The Ward of King Canute

A Romance of the Danish Conquest.

By OTHLIE A. LILJENCRANTZ, author of The Thrall of Lief the Lucky.

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CHAPTER VII.—Continued.

Voices rose in angry questioning, but Randalin was too fear-benumbed to understand what they said. Norman's keen eyes were turned upon her, and recognition was dawning in their gaze.

"The boy from Avalcomb! I would have sworn to it that I had separated his life from his body not eight-and-forty hours ago." A gleam of eagerness came into his face, and he bent over her. "You shall serve my purpose by your obstinacy," he said under his breath. "You shall tell me where your sister lies hidden, and it may be that I will grant to you a longer life."

Her stiff lips could not have spoken an answer had her paralyzed brain been able to frame one. She could only gaze back at him in helpless waiting. Through the hush a quiet voice spoke.

"You are eager in rising, my lords," it said.

From the shelter, half cave, half bower, which had been contrived amid the bushes, a warrior of mighty frame had emerged and stood examining the scene. The light that revealed the protruding chin had no need to pick out the jeweled diadem to mark him as Edmund Ironsides.

He repeated his inquiry, "What is the amusement, my thanes? From the clamor which awakened me, I had some notion of an attack."

Norman of Baddeby bent in a reverence. "Your expectations are to this degree fulfilled, my royal lord," he made answer. "Behold the enemy!" Stopping, he raised the red-cloaked figure by its collar and held it up in the firelight. As a murmur of laughter went around he lowered it again and spoke more gravely. "A hand needs not be large to get a hilt under its gripe, however. The young wolf is of northern breed. He seeks my life because in a skirmish, a few days gone by, I had the good luck to kill his father. If it——"

"You shall tell me where your sister is."

He said more, but Randalin did not listen to him. All at once Sebert of Ivarsdale reached out, and taking her by her cloak, drew her gently to his side, interposing his sword arm between her and the others. Her head drooped against his arm, and her hands, ceasing their struggles, rested in his grasp like folded wings.

It had not taken a moment; the instant Norman finished his explanation the Etheling was speaking quietly: "As the Lord of Baddeby says, King Edmund, it was I who stayed the boy's hand, and it was I also who fetched him into camp. I found him after the battle, bleeding his life out in the bushes, and I brought him in my arms, like a kitten, and dropped him down by my fire. Waking in the night and missing him, I traced him thither. With your consent, I will attend to it that he does no more mischief."

A momentary cordiality came into the king's manner. "My lord of Ivarsdale! I am much beholden to you. Had any chance wrought evil to the Lord of Baddeby while under my safeguard, my honor would have been so deeply wounded as my feelings."

The words of the Earl's thane fairly grazed the heels of the king's words: "The imp can do no otherwise than harm, my sovereign. Should he bring his tongue to Danish ears, he could cause the utmost evil. I entreat you to deliver the boy up to my keeping."

"I am no less able than the Lord of Baddeby to restrain him," the Etheling said with some warmth. "If it be your pleasure, King Edmund, I will keep him under my hand until the end of the war, and answer for his silence with my life. The life of my captive is mine, and I am the last man to permit it to be taken because he sought a just revenge. I know too well how it feels to hate a father's murderer." He shot a baleful glance toward a half-seen figure that all this time had stood motionless in the shadow behind the king.

There was a sudden indrawing of many breaths, followed by a frightened silence. The only sound that disturbed it was a growing rustle in the bush around them, which was explained when the old cniht Morcard and some two-score armed henchmen and yeoman-soldiers, singly and in groups, filtered quietly through the shadows and placed themselves at their chief's back.

But though the king's brows had met for an instant in a lowering arch, some second thought controlled him. When he spoke, his words were even gracious: "I think the Lord of Ivarsdale has the right of it. The crime the boy purposed was not carried out; and in each case, Lord Sebert was his captor. I am content to trust to his wardership."

Sebert's frank face betrayed his surprise at the complaisance, but he gave his pledge and his thanks with what courtliness he could muster, and relaxing his passive prisoner, pushed her gently into the ambuscade of the old cniht. Yet he was not so obvious as to step back, as though the lock-fast were closed; he read the king's inflection more correctly than that. Holding himself somewhat stiff in the firmness of his feelings, he stood his ground in silent startness.

