A WILD-WOOD IDYL.

Seeking wild-wood, open sky,
Blithe beneath the trees am I;
Watching squirrel chattering high,
Watching wood-dove cooing nigh—
Bliss to tread the forest way
Along trails where rabbits stray,
Greeting quail in ferny spray,
Hearing veery's tender lay;
Joy to watch the brooding bird,
Chirping nestling faintly heard.
Downy feather lightly stirred—
Soothing note from mother bird.

Child of nature, joyous, free,
Seeking blossom with the bee,
Tracing brook through flowery lea,
Fringed by reed and willow tree;
Seeking violet hidden low
Where do moss and cresses grow
Beside the rivulet's rippling flow
That through beechen grove doth go;
Plucking trillium, wet with dew,
Frail hepatica, starry blue,
Finding elf's whipporwill shoe,
Hid among the meadow-rue.

Loving twilight, sunset flush—
Seeking haunt of hermit thrush
Trilling sweet at evening hush,
Sheltered by the swaying rush;
In the shadowy green lights dim,
Watching fire-flies winging glim,
Moths fluttering 'round the budding limb,
By weird light from the new-moon's rim,
Dreaming beneath dusky sky,
On soft boughs of fir to lie
Soothed by pine-trees' crooning sigh
Lulled by night winds passing by
Ah! 'tis Nature's child am I.
Alice B. Waite, in Springfield (Mass.) Republican.

A Daughter of the Sioux

By GEN. CHARLES KING.

CHAPTER XIV.

Within 48 hours of the coming of Trooper Kennedy with his "rush" disaptches to Fort Frayne, the actors in our little drama had become widely separated. Webb and his sturdy squadron, including Ray and such of his troop as still had mounts and no serious wounds, were marching straight on for the Dry Fork of the Powder. They were 200 fighting men; and, although the Sioux had now three times that many, they had learned too much of the shooting powers of these seasoned troopers, and deemed it wise to avoid close contact. The Indian fights well, man for man, when fairly cornered, but at other times he is no true sportsman. He asks for odds of ten to one, as when he wiped out Custer on the "Greasy Grass," or Fetteman at Fort Phil Kearney—as when he tackled the Gray Fox—General Crook—on the Rosebud, and Sibley's little party among the pines of the Big Horn. Ray's plucky followers had shot viciously and emptied far too many saddles for Indian equanimity. It might be well in any event to let Webb's squadron through and wait for further accession from the agencies at the southeast, or the big, turbulent bands of Uncapapas and Minneconjus at Standing Rock, or the Cheyennes along the Yellowstone. So back went Lame Wolf and his braves, bearing Stabber with them, flitting northward again toward the glorious country beyond the "Chakadee," and on went Webb, with Blake, Gregg, Ray and their juniors, with Tracy to take care of such as might be wounded on the way; and, later still, the old post surgeon reached the Elk with guards and hospital attendants, and on the morrow began his homeward march with the dead and wounded—a sad and solemn little procession. Only 20 miles he had to go, but it took long hours, so few were the ambulances, so rough the crossings of the ravines; and, not until near nightfall was the last of the wounded—Lieut. Field—borne in the arms of pitying soldiers into the old post hospital, too far gone with fever, exhaustion and some strong mental excitement to know or care that his strange plea had been, perforce, disregarded;—to know or care later that the general himself, the commander they loved and trusted, was bending over him at dawn the following day. Ordering forward all available troops from the line of the railway, "the chief" had stopped at Laramie only long enough for brief conference with the post commander; then, bidding him come on with all his cavalry, had pushed ahead for Frayne. It couldn't be a long campaign, perhaps, with winter close at hand, but it would be a lively one. Of that the chief felt well assured.

Now, there was something uncanny about this outbreak on the part of the Sioux, and the general was puzzled. Up to September the Indians had been busy with the annual hunt. They were fat, well-fed, prosperous—had got from the government pretty much everything that they could ask with any show of reason and, so they said, had been promised more. The rows between the limited few of their young men and some bullies among the "rustlers" had been no more frequent nor serious than on previous summers, when matters had been settled without resort to arms; but this year the very devil seemed to have got into the situation. Something, or probably somebody, said the general, had been stirring the Indians up, exciting—exhorting possibly, and almost the first thing the general did as he climbed stiffly out of his stout Concord wagon, in the paling starlight of the early morning, was to turn to Dade, now commanding the post, and to say he should like, as soon as possible, to see Bill Hay. Meantime he wished to go in and look at the wounded.

