

den, Lady Burden, Miss Burden, Hon. L. P. Brooker, Madame Brooker, Wilfrid Campbell, the Misses Campbell, F. Orr Lewis, Major and Mrs. G. W. Stephens, Andrew Allan, Mrs. Allan, Dr. J. A. Macdonald, Mrs. Macdonald and George Macdonald, Thos. Feilden, of the London Times; W. H. Greenwood, Mr. Moore, Toronto; Col. Sam Hughes, of Lindsay; Dr. Prevost and many others.

**TO DISSOLVE STANDARD OIL**

Washington, D. C., May 13.—The Standard Oil Co., of New Jersey, with its nineteen subsidiary companies, was today dissolved by the supreme court of the United States to be a conspiracy and combination in restraint of trade. It also was held to be monopolizing interstate commerce in violation of the Sherman anti-trust law. The dissolution of the combination was ordered to take place within six months. Thus ended the tremendous struggle on the part of the government to put down by authority of law a combination which it claimed was a menace. At the same time the court interpreted the Sherman anti-trust law to limit its application to acts of "undue" restraint of trade and not "every" restraint of trade. It was on this point that the only dissident note was heard in the court. Justice Harlan dissented, claiming that the words, "undue" or "unreasonable" and similar words were not in the statute. He declared that the reasoning of the court in arriving at its finding was in effect legislation which belonged in every instance to congress and not to courts.

**NOVE SCOTIA LEGISLATURE DISSOLVED**

Halifax, N. S., May 15.—The legislature of Nova Scotia is dissolved and the date of the election has been fixed for Wednesday, June 14. The legislature has run its full five years. The Liberals have held power in provincial affairs in Nova Scotia for twenty-nine years under two premiers, W. S. Fielding and Geo. H. Murray, the latter for fifteen years and the former for fourteen. In the House of Assembly that has now been dissolved there are four Conservatives in the opposition, with one independent Liberal, and in the legislative council, or upper chamber, where the members are appointed for life, there are only two who belong to the Conservative opposition party. Premier Murray will run for Victoria county, though he has not yet

been nominated. Candidates have been nominated by the Conservatives in all of the eighteen counties except Antigonish and the Liberal has made nominations in all except two, Victoria and Colchester. The ranks will be closed up in the three counties within a few days.

**VETO BILL CARRIED**

London, May 13.—The fight in the House of Commons over the veto bill, to curtail the power of the House of Lords, ended today. An amendment to reject the whole bill was defeated by 363 to 243 and the measure was carried on its third reading by 362 to 241. The announcement of the figures was received by a tremendous outburst of applause, and several of the ministerialists called out to the opposition, "Now toe the line, and take it like men." It is expected the bill will go to the House of Lords at an early date. The debate in the House of Lords today on the second reading of Lord Lansdowne's bill for the reconstruction of the upper chamber indicated that the leader's orders will fail to coerce many of the Unionist peers into voting for a measure involving their own political extinction. Baron Willoughby de Broke declared that the House of Lords as now constituted, is the best the country could get, and, if he were going to perish, he would prefer his quietus at the hands of the electors rather than at the hands of their lordships. Lord Morley of Blackburn, spokesman for the government, insisted that the prospect of the veto bill must precede any settlement or compromise with respect to the upper chamber. He threw out the significant suggestion that in any reconstruction of the House of Lords the number would be restricted to 100. This is regarded as foreshadowing the government's purpose when the reform of the Lords comes before it.

**WHAT FARMS PRODUCE**

Washington, D. C., May 14.—The value of wealth produced in the farms of the United States was \$8,926,989,989 during 1910, as estimated by the department of agriculture in a statement just issued. This is an increase of \$104,000,000 over 1909. Texas with her 10,900,000 acres of cotton, wrested from Illinois during 1910 the honor of being the first state of the union in value of principal farm crops which aggregated \$364,110,000.

# Farm Miscellany

**IMPROVEMENT IN FARM WATER**

In a recent number of "The Farmer" considerable space is devoted to the subject of "The farm water supply in Minnesota." The subject is treated in a broad way and the many valuable suggestions are quite applicable to the Canadian West.

The writer says: "According to the report of the State Board of Health, the actual proportion of polluted supplies in rural districts now at present be assumed to be about 32 per cent. Other investigations along this line prove this to be a moderate estimate. Professor Frank T. Shutt, chief chemist of experimental farms in Canada, has been analyzing farm water samples for a number of years. In 1906, a year of excessive drought, out of 90 waters analyzed, 28 were good and wholesome, 41 were suspicious and probably dangerous, 30 were contaminated and totally condemned, and 11 were saline. In 1908, out of 65 samples, 46 were good and wholesome, 18 were suspicious and probably dangerous, 14 were seriously polluted, and 9 were saline. In 1909, out of 96 samples, 26 were pure and wholesome, 34 were suspicious and probably dangerous, 46 were seriously polluted, and 14 were saline. In a letter to The Farmer, Prof. Shutt says: "Our work has shown that the shallow dug well in the barnyard or near the back door is the one most to be feared," and in his report of 1908: "The danger of the barnyard and back door well has been repeatedly pointed out. The water in such wells is always liable to become polluted, if not with actual excrementitious matter, at least with its decomposition products, and in the majority of instances there can be no certainty that such have been thoroughly oxidized and rendered harmless," and again in his report of 1909: "The results of twenty years' investigation have shown unmistakably that it is quite exceptional to find water from such a source free from pollution."

