

Fire Conditions in Hospitals

Many have not Adequate Means of Escape in Case of Fire

Many Canadian hospitals and similar institutions lack adequate means of escape in case of fire. Many are situated at a considerable distance from the protection of municipal fire departments and are entirely dependent upon their own resources and equipment. Inmates incapacitated by illness, the blind and imbecile are practically helpless in an emergency. A fire starting in the basement or upon the lower floors would, in many cases, cut off descent by the ordinary stairways and elevators. If unassisted, rapid exit down external fire escapes is obviously impossible to the bedridden and crippled.

To overcome this vital defect it has been suggested that every hospital, asylum and public institution introduce a fire resisting wall, cutting the entire building into two parts. In case of fire breaking out on one side of the wall, automatic alarm signals would notify everyone upon that side and they could pass through the doorway of the wall into the safe section of the building and reach the ground, if necessary, by elevators or stairways which would be in a normal condition. With proper fire drill, the attendants would, at the first alarm, wheel the helpless on their beds through the doorways in the dividing wall with scarcely any disturbance. Safety would be found upon each floor, without the danger attending vertical travel.

The most attractive feature of the bi-sectional wall is its cost compared with structural alterations necessary in providing new stairways and unsightly and dangerous external fire-escapes. In many cases, existing walls can be developed into fire barriers with very little expense. The Department of Charities and Corrections of New York city has recently had the system installed complete with automatic alarms in each of the two hundred buildings under its control. The authorities responsible for the welfare of inmates in large institutions in Canada should give the matter consideration and, as far as possible, adopt this simple method of safeguarding the lives in their keeping from the dangers of fire.

The annual report of the Ottawa Chapter of the Daughters of the Empire states that since that organization undertook the collection of waste paper, in July, 1915, their receipts from this source have been \$9,246. The expenses of collection were \$1,204, leaving a net profit of \$8,042 for patriotic purposes. Over 550 tons were gathered.

KNOW THE VARIETIES YOU SOW

During the summer of 1916 the Commission of Conservation conducted agricultural investigation work on 400 farms in Dundas county, Ont. It was found that nearly all the farmers were growing oats and barley. Of those growing oats, only 53 per cent knew the names of the varieties they were growing and only 13 per cent in the case of barley.

When a farmer is sowing an unknown variety of grain, he cannot be certain that it is the most suitable for his farm. Many farmers to-day are sowing a mixed crop of oats and barley and do not know the name of the variety of either. When late maturing oats are sown with early maturing barley, the barley will ripen first and before the oats are ready to cut many heads will break down, with a consequent loss of barley on account of the broken down heads.

The farmer should know the varieties he sows. This will enable him to select for mixed crops the varieties which will ripen together and give him best results. Every farmer should know the name of each variety of crop grown on his farm, and, in each case, it should be a variety of proven merit.—F.C.N.

FARM SCHOOL FOR WOMEN

From Argentina comes information of a new departure in agricultural education. By a decree of May 8, 1915, the Government accepted the donation of grounds, buildings, etc., for the foundation of a farm school for women at Tandil, Buenos Aires, known as the Hogar Agrícola Ramon Santamarina.

The courses include practical and theoretical instruction in tree and plant culture, dairying, pig and chicken raising, general and special farm problems, and domestic economy. The course lasts one year and students receive a certificate. The entrance requirements are good health and a sixth-grade certificate. Applicants for enrollment must have reached the age of 17.

SPAIN PROVIDES FOR NATIONAL PARKS

The Spanish Government has enacted a law providing for the creation of national parks. All exceptionally picturesque regions, forests or lands that the State may select for this purpose are to be considered part of the park system. Access to them will be facilitated by suitable means of communication. The natural beauty of the parks, their fauna and flora, as well as geological or water features of interest, will be protected from destruction, deterioration, or defacement.

By-Product Coke Ovens

Growth of Plants in Canada—An Important Example of Conservation

The Dominion Iron and Steel Company has recently ordered a battery of 120 Koppers by-product coke ovens of 13 tons capacity each. This company was the first to install by-product ovens and on the completion of the new plant will have a total capacity of coking 4400 tons of coal per day. The Nova Scotia Steel and Coal Company has also increased the capacity of its plant by an additional battery of 40 Bernard retort coke ovens. These ovens recover the gas as a by-product.

The coking of coal in by-product ovens is one of the most practical examples of conservation. All of the valuable constituents of the coal are saved—not wasted as in "beehive" oven practice. The by-products obtained are as follows: tar, from which is obtained pitch, creosote, carbolic acid, etc.; gas, used for fuel for heating or illuminating purposes and from which are produced benzol, toluol, etc., the raw materials used in the manufacture of aniline dyes and certain kind of explosives; ammonia liquor for the manufacture of ammonium sulphate, which is valuable as a fertilizer. The coke is used for smelting purposes.

The coal-briquetting industry depends upon a cheap supply of binding material. Coal tar pitch makes a suitable binder, and the manufacture in large quantities of this product in Nova Scotia should tend to encourage this industry and thus reduce the waste of slack coal. It would also make available many inferior coal seams, the coal from which could not be economically marketed otherwise.—W.J.D.

Calcium Cyanamide

Valuable Fertilizer Manufactured from the Air

Calcium cyanamide, contains about 2 per cent of nitrogen and on most soils has about the same fertilizing value as ammonium sulphate. Its nitrogen, therefore, is highly available and its use is especially advantageous on acid soils. The first step in its manufacture consists in the production of calcium carbide which is made by heating a mixture of coke and limestone in an electric furnace.

The only plant in North America manufacturing fertilizers in which the nitrogen content is derived from the air is that of the American Cyanamid Co., Niagara Falls, Ont. This plant was established in 1909 with a capacity of 12,000 tons per annum; this was increased during 1912 to about 32,000 tons, and

its present capacity is 64,000 tons per annum. The electric energy continuously used at the plant is approximately 30,000 h.p.; the greater portion of which is used in the manufacture of calcium cyanide.

Calcium cyanamide may be put to numerous uses but the fertilizer market has, so far, absorbed the entire output of the plant. Practically the whole production of the plant is exported to the United States. Exports to the United States were as follows:

1909	1,450 tons
1910	4,650 "
1911	9,500 "
1912	11,100 "
1913	27,400 "

This material was used in the manufacture of so-called complete fertilizers. In 1914, the average value of Canadian cyanamide exported to the United States was \$51.40 per ton.—W.J.D.

Extension of Forest Protection

The completeness and efficiency of forest protection work in western Quebec is to be very greatly increased as a result of action decided upon at meetings of landholders held in Ottawa, February 21 and 23. As a result of this decision, the territory of the Lower Ottawa Forest Protective Association is to be extended westward to cover the area between the Colongue watershed and the western boundary of the province, extending north to approximately the National Transcontinental railway. The present territory of the Lower Ottawa Association covers the Lièvre, Rouge, Gatineau and Coulongue watersheds, a total of 13,269 square miles. With the increased territory now to be added the area will be approximately 29,000 square miles. An adequate staff of fire rangers and inspectors will be provided under the supervision of the present manager, Mr. Arthur H. Graham. It is anticipated that a co-operative arrangement will be made with the Provincial Government providing the patrol of unlicensed Crown lands, in addition to the large areas of valuable timber limits now being under license.—C.L.

The Russian Minister of Agriculture has been given power to create on Crown lands reserves for the preservation and breeding of fur-bearing animals and of birds.

Under a new factory law which recently went into effect in Japan the maximum number of work hours per day provided for laborers is twelve. It is expected that the new law will greatly alleviate the conditions under which 2,000,000 girls work in the silk producing factories.