A ripple of uneasiness crept the round of the assembled nobles. Only the numerically blind companies remained unruffled. Advancing with the deliberate grace that so well becomes the mighty person, he seated himself upon a convenient boulder and signed the figure in the shadow to draw nearer.

As it obeyed, every one of the yeomen-soldiers strained his eyes in that direction, as though hoping to surprise in the great traitor's face some secret of his power, the power that had made tarrer kings as wax between his fingers! But just short of the fire-glow the Gainer paused, and the hooded cloak which shrouded him merged him hopelessly into the shadow. Only the hand that rested on his sword-hilt protruded into the light. It was a broad hand, and thick-fingered as a butcher's, and it was milk-white and weighted with massive rings.

Meanwhile the king was speaking affably: "As you did not favor us with your presence among the Wise Men, my lord, it is likely that you do not know of the good luck which has befallen our cause. This prudent Earl, who before the battle had concluded with himself that England had so little to hope for from our reign that he was willing to throw his weight against us, has found his victory so without relish that he has become our sworn ally.

"In former days I think there was some hostile temper between the earl and you. But I expect you will see that under the stress of a foreign war all lesser strife must give way. So I desire that you will repeat in my presence the troth already plighted by these others."

He made a slight gesture, and the Gainer took a step forward. Hesitating, the Etheling went from red to white. Then, with a swift motion, he unsheathed his sword and stretched it out, point foremost.

"King Edmund," he said, "in no other way does my hand go forth toward a traitor."

The sternness that had underlain the king's manner rose slowly and spread over the whole surface of his

your lay kingdom, and hold it over your made vassal? I feel minded to teach you who is master." Making a distinctly gesture of disdain, he turned with deliberate grace and entered into conversation with the Mercian.

At the moment, it is likely that the young noble would have preferred arrest. The utter scorn of word and act lashed the blood to his cheeks and the tears to his eyes. With boyish passion, he snatched the sword from its sheath, and breaking it in pieces across his knee, flung the fragments glinting into the dead embers.

But if he had hoped to provoke an answer, it was in vain; the king designed him no further notice. Resuming his seat, Edmund continued to talk quietly with the earl, a half-smile playing about his complacent chin.

The old cniht bent forward and whispered in his chief's ear: "Make haste, Lord Sebert; they will be cheering in a moment, the churls; so pleased are they at the thought of going home. Hasten with your retinue."

It was a clever appeal. Forgetting, for the moment, humiliation in responsibility, the young leader whirled to his men. A gesture, a muttered order, and they were drawing back among the trees in silent retreat. A few steps more, and the bushes had blotted out the Ironside and his thanes.

(To be continued.)

CAMERAS ARE BARRED OUT.

Snapshots Forbidden by Law in Japan; Those Taking Them Fined.

When touring in Japan the American will be wise if he leaves his camera at home. To use such an implement in the southern island towns means its polite but immediate confiscation and a punishment by fine. By great courtesy, a display of passports and a proper degree of self-reproach for having ignorantly disobeyed the laws one may at the end of twenty-four hours secure the return of the camera, minus the roll of films. So strict is the camera regulation at fortified ports that an English lady who took a picture of the captain on the bridge of one of the vessels in the harvor of Moji was approached several hours later by a member of the harbor police and asked to deliver up her camera. Protests were useless and the camera was taken ashore, the films probably developed, as they were never returned, and the camera was sent back the following day.

On another occasion a traveler who opened a small pocket camera in the streets of Shimonseki was promptly piloted to the station house, violently protesting he had done no wrong, and that he had not attempted to make any photographs of fortifications nor soldiers. The diminutive and quiet captain of police, who spoke English brokenly, remarked solemnly, "We will see," and the tourist waited four hours while they saw.

At the expiration of this time he returned and said: "What you said was true, but we shall, notwithstanding, be obliged to punish you with the extreme severity of the law in this case. You have photographed no fortifications or soldiers, but you have committed a crime"—and, while the trembling culprit blanched in terror, he finished—"and your fine will be 80 sen" (40 cents).

