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Nature's Diary.

A. B. KLUGH, M.A.

Peat.—(Continued.)

In Ireland, Denmark, Russia, Germany and other countries where peat is a common domestic fuel the simplest method of preparation is most commonly used. These methods, while not adapted for use on a large commercial scale in this country are worthy of consideration because they may be used by owners of the hundreds of small peat bogs so lavishly scattered about the country in obtaining fuel for home consumption.

The bog is first cleared and drained to the nearest watercourse by a ditch of good size. Into this main ditch are led a number of smaller ditches of sufficient capacity to lower the general water-level in the peat at least two or three feet. The part of the bog to be worked is then chosen and more carefully cleared and leveled, so that its surface may be used as a drying ground. If this area is near the margin of the main ditch it may be more easily drained than if it is at a greater distance.

The tool used in cutting the peat is a spade of special construction, known in Ireland as a slane, having a blade the length and width of the bricks to be cut, and with a sharp steel lug welded on one side of the point and at right angles thereto. The size of the bricks varies in different countries from 8 to 18 inches in length, from 4 to 7 inches in width, and from 3 to 6 inches in thickness.

The men usually work in pairs, a digger and a tender. The turf is first removed from a strip at the end of the ground prepared for digging and the peat below dug out in bricks and placed to one side. The tender loads them on to a car or wheelbarrow, takes them to the drying ground and lays them out to dry. As soon as the peat has been removed to the depth of the ditch bottoms a new cut is started, the digger working in the trench to make the horizontal cuts.

At the drying ground the blocks are stood on edge with narrow spaces between them, and allowed to drain for some days. As soon as they are firm enough they are "footed", that is stood on end in small piles and at the end of a week or two are turned end for end. In about four weeks they are ready to be removed and stacked in loose piles protected by a thatched or shed roof.

For use as a commercial fuel, cut peat, prepared as above described, requires too much hand labor, is very bulky and is somewhat friable. These disadvantages are overcome by the use of "machine peat". Machine peat, which is also termed wet-process peat, pressed peat, and condensed peat, is peat which after digging has been treated by grinding and pressing. By this mechanical treatment the plant remains in the peat are reduced to a fine pulp, and the water-retaining property is much reduced.

The most efficient form of peat machine has a conveyer for carrying peat to the machine, a hopper for

receiving the peat, a cylinder containing revolving knives, and a device for cutting the strand of peat into uniform blocks as it emerges from the outlet. The smallest of these machines are run by the power of a single horse, and will turn out about 3 tons of bricks per day. The largest require powerful engines, the services of from 15 to 25 men, and turn out about 50 tons of bricks per day.

These machines reduce the bulk of the peat by about one-third. This is due partly to the squeezing out of water, but more to the crushing of the fibrous and woody structures and by releasing gases during the thorough maceration and kneading that the peat receives in the machines. There is little real compression, as the pressure exerted on the peat is not sufficient to remove much of the water from it, such pressure as is brought to bear upon it only causing it to move forward in the cylinder and flow freely from the outlet.

The peat to be fed into these machines is often dug by hand, but of recent years, with the development of larger and larger machines, the use of digging machinery has become commoner. Digging machines are of two types, one operating on the chain and bucket principle, while the other consists of a set of plates with sharp edges afranged like a bottomless box which is forced down into the peat-bed and withdrawn full of peat.

Machinery for carrying the peat bricks from the machine to the drying ground has been used quite extensively. In Sweden a system of cable transportation has been successfully developed by which the cars are drawn out and back by moving cables kept in motion by the engine running the peat machine. The track is movable and is laid out in the form of a rectangle with rounded corners. This arrangement reduces the number of men employed, as only one is needed at the machine to adjust the clutch of out-going and in-coming cars, while the men at the drying ground do the unloading and attend to the stopping and starting of cars there. Other types of machinery for this purpose are chain conveyers and aerial cables, the latter being expensive but very satisfactory after once installed.

