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JANUARY, 1916

No. 1

Ontario's Sturgeon Fisheries

Depletion of Lakes and Streams
Almost Complete—No Sign
of Renewal

The sturgeon is the most valuable fish found in Canadian waters. Aside from the importance of its roe, as the basis of the caviare industry, it is remarkable for the number, variety and value of its other products. Practically every portion can be utilized in the manufacture of some valuable commodity. The roe is worth \$1.00 per pound, the flesh is the highest-priced of all Canadian fish, the skin produces excellent leather, the swim-bladder is made into isinglass, the entrails into fertilizer, the brain, backbone, nose, fins, tail and other portions into various articles of commerce. In short, its economic utilization is complete. There is no offal or waste.

This remarkable fish was formerly abundant in Ontario's lakes and streams. To-day, the various sources of supply are in a state of depletion. The sturgeon fishery of the lake of the Woods, once regarded as the most productive in the world, is virtually extinct. Other waters have been depleted only in a less degree. During the last five years the average output of the whole province has been less than one-fifth of that of seventy-five years ago. The fishery was opened up on a commercial basis in the early eighties and the average annual yields for five-year periods during the last thirty years show the progress of depletion:

Period	Average Annual catch	Lbs.
1884-1888	1,205,000	
1889-1893	981,000	
1894-1898	1,377,000	
1899-1903	674,000	
1904-1908	379,000	
1909-1913	227,000	

For fifteen years, 1884-1898, the average output was maintained at over 1,000,000 pounds, owing to the constant development of new fisheries within the province. The reduction of these virgin waters served to swell the returns from the entire province and thus to

conceal the depletion of older fisheries. For instance, in 1896 the total catch for Ontario came from the newly developed fishery of the lake of the Woods. The production of that famous fishery declined from 900,000 pounds in 1896, to 30,000 pounds in 1903. When virgin waters were no longer available, the compensatory factor ceased to act and the effect on the statistical returns was the more disastrous because cumulative. The rapid decline of the annual catches soon exposed the real con-

ditions which were being met by the discharge directly into the ocean, and treatment would be superfluous.

Conditions with regard to sewage disposal are better in the west largely because the systems have been more recently installed, after the necessity of treatment had become apparent to all. The great majority of the systems in the eastern provinces were installed before this necessity had become so universally recognized, and, as they were not laid out for this purpose, it is in some cases costly to make the change. How-

Annual Meetings

- Commission of Conservation, Tuesday and Wednesday, January 18 and 19.
- Canadian Lumbermen's Association, Wednesday, January 19.
- Canadian Society of Forest Engineers, Tuesday evening, January 18.
- Canadian Forestry Association, Thursday, January 20.
- Civic Improvement League for Canada, Thursday, January 20.

dition of Ontario's sturgeon fishery. During the past five years, it has reached its lowest ebb and there is, as yet, little or no sign of revival.

Sewage Disposal

Advancement Made in Treatment
and Disposal Methods

During recent years, marked progress in methods of sewage disposal and treatment have been made in Canada. A recent investigation made by the Commission of Conservation revealed the following: In Ontario, of the total number of municipalities having sewerage systems, 37 per cent treat their sewage; in Quebec, 124 per cent; in Manitoba, 33 per cent; in Saskatchewan, 80 per cent; in Alberta, 43 per cent; in British Columbia, 44 per cent. The Maritime Provinces cannot be compared on the same basis, as most of the sewerage systems

ever, marked improvement is also to be noted, and practically all new sewerage systems either include treatment plants or are designed and installed with the view to the future installation of such plants at the minimum expense.

MUNICIPAL FISH MARKET AT SYDNEY

That the people of Sydney, Australia, may derive full benefit from fish caught by the recently purchased Government trawlers, the municipality of Sydney has opened a fish market where the catch is disposed of at moderate prices to the public. The windows at the market are specially constructed, being air-tight and fitted with panes of glass in front, so that the space in which the fish are kept is insulated. From a refrigerator beneath, a blast of cold air is constantly passing over the fish, which, it is stated, will keep fresh for several weeks.—United States Commerce Report.

Hindrance to Forestry Progress

High Labour Cost and Low
Stumpage Values Militate
Against Forest Perpetuation.

The greatest hindrance to the progress of forestry in this country is the low level of stumpage values. In Europe, where labour is much cheaper and stumpage values several-fold higher than with us, forest properties may be maintained on a perpetual yield basis and pay a fair return on the investment. What obtains in Europe today will obtain in America tomorrow. The practical question is, "How may we hasten it?" In a large measure the answer to this question will be found in the development of the art of the logging engineer.