WOULD NOT TELL HER AGE.

Consequently Pennsylvania Woman Received Only Minimum Judgment.

It probably cost Susanna L. Garrett of Morristown, Pa., dearly one day last week to refuse to tell her age in court during the trial of a case in which she was interested. The jury awarded her only $400 on her claim of $6,400, and this is how it came about:

She was a plaintiff in a suit against Montgomery county for damages because of the widening of the Mill road, in Springfield township.

"What is your age?" asked the counsel for the defense.

"I refuse to answer," indignantly replied the plaintiff.

"But it will be necessary, to guide the jury in determining your life interest in the estate," pleaded counsel for the other side.

The witness remained mute, however, and the jury, unable to find her age as a basis of legal calculation as to the number of years she might yet live, gave her the minimum allowance.

Keeping Voters from Polls.

Some years ago an Englishman, when traveling in Spain, fell in with a member of the national parliament who opposed the government. There had been a dissolution of parliament and the Englishman asked the Spaniard if he would be re-elected. "Oh, no," he said, "there is not a chance of it." Presently they arrived at the principal town of this gentleman's constituency and he received a regular ovation on his way to the hotel. "Surely," said the Englishman, "you are mistaken; you seem extremely popular here." "Oh, yes," was the reply, "I am very popular, but I won't get in, nevertheless." "How will the government prevent your getting in?" was the rejoinder. "Oh, they have all kinds of methods. I will tell you one. They will fix a polling place in such and such a barn. A large and very fierce mastiff is kept there and when any one likely to vote for me makes his appearance they will let the beast loose."

Inventor of Ice Cream.

A French chef who prepared a snow-like dish for the Duc de Chartres in 1774 is said to have been the first to make that cool luxury known as ice cream. Lord Bacon was possessed of the knowledge that there was a process of congelation by means of snow and salt; but to him this was a scientific fact, and he little dreamed of the idea that in after years this congelation would prove such a delightful refreshment. Iced drinks and water ices were known to the Parisian epicures fully a century and a half before they were introduced into England. These delicies, it is thought, probably came from the Far East by means of some traveler, who probably had tasted sherbet.

Time to Smoke in Australia.

Builders and contractors in Australia have hit upon a successful plan to oblige their employes by allowing them to stop during working hours and have a smoke.

At 10:30 in the morning the whistle blows or the bell rings, and the foreman calls out:

"Smoke!"

Instantly all work is stopped and the men take out their pipes and smoke for about five minutes. At 2:30 in the afternoon they are allowed to smoke again. The time so lost is made up by the extra energy with which the men work after they have had a smoke.

SCIENCE AND INVENTION

Fire Curtain Shutter.

It is the law in nearly every large city that all buildings over two stories in height must be provided with some approved form of fire escape. If it were necessary for the occupants of a burning building to await the arrival of ladders carried by the fire department many of them would perish before they could be reached, or in their torture would be forced to jump to the ground below. Hence the wisdom of compelling owners of tall buildings to supply permanent ladders as a means of escape from the flames. In many instances, however, the fatal mistake has been made of placing these structures across windows, and thus compelling those persons attempting to escape from a fire to pass directly through a sheet of flame pouring out of the opening made by the breaking of the glass. To avoid such an emergency as this a Chicago man has de-

Protects People from the Flames.

signed a steel curtain for use in conjunction with all fire escapes which must of necessity pass in front of windows. The idea is to so place the curtain that it will not obstruct the light which enters the window and will at the same time be ready to close the outlet the instant a fire breaks out and the necessity arises for using the fire escape. This curtain is hung in a folded position directly over the window, and is suspended so that a light touch by any person descending the fire escape will cause it to fall and shield people from the flames.

The inventor is J. W. Denhart of Chicago.

Wheelless Clocks.