It was not yet five o'clock, but Dr. Waller was up and devoting himself to the needs of his patients, and Dade had coffee ready for the general and his single aide-de-camp, but not a sip would the general take until he had seen the stricken troopers. He knew Field by reputation, well and favorably. He had intimately known Field's father in the old days, in the old army, when they served together on the then wild Pacific shores "where rolls the Oregon." The great civil war had divided them, for Field had cast his soldier fortune with his seceding state, but all that was a thing of the past. Here was the son, a loyal soldier of the flag the father had again sworn allegiance to when he took his seat in the house of representatives. The general thought highly of Field, and was sore troubled at his serious condition. He knew what dispatches would be coming from the far south when the telegraph line began the busy clicking of the morning. He was troubled to find the lad in high fever and to hear that he had been out of his head. He was more than troubled at the concern, and something like confusion, in the old doctor's face.

"You don't think him dangerously wounded, do you?" he asked.

"Not dangerously, general," was the reply. "It's—well, he seems to have something on his mind." And more than this the doctor would not say. It was not for him to tell the chief what Webb had confided ere he left the post—that most of the currency for which Field was accountable was so much waste paper. Field lay muttering and tossing in restless misery, unconscious most of the time, and sleeping only when under the influence of a strong narcotic. Dade, with sadness and constraint apparent in his manner, hung back and did not enter the bare hospital room where, with only a steward in attendance, the young soldier lay. The doctor had gone with the general to the bedside, but the captain remained out of earshot at the door.

First call for reveille was just sounding on the infantry bugles as the trio came forth. "I have sent for Hay already, general," Dade was saying, as they stood on the wooden veranda overlooking the valley of the murmuring river; "but will you not come now and have coffee? He can join us over at my quarters."

Already, however, the orderly was hurrying back. They met him when not half way over the line of officers' quarters. The few men for duty in the two companies of infantry, left to guard the post, were gathering in little groups in front of their barracks, awaiting the sounding of the assembly. They knew the chief at a glance, and were curiously watching him as he went thoughtfully pacing across the parade by the side of the temporary commander. They saw the orderly coming almost at a run from the direction of the guard house, saw him halt and salute, evidently making some report, but they could not guess what made him so suddenly start and run at speed toward the southward bluff, the direction of the trader's corral and stables, while Capt. Dade whirled about and signaled Sergt. Crabb, of the cavalry, left behind in charge of the few custodians of the troop barracks. Crabb, too, threw dignity to the winds, and ran at the beck of his superior officer.

"Have you two men who can ride hard a dozen miles or so—and carry out their orders?" was the captain's sharp demand.

"Certainly, sir," answered Crabb, professionally resentful that such a question should be asked of men of the —th cavalry.

"Send two to report to me at once, mounted. Never mind breakfast."

And by this time, apparently, the chief, the post commander and possibly even the aide-de-camp had forgotten about the waiting coffee. They still stood there where they had halted in the center of the parade. The doctor, coming from the hospital, was signaled to and speedily joined them. The bugle sounded, the men mechanically formed ranks and answered to their names, all the while watching from the corner of their eyes the group of officers, now increased by two infantry subalterns, Lieuts. Bruce and Duncan, who raised their caps to the preoccupied general, such salutation being then a fashion, not a regulation of the service, and stood silently awaiting instructions, for something of consequence was surely at hand. Then the orderly again appeared, returning from his mission, out of breath, and speaking with difficulty.

"Craps— I mean the Frenchman, sir, says it was after four, perhaps half past when they started, Pete drivin'. He didn't see who was in it. 'Twas the covered buckboard he took, sir—the best one."

And then, little by little, it transpired that Hay, the post trader whom the general had need to see, had taken his departure by way of the Rawlin's road, and without so much as a whisper of his purpose to anyone.

"I knew he had thought of going. He told Maj. Webb so," said Dade, presently. "But that was before the outbreak assumed proportions. He had given up all idea of it yesterday, and told me so."

"Has anything happened to—start him since then?" demanded the bearded general, after a moment's talk.

Dade and the doctor looked into each other's eyes, and the latter turned away. It was not his affair.

