

AGRICULTURAL.

imagine herself good and contented in the hateful old home; it seemed almost endurable just at this minute, when suddenly the door burst open, and Will Daupier came in with his hat on.

'I want you to come out with me,' he said. 'I want you to come and see the boat off. There's no time to lose.'

'Thank you,' said Elly, 'but I'm busy.'

'It won't take you five minutes,' he said. She laughed. 'I am lazy, and rather tired.'

Will could not give up. He persisted: he knew he had a knack of persuading his old women at home; he tried it on Miss Gilmour.

'I see you have not forgiven me,' he said; you won't trust yourself with me.'

'Yes,' indeed, said Elly; 'I am only lazy.'

The time was going. He looked at his watch; there were but five minutes—but five minutes for John to take leave of his love of many a year; but five minutes and it would be too late. He grew impatient.

'Pray, come,' he said. 'I shall look upon it as a sign that you have forgiven me. Will you do me this favor—will you come? I assure you I shall not be ungrateful.'

Elly thought it odd, and still hesitated; but it seemed unkind to refuse. She got up, fetched her hat and cloak, and in a minute he was hurrying her along across the lawn, along the side of the dock, out to the pier's end.

They were only just in time. You are very mysterious, said Elly. 'Why do you care so much to see the boat go out? How chilly it is. Are you not glad to be here on this side of the water? Ah, how soon will it be time for me to go back?'

Will did not answer, he was so busy watching the people moving about on board. Puff! puff! Cannot you imagine the great boat passing close at their feet, going out in the night into the open sea; the streaks of light in the west; Elly, with flushed, rosy-red cheeks, like the sunset, standing under the light-house, and talking in her gentle voice, and looking out, saying it would be fine to-morrow?

(FO BE CONTINUED.)

A NOVEL STEAM ENGINE.

On Thursday, the 17th inst., we examined an exceedingly novel and useful steam engine, which has recently been invented by J. B. Root, of this city. As respects its arrangement and object this engine is entirely new to us, and it achieves most excellent results. In the small space afforded in 18 inches by 10, and 12 inches high, an engine is placed which has a combined piston area equal in an ordinary engine to the power of 22,9785 horses; in practice these figures will doubtless be increased. The machine is not a rotary engine, although it is quite as compact and much more simple than even one of that class. The space is not purposely contracted, nor are the steam ports narrow and crooked, or the motions of the machine cramped to save room; but it is afforded all the space necessary for its perfect operation. The stroke of the pistons is very short, being only 2½ inches; but even with this disadvantage no appreciable labor or disturbance is visible on the main shaft. The pistons are rectangular in shape, and are hung directly on the crank pin; they are two in number, and exert a continuous and steady pressure, when under steam, upon the main shaft. All the movements are in right lines, and no shock or jar is visible as the pistons change the direction of their motion. There is but one valve to these two engines, which is perfectly balanced. It is circular in form, and has an epicycloidal movement over the valve face, and admits of any amount of lap on the steam or exhaust side without choking or compression; in brief, the induction and eduction are completely under control, from the fact that the exhaust and steam openings of the valve are independent of each other, and the time of their operation is readily controlled. This machine is in fact a twin engine (if we may use such an expression without violating good grammar), having two pistons sliding in one case, which are connected directly to the crank without the intervention of any rod, link, toggle, or mechanical agency of any kind whatsoever. The motion is as regular and free as can be, and the simplicity of its construction is beautiful to the engineer. It can be instantly reversed. A stout man may almost carry a 10-horse engine under his arm. The range of uses to which this engine may be put is very wide, and it is in our opinion one of the most ingenious applications of steam we have ever seen. One of them of the size first-mentioned is now driving a large machine shop in Twenty-eighth street, and another is at work drilling armor plates for the *Dunderberg*; the engine, drill and machine are carried about by a man and two boys with all ease. We hope shortly to be able to present an engraving of this engine in full.

Here is a specimen of paradox that may amuse the young folks. There is one way in which 45 may be deducted from 45 and 45 will be the remainder. Look: Put all the numerals down in reverse order. Then put them down underneath, in their order and subtract. The sum of all three of the lines will be the same, viz: 45. Thus:

9	8	7	6	5	4	3	2	1	—45
1	2	3	4	5	6	7	8	9	—45
8	6	4	1	9	7	5	3		2—45

READY REPORT.—Among the attractions made of tin given to the pastor of one of the Connecticut churches, the other day, on the occasion of his 'tin wedding,' (tenth anniversary,) was a huge tin pen, nearly eight feet long, with nibs capacious enough to hold nearly a pint of ink. The donor wittily said, as he held up his literary and theological club:—'I did not give you this long pen to write any longer sermons.—"I hope," was the quick reply, "that they may be long enough to reach you, my friend." The giver acknowledged that he was vanquished by the first scratch of the new pen.