Stumpage is that which remains when the cost of marketing the forest product has been paid out of the returns from the sale. Obviously, there are but three ways of increasing stumpage values, namely, by raising the price of the product, by eliminating waste, or by reducing the costs of marketing. Unhappily, the price of lumber, the main forest product, is determined by a great variety of considerations, most of which are wholly beyond the control of the friends of the forest.

The utilization of materials previously wasted makes no progress. There have not been nearly so many by-product developments as could be wished, and every step in advance—no matter how rich in early promise of good financial returns—largely defeats its own hopes on account of the overwhelming supply of raw materials on the one hand and market limitations for the product on the other.

Until lumber prices substantially and permanently advance, the main hope of bettering forest finances, and thereby widening the field where forestry may be practised, rests in lowering the costs of marketing the forest crop.

The cost of marketing the forest-er's crop may be roughly divided

(Continued on Page 2)

(Continued from Page 1)

into logging costs, milling costs, lumber transportation, and selling costs.

The sawing and finishing of lumber, together with lumber transportation, have already been highly standardized. No doubt many further economies will be effected in these departments from time to time. A start, which has every promise of large results, has already been made in the, heretofore, much neglected field of lumber salesmanship. But perhaps the largest field for economies is that of logging, and the hope for greater efficiency in this quarter is in the development of the art of logging engineering.

As agriculture calls to its aid so much of the sciences of chemistry, physics and biology, so the logging engineer, in the development of his profession, takes toll from the whole field of mechanical science, and calls for much of the best that has been produced by that modern alchemist, the metallurgist. No occupation calls for greater resource and adaptability. Every logging unit differs from every other in the complexity of variations in topography and stand; of the thousand ways in which logging may be done there are not many profitable ways, and there is, of course, only one best way. The man who knows and can effectively carry out one or more of these better ways is a potential logging engineer.

The successful logging engineer of the past has compelled success by a more than average ability and adaptability. How may the average logging foreman improve his methods and thus take the first steps to qualify as a logging engineer? Must it not be through bringing to him the results of the best thought of the thousands of men who are devoting their lives to this work?

The graduate of the forest school, with a special training in the department of logging engineering, may hope to be of considerable service to a logging company from the start, but, to be of the greatest service in the end, he must be willing to start his practical apprenticeship at the bottom and work up.—Dr. J. F. Clark.

SMELTING AND REFINING ORES IN CANADA

One of the immediate results of the present war has been to encourage the smelting and refining of ores in Canada. While certain metallic minerals have, in the past, received preliminary treatment in Canada, the ordinary metals of commerce, excepting lead, have been exported for refining. Recent reports announce the establishment in Canada of plants for refining both zinc and copper.

Leaks in gas pipes can be temporarily stopped with soap.

Forestry and the Lumberman

By Working Hand-in-hand Good Results May be Secured

What is the duty of the lumberman toward forestry? Essentially, it is to keep an open mind. He should be receptive in two ways. First, to understand thoroughly how the public ownership of timber lands under scientific management may affect his own business, both now and in the future; second, to determine what principles of forestry as practised by the state might be applied to advantage on his own lands. He should consider these matters for his own immediate business good, and in a spirit of friendly co-operation with other private owners and the state. Without such co-operation it will not be possible to carry on in the future a permanently profitable lumber business.

In years gone by, the lumberman, with good reason, has taunted the forester with his ignorance of practical lumbering conditions. The forester has grown; and, although he still has much to learn from the lumberman, he now knows that turn-about is fair play. He asks that the lumberman keep an open mind toward forestry; that he take a lively interest in those problems in the solution of which the forester might assist him; and that he then apply to his own lands such method of forestry as may work for his own practical advantage and the ultimate good of the state.—Olmsted.

Doubling the Price of Herring

Proper Curing Methods will Make Canadian Equal to Scotch Product

To dispose of 600 barrels of cured herring at \$11 per barrel, f.o.b. Nova Scotia, while his neighbours were getting only \$4 to \$4.50 per barrel, was, last summer, the fortunate experience of a fish packer at Goldboro, Guysborough county, N.S. This highly satisfactory result was secured by discarding the old-fashioned Nova Scotian style of packing in favour of the modern Scotch method of carefully packing the fish in tight, well-made barrels that will retain the pickle and preserve the flavour. This was done in consequence of the representations of Mr. J. J. Cowie, inspector of pickled fish for the Fisheries Branch, who, at the request of the Goldboro firm, secured an expert from Scotland to take charge of the work. As a result of this valuable object-lesson, Mr. S. Y. Wilson, a large dealer of Halifax, has determined to put up some 2,000 barrels next summer in the Scotch way.