"W—ell, something has happened, general," was Dade's slow, constrained reply. "If you will step this way—I'll see you later, gentlemen—" this to his subalterns—"I'll explain as far as I can."

And while Dr. Waller fell back and walked beside the aide-de-camp, gladly leaving to the post commander the burden of a trying explanation, the general, slowly pacing by the captain's side, gave ear to his story.

"Hay cleaned up quite a lot of money," began the veteran, "and had intended starting it to Cheyenne when this Indian trouble broke out. The courier reached us during the night, as you know, and the major ordered Ray to start at dawn and Field to go with him."

"Why, I thought Field was post adjutant!" interposed the general.

"He was, but—well—I beg you to let Maj. Webb give you his own reasons, general," faltered Dade, sorely embarrassed. "He decided that Field should go——"

"He asked to go, I suppose—it runs in the blood," said the general, quickly, with a keen look from his blue-gray eyes.

"I think not, sir, but you will see Webb within a few days and he will tell you all about it. What I know is this, that Field was ordered to go and that he gave the major an order on Hay for two packages containing the money for which he was accountable. Field and Wilkins had had a

THEY SAW THE ORDERLY COMING ALMOST AT A RUN FROM THE DIRECTION OF THE GUARD HOUSE.

falling out, and instead of putting the cash in the quartermaster's safe, Field kept it at Hay's. At guard mounting Hay brought the package to the major, who opened both in the presence of the officers of the day. Each package was supposed to contain $300 or $400. Neither contained $20. Some paper slips inserted between $5 bills made up the packages. Field was then far to the north and past conferring with. Hay was amazed and distressed—said that some one must have duplicate keys of his safe as well as of his stables."

"Why the stables?" asked the chief, pausing at the gate and studying the troubled face of the honored soldier he so well knew and so fully trusted. He was thinking, too, how this was not the first occasion that the loss of public money had been hidden for the time in just that way—slips inserted between good currency.

"Because it transpires that some of his horses were out that very night without his consent or ken. No one for a moment, to my knowledge, has connected Field with the loss of the money. Hay thought, however, it threw suspicion on him, and was mightily upset."

"Then his sudden departure at this time, without a word to anybody looks—odd," said the general, thoughtfully. "But he had no need of money. He's one of the wealthiest men in Wyoming. And she—his wife—needs nothing. He gives her all she can possibly want." By this time they were at the door. A lamp still burned dimly in the hallway, and Dade blew it out, as he ushered the general into the cozily-lighted dining-room.

"You'll excuse Mrs. Dade and Esther, I hope, sir. They are not up yet—quite overcome by anxiety and excitement—there's been a lot about Frayne the last two days—take this chair, general. Coffee will be served at once. No, sir, as you say, the Hays have no need of money—he and his wife, that is."

"But you suspect—whom?" asked the general, the blue-gray eyes intent on the troubled face before him, for Dade's very hesitancy told of some untold theory. The doctor and the aide had taken seats at the other end of the table, and dutifully engaged in low-toned conversation.

"That is a hard question for me to answer, general," was the answer. "I have no right to suspect anybody. We had no time to complete the investigation. There are many hangers-on, you know, about Hay's store, and, indeed, his house. Then his household, too, has been increased as perhaps you did not know. Mrs. Hay's niece—a very brilliant young woman—is visiting them, and she and Field rode together frequently."

The general's face was a study. The keen eyes were reading Dade as a skilled physician would interpret the symptoms of a complicated case. "How old—and what is she like, Dade?" he asked.

"The woman can answer that better than I, sir. They say she must be 24—Mrs. Hay says 19—she is very dark and very—handsome at times. Most of our young men seem to think so, at least. She certainly rides and dances admirably, and Mr. Field was constantly her partner."

The general began to see light. "Field was constantly with her, was he? Riding just by themselves or with others when they went out?" he asked.

"By themselves, sir. I doubt if any other of our equestriennes would care to ride at her pace. She rather outstrips them all. The major told me they seemed to go—well, every time he saw them, at least—up to Stabber's village, and that was something he disapproved of, though I dare say she was simply curious to see an Indian village, as an eastern girl might be."