Another reply to The Farmer on this subject from Mr. W. D. Bigelow, acting chief of the Bureau of Chemistry, U. S. Department of Agriculture, says, "Generally speaking, water drilled wells of considerable depth, which are amply protected from surface contamination, is much to be preferred over that of the ordinary dug well. The two serious disadvantages of dug wells are that they are usually shallow and therefore subject to contamination by surface pollution obtaining entrance into the underground supply, or the well is not sufficiently protected at the surface to prevent surface water gaining entrance from the top."

This, then, is the mass of evidence accumulated against the farm water supply as it too often exists. The ordinary shallow dug well is by far in most general use in Minnesota, and the figures, as well as the statements of the two government chemists, show that this type is the most susceptible to contamination. The cause is not far to seek. It has been found that bacteria are plentiful only near the surface of the soil; four or five feet down there are but few bacteria in the ground; and soil ten or twelve feet below the surface is perfectly sterile, unless it has within it a crevice or opening so that surface sewage can run down. The great majority of farm dooryards and barnyards are without any, or, at least, adequate means of sewage disposal; all liquid refuse from the cesspool, etc., is permitted to permeate the surrounding soil; organic waste matter from the stable and outdoor closet leeches into the soil and is carried in solution or in precipitation to every surrounding point. The surface soil thus becomes filled with disease and poison producing bacteria. Consequently a shallow well in which the water comes in contact with this polluted surface soil, or in which the surface washings can gain entrance, is the well that yields a contaminated water supply.

For these reasons the shallow dug well fails in its purpose. The area of the surface opening, usually with little protection, offers every inducement for the direct admittance of impure material from the surface, and the many little openings in the ground permit it to penetrate downward and affect the underground supply. Unless carefully protected, all manner of creeping and crawling vermin, rats, mice and even the smaller domestic and wild animals, often find their graves in these unsanitary wells.

This is evident when the periodic cleaning of the well takes place, which occurs only when the potterfaction and pollution have so far advanced as to be evident to the taste or smell.

It is possible, of course, to so locate and construct a dug well that it will be practically safe, but this necessitates ideal topographical conditions and continued care and attention. The main things are to locate the well on high ground, where the drainage is towards the buildings instead of from them; to construct and maintain a casing of stone, brick, cement or wood that will be absolutely impervious to the entrance of foreign material from the sides; to bank up the top above the general level and place a covering that will prevent the entrance of undesirable matter from the surface; and to use a pump instead of the old-fashioned bucket and chain. Even then, there is always the possibility of the underground supply being contaminated by percolation from a distance.

The one general type to use is the deep, iron-cased well. Whether it be bored, drilled or driven, if deep enough and if the casing is durable and watertight, it will be safe. The drilled well most nearly approaches these conditions. This well penetrates the lower rock strata and receives the underground streams that purify themselves by filtration. There is a possibility that the water may become polluted from distant sources, but this possibility is very remote in country sections. The water as touched by the well is almost invariably pure, wholesome and free from bacteria. The polluted drilled wells discovered in the investigations of the Minnesota State Board of Health were in all but the two cases noted rendered unfit for use by careless construction and protection. If the casing is water tight and surface water prevented from gaining entrance into the top connections of the pipe, it is practically impossible to contaminate the water from outside sources. Drilled wells very frequently have well pits, from 8 to 12 feet deep and 3 to 4 feet in diameter, which are sunk around the shaft, either before or after drilling, for the purpose of protecting parts of the pumping apparatus from frost. If not tightly covered, these may serve as a prominent factor in the pollution of a well, serving as catch basins for polluted water of recent surface origin. Modern well drillers, however, usually take all precautions that will remove such possibilities.

One important point to remember is that the physical condition of water does not always determine its purity. A good water should be free of taste, odor and color; but a water may fulfil these conditions and still be contaminated with bacteria. To be definitely certain of the purity or impurity of a well, a sample should be subjected to a chemical and bacteriological analysis. However, if a small sample of water is placed in a clean bottle, tightly stoppered and kept warm for about three days, its taste, odor and color at the end of that time will practically determine its degree of purity. Bacteria can live for about three days, only, in running water; it is in standing and stagnant water that they flourish and multiply. To show the actual connection between the water supply and disease on the farm, it may be mentioned that, during the investigation of the Minnesota State Board of Health, 23 of the farms examined showed a record of typhoid fever. Although the source of the disease was not always traceable, yet it is a significant fact that on eighteen of these farms the water supply was polluted.

The farmers of the Northwest must look to their water supply. Although the data here presented was compiled for Minnesota alone, there is no doubt that similar conditions exist in neighboring northwestern states. The old-fashioned method of digging a well represents the earliest attempts of mankind to provide an artificial water supply. That the process is still in use in many localities is due largely to the fact that the great advantages of drilled wells are not generally known. Fortunately it is in growing disfavor and will soon be a thing of the past. When this time comes, the farmer will have largely done his part in the great movement towards sanitation and in promoting the health, strength and longevity of his specie.



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