Forest Fires in Northern Alberta

Tremendous Losses in Well Stocked Areas—Little Remains of Mature Timber.

Enormous damage has been done by forest fires in the Smoky River valley and the Grande Prairie country, in northern Alberta, according to a report recently published by the Dominion Forestry Branch. The examination, made under the direction of J. A. Doucet, covered an area of 8,000 square miles previously well stocked with forests of various species, including lodgepole pine, white, black and Englemann spruce, alpine fir, tamarack, aspen and birch. On account of unfavourable soil and topography, only a very small portion of this area can ever be used for agricultural purposes. The agricultural lands are for the greater part limited to the prairie, of which there are considerable areas, and in the development of which the timber resources would be of the greatest value.

The report shows that the results of the repeated fires in this region have been appalling.—Of the 8,000 square miles well wooded even within the last hundred years, only 648 square miles, or 8 per cent, still retain a forest cover 100 years old or over. These are the only portions which can be regarded as having a virgin cover. Thus, 92 per cent of the area has been burned over at least once during the past hundred years.

About 8.5 per cent of the total area bears timber from 50 to 100 years old, averaging 70 years, while 14 per cent bears timber of small pole size, averaging 25 years

of age. Less than 20 per cent is covered with young reproduction, while 3,690 square miles, or 46 per cent of the total area examined, is covered with brush, mostly swept by fire within the last 30 years.

Including the young reproduction area, the percentage of the territory swept by fires during the last 50 years totals about 65 per cent. In some places, the soil cover has been entirely removed, and it will be long before another forest can take root; in others, the heavy slash endangers the young growth and the little remaining old forest.

It is estimated that, within the territory covered by the report, not less than 16,000 million feet of merchantable pine and spruce timber has been destroyed by fire during the last 30 years. At an average valuation of 50 cents per thousand, this represents a loss to the country of \$8,000,000, in addition to the serious depletion of game and fur-bearing animals.

The report closes with a strong recommendation for the establishment of forest reserves and for the allotment of sufficient funds to provide for adequate protection.—C.L.

THE FORESTER

There are foresters whose vision sticks in the woods and does not piece through to the fact that the welfare of the people, not the welfare of the community of trees, must be the aim of the forester's endeavor. Foresters are only the medium through which he works. The most successful forester is the one whose life and work contribute most fully to the necessity, convenience and pleasure of the greatest number of people, not necessarily the one who grows the most wood per acre in the shortest time.—DuBois.

Unsafe ladders have many permanent disabilities to their credit.



Cut No. 11.

RESULTS OF FOREST FIRES

Young stand of lodgepole pine coming in on old burn, in Northern Alberta. area of 8,000 square miles, 92 per cent has been burned over the past 100 years.

Commission of Conservation

CANADA

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Deputy Head

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OTTAWA, JANUARY, 1916

RESULTS OF THE "GREATER PRODUCTION" CAMPAIGN

The results of the Greater Production campaign far exceed even the most sanguine hopes. Canada has harvested a crop of wheat estimated at over 336,000,000 bushels—more than double that of the previous year, and 45 per cent more than any previous wheat crop in her history. The dairy industry sent from the port of Montreal butter and cheese valued at \$23,705,000, exceeding the exports of 1914 by over \$5,000,000.

In mineral production Canada has made numerous advances. Copper and zinc refining plants have been established at Trail, B.C., and are treating native ores. Improvements have been made in certain steels to enable them to be used for shell purposes. Improvements have also been made in the concentration of molybdenum ores, the molybdenum being used in the manufacture of big gun linings and high speed lathe tools. The recovery of benzol from by-product coke ovens has been developed. Benzol is used in the manufacture of explosives. In Western Canada the discovery of phosphate of lime in Rocky Mountains park should prove of great value to the agricultural interests.

Canada's fisheries have received special attention, not only in the production but in the marketing. Both on the Atlantic and Pacific coast advances have been made. Due to conditions brought about by the war, Canada last year placed her fish upon the British market, and it is hoped that some species may be permanently established there.

