



THE GASOLINE ENGINE.

About 11 years ago I bought a run down farm, and in order to bring it to a higher state of cultivation determined to keep as many cows as possible and supply butter to private families living in the neighboring city, writes C. W. Weston. The cows purchased, the next step was to build an icehouse and get a cabinet creamer. This outfit worked fairly well but the ice crop was uncertain, and the distance to draw it long. At this time there were no cream separators in this immediate vicinity, but I bought one.

My power at this time was supplied by hand and for awhile the separator appeared to run quite easily, but after the novelty wore off it began to run very hard. I bought a 1 1/2 horse power gasoline engine. It was an experimental machine but appeared to work nicely. I blocked the engine up underneath the floor in the milk room, put up a line of shafting and was soon separating and churning with none of that tired feeling which I had so lately been experiencing.

One morning on attempting to start the machine it absolutely refused to go, I made a hurried trip to the city and a good natured inventor accompanied me to my home and upon taking off the cylinder cap found that the platinum exploding points had simply gummed over, thereby preventing their sparking. Again all was smooth sailing and with an occasional cleaning up of points my engine for awhile worked very nicely. But upon one of these occasional cleanings, after it had refused to work, I found the heat had drawn out the platinum points so that instead of a spark being made as the electricity jumped across the short interval between them, they touched one another. The current passed without sparking and no explosion took place. A knife blade passed between the points separated them and thus remedied the difficulty and I was again doing business.

It is evident that had I been properly supplied with instructions at the beginning I should have been spared a great deal of trouble. My engine is now working as well as it ever did at any time during its best behavior, although it has been in constant use for five years. I run both the cream separator and a 50-gallon churn at the same time. I have simply to give the balance wheel a whirl when it starts off like a thing of life. The expense of operating is as nothing when compared to a steam engine.

In the same manner belts may be run out through the window and other machinery run. In fact there is almost no end to the variety of work which this handy little machine will accomplish. As I have already shown, my engine was an experimental one, and I a green operator without proper instructions. Until experience and a little study had given me a knowledge of its principles and workings, it was not a success. Since then two of my neighbors have each purchased an engine though larger in size and vastly improved and both are giving satisfaction.

LIVE STOCK IN WINTER.

On account of scant means many farmers who have the desire to do well are deterred from furnishing the necessary shelter for stock in winter. Again, many others are renting and of course cannot afford to erect costly and permanent buildings. These and other causes operate to keep many thousands of stock out in the weather, suffering and losing flesh to themselves and money to their owners. In some cases it may be well nigh impossible to remedy the evil, but no doubt in many it might be improved by plenty of forethought and just a little work.

Even if your threshing is already done and you have no other shelter, it will pay to erect a stout framing on the order of a lean-to with the open side to the south and cover it well with straw. If threshing is not yet over, it will be no extra work to stack it that way as the straw comes from the machine.

Stock fodder, hay or other material may also be used to advantage in this way, and although it may seem a waste of feed, it will be found to pay in the long run, in the saving of feed which it will take to keep up the animal heat from increased exposure standing out in all kinds of weather.

If the farm needs the manure (and what farm doesn't) there will also be a very large saving on that score. There will not only be a larger quantity saved, but the quality will at least be doubled and probably, in more than ordinary wet seasons, even quadrupled by avoiding the leaching rains which ordinarily carry away nearly all the elements which are immediately beneficial to growing crops.

QUALITY OF MILK.

The majority of investigations concerning the improvement of the quality of milk seems to indicate that a dairyman must look to the improvement of breed rather than to the selection of feed. Within the breed he must select animals which show a high percentage of fat in the milk, as well as animals that will produce a large quantity.

The Gypsy's Sacrifice

OR A SECRET REVEALED

CHAPTER I.

Cumberleigh Fair was in full swing.

At one time, in the good or the bad old times, there used to be a fair, once a year at least, in every town, large or small; there were several in London, for instance. But merry England has somehow or other grown a very sad and grave and serious England, and if you want to see a fair you must go far down into the country, into those remote districts where men—and women—have not yet grown ashamed of enjoying themselves in the open air.

Cumberleigh Fair was held just outside the market town on a good sized common; it lasted three days, and during those three days the good folk of Cumberleigh talked, thought, ate, drunk fair. It was the one event of the year to which the country people—and the townspeople too—looked forward to and backward at. They dated from it. It was: "I bought that horse at Cumberleigh Fair." "They were married three weeks come Fair-time," and so on; just as the Italian reckons from some grand festival, or the Spaniard counts from some famous bull-fight.

It was the third and the last day, and the fair was at its height. The lanes between the booths were crowded with a dense throng of pleasure-makers, men and women in their Sunday best; some of their children on their shoulders.

The row was awful and indescribable. From one side came the yells of the showmen decanting on the merits of their particular shows, and imploring the people to "Walk up!" From another there came the dull, heavy roar of a lion in the menagerie; while from many, too many, drinking booths snatches of tippy choruses floated out and mingled with the general din. Merry-go-rounds and swings revolved and swung to the melodious strains of steam organs. Every showman had a drum, and seemed to be trying to knock the head in. A couple of brass bands played unceasingly. Children blew innumerable tin trumpets, and the ingenious gentleman with the three thimbles and a pea shouted hoarse exhortations to the crowd to come and win their fortunes.