A German has invented a new clock system which has some original features worthy of mention. The system is that of a master clock which controls electrically as many individual clock installations as may be required. The clock, which is installed in the house or place of business of the subscriber to the system, is similar to the ordinary one inasmuch as it has a face and two hands, but the works are replaced by a couple of magnets and a balance wheel. The master clock is provided with a transmitting apparatus designed to be operated by the movement of the hands. An impulse is sent from the wires when the hands of the master clock advance one minute on the face of the dial. This impulse affects the magnets in the small clocks in a such a way that the hands are advanced the same amount as were the hands of the master clock. This operation is kept up indefinitely, and, of course, all the small clocks keep exactly the same time as the master clock. The small clocks are inexpensive and comparatively little current is required to operate the system. The invention is in successful operation in several towns in France and Germany, and is at present being introduced into England.

Steam Versus Electricity.

The steam railroads vary greatly in their attitude toward electric competition, says Ray Morris in the Atlantic, but it has been almost the uniform experience of railroad managers, east and west, that rate cuts to meet electric competition are quite futile. Electric transportation handles traffic in small units. The power-house is the locomotive, and it can haul ten single cars as easily as it can a train of ten cars coupled together—more easily, in fact. But in steam service, to reverse the figure of speech, each transportation unit must have its own powerhouse. Disregarding technical refinements, it may be said that it would cost a steam railroad five times as much to run an hourly, single-car train during a fifteen-hour day as it would to run three five-car trains. That is the primary reason on the side of absolute cost which makes it impossible for a steam road to compete with an electric road for light short-haul traffic.

Finds True Level of Lines.

The dynagraph is a new device which is used to register on a continuous roll of paper, in a car fitted up for that purpose, all deviations from a true level and a straight line in railway tracks. It not only makes such a record for the use the engineering department of the railway, but it also dashes the rails with blue paint if the fault exceeds an eighth of an inch, so that the section gangs can tell where alterations are needed. The spot so indicated is marked on the continuous line drawn in the car, and then a check can be kept upon the track foreman, and any inattention to the silent notice served by the dynagraph can be discovered.

Building Powerful Locomotives.

Builders of locomotive engines are steadily exceeding past achievements and constructing titans of the rails that excite the amazement of every beholder. At Schenectady a colossus has been turned out for the Baltimore & Ohio railroad, which surpasses anything and everything seen before. This giant weighs 320,000 pounds, has six pairs of driving wheels and a boiler thirty-eight feet in length and seven feet in diameter. It is estimated that this locomotive will be 50 per cent more powerful than any other ever put together.

To Whiten Piano Keys.

To whiten piano keys wash them with a strong solution of nitric acid to an ounce of soft water. Use a piece of soft cheesecloth to wash the keys, being careful not to let the solution run down between them.

Whitening or prepared chalk, mixed with lemon juice, is an excellent polish to apply while the keys are moist. Badly discolored keys can only be remedied by calling in a careful workman.

Willing Victim.

She—When I set my face against anything I mean it.

He—Would you—er—mind setting your face against mine?

NEW THEORY OF CONCRETE.

Simple Rules for the Building of Valuable Hogs.

Q. R.—Please describe how to construct a cement hog trough. What is the best size and shape?

In making a concrete hog trough first lay the concrete floor, this answers for the bottom of a trough. Make a box out of 2 by 6 inch plank 14 inches wide, inside measurement, and the length required. This box has no bottom. Place it where the trough is required. Make another box out of 1 by 6 inch boards to form the ends. This should be 1½ inches narrower at the bottom; place this in the outer box, leaving a space of 2 inches between the two boxes at the top for concrete. Place small blocks between the boards to keep them from springing in and nail a strip on top of the molds to keep them in their

Cross Section of Concrete Hog Trough and Mold.

A, 2 by 6 in. plank; B, concrete; C, 1 by 6 in. boards; D, nail to hold form in place; E, one-inch strip; F, concrete floor.

places. The concrete should be one part of Portland cement to 2½ parts of fine gravel. In filling the molds with concrete never put in over an inch at a time and ram it well. When finishing the top leave the edges rounded off. In a couple of hours the core can be lifted out and then the outer box removed. Give the trough a wash of pure cement. In warm weather, after the trough is built ten or twelve hours, it should have a pail or two of water put into it and left for several days.

Fertilizing Land.