Progress has been made in the cultivation of ideals looking to improvements in our homes and our municipalities. Conferences and meetings have been held from coast to coast. Nova Scotia today pos-

sesses advanced town-planning legislation. Other legislatures have special town-planning acts under consideration. On January 20th next, there will be held at Ottawa under the auspices of the Commission of Conservation, a conference for the formation of a Civic Improvement League, to embrace all Canada, and to endeavour to secure betterment of conditions in the cities, towns and minor municipalities of the Dominion.

While greatly increasing her wealth through the output of natural resources, Canada has also made a very large saving by reduction of her fire losses. While the figures are not yet available, these, it is expected, will show substantial progress toward the standards of other countries in the ratio of fire losses.

The past year has been an era of awakening in Canada, and the earnest endeavour has been made to eliminate waste, not only in manufacturing but in mining and in the development of all our natural resources.

Civic Improvement League for Canada

At a conference held at Ottawa on the 19th November last, under the joint chairmanship of Sir John Willison (Toronto) and the Hon. J. J. Guerin (Montreal), a resolution was passed to the effect that a Civic Improvement League be formed for Canada.

It was decided to hold a conference for the purpose of launching the League and deciding upon its constitution. This conference will be held at Ottawa, on Thursday, January 20th, following the annual meeting of the Commission of Conservation, which will be held on January 18 and 19. This conference will be addressed by prominent public men and important matters relating to civic government and future municipal developments in Canada will be discussed. In view of the present and probable after-effects of the war on Canadian municipal life, and on social conditions generally, there are many questions on which it is important to have an interchange of views between representatives of all provinces in the Dominion. These questions affect rural municipalities, as well as cities and towns, and will naturally include those which relate to the apportionment of responsibility between provincial governments and local authorities in regard to such matters as public health, town planning, immigration, unemployment and the expenditure of public funds.

Arrangements are being made to secure for those attending the conference transportation at reduced rates.

Great care should be exercised when thawing frozen water pipes with a naked flame. Hot water is more effective and is absolutely safe.

Street Noises

Municipalities Should Enforce Regulations

Noises made upon the public thoroughfares are one of the chief sources of annoyance to the residents of cities. These are numerous and varied, and, except in very rare instances, are unnecessary. Many municipalities have regulations covering this nuisance, but they are seldom strictly observed. In fact, in some cases, while the municipal code prohibits street shouting, license departments issue licenses to street-hawkers, to ply their trades upon the streets in as noisy a manner as they may wish.

Not the least offender in the category of noise-makers is the freak automobile alarm. Many varieties are in existence, and, as there are also various kinds of freak drivers, the combination becomes nerve-racking. Attempts have been made, but without much permanent success, to regulate these alarms and to secure uniformity. This would also be of advantage in accustoming horses to the approach of automobiles.

Boards of health and other organizations should undertake a campaign to secure a considerable reduction of these street noises and a consequent more enjoyable city life.

Danger Threatens Our Native Birds

Embargo on Foreign Plumage Encourages Domestic Slaughter—Supplementary Legislation Needed

The skins of two chickadees were noticed on a lady's hat the other day by an official of the Central Experimental Farm, Ottawa. The chickadee is one of our most beautiful and widely distributed birds, 70 per cent of whose food consists of injurious insects. To all lovers of the Canadian woods, it is a general favourite. There is every reason, humane, aesthetic and economic, for preserving it; yet thoughtless, fashion-crazy women persist in wantonly sacrificing it and others of man's feathered friends to decorate their millinery.

Not all women are included in this indictment, but the law should be amended to reach those who will not refrain from patronizing the slaughter of innocent and useful birds. Already, our legislators have forbidden the importation of foreign plumage, but this must be supplemented by an act to suppress the traffic in native birds. It should be made illegal, not only to kill useful, rare and insectivorous birds, but the vendors and wearers of the plumes of such birds should be punished likewise.

Backyard Environment

Untidiness of Home Surroundings the Cause of Many Children Leaving the Farm

A great part of the home life of families on farms is associated with the backyard, which, of all places around the farm home, is usually the most neglected. The front yard may be fairly well attended for the occasional passer-by to see, but flowers and shrubs should be placed where they will do the most good—where they will be seen and enjoyed by the occupants of the house. Children and young people especially are often influenced by their environment more than they know, or are willing to admit, and the unattractiveness of the home surroundings has driven many boys to the city.

The backyard, seen and traversed many times daily, should receive special attention. If it is a bare place with muddy pools and unsightly accumulations, it should undergo a radical change. Such change costs little but, when made, should be carried out with care and a view to permanency. Take time to plan the planting and decide once and for all where the shrubs will be most effective and attractive.