MANAGEMENT OF SHEEP IN SPRING AND SUMMER.—As sheep have been brought safely through the winter, they should not be allowed to suffer for want of care in spring and summer. Mutton is scarce and dear, and wool will undoubtedly command a remunerating price; there is therefore every incentive to encourage the farmer to take care of his flock.—

Except in a few instances, the wintering of sheep has not been brought to proper perfection in Michigan, the general-ity of flocks being supported through the winter on hay. The sheep is fond of nutritious food, and eating dry hay or straw, or any other sapless provender, is apt to cause constipation and to produce which is in Scotland called 'pining,' and attacks them in seasons of great drought and scarcity. The sheep afflicted with this malady separate from the flock and retire to some lonely place, where they pine away and die. The animals, when suffering from this malady, wear an aspect of despondency and sometimes utter plaintive moans. This disease is considered to arise from disorganization of the blood, caused by a want of nutritious food during a protracted winter, a very dry summer, or a rainless autumn.— From want of nutritious food and sufficient shelter in winter, sheep fall away in condition, the wool ceases to grow, and the flock makes a poor appearance and yield of wool at shearing time. The sudden change from dry hay to rich grass has generally on unfavorable effect on sheep, and it very often causes diarrhoea, which retards the growth and wastes the strength of the animals that suffer from it.

The 'fly,' that well known tormenter of the sheep, is sometimes so troublesome that whole flocks are disturbed by its attacks, and being prevented from feeding quietly, are injured in condition and all improvement retarded.

If the injury done by the fly were confined to the annoyance and worrying of the flocks, the result would not be so bad as it really is; but unfortunately this troublesome insect deposits its eggs on such parts of the sheep as are likely to afford a safe lurking place for the noxious brood of maggots which they give birth to. Sickly sheep are generally selected by the fly as its victims, especially those which have been attacked by diarrhoea, as in these animals a considerable portion of the wool is soiled and clogged from the effects of the disease. In order to remove the lurking places of these pests the sheep should be carefully tagged early in the spring, washed with a solution of tobacco and some spirits of turpentine at shearing time, and closely examined at various times during the season.

Sometimes the attacks of the fly form a sore on the poll or other parts of the sheep; in this case a bit of adhesive plaster, formed of tar and beeswax, should be applied to the wound, and this will effectually ward off the enemy. Mr. Hogg, the celebrated 'Ettrick Shepherd,' says that he found the coarsest kind of fish oil an excellent antidote for the fly. He says that he happened to be assisting in sorting a flock of the Cheviot breed, and many of their heads were wounded by flies. The shepherds were accustomed to smear the heads of the sheep with tar; he advised them to try coarse whale oil, and the result was most satisfactory. Ewes and lambs require constant care and a plentiful supply of suitable pasture. If they are neglected in spring and summer, both will suffer damage that cannot afterwards be repaired.

HOW TO SHEAR SHEEP.—Have a stool just knee-high to the operator, 18 inches square, of soft wood planed smooth, or covered—a dry goods box that height will answer. Place your right foot on the stool, set your sheep so that his back will rest against your right thigh, with your right arm forward of his fore-legs; commence at the brisket, with your shears across the sheep, shear the belly quite down, trimming the tags, &c. The belly wool must be laid aside to be done up with the fleets—that done, place your left foot on the stool, with the left side of the sheep resting on your left leg, back to you; commence at the point of the right shoulder, and with a curve backwards, open the wool with the shears to the back of the neck, nearly, and ending at the back of the right ear. Shear the shoulder and the neck lengthwise, and forward to the under side of the neck. As the operation progresses, turn the sheep gradually to the right, till the back rests on your thigh, with the right side to you, shear around the neck, (lengthwise,) and down on the left leg and shoulder, (the neck being the first finished,) then downward along the side, hind leg, and hump, then lengthwise upward and backward till the backbone or spine is passed a little. Now gather the fleece, holding it against the back and unshorn side, turn the sheep on his launch bones, as on a pivot, to the right, place your right foot on the stool, resting the left side of the sheep against you, with its back on your right thigh, shear down the right thigh and hump, which finishes the operation. In this way you roll the sheep out of his fleece, rolling the sheep to the right and the fleece to the left. I think there are important advantages in this method. Sheep require an easy position, or they will be restless and often unmanageable. No position is more uncomfortable to a sheep than flat on his side, and none easier than the sitting posture—though kept on end during the whole shearing. The position is changed often enough to keep the sheep from being restless; for you are turning him nearly all the time to the right—he wants no holding, his feet or legs should never be touched, and he will scarcely ever move them—if he does, he cannot touch the fleece—that is all the time out of the way of his feet, to the left. If handled gently, and not kept too long on the stool, he seems to enjoy the luxury of being divested of his fleece in warm weather. The lower point of the shears should be levelled a little, so that they will run easily over the skin without catching, and the wool should never be pulled, for the skin is raised with it. To smooth wrinkles, draw the skin with the left hand. Gentleness will make the sheep lie quiet. Finally, why not suppose this the ancient mode of shearing? I never was so fully convinced of the aptness and force of the passage (as a sheep before her shearers is dumb,) than when watching the motions of Mr. B., while shearing our sheep. —S. S. Bates, in *Rural New Yorker*.