"Possibly," said the general. "And what did you tell me—she is Mrs. Hay's niece? I don't remember his having any niece when they were at Laramie in '66, though I knew something of Mrs. Hay, who was then but a short time married. She spoke Sioux and patois French better than English in those days. What is the young lady's name?"

"Miss Flower, sir. Nanette Flower."

The chief dropped his head on his hand and reflected. "It's a good 20 years, and I've been knocking about all over the west since then, but I'd like to see Mrs. Hay and that young woman, Dade, whether we overhaul Bill or not. I must go to Beecher at once."

"You will wait for the cavalry from Laramie, will you not, sir?" asked the captain, anxiously.

"I can't. I'll get a bath and breakfast and 40 winks later; then see Mrs. Hay and Bill, if he is back. They ought to catch him before he reaches Sage Creek. There are your couriers now," he added, at the sound of spurred heels on the front piazza.

The captain stepped forth into the hallway. A trooper stood at the front door, his hand lifted in salute. Another, in saddle, and holding the reins of his comrade's horse, was at the gate. A rustle of feminine drapery swept downward from the upper floor, and Dade glanced up, half dreading to see Esther's face. But it was his wife who peered over the balustrade. "I shall be down in ten minutes," she said, in low tone. "Esther is sleeping at last. How did—he—seem this morning?"

"Sleeping, too, but only fitfully. Dr. Waller is here," and then Dade would have ended the talk. He did not wish to speak further of Field or his condition. But she called again, low-toned, yet dominant, as is many a wife in and out of the army.

"Surely you are not letting the general start with only two men!"

"No, he goes by and by." And again Dade would have escaped to the piazza, but once again she held him.

"Then where are you sending these?"

"After Mr. Hay. He—made an early start—not knowing perhaps, the general was coming."

"Start!" she cried, all excitement now. "Start!—Start for where?" and the dressing sacque in aspen-like agitations came in full view at the head of the stairs.

"Rawlins, I suppose. I don't know what it means."

"But I do!" exclaimed his better half, in emotion uncontrollable. "I do! It means that she has made him—that she has gone, too—I mean Nanette Flower!"

[To Be Continued.]

ALSO AMERICAN.

The Unsympathetic Blessing Given a Promising Relative by Ralph Waldo Emerson.

When young George Emerson graduated from Harvard, he was the first scholar in his class, and accordingly gave the oration. Dr. Edward Everett Hale tells in his "Memories of a Hundred Years" with what an apparently unsympathetic blessing his cousin, Ralph Waldo Emerson, wished the young man success in life.

The chapel, writes Dr. Hale, contained 200 or 300 of his friends and the friends of his classmates. After the exercises were over, Dr. Hale crossed the chapel to speak to Ralph Waldo Emerson, who stood alone, as it happened, under the gallery. He introduced himself to Emerson, and congratulated him on the success of his kinsman.

Emerson said, "Yes, I did not know I had so fine a young cousin.

"And now," he added, "if something will fall out amiss—if he should be unpopular with his class, or if his father should fail, or if some other misfortune can befall him—all will be well."

Dr. Hale was indignant with what he called the cynicism of his speech. He thought it the affectation of one who felt that he must say something out of the way of common congratulation.

"But I learned afterward," says Dr. Hale, "what he had learned then, that 'good is a good master, but bad is a better.' And I do not doubt now that the remark which seemed cynical was most affectionate."

What Ailed the Clock.

Mrs. Benson's clock, after having kept excellent time for several years, suddenly stopped. After trying for some time to make it go, she removed it from its shelf and sent it to a clock repairer.

"Madam," he said, after inspecting, "is this clock kept in a damp room?"

"No," she replied, "we keep it in the driest room in the house."

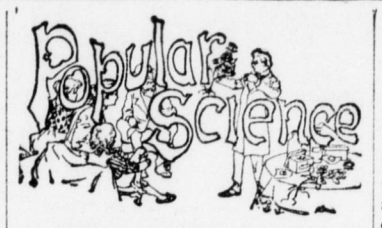
"Has it ever had a fall into a tub of water, or anything of that sort?"

"Never."

"Well, I can't understand it. Its works are as rusty as if it had been left unused in a cellar for a year."

"I can't see how that can be," said Mrs. Benson. "We are so careful of that clock that we always keep our vials of muriatic and sulphuric acid inside of it, where we know they will never be touched."

Then the jeweler understood.—Youth's Companion.