The women usually have to take the initiative in work of this kind, and should be given every assistance possible by the men. During the winter the subject should be discussed at Farmers' Clubs and plans made for an active campaign in the spring. Several clubs in Quebec have organized competitions in this line of work with excellent results. These improvements involve little or no expense and may be accomplished in the time that the busiest farmer and his family can easily find if they appreciate the importance of the work and are disposed to undertake it. The farmer owes to his wife and to himself, but chiefly to his children, the best that he can do toward increasing the attractiveness of his home. The improvement often need not cost a cent. The first item, greater neatness, costs only an effort. The second item of improvement, the plan, costs nothing but study. The third item of improvement, the plants, can often be wholly secured from the wild.—F.C.N.

It has been figured that the average cost of apprenticeship, including the cost of bringing a man to the working efficiency necessary to profit, is approximately \$1,000. If this man is disabled from any cause, the employer must immediately recognize a charge for the cost of training another workman, in addition to whatever damage he may be called upon to pay as a result of the accident.

Fire Prevention vs. Fire Protection

More Attention Paid to Inspection of Fire Conditions Would Reduce Fire Loss

"Locking the barn-door after the horse has been stolen," is a time-honoured expression; but it applies with peculiar emphasis to many of our supposedly modern municipal governments. Especially is this true in the matter of the fire loss.

While enormous sums are spent annually in the equipment and upkeep of fire departments for the purpose of controlling and extinguishing fires, it is almost a novelty to find a municipality with a department charged with the inspection, and with authority to enforce the correction, of conditions favourable to fires. In some of our larger cities some progress has been made by the fire departments, which have set apart small details of their staffs, charged with inspection work. The result of their work is minimized, however, by the fact that the inspectors have not sufficient authority.

The fire chiefs have it in their power to advance the fire prevention campaign and secure results. If a fire chief's record depended upon his keeping down the number of fires, instead of his ability to handle fires after they have broken out, there would be greater effort at inspection. Fire chiefs should insist upon sufficient men for inspection work; and men should be held responsible for the inspection and correction of dangerous conditions, and, to make their work effective, the inspectors should be clothed with fire marshal authority, in order that any fire breaking out in their inspection districts might be thoroughly investigated and the cause definitely assigned. In this way an inspector's reputation for thoroughness would be at stake, and, with the knowledge that a fire would be investigated by one familiar with the conditions, there would be fewer fires of a suspicious character or due to carelessness.

Municipalities can well afford to make generous appropriations for fire-preventive inspection work. It is an investment which will yield large returns, not only in reduced fire loss but in reduction in the cost of upkeep of fire departments and equipment.

The Canadian Society of Forest Engineers has been incorporated under the laws of the Province of Ontario. This society has had a healthy and steady growth and is increasing in importance and influence. It now numbers forty-eight active, thirty associate, two honorary and two student members.

The conservation of the lives and health of employees is an investment that produces large returns in efficiency and contentment.

Forest Protection

Vigorous Action being taken to Reduce the Loss by Forest Fires

The territory patrolled by the St. Maurice Forest Protective Association now includes an area of 12,332 square miles, or nearly eight million acres, principally on the watershed of the St. Maurice river, Que. This Association has been in existence for four years, and has demonstrated conclusively that, in matters of forest fire protection, both efficiency and economy are facilitated by co-operation between individual timber owners, and with the governmental agencies. A very important feature, absolutely essential to efficiency, is the close supervision of the fire-ranging staff, through the assignment of a number of inspectors, working under the general direction of the manager. In various provincial fire-ranging organizations, efficiency is sacrificed by failure to provide a sufficient number of competent inspectors to supervise the work of the local men.

Material progress has been made by the St. Maurice Association in coping with the evil of settlers' fires. During the past year, the permit system of regulating settlers' burning operations has been put into effect throughout association territory, and a vigorous campaign has been carried on to prosecute violations of the law. Out of eighteen such prosecutions, six convictions were secured, four were lost, and eight cases are still pending. In some cases, the unfavourable condition of local public sentiment still renders it difficult to secure convictions of guilty parties. Nevertheless, the situation has shown great improvement. During 1915, burning permits issued to settlers by St. Maurice Association rangers totalled 628. Not one of the fires governed by the permit system caused any damage. The total number of fires reported as due to settlers burning without permit was 41, a reduction of nearly 50 per cent from 1914, when the number of such fires was 80.

