same spacing as the cabbage and lettuce in the first plot; then five rows of late beets; five rows of late carrots; six rows of early and three of medium peas, planted at the same time and followed by bush beans and, at the far side, by tomatoes. All these harvest together after the frost, so the bed can be spadded and enriched for the next year.

The lower plot reads, beginning again nearest the house: Two double rows of tall peas, planted with the earlies; one more double row as soon as the first ones appear, and then one more a little later, and so on in succession. The last two rows in this plot are for early beans. The space in this plot, as soon as vacated, is to receive late culiflower, cabbage, possibly sprouts, kohl-rabi and kale, with celery near the centre path.

"Across that path there are three rows of early turnips, which are to be followed by late beans; then three rows of bush Limas, to be followed by spinach. Also there are three rows of early potatoes, to be followed by spinach. The rest of the space was left vacant for sprouted sweet corn.

"Where are your cucumbers? And tomatoes?.. he demanded.

"My tomatoes? Ah, there they are, sitting about among the bushes in tomato cans, waiting for those early peas to get out. Sixty plants for a double row thirty feet long. I give them eighteen inches between rows—"

"What, you mean sixty plants—eighteen inches?" Neighbor demanded.

"Military style," I said. "I once saw an officer's garden—a war garden, two by twice. They were supported on a frame. Two slender poles were stuck in the ground a few feet apart and connected at the top with a slender crosspiece. Below this crosspiece at regular intervals were attached three rectangular frames. The tomatoes, naked of a single leaf, starting directly below the lowest rail—or frame—were trained out and round the second, inward again over the third and crossed from both sides at the top where they were cut off. Each tomato plant set three to four bunches—all they can ripen before frost—and when I first saw them the whole frame was a mass of fruit, green and ripening."

My neighbor stood up and stretched himself.

"Do you grow your cucumbers on poles," he asked, "or on the fence?"

"Neither. I need the fence for pole beans and Italian squash. I grow the cucumbers on a slat frame, raised to let them hang through."

He shook his head, opened the door.

I closed him out and the warmth in. Half an hour yet before Mary would call me to bed. Time to take everything out of my garden as I would a trunk that must be repacked. Time to plow, harrow, drag and plant it all over again and yet again for two months to come.

No Baby Carriages.

Pushing baby carriages on the sidewalk is an offense against the law in London, although prosecution seldom occurs.

Dr. D. M. Connan, deputy medical officer of a municipality in England, makes sure that the children in his district have no tooth troubles. He travels with a motor van giving illustrated lectures.

VERANDA AND WINDOW BOXES

The time is close at hand for the planting of this season's porch and window-boxes. Make your window-box of one-inch boards, at least one foot wide and one foot deep. The length will depend on the width of the window. Fill the box to within one inch of the toy with ordinary garden loam. To this you will need to add a little fertilizer from time to time for the plants will exhaust the nourishment of the soil. Bone-meal, liquid manure, fertilizer tablets, etc, are excellent stimulants for this purpose; but you must bear in mind that liquid manure should never come in contact with begonias.

Study the location of your window-box; and don't make the mistake of planting in a shaded place, the flowers which love sunlight—devote such positions to ferns and palms. Reserve your porch and window-boxes for the choice varieties; choose the flowers that are long blooming, and be sure that their size and color will harmonize when grouped.

Of the general plants, a great number are suitable for box culture. The following are among the most popular: Ageratum, antirrhinum, begonia, caladium, candytuft, coleus, croton, fuchsia, geranium, heliotrope, lantana, moneywort, pansy, petunia, phlox, nasturtium, mignonette, salvia, sweet alissum, verbena, and ferns and palms.

Young potted plants should not be transferred to the window-box immediately after they are received from the orist; give their roots a chance to develop before you transplant them. And don't set them out until all danger from frost is passed; a sudden return of cold weather might injure them permanently.

Although plants are grouped more closely in a window-box than they would be in a garden-bed, they must not be overcrowded, or the effect of the whole will be lost and the progress of each plant handicapped. If they are inclined to be spindly, cut them back to induce stockiness. The pinching off of the first buds which appear will strengthen the plant; and the frequent culling of subsequent blooms will produce a greater profusion of flowers.

A very charming effect may be had by planting vines at the back and front of the box. Manettia, for instance, along the outer edge will soon droop gracefully over the box very effectively. Climbing vines planted at the back may be trained up each side of the window; and they may even be made to serve as an awning if a frame is placed at the top of the window for them to climb upon. Climbing vines from porch-boxes should always be furnished with supports. String supports are no doubt the easiest and most available; but it is far more effective to build a light trellis of laths. Pleasing results may be obtained by arranging the strips to extend from the back of the box to the top of the porch, like the ribs of an open fan. Lobedia, manettia, maurandya, morning-glory, saxifrage, and wild cucumber are popular vines for box culture.

Too much stress can not be laid upon the importance of proper watering when flower-boxes are concerned. For the much-debated question of when to water, no other guide than one's own judgment can be given. The earth in a box is exposed, so to speak, on all sides, and evaporation is much more rapid than it would be in the garden-bed. In most instances we find only a quart of water given when a gallon is required. The soil should be thoroughly saturated once a day, and in extremely hot weather, twice each day, and the surface should at all times be kept broken up to conserve the moisture. It frequently happens that in drying out the earth recedes from the sides of the box, leaving an aperture into which the water runs without passing through the earth. If the earth is graded a little higher at the sides than in the centre the water will be concentrated and forced to soak through it.

If you find it difficult to grow plants in certain unfavorable locations, substitute a shallow window-box for the deep one and place potted plants within it. They can then be removed to more favorable quarters to recuperate if they show signs of weakening.

Fish Catch of the World.

According to the most authoritative estimate the total fish catch of the world is valued at over $1,000,000,000 a year.

That represents the price the consumer pays, and includes charges for cold storage, dealers' profits, and so on.

Japan leads the world as a fish-eating nation, her catch totalling for the year about $90,000,000. The United States comes next, with just over $85,000,000; France third, with rather less than $85,000,000; and Spain fourth, with $70,000,000. Britain comes next, with about the same value.

The value of fish per hundredweight has fallen greatly in recent years. A year or two ago Britain's catch was valued at $90,000,000.

During recent years there has been a big increase in the amount of capital invested in the industry, the United States alone having added nearly $25,000,000 to the value of her fishing-boats, nets, and so on.

Most of the world's fish supply comes from the shallow banks near the shores of the continents. It is here that the fish live; and it is well that they do so, for fishing on a large scale is much easier in such places than it would be in the deep seas.

Notes About Noses.

One of the purposes of the nose is to raise the temperature and humidity of inhaled air before it enters the lungs. The colder and drier the air, the greater the need for this function, so that in a race which has lived long in a cold, dry environment the nasal passages become long, and the nose high and narrow.

After migration from one type of environment to the other the adjustment is not immediate, but takes many geerantions. Thus, the high, narrow noses of the dominant castes in India indicate that the latter are comparatively recet immigrants from the north.

Fossil skulls found in Europe indicate very high, narrow noses during the Ice Age, gradually becoming shorter and broader as the climate improved.

Hatters Had Union.

Journeyman hatters in England had a trade union as early as 1667.

What Orange Pecoe Means.

The label "Orange Pecoe" means the size of the cured leaf and not the particular kind or quality of tea.

On only two estates in England—Dalemain, in Cumberland, and Duncombe Park, in Yorkshire—can deer-stalking, similar to the sport of the Scottish Highlands, be enjoyed.