In the pump room a three-way anti-freezing hand and windmill force-pump was placed four feet below the platform, beyond the reach of frost. A two-inch stand-pipe, thirty feet in height, extended up to the tank, holding seventy barrels. The force pump was connected with four sources of supply and six places of distribution. The wheel is thrown out of gear automatically when the tank is full, or when the wind blows too strong. Also by hand if desired.

Two hundred feet north of the windmill are the barn and barn well, about thirty feet deep, rock bottom, and walled with stone, six to eight feet in diameter, in impervious clay, but subject to summer droughts, and therefore with the eaves water from both sides of the barn, 75x30 feet, piped to the well, which holds water like a cemented cistern. In ordinary seasons it stands full of water. Two hundred feet south of windmill, at the foot of a sloping hill, is a living spring, which overflows ten months in the year. To supplement that source of supply, an underground cistern was placed, holding 150 barrels, filled from the overflow.

These sources of supply—well, spring, and cisterns—

A Scene in a Canadian Lumber Wood.

were connected to windmill force pump by 1½ inch suction pipe, and from it water is forced through 1-inch pipe laid below freezing to a reservoir trough in the stock yard; also to hog and poultry yards into automatic cut-off troughs. This supply is supposed to be ample for our herd of 15 or 20 Jerseys, 4 head of horses, a dozen hogs and 100 hens.

Instead of pumping direct to the watering troughs the water may be forced into the tower tank and from it sent to any place desired, at any time when the wind is off duty.

In addition to the windmill system above we have an independent family supply from a house well, brick cistern and a galvanized house tank, both supplied from the roof, or from the windmill system when necessary; or water can be drawn by the hand pump in windmill direct from the spring for house use.

In addition to the stock and house supply windmill connection has been made with the abandoned creek 600 feet distant for irrigating purposes. We have a lawn, bordered with choice shrubbery, which often needs more moisture than the heavens give, so it is supplied through a fountain in the front yard, and hose connections, with sprinklers, reach to the farthest corners. We also have a water garden, fitted with the fair water lily, the gorgeous sacred lotus of the Nile and other aquatics, supplied with water from the overflow of the spring; but it often needs additional supplies from our irrigating system. We also have a gooseneck and hose connections for garden irrigation.

With our tower tank kept full of water, we can force water into every room in the house, and with our 200 feet of rubber hose, could throw a stream with considerable force over any part of our house, barn and other outbuildings in case of fire. Nothing on Springdale farm gives us more satisfaction than our farm water system and house fire department."

Variety in the Diet of Fowls

Fowls under domestication may be divided broadly into three classes, so far as the conditions under which the exist are concerned: (*a*) Fowls on unlimited range; (*b*) fowls in enclosed grass runs of limited area; and (*c*) fowls in small gravelled or sanded runs.

Before entering minutely into the variety of food necessary in each of the above cases, we must consider carefully what is really meant by the term "food." To the student of physiology the answer is simple enough. In the first place there is in every animal a certain amount of wear and tear—a constant using up of animal tissue. This must be replaced from some outside source, or, in plain words, must be rebuilt. The material necessary for such repairs is very different in its composition to that which goes to furnish the heat and energy of the animal as a "going concern." When the engineer repairs his engine he makes use of such things as steel, iron, brass, phosphor bronze, etc., etc., but when this engine has to be driven it is the coal in the boiler furnace that is the source of power. In the case of animal life, the repair of worn-out tissue is brought about by the nitrogenous or albuminoid contents of the food it partakes of, and the animal heat and muscular energy is maintained