SET OUT A FEW MORE FRUIT TREES.—Yes, set out a cherry tree by the gate near the road, and another at the end of the house to partially shade the sitting-room from the hot sun.—The cherry, when well trained, forms a regular, symmetrical tree, ornamental at least when covered with a pro-

fusion of snow white bloom, or bending beneath its load of dark red fruit. Set a pear tree in the nook by the shed, and one at each end of the carriage-house. They will injure nothing, and the rich soil will cause them to grow rapidly. Now put out a few peach trees along the garden border where the shade will scarcely injure the vegetables; or a few trees may be set compactly 15 feet apart, and the space they would shade be used for raspberries and blackberries.

There is the lane, too, leading to the pasture, which might well have a row of apple or pear trees upon each side, which will injure the adjacent fields far less than the returns they should give. The road sides, also, can be set with apple trees yielding winter fruit. Such single rows of trees usually give better returns than the same number of trees in an orchard. Again, there is the south side of the barn, shed and hovel, yes, and the tight fence upon the north side of the garden, which might be covered with grape vines and yield many bushels of fruit.

Now, reader, look about your buildings, around the yards, along the fences, etc., and see if there is not room for a few more trees. Then go to the nearest nurseryman, if he is an honest, careful grower, and select four trees, have them taken up with all the roots, take them home without exposure to the sun, and set at once in large broad holes, spreading out the roots and fibres in their natural position. If the soil is not rich, add a little old manure or ground bones at the time of setting, and hopefully await the result of your expenditures in time and money.

IMMENSE STRAWBERRY CROP.—A single fact relating to the strawberry crop of the past season will doubtless astonish many of our readers. A prominent fruit-grower of Western New York, from a single patch of sixteen acres, sent to market thirteen hundred bushels of strawberries. The entire crop was sold at an average price of one shilling per quart, realizing the snug sum of five thousand two hundred dollars, as the product of sixteen acres of ground. This may be taken as an instance of the profitableness of thoroughly scientific fruit growing.

A HINT TO BUTCHERS.—A correspondent of an English journal describes and recommends a new method of slaughtering cattle for the market, which is now practiced with success by some English butchers. The object of the new practice is to prevent the draining from the vessels of all the juices which constitute blood, which are entirely lost in the ordinary method. This object is accomplished by the admission of air into the thorax of the animal by means of puncturing between the ribs, by which process the lungs are collapsed, and cannot be again inflated. Simultaneously with this puncturing, the butcher, by means of a short, stiff knife, severs the spinal marrow, at the junction of the skull with the first joint of the neck, an operation producing instantaneous paralysis and almost immediate death. These operations secure the sudden stoppage of breathing and the immediate suspension of the circulation of the blood, by which all the venous or carbonated blood is prevented from entering the lungs, and is drained off from the carcass, while the arterial blood and sanguineous lymph are retained. This, it is said, renders the flesh more succulent and nutritious than when it is completely drained of the fluids named, as in the ordinary way. It is asserted that meat so prepared sets sooner and keeps longer, besides being richer in flavor than that prepared by the ordinary mode.

PRINCE ALBERT'S SARCOPHAGUS.—The block of granite which is to form the sarcophagus to be placed in the mausoleum recently erected at Frogmore, in which are to be deposited the remains of the late Prince Consort, is thus described:—'The block of immense size, being nine feet eight inches long, seven feet four inches broad, and three feet four inches thick, and weighs eighteen tons. It was got out of Cairngall quarry (on the estate of Mr. W. Hutchinson,) leased by Mr. McDonald, Aberdeen. For more than a year the quarry has been worked with a view to obtaining a block of sufficient dimensions, but only quite recently was it seen that the object could be attained. It has now, however, been so most satisfactorily. The stone, which is of a bluish shade, is a very beautiful specimen of Cairngall granite, and quite complete and sound. The stone is to be polished on each side, and when finished, will have a very massive and elegant appearance. The difficulty of transporting this immense block was very great. Having been placed on a substantial low wagon, sixteen powerful horses were required to drag it from Cairngall to Peterhead.'

THE DECOY WHICH MAKES YOUNG MEN DRUNKARDS.

Go with us to a public house where, where a number of young men are assembled. All is life and gaiety. A few among them may be young and timid. They approach the counter, and wine, rum, brandy are called for. One or two may stand back and say, 'No, gentlemen, we don't drink any, please excuse us.' Immediately the res turn, and begin to taunt their friends who refuse to drink, saying they are afraid of getting 'tight,' of the 'old man,' and some may whisper audibly, 'Well, they are mean fellows—they are afraid they will have to spend a cent! Here, you see, two very sensitive nerves are touched—Courage and Cleverness. Their bosoms swell with pride, and rather than bear these flings of their companions, they step up to the counter, and so join in the revelry.—The ice is now broken, the first act in the great drama performed. Others follow in natural order, until the individual who refused to drink at first, reels along the public street without shame. Such is the manner in which thousands of our promising young men are led away by a false ambition; and thousands more will follow in their path, unless they learn the meaning of courage.