ABOUT PATENT LEATHER.

Many of the Processes of Its Manufacture Are Guarded Very Carefully from the Public.

Patent leather has become a feature in the leather world, and its making has assumed considerable proportions hereabouts. Peabody is probably the largest patent leather manufacturing place in the country, though Newark, N. J., and vicinity probably make more real and imitation patent leather.

All manufacturers have their own tanning processes, much like those of the calfskin tanner, though some patent leather is given a bark tanning. Horse hide and colt skins are the chief leathers made up with a patent finish, and the process of producing the glossy surface is most interesting.

The patent or enamel finish is really painted and baked on, as the bicycle manufacturer paints and bakes enamel onto a frame. Tanners are very particular about keeping their processes a secret, and nobody but workmen are ever allowed into the finishing rooms. Painters are especially kept far from the work rooms. It is said that the workmen have to drink much beer on account of the chemicals with which they work, and the heat of the baking ovens.

The hide or skin having been stretched and dried as much as possible, is first given a coating of a mixture of linseed oil, litharge, white lead or similar materials, boiled together until they make a pasty mixture. This is daubed on the surface with a steel tool, and well rubbed in so that the pores of the leather will be filled up. Then the leather is put into the oven, its surface being exposed to steam pipes at a temperature of about 160 degrees. It takes about half a day for this finish to set.

Next the surface is rubbed down with pumice stone, and then it is covered with linseed oil and ivory black, about six layers being applied, each layer being dried and rubbed down. Finally a varnish is applied, and then the surface is rubbed down and finished off as nicely as a painter finishes a fine carriage.

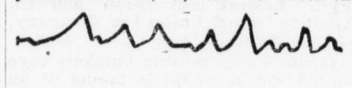
The final gloss is brought out by exposure to the sun. It is a peculiar fact that Old Sol brings out a better finish than can any artificial drying or baking process. Manufacturers of high-grade patent leather test every skin before shipping it. The test is made by folding the hide or skin at any point seized at random into a double V. This V is hammered with a mallet. If the finish cracks, the skin is rejected, and if it does not crack, the leather is sent to the shoe manufacturer. A patent finish is on a smooth surface and an enamel on a boarded. Japan or lacquer leather is the same as patent. A "boarded" surface is a surface whose grain is raised by roughing it up with a piece of board.—Newport News.

MOTOR VERSUS CARRIAGE.

Scientific Argument in Favor of Automobile Supported by Authentic Diagram.

Persons disposed to call in question the easy-riding qualities of automobiles have their opinions disputed by the following from Automobil-Welt, as translated for Popular Mechanics:

"There is the motor in the front of the machine, with its easy, elastic vibrations. The vehicle itself swings with it, but so softly that you don't notice it unless it stands still. When going, these vibrations actually reduce the shocks from a rough road, which, with a horse-drawn wagon, hit the body suddenly and harshly, throwing it from one side to another, hard and rude, even if the wagon has good springs. The motor vehicle has not only good springs, but also a lower center of gravity, besides pneumatic tires, by all of which the



SPEAKS LOUDER THAN WORDS.
(Relative Ease of Travel in a Carriage and Automobile.)

shocks are much softened. And what still remains of irregular jolting is bridged over and smoothed out by the soft, undulating and uniform vibrations of the motor. You can imagine that you are sitting in a boat gliding over a rippling, slightly moved surface."

The relative ease of travel in a carriage and automobile, as set forth by the writer, is shown in the accompanying diagrams, of which the upper indicates the jolting motion of the carriage and the lower the relatively smooth motion of the automobile.

Fatigue of the Muscles.

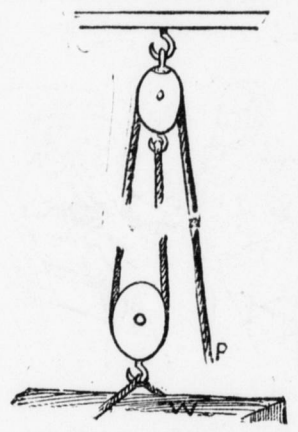
A scientific investigation of muscular fatigue has been begun by M. A. M. Bloch. From questions sent to persons of many occupations he finds that it is not the most used muscles that are most subject to fatigue, but those that are kept under tension, although doing no work. The back, loins and neck need more exercise to strengthen them, the arms and legs less. The baker becomes first tired in the legs, the wood sawyer in the calves of the legs or the loins, the road digger in the legs, the blacksmith in the back and loins, the young soldier in the back of the neck, the horseman in the thigh, the artillerymen in the neck and loins, the immature violinist in the neck, the practiced violinist in the left hand, the expert fencer in the right shoulder, the oarsman in the calves and insteps.