During the past season, rangers of the Association extinguished or helped to extinguish 169 fires. Of these, 49 required extra labour to extinguish, at a cost of \$7,309. The causes of these fires were as follows:—river drivers, 17; settlers, 41; fisherman, 6; construction gangs, 6; lightning, 4; old fire, 4; berry pickers, 7; railways, 35; Indians, 2; campers, 1; dam keepers, 2; hunters, 1; explorers, 1; tent stoves, 2; jobbers, 1; lunch fire, 4; squatter, 1; unknown, 34.

In addition, a vigorous campaign of public education has been carried on, with excellent results. Much has also been accomplished in the direction of securing better communication, through the con-

struction of lookout stations, telephone lines and trails. To date, 406 miles of telephone line have been constructed, and twenty lookout stations erected. As rapidly as possible, the country is being opened up by the construction of trails. All these lines of work result in greatly increasing the efficiency of the organization in discovering and extinguishing fires.

Exports of Fish Products

In view of the exceptional importance which at present attaches to a favourable balance of trade, the unique position of our fishing industry is worthy of note. No other branch of Canadian industry contributes to our exports so large a proportion of its total output as the fisheries. During 1914-1915, out of a production valued at \$31,000,000 in round numbers, Canada exported fish products valued at more than \$19,000,000, or nearly 63 per cent of the total. As we imported about \$2,000,000 worth of fish products, the net balance in our favour on this branch of trade is about \$17,000,000. The fisheries must, therefore, be regarded as a valuable national asset. But it is scarcely open to question that the fishing industry would be in a much stronger position, and the prosperity of those engaged in it more solidly based, were it rendered less dependent upon foreign markets by the development of the domestic demand to absorb a larger portion of its output.

Electric flat irons, curling tongs and other electric apparatus should not be left with current turned on.

Metals Used in Making Shells

The following figures furnish a comparison between the quantities of the different metals used in the manufacture of the 22,000,000 shells, for which orders have been placed in Canada, with our production of such metals in 1913: Steel used, 400,000 tons. In 1913 it was estimated that the production of iron ore in Canada, 307,634 tons, did not exceed 5 per cent of the country's requirements of iron in that year.

Zinc used, contained in brass, 11,200,000 pounds. No zinc was refined in Canada in 1913 but the exports of metallic zinc in ore shipped amounted to slightly over 7,000,000 pounds.

Copper used, 55,000,000 pounds. The total production in 1913 was about 77,000,000 pounds and all of it was exported for refining.

Lead, 101,760,000 pounds. The production in 1913 was about 37,665,000 pounds, of which over 97 per cent was recovered as refined lead.—W.J.D.

Bookkeeping for Farmers

Public Schools could Assist in Creating Much Needed Interest in This Matter

Farmers take too little interest in farm accounting. During the summer of 1915, four hundred farmers in Ontario were visited by a representative of the Commission of Conservation. Among this number one claimed to keep a systematic set of farm accounts. Several claimed to bookkeeping, but the system was far from complete. Many farmers stated that they knew how their business was going without keeping books. These men have only an estimate, and it is impossible to depend on estimates, or to consider any one phase of their business of farming independent of its relations to the rest of it.

In Tazewell Co., Ill., U.S.A., a series of meetings was held in March, 1915, which resolved themselves into farm bookkeeping classes. The County Agent supplied each member of the classes with a booklet especially designed to fit the conditions of the county.

The work is stripped of bookkeeping technicalities and made easy for all who are disposed to carry on the work. It is noteworthy that the classes for studying system in bookkeeping were attended largely by successful farmers, who were bent on making their business still larger and more successful.

This very important subject might well engage the attention of district representatives and college demonstrators when arranging their short course classes for the present winter.

Another way in which systematic farm accounting could be brought into more general practice would be to arrange the arithmetic lessons in the public school in such a way that the keeping of farm accounts would be an easy and simple matter to those who wished to undertake it. If the school work could be projected into the home and detailed records kept by the scholars of time, cost, and income, it would enlist the interest of parents and educate them in the subject, thus affecting the work on farms in the district.—F.C.N.

Tops of furnaces being near the floor above them or the pipes too near the wood of the building, constitute one of the worst and commonest fire dangers common in cellars.

Ashes should not be deposited where they will come in contact with wooden articles, fences or outbuildings. Fresh ashes are likely to cause fire on account of live coals they may contain.