A. B.—I wish to seed down a piece of land that grew barley last year and was not plowed last fall. I cannot get yard manure but could purchase nitrate of soda. How much of this should be applied? What quantity of oats, also timothy and clover seed should be applied per acre?

It would be well to plow the ground, then apply twenty-five to thirty bushels of wood ashes and harrow them in well before sowing the grain and grass seeds. Then sow oats at the rate of seven pecks per acre, and a mixture of five pounds timothy and eight pounds clover per acre. The oats should be sown with a drill and the grass and clover broadcast and harrowed in. When the grain is about four inches high, apply broadcast about 100 pounds nitrate of soda per acre. This will dissolve with the dew or rain and feed the young plants. When harvesting the oats a long stubble should be left, and no stock should be allowed on the field in the fall.

Serious Form of Roup.

A. E. H.—A hen has one eye nearly stopped up by swelling. The swelling is black looking and feels soft as if it was full of water. She is in good condition and eats well. What can I do for her?

This is a serious form of roup. How did your fowl get it? Find out cause, if possible, and remove it. Remove the sick bird at once from the others and make a solution of one part of "Platt's Chloride" to five of rain water. Bathe the head and the swollen part well. Allow some of the solution to get into the throat and the nostrils of the bird. Applications of coal oil, with a roup pill morning and evening, have been found effective. The poultry house should at once be thoroughly disinfected.

Drying a Cow.

X. Y. Z.—A cow within two months of calving is giving one gallon of milk per day. She is being well fed on good fodder and mixed grain. Would it be well to go milking her or gradually cease?

A cow usually does better the following season and produces a stronger calf if allowed to go dry for six or eight weeks than if she is milked up to the time of calving. It would therefore be well to dry her up. To do this, reduce her diet to hay and water for about two weeks, and gradually cease milking her. When she is nearly dry, the milking may cease altogether. She may then receive a light feed of grain daily along with the hay until going out to pasture.

Spotted Chickens.

P. H. H.—White Plymouth Rock hens were dusted with insect powder which gave them a dirty appearance; when their eggs hatched some of the chicks were spotted; what was the cause?

There has been some other cause than the lice killer. The effect of the lice killer on either sitters, or newly hatched chicks would only be temporary. If put on the parent stock there could be no such thing as spotted chicks. If the hens which laid the eggs are quite white the chickens have probably been thrown back to a weak spot in their ancestry. Pure bred White Rock stock do not give spotted or dark colored chickens, and blemishes on plumage from lice killers are as a rule only temporary.

Fertilizer for Grass.

G. H.—No better fertilizer could be obtained for grass land than wood ashes, especially if followed by a top dressing of nitrate of soda. This latter fertilizer is best given in two applications, say of 50 to 75 pounds each; the first, soon after the crop is up; and the second some three weeks later. To facilitate the distribution of the nitrate it may be mixed with two or three times its weight of dry loam or sand.

In the place of wood ashes, the following mixture may be used: Muriate of potash, 100 pounds; superphosphate, 150 pounds; bone meal, 150 pounds; applied at the rate of 300 pounds per acre. Top dress with nitrate of soda as already described.

Power From a Water Flow.

C. R. H.—I have a stream of water having an average of 6 inches, width of 3 feet and fall of 12 feet in 100 feet. I could build a dam 12 feet high and 40 feet wide at the lower end. How much power could be developed, and what sort of water wheel should I use?

This stream in its present condition flows about 1,100 cubic feet of water per minute. If damming the stream does not divert part of the water to other channels, that is to say, if the whole of this 1,100 cubic feet per minute flows over the 12-foot dam, then about 10 horsepower per minute would be available. A turbine water wheel would give good satisfaction.

FARM ORCHARD AND GARDEN

[Mr. Wragg invites contributions of any new ideas that readers of this department may wish to present, and will be pleased to answer correspondents desiring information on subjects discussed. Address M. J. Wragg, Waukesha, Wis.]

ORCHARD NOTES.

Spraying is the keystone in successful orchard management. After the trees have been properly selected, planted and grown, it depends then upon whether the orchardist sprays whether his work will be successful. The Northwest as yet as had neither the bitter rot nor San Jose scale, and these two enemies are more than all others combined to the fruit men of the east and south. But we do have apple scab and codling moth, but they may be controlled by systematic spraying.