The comparatively short season during which peat fuel can be manufactured, about five months in Ontario, is often mentioned as a serious handicap to the industry, but if it can be carried on successfully in the moist climate of Ireland, in the cold region around the Baltic and even in Iceland, there is no reason for predicting failure on this score in Canada.

(To be continued.)

New Year Resolutions.

BY SANDY FRASER.

My niece Jennie is stoppin' wi' us a wee bit langer than usual this year. "I think I'll wait till the first o' the month", she says one day, "so I can help you to mak' yer New Year's resolutions, Uncle Sandy. If I can get ye to start the year right", she went on, "ye'll maybe manage to keep straight till I can get aroond tae see ye again."

So on New Year's mornin', after I had finished up the wark about the barn, I went back to the house to see if Jennie wis up yet an' to find out what kind o' a program she wis thinkin' o' layin' oot for me to follow in the year that wis ahead.

She wis helpin' Jean peel the potatoes for dinner whe I came in but she says to me, "Sit right doon, Uncle Sandy and get busy on those good resolutions that we were talkin' about the ither day. Something has to be done to mak' a different man oot o' ye, ye ken; for Auntie's sake, if not for yer ain. It's too bad to see a man o' your years an' opportunities goin' doon hill the way ye are. Ye've got to brace up an' mak' a fresh start. Ye ken it's never too late to mend; as the auld woman said when she stayed up till twelve o'clock at night darning socks."

"Weel Jennie," says I, drawin' a chair up to the stove an' gettin' ready to fill my pipe, "gin ye think I'm sae badly in need o' reformation as all that ye're vera slack not to be speakin' about it sooner. Gin anything had happened to me noo, ye wad hae had an awfu' load on yer conscience for the rest o' yer days, because o' the way ye had neglectit' ma morals. Come on wi' those guid resolutions ye hae been plannin' oot for me, before it's ow'er late for me to be pittin' them intae practice."

"Weel then", says Jennie, "the first resolve you've got to make is to keep yer feet oot o' the oven door, especially when Auntie is gettin' ready to cook onthing. A man that sticks aroond the stove when his wife is gettin' the meals runs a risk o' gettin' stepped on, ye ken; so for yer ain welfare, as weel as for Auntie's peace o' mind, ye've got to subscribe to that, as resolution number one. And for resolution number two, ye can just suit the action tae the word an' throw that auld pipe o' yours intae the stove right noo. Gin there wis ony benefit to be had oot o' smokin' you must hae got it all by this time, Uncle Sandy, so ye may as weel quit."

"Jennie", I replied, "I'm willing tae mak' that first resolve. I'll keep awa' frae the oven door. But as for quittin' the pipe, I'm thinkin' it will cost me less to be takin' four or five smokes a day than it will to try an' gae wi'oot them. It's a great thing for the nerves ye ken, Jennie", says I. "Hoot", shouts Jennie, "what dae you ken about nerves, Uncle Sandy? I don't think ye've got any nerves." "Maybe not", I replied, "but yer Auntie has."

Jennie looked at me for a meenute an' then she says, "Well, there's a lot o' wives that I ken, that I wouldna blame much if they did get on their nerves once in a while. I wis juist readin' the ither day about one woman that wis suing for a divorce because her

husband woudn't take a bath. I dinna ken whether they granted her the divorce or not but they should hae, onyway. Oh, that will be anither good resolution for ye, Uncle Sandy," she went on, "Ye manun tak' a bath every day. It will be great discipline for ye, gin ye always hae the water guid an' cold."

"Guid gracious, Jennie," says I, as soon as I could speak, "dae ye want to kill me entirely? Dae ye no ken that cauld water is an awfu' shock tae the system? I used to hear them tell about an auld chap that lived here at one time and they said he had the habit o' always takin' his mornin' bath in a barrel oot in the back kitchen. In the winter there wad be ice on the water but he'd aye break it wi' an axe or somethin' and then jump in, wi' a yell that generally had the effect o' wakening the rest o' the family as weel as ony alarm clock could hae done it. But, as I wis gaein to say, this auld fellow lived tae be upwards o' a hundred years; he died at last and I hae always maintained that it wis the cauld water that killed him. Sae, gin ye hae ony affection for yer auld Uncle, Jennie, ye'll no' be askin' him to mak' ony such resolve as to be takin' three hundred and sixty-five baths in a year. Yer Auntie mak's me tak' one ilka Saturday night an' that is juist about my limit, I'm thinkin'. In fact I hae an idea sometimes that it's what ye might call 'exceeding the limit'. What ither 'guid resolutions' had ye on yer mind, Jennie?"