There was every kind of show. The fat woman was here, in company with the giant and the dwarf and the living skelton. The spotted nobleman was a great attraction, and the wild man of the woods roared and yelled invitingly through the bars of his cage.

A little apart from the rest were half a dozen gypsy caravans. No fair would be complete without gypsies, and they were at Cumberleigh in full force. Every now and then a dark-skinned, black-haired Jass, with the usual crimson shawl, draped hood fashion over her lustrous head would glide in and about the crowd with that easy and graceful gait which these strange people have inherited from the days "when Pharaoh was king over Egypt," and whisper, "Let me tell your fortune, kind gentleman. Cross the Gypsy's hand with silver, pretty lady!"

Nut-brown children sat on the steps of the caravans, or played about the horses' heels with impunity, and in the centre of the colony, so to speak, was gathered, around a kettle suspended over a fire, a group of gypsies were eating their afternoon meal as placidly as if they had pitched their tent on some sylvan island.

Just outside this ring around the fire a young girl leaned against the side of the caravan. She was supposed to be partaking of the meal with the rest of the company; but she was not eating, and the dark eyes, half veiled by the long black lashes, had a dreamy and far-away expression.

In dress there was little to distinguish her from the other women of her tribe, with the exception that the frock of brown woolsey was clean and without rent, or, indeed, darn, and that she wore no gold rings in her ears or on her fingers, as did the rest. But the dress was well-made and well-fitting, and she seemed to wear it and the shawl with that indescribable air of ease and grace which is born with some women, and can never—no never—be acquired.

She was about the middle height, but slim and well-built; there was youth and strength and health in every limb, in the very poise of the shapely head on the slender neck, upright as a column. Her hair was dark; I had almost written black, but remembered that the scientific men have declared that there is no black hair. Her eyes were large, lustrous, and, unlike a gypsy's, soft and melting, with the softness of the stag, not that of the ox.

Beauty is not uncommon among the gypsies, but this girl's loveliness was of a striking and exquisite order.

That she wore a better dress and wore it with exceptional grace might be ascribed to the fact that she was

more than a boy, and there were two things noticeable about him. First, that he was a gentleman; and secondly, that the gods had been very good to him in the matter of good form and features. Beauty has been called the fatal gift, and yet it is the gift which most women desire for themselves and their daughters, and the one gift in man which, when it is combined with strength, they admire and worship.

This young man had the kind of face which Blair Leighton is so fond, and justly fond, of painting. Every feature truly but delicately cut, dark eyes full of fire and life and the love of life, with brows dark and arched; and hair that, closely cut as it was, broke into short ripples and waves. He was five feet eleven, broad-shouldered and straight-limbed, and moved only as a practiced athlete can move. He was dressed in a suit of tweed, which seemed to have grown on him, and which bore evidence of a long and dusty walk.

(To be Continued.)

A Dying Promise

CHAPTER XLVII.

The sunset splendors glowed behind her, she appeared to be descending toward him out of the very heart of the western glory as she had come to him first from the heart of the war-storm; she came with firm, light steps over a path of incandescent gold, with the accustomed proud poise of the head, her face shadowed by the contrast with the glow behind and around her, her dark eyes full of light; his face was turned to the glory whence she came, it seemed made of light, doubly transfused by the setting sun, and the vivid joy that flashed through him at the sweet apparition. In a moment he had met her, taken her hands and was standing speechless face to face with her. Both hearts beat quickly, but there was no surprise in Ada's face. "You did not expect to meet me?" she asked, after a little pause.

"No; I never expected to meet you; but when things are bad, when the storm is at the worst, you always appear, an angel of comfort." "A loyal friend, I hope," she replied, gently; "the first time we were dancing, and the news of your mother's fatal illness came—" "Yes, but you were my comfort, even then. And now—" "I wish I could comfort you now. We arrived two days before. I am with an aunt whose lungs are weak. You know—perhaps you didn't know? We came home in the autumn. Father has retired. Yes, we actually saw her—how lovely she was! strolling in the garden. Oh! it must have been such a shock, though, of course, you knew there was no hope."

"And now you are here, it is like a sudden glimpse of heaven in the darkness. This will be a memory for life," he replied, at last leaving hold of her hands, and turning to walk slowly on her way with her, so that the sunset was all behind them, and the mountain spur curving out round the broad bay wore a garment of glory, its bare, time-worn summit was transmuted to burning gold against the lucid sky. "But is it really your living self?" he added. "To come so suddenly, and at the very critical moment." "And now tell me all you wish to tell about this sorrowful business, dear, Philip. What of poor Captain Medway? and what are you meaning to do?"

"We go to England to-morrow. How well timed this meeting is! Yet, I ought not to see you, I suppose; though I know that you must have forgotten by this time any kinder—any feelings—" "Women, of course, have no constancy, no depth; they can turn on the feelings expected of them at any moment," she answered, with a kind of plaintive disdain. "No doubt it is very improper, but I have not forgotten, I never shall."