Top grafting affords a method of growing the tender varieties that are subject to root killing and sun scald. Crabs are especially desirable for this purpose, and the Whitney No. 20, Briar's Sweet and Virginia have been used very satisfactorily. Orchards in which poor selections have been made may be top worked and changed to valuable varieties that will yield profitable crops for many years to come.

In the matter of pruning, Eastern methods are not applicable to our conditions. On account of the danger to the trunks of sun scald, the trees should be headed as low as possible. While this is not as convenient for cultivation as high heading, it protects trunks and makes the fruit easier to gather. As a rule it may be said that our trees do not require as much pruning as trees in the Eastern and Southern states. Dead limbs should always be removed, and where the head of the tree is growing too compact a part of it should be cut out.

The matter of cultivation is always one to be decided by local conditions. Every orchard should be cultivated the first three to five years of its life. Some slow growing crop, such as potatoes, squashes, root crops or sweet corn may be grown, and will pay for the cost of cultivation. After the crop is harvested the ground should be sown to a cover crop and for this purpose a non-nitrogenous crop, such as oats, rape, buckwheat or millet should be used on the black prairie soil. On ground of only medium fertility the nitrogenous crops should be used, as some of the clovers, peas or soy beans. The cover crop will protect the soil from washing and protect the roots of the trees from freezing by holding the snow on the ground, and in the spring will add humus to the soil when plowed under.

Now is a good time to prepare for next year's crop of raspberries and blackberries. Next season's fruit will be borne upon the canes which are now growing. Select the thriftiest, healthiest growing canes and cut out the rest, with the old canes that fruited this season. Three or four canes in each hill will be sufficient; in this way more vigorous plants will be secured, and this means better fruit next season.

LUMP JAW.

This disease more often affects cattle than other animals. It is due to a fungus, sometimes called the ray fungus. The fungus occurs upon grass and other vegetation and it is only when it becomes introduced into the tissues that it causes trouble. The disease comes from eating and outside sources and is not contagious in the usual sense of the word. Several animals may become affected while on the same pasture, but this is due to all being exposed alike. Some years the number of cases is greater than others, owing to the greater development of this fungus. The disease affects the jaw more often than other parts, due to the fact that the tissues are sometimes broken in the act of chewing and thus permitting infection. Any part of the body may be attacked.

Fussing with the cows may seem small business for a man grown. But life is made up of small things, anyway, and kindness among the cattle is no mark of a small nature. On the contrary, it proves a man to be just as good as the animal he pets; and it all pays the best way, too. Kindness always does pay.

PIG POINTERS.

Burnt corn or charcoal is good for scours.

To raise pigs they must be kept in a good thrifty condition.

No animal will make so large returns in so short a time as the pig.

Care should be taken not to allow the sow with pig to get too fat.

So far as can be done the sow should have abundant opportunity for exercise.

During the winter special care should be taken to protect the little pigs from cold.

Allowing the pigs to sleep in damp quarters often induces cold and rheumatism.

A Kansas experiment station bulletin wisely suggests the careful selection of seed wheat from the standing grain. The heads selected should be large, well formed, well filled with plump grains. The grain from these heads should be sown thinly upon good soil, under favorable conditions and may furnish the seed for the main crop the following year. If this process of selection be continued, wheat may be bred up to a high standard, as rapidly as corn or any other crop.

When cutting wood, if you come to a nice, straight grained piece of elm, hickory, ironwood or ash, lay it away for use when the time of need comes along.

Don't be afraid of adding too much fertility to the garden spot. Make it a dumping place for everything about your premises that will decompose quickly. If not already so, that is rich in humus and the other elements essential to plant production. Nowhere will the heavy feeding of soil give better returns than on the garden spot.

JAPAN PLUMS.