"Oh, lots o' them, but I'm afraid ye won't like them ony better than the ones ye've heard already. Ye're no sport, Uncle Sandy, when it comes to learnin' new tricks an' forgettin' the old ones. I should hae taken ye in hand about forty years ago," says Jennie shakin' her heid. "However," she went on, "I'm gaein to give ye one mair chance to mend yer ways, an' gin ye winna promise to tak' it I'll hae the Reverend Mr. Ferguson pit ye oot o' the church. I notice you an' Auntie dinna gae oot visitin' as much as ye used to. When night comes you settle doon tae yer pipe an' yer paper an' Auntie to her knittin', wi' never a word o' hitchin' up the horse an' gaein' tae town to take in ony entertainment or lecture that ye hae every once in a while, and I notice that ye dinna even rin in tae spend an evening wi' ony o' the neighbors, as ye used to, an' as ye say the auld folks used to in yer young days. So now ye've got to say that for the year that is ahead ye're going to be mair sociable, an' that ye'll try an' get the good o' yer neighbors an' at the same time gie them what benefit is to be had by a reasonable amount o' yer company, when it will no' interfere wi' things o' mair importance. What do ye say, Uncle Sandy?"

"Weel noo, ye ken I dinna like tae refuse ye onything, Jennie, "I replied, lightin' my pipe again, as it had gone oot in the course o' conversation, "and if I wis within onything like reasonable distance o' those theatres o' yours in New York ye woudn't hae to ask me twice to be mair sociable or to tak' mair advantage o' the opportunities o' entertainment. I'm no' that struck on my ain company that I woudn't be glad o' a change sometimes, and if yer Auntie has no objections I'll promise ye, Jennie, that we'll not den up for the winter this year, as we've pretty nearly been doing in the past. I ken ye're right about this matter, even if ye were a wee bit off the track on the ither propositions ye tried to get me to tak' up with. I'm gettin' to be a pretty auld chap the noo, but I guess there isn't ony need for me to die before my time comes, or to stick sae close to my ain fire that I'll dry up an' blow away entirely."

"Good for you", says Jennie, jumpin' up an' givin' me a slap between my shoulders; "if ye stay wi' that I'll let ye off on the ither things. The keepin' o' one good resolution is all ye can handle this year, I guess. And noo if ye will be takin' your feet doon off the oven door till I get this pie in where it will be cooked in time for yer dinner, I'll promise not to bother ye ony mair inside the next twelve months, at least. How's that for a good New Year's resolution," says she. "I dinna think muckle o' it," I replied.

The hen that lays is the hen that pays, but the bird that returns a profit lays in the winter. The natural egg-laying season is in the spring, but through careful breeding, selection and feeding hens can be induced to lay out of season and thus augment the flock receipts. To get eggs in winter use skim-milk freely, provide bone and oyster shell, feed plenty of grain and keep the hens working to get it.

It is interesting to note from the Report of the Dominion Experimental Farms for the year ending March 31, 1918, that at the branch station at Kapuskasing, Ontario, "one Thoroughbred, registered Holstein bull heads the herd." It is astonishing what science can do in developing new biological specimens. This is the first distinguished cross between a horse and a cow that has come to our notice. The progeny of the Kapuskasing herd will be watched with interest.

Paying for hogs on a quality basis is the only way to standardize type in Canadian swine.

Have you examined those cows that are continually rubbing themselves when in and out of the stable? It is possible that they are affected with lice. If so mix four parts cement to one part hellebore and dust it into the hair. Do not turn the cows out in the wet for a few days afterwards.