BLOCK AND TACKLE.

Convenient Apparatus for Lifting Heavy Loads with Comparatively Small Power.

Familiar as many people are with a block and tackle, it is not everyone who understands the principle on which that apparatus works, or why any advantage can be derived from its use. Hence, a short explanation is permissible, says the New York Tribune.

It may be explained, to begin with, that the chief benefit comes from a multiplication of pulleys. If only one pulley be used, there may be some increase of convenience, but nothing is gained in power. Suppose, for instance, that from a point above and outside an open window be secured a single pulley, over which a rope is run, so that both ends touch the ground. Let a heavy object be attached to one, and let a man pull down on the other. If the object weighs more than the man, he cannot start it. It it weighs less, he can. For every one foot of descent at his end, the attached burden will ascend exactly the same distance. The lifting force exerted on it is equal to the pulling force at the other end; that is, theoretically. This may be



FOR LIFTING HEAVY LOADS.

a handier way to manage the load than if the man was up in the window and tried to raise the same load by a rope running straight downward to the latter. But, after all, there is no gain in power.

Now imagine a different arrangement—that shown in the diagram. Suppose there are two pulleys, one above and one below. Let the weight (W) be attached, not to the end of the rope, but to the block containing the lower pulley. Let one end of the rope be secured to the lower end of the upper block, and put the other end (P) in the man's hands. With these two pulleys he can raise nearly twice his own weight. To lift the load one foot he must pull two feet of rope, and he must work twice as long as before. In all mechanical devices of this sort, what is gained in power must be compensated by extra time and distance.

For the sake of simplicity, the drawing shows only a single pair of pulleys, one in each block. It often happens that there are two or three pairs, two or three pulleys in each block, but only one rope being used. Such an arrangement gives much more power. A single pair doubles (or nearly doubles) the power, two pairs will quadruple it, and three pairs will multiply it sixfold, or nearly so. With four pulleys, two in each block, the man must pull down four feet of rope to raise the weight one foot; and with six pulleys, three in each block, he must pull down six feet to lift it the same distance.

Allowance must be made for the friction of the pulleys in their bearings in the blocks. No matter how good the construction there must be some loss of power from that cause. Possibly this item may be small, say, not over one-tenth or one-twentieth of the power expended. Still, it must not be overlooked.

The foregoing principles apply equally, whether the power applied at P be derived from a man, horse or a steam engine. The advantage comes from a multiplication of pulleys, and what is gained in one way is lost in another. For loading and unloading steamers the block and tackle has the added convenience that it may be suspended from the end of a moveable boom, which may be swung first in one direction and then in the other. Thus lateral as well as vertical transportation is made possible. This other convenience, however, results from the boom, or derrick, not from the block and tackle.

CAN PLANTS REASON?

Prof. Shaler Thinks They Have Some Intelligence and Gives Reasons for His Opinion.

That plants have intelligence is maintained in a thesis by Prof. Shaler, of Harvard university. After discussing the automata, he says: "We may accept the statement that our higher intelligence is but the illuminated summit of man's nature as true, and extend it by the observation that intelligence is normally unconscious, and appears as conscious only after infancy, in our waking hours, and not always them." In summing up the professor uses the following sentences: "Looking toward the organic world in the manner above suggested, seeing that an unprejudiced view of life affords no warrant for the motion that automata anywhere exist, tracing as we may down to the lowest grade of the animal series what is fair evidence to actions which we have to believe to be guided by some form of intelligence, seeing that there is reason to conclude that plants are derived from the same primitive stock as animals, we are in no condition to say that intelligence cannot exist among them. In fact, all that we can discern supports the view that throughout the organic realm the intelligence that finds its fullest expression in man is everywhere at work."

Great Loss by Friction.

The loss by friction on the world's railways is enormous in the aggregate. Dr. Haarman, a German, estimates that it reaches 247,000 tons of steel in a year.