In some sections this fruit is highly praised, in others it is unqualifiedly condemned. But there is good reason for thinking that it has a place in this country and that it will play an important part in the future. At present it is merely adapting itself to a new country. This fruit was introduced from Japan, but is probably a native from China, though it has been found there in a wild state. In Japan it is said to receive little attention, from which it may be inferred that it does not stand high in the estimation of the people. It has not received much attention in Europe and is not likely to. The Domesticas have possession and the conservative inhabitants are not likely to give up their old varieties for something which has not proved better than what they already have.

Late reports are to the effect that these plums are as susceptible as the peach to attacks of the "yellows." This may prove the greatest difficulty of all.

The Japs will thrive where the Domesticas will not, and vice versa. The latter need heavier soil than the former and are a little more hardy.

Prof. Bailey once spoke of it as "the most important type of fruit introduced into North America during the last quarter of the century." There seems to be no good reason for disputing this judgment. The fruit has its good points as well as its weaknesses.

At no time in the life of the animal is the influence of liberal or scant feeding so great as when the animal is young. As an animal eats less when a month old than when a year old, so does the giving or withholding of the same amount and value of food produce greater results when the animal is a month old, than when it is a year old. The ratio of effect produced is yet greater than the disparity between the amounts usually consumed by the animal at the two periods. Scant feeding young animals produces that which it is all but impossible to overcome by liberal feeding later. The digestive and assimilative organs accustom themselves to conditions and will not readily respond to new conditions. They change slowly, so that by stunting the animal when young, tendencies are produced that are very hard to overcome, causing a condition very difficult to combat with, only by persistent effort.

THINNING THE FRUITS.

The timely and proper thinning of the fruit on the orchard trees is a matter which should receive far more attention than it does. The peach men in Michigan, Delaware and Georgia, and the orange and prune men of the Western coast are well up on the importance of this matter, but the majority of fruit raisers other than these named pay little or no attention to it. In any season when the apple or plum tree sets very full of fruit and the same is not thinned out by frost or insect or by natural means, then the tree should be attended to. Such crops of fruit allowed to mature are always of inferior quality and undersized and often unsalable, while the bearing of such a crop is a most fearful drain upon the vitality of the tree. Man never interferes with the operation of natural law with more benefit to himself and his orchard trees than when he thins out two-thirds of any such crop of fruit. It must not be understood, however, that this principle can properly be applied to large families of children.

There is no excuse for an animal carrying a pair of horns upon the farm. Many a cow gets into winter in poor condition because she has been pestered by the horn fly, which deposits its eggs about the base of the horn, later followed by maggots, which destroy the horn growth. If the horns were not there this would not occur.

TIMOTHY THE HAY STANDARD.

Timothy has become the most popular, the best known and the most profitable hay grass in the United States. This popularity is due not altogether to its superiority in nutritive element, but largely to the fact that it makes the standard hay of commerce, with which all other kinds are compared. It is sold in all markets of the country, and its price is quoted in all the commercial journals.

In buying this hay one knows precisely what he is paying for. He knows how much to feed and what results to expect from it. It is graded like cotton, tobacco and wheat, and it is the only hay that is in general demand. For this reason, more than for any other, it is the most profitable, because the sale of it is most certain at the highest prices.

Some folks are terribly afraid of lightning. A great many more are far more afraid of lightning-rod agents. They have suffered more from the agents than from the lightning.

The great principle to be observed in winter dairying is to feed economically as regards cost, so as to secure the best results. In order to effect this object the food supplied must be varied and when different kinds are given together they must be mixed with such judgment that there shall be a proper balancing of the elements of nutrition. During the summer is the time to look out for the winter's supply of food and care should be taken to secure an abundance.

The feeder of the present day can not afford to lose time in this way; he must keep his porkers growing at all times.

Whatever you do, do not breed any of your live stock to a scrub. It costs no more to raise a good animal, from a chicken up to a Percheron horse, than it does a poor one. Here good ones are always in demand at a fair price, whether stock is high or low.

Don't raise a colt from a mare with a vicious disposition or any hereditary unsoundness.

GRAPE VINES—SUMMER PRUNING AND BAGGING THE GRAPES.