"Ah! but you must, you will," he cried; "you must help me to do my duty as once before." "Did I help you?" she asked, in a very soft, low voice. "I think you did not need much helping." "You made it easier," he returned. "It was hard."

She made no rejoinder, her lips were quivering. The soft deep lustre of her eyes was bent upon his averted head; she kept back her tears with an effort. The sun was lower now, its changing glory clothed both figures with a rosy radiance; in the silence the low caressing murmur of the quiet sea was heard from the beach below.

They had reached a clump of olive-trees, the gnarled gray roots of which made a favorite way-side seat, and the massive trunks of which, slightly shadowed by dark foliage, looked like rudely hewn stone pillars. Here Philip proposed that they should sit a while. "For we cannot part like this," he added. "No life must ever be mingled with mine. All my life I must be lonely."

"Why?" Ada asked. "Philip, you are morbid. You have suffered; your feeling for honor is keen; you are over-sensitive. I know all; surely it is for me to decide."

"You have a noble heart, a most princely nature. But I should in-

deed be a mean cur to take advantage of your generosity and unselfishness."

"No, not generosity, not unselfishness," she interposed, very softly, her eyes were blinded by swift-coming tears.

"Dearest," he added, "you are very young, you don't know what happiness may be in store for you." Then he laid his case before her and satisfactorily proved his unsuitability from every point of view, especially her father's. "It will be far easier to forget that you think," he said, in conclusion.

"Of course," she returned, with the old princess air; "you needn't marry me unless you like. I shall not force you into it, though you do seem to want a good deal of persuasion. I shan't even break my heart, don't expect that. But I shall be an old maid," she sighed, looking demurely in his face with a quaint sparkle in her bright dark eyes, "and that is far worse than a broken heart, I am told. What comfort is it to be wretched, if one can't talk about it and be cried over?"

"Ada!" he exclaimed. "I am a most improper person, no doubt," she replied, gravely. "I shock you, Captain Randal; I think I had better wish you good-evening," she added, rising and making him a little bow before moving sedately away.

"Good gracious! Ada! What are you thinking of?" he cried, overtaking her in a state of utter bewilderment.

"Thinking of going home," she replied, tranquilly.

"And I going to England to-morrow? For Heaven's sake do stop a moment!"

"Well, but what is the use? You won't have me, and there's an end of it. I am not going to ask you any more, Mahaeaj Salaam!"

Then of course she was detained, and all kinds of vehement protestations, adjurations, and assurances of undying devotion poured into apparently indifferent ears. She was induced to resume her seat on the olive-roots, her bright face glowing like a splendid flower against the rugged, stony-looking trunks, her dark eyes half-veiled. "Yes," she was thinking to herself, "it is about time you began. I do think I have a right as a woman, to a little courtship."

As for Philip he knew nothing but that Princess Ada was permitting her hands to be kissed.

"This is all very well," she said at last. "Now perhaps I may be allowed to return to my poor sick aunt?"

"Ada, how can you jest? Do you believe in me?"

"I believe that you are a foolish boy, and don't know what is good for you. From what you say, you can't exist without me," she returned. "And yet you won't—" here she burst into a happy little laugh and did not finish her sentence.

"Do you know," she added with a sudden change of manner, "I look on you as a son. I think I adopted you on that first night at the ball. Poor boy," I thought, "he has no mother perhaps by this time. Oh! I was so sorry for you! You are my father, and my mother, and my son, as the dear Hindoos say." (To be Continued.)

DID YOU WIND THE CLOCK?

The Question Need Not Now be Asked Often.

The New York Herald has the following cable despatch:—The Hon. Richard Strutt, son of Lord Rayleigh, has made a radium clock which will go for two thousand years without winding up. In this clock a small piece of gold leaf is electrified by means of a very small quantity of radium salt. It bends away from the metal substance and keeps on moving under this influence until it touches the side of the vessel. At the moment of contact it loses its electrical charge, upon which it springs back and is electrified again. The repetition of this process over and over again is the whole secret, and Sir William Ramsay considers it might be expected to go on, barring accidents, for a couple of thousand years.

Asked if such an instrument could be made a reliable timekeeper by which a business man could keep his appointments, Sir William answered:—"Yes, so far as the principle is concerned. You have the energy, and unless the thing stuck at some time or other it would go on and on, and could be regulated to move the hands on a clock face to a mechanical nicety."

Sir William did not think such a clock would be a very expensive luxury. It ought to be possible to make one for about £200 (\$1,000), he thought.

A man applied for an engagement at a theatre. "I inclose you a newspaper cutting," he wrote, "to show you that I have aptitude for the stage." The cutting was as follows:—"The prisoner, who denied the assault, conducted his own case, and defended himself in a manner somewhat dramatic."

Papa—"Now Jack, if you will be a good boy until next Saturday I'll give you a nice story book." Jack—"And how long must I be a good boy to get a bicycle, papa?"

A woman tells fairy tales to her children and a man tells them to his wife.