

The light well of a lodging house in a large city of Western Canada. It is 5 feet 6 inches wide and lights and ventilates 18 bedrooms and 12 lavatories. Many similar wells are only 4 feet wide.

## Housing Tendencies in Canada

### Need for Better Building Regulations in Order to Promote Health

Fresh air and sunlight are factors of prime importance in the solution of the city slum problem. Without these, disease, and degeneracy are certain to abound. Yet such is the premium placed on land values, that the civic authorities of even some of the newest Canadian cities fail to make adequate provision for the proper lighting and ventilation of buildings.

In a progressive city in Western Canada, under the building by-laws a building may occupy nine-tenths of the lot, or, if the ground floor is used for business purposes, that portion of the structure may cover the whole lot. The upper portion of such buildings, consisting of two, three or four storeys, may be partitioned into small rooms to be rented to lodgers. The windows of these rooms open on a court or courts, which extend from the roof of the first floor to the roof of the building, and if the total ground area of the court or courts equals one-tenth of the lot required by law, it fulfills the requirements of the law respecting tenement and lodging houses.

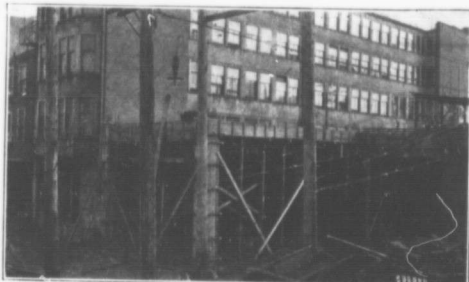
These great "dumb-bell" barracks furnish poor enough housing accommodations when they stand alone, but when two are constructed on adjoining lots, a well is formed by their courts, and all the windows opening on these courts are darkened and shut off from fresh air. If one of the buildings is a warehouse, it may occupy the entire lot and the width of the well is halved, making the rooms darker still.

In a lodging-house of 48 rooms on the principal business street, 36 rooms have practically no light or ventilation. Nor is this all.

The building has been so constructed that the lavatories ventilate into the court from which a score of bed-rooms derive their supply of air. Surely it is not surprising that one ward—the lodging-house district—should furnish a death-rate from tuberculosis, on the basis of reported deaths, at least twice that of any other ward in the city.

Nor is the "dumb-bell" type of construction confined to the downtown districts. West-end apartment houses are being built on the same plan. As the city grows, these will become the tenements of to-morrow. There can be nothing but uncompromising condemnation for the construction of such ill-ventilated, dark-roomed apartments and lodging houses, either in this or in any other Canadian city. They are synonymous with infant mortality, disease and iniquity.

At the last census of the Union of South Africa, there were 3,000,000 more natives than Europeans.



A lodging-house in the same city, the court of which is becoming a well through the erection of a building on the adjoining lot.

## Good Roads Problem

### Something about its Solution in Saskatchewan

The improvement and maintenance of good roads in the rural districts is a vital problem in all parts of Canada. Inevitably, perhaps, the phenomenal development of railway and waterway navigation has largely overshadowed the necessity that exists for properly built wagon roads. However, it is steadily being more fully realized that the absence of such roads causes an economic loss of great importance to every citizen, and especially those of the rural districts.

It is very gratifying to find that scientific progress is being made in many parts of Canada. The government of Ontario is spending large sums on roads in New Ontario. New Brunswick is enacting "good roads" legislation; and Saskatchewan, where railway development during the past few years has been phenomenal, is carrying out a comprehensive "good roads" policy.

Saskatchewan has appropriated \$1,200,000 for highway improvement work during 1913. This is merely a continuation of the work commenced in 1905, and each year since then the government has expended from \$200,000 to \$700,000 a year on roads and bridges. The work has been carried out under the supervision of a board of highway commissioners, and assistance is granted through them to municipalities under certain carefully defined conditions. This assistance is confined to the building of bridges and trunk roads. The old statute labour system is discouraged as being uneconomical and inefficient.

In view of the scarcity of gravel and stone in many parts of Saskatchewan, extensive experiments have been carried out at provincial expense to ascertain the best means of constructing clay roads. It has been found that Saskatchewan clays burned at comparatively low temperatures produce an excellent surfacing material for graded roads. Owing to the reddish colour of this burned clay these roads are known as "the red roads of Saskatchewan". Their cost, where underdrainage is not necessary, has been found to be from \$2,000 to

\$2,500 a mile. This includes the cost of burning the surface clay. Where tile drainage of the grade is essential, the cost is increased by from \$1,000 to \$1,500 a mile. It is claimed that these roads stand up well under prairie conditions.

Another class of road that is being experimented with in Saskatchewan consists of a specially prepared clay grade covered with asphalt. If suitable to the conditions, such a road should prove popular in the smaller towns and villages.

## Flood Prevention and River Regulation

Floods, like many other natural phenomena may not be preventable, but they can be, in large measure, controlled. This has been demonstrated in many of the countries of Western Europe. For many years, the governments of France, Germany, Austria and Switzerland have had competent engineers supervising the improvement of their river systems. In fact, so important has this work become that it is regarded as a well established branch of engineering. It was early realized that such work cannot safely be left to riparian owners, whether they are individuals or municipalities. Consequently, the governments assumed control and carried out the work on a comprehensive basis.

European engineers usually provide a fixed and suitable channel for the ordinary flow of the rivers, as well as a definite channel to take care of extreme floods. Permanent bridges, harbours, locks and roads are built so as to meet flood conditions. Obstruction of the river beds, or of the flood plains in any way that would injure the general welfare, is forbidden.

In Canada and the United States, on the other hand, no comprehensive plan of flood prevention has, as yet, been evolved. That the problem is becoming urgent was shown by the recent disastrous floods in different parts of the United States. For a century or more the physical conditions along Canadian rivers have been steadily changing. Forests have been cleared, swamps drained, and land turned into farms. The result has been that, for a few days in the spring of each year, many of the rivers become raging torrents, and, for the rest of the year, are comparatively insignificant streams. More or less spasmodic local efforts have been made in certain instances, to cope with this situation. These efforts have been inadequate however and, in some cases, have caused further serious injury to other riparian owners.

What is needed are provincial and Federal systems of river regulation under the direction of competent engineers. The latter should be given authority to prevent encroachment upon river channels and they should be required to make a careful preliminary study of the river systems so as to ascertain with some degree of accuracy the proper methods of preventing, or at least, of regulating floods.