Summer pruning is not practiced to any great extent, yet where one derives the best results from his vines it is very important. The growth should be controlled in the summer in order that the strength of the vine will not be wasted in making unnecessary growth. By rubbing off the surplus shoots with the thumb and finger as soon as they appear, and by pinching back the canes after they have formed four or five joints beyond the last bunch of grapes, the whole strength of the vine is forced to the developing of the fruit and remaining parts of the vine.

Summer pruning is especially important while the frame of the vine is being established, but will always more than pay for the trouble and expense involved.

BAGGING GRAPES.

This is done to protect them from the birds and fungus diseases and also to prolong the ripening period.

The Concord will keep perfectly sound in bags until late in October, and the Norton's Virginia will keep in perfect condition from three weeks to a month longer.

We bagged many varieties of grapes last year and find that some varieties are benefited by bags more than others. Birds are always more troublesome to black and red varieties of grapes than they are to the white. This year we bagged about half of our Delawares, and fully ninety per cent of these not bagged were destroyed by birds, while those in bags were in perfect condition. The Ives, Concord and Norton's Virginia that were not bagged were also badly damaged by birds, while the Perkins, Niagara and Goethe were damaged very little. Grapes planted in an orchard or near trees and hedges are always damaged more by birds than those planted off to themselves. The bags are put over the bunches of grapes as soon as the fruit is set or when the grapes are the size of small shot. Three pound bags are used for the large bunch varieties, such as the Concord and Niagara, and two-pound bags are used for the smaller bunch varieties, like the Delaware.

The bag is slipped over the bunch of grapes and the corners folded close about the stem and pinned. Bagging is very simple and inexpensive, the bags costing from sixty to seventy cents per thousand, and the pins about twenty cents per thousand.

A man or boy with a little experience can put on fifteen to eighteen hundred bags in a day, so the total cost of bagging a thousand bunches of grapes would not exceed $1.20. The grapes in bags ripen up more uniformly and always present a much more showy appearance than those not bagged. Bagging will always prevent the grapes from rotting to some extent, but will not do away with the necessity of spraying when the variety bagged is subject to rot to a very great extent.

Did you ever know of a man who went rushing about all over the farm premises looking for the hammer, and scolding every one because "he would like to know who had had that hammer!" and finally finding it just where he had last used it himself? Seems to me I have. And it always appears to me that such a man after having one of these spells ought to sit down all by himself and think some things over; and in his thinking he should not forget to give himself first place.

BUTTER NOT TOO HIGH.

Some of the produce papers are evidently trying to make themselves believe that butter is too high, and that speculators are paying too high a price for the goods which they are putting into cold storage. They are citing as evidence the wonderful pastures and the increase in make over last year. We do seem to be producing a little more creamery butter than we did last year, but the indications are that less dairy butter is being made, and we should remember that we have more people to feed than we had last year, and that all are eating more butter and many are eating less oleomargarine. Don't worry about overproduction, but try to avoid under consumption. The fellows that milk the cows don't think butter too high. We are pretty well acquainted with them, and mark our word, they don't intend to work any cheaper until the other fellows stop going on strikes and putting up combinations. While the customers are cutting down to eight hours a day and marking up coal and lumber and corn binders, the cow milkers must get at least twenty cents where they formerly received fifteen, or they are very apt to permit the calves to do the milking.

When about the farm at work, keep one eye out for low places in the fences. Cattle have sharp eyes for all such spots, and are quick to take advantage of them. Two minutes now may be spent in saving an hour tomorrow, and well spent, too.

The greater proportion of the flax grown at the present time is produced on the new lands of the American and Canadian Northwest. It can be grown on these very readily. Hence, the bulk of what is grown in America is likely to come from the sources named for many years to come. Nevertheless, this does not mean that good paying crops of flax cannot be grown in the older states. If only grown in say, seven, eight or nine years, in the rotation, fine crops may be produced and without any detriment to the land.

An acre of oat straw cut early before it has turned white is worth almost as much as so much hay for feeding horses or sheep. This grain also will be as "bright as a new dollar," and how the horses do like it!

As the weather begins to grow better the cows linger longer in the pasture at nightfall; but he is a foolish man who would hurry them by setting the dog on them. The worry the cows suffer is considerable, but that is not all of it. The farmer suffers, too, from loss of milk and butter fat.