THE RED CLOUD CHIEF.

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RED CLOUD . . . . NEBRASKA.

WHAT IS A GENTLEMAN?

What is a gentleman? Is it a thing
Decked with a scarf-pin, a chain and a ring—
Dressed in a suit of immaculate style,
Sporting an eye-glass, a lisp and a smile;
Talking of races, of concerts and balls,
Evening assemblies, and afternoon calls,
Sunning himself at "at homes" and bazars,
Whistling mazurkas, and smoking cigars?

What is a a gentleman? Say, is it one
Boasting of conquests and deeds he has done?
One who unblushingly glories to speak
Things which should call up a flush to his cheek?
One, who, while rufling at actions unjust,
Robs some young heart of its pureness and trust—
Scorns to steal money, or jewels, or wealth,
Thinks it no wrong to take honor by stealth?

What is a gentleman? Is it not one
Knowing instinctively what he should shun,
Speaking no word that could injure or pain,
Spreading no scandal, and deepening no stain?
One who knows how to put each at his ease,
Striving successfully always to please—
One who can tell by a glance at your cheek
When to be silent and when he should speak?

What is a gentleman? Is it not one
Honestly eating the bread he has won,
Walking in uprightness, fearing his God,
Leaving no stain on the path he has trod
Caring not whether his coat may be old,
Prizing sincerity far above gold,
Reeking not whether his hand may be hard—
Stretching it boldly to grasp its reward?

What is a gentleman? Say, is it birth
Makes a man noble or adds to his worth?
Is there a family tree to be had
Shady enough to conceal what is bad?
Seek out the man who has God for his guide,
Nothing to tremble at, nothing to hide,
Be he a noble, or be he in trade,
He is the gentleman Nature has made.

—The Pilot.

BY THE OLD OPENING.

The Risk Tony Took in Returning the Lost Diamond.

Not very long ago there lived in the beautiful Wyoming Valley in Pennsylvania a boy named Tony Tamlyn, or, rather, he lived at the head of a great ravine, which cut its way down into the valley through steep mountains.

The house in which Tony lived was a little one-story cabin of two rooms, one of them with little in it besides a cook-stove and table, the other with nothing in it except two beds. Perhaps I ought to say that this was the house that the boy ate and slept in, for he *lived* out of doors, and so did his sister Apollonia, except when she was needed to help her mother.

In the gray, rocky bottom of the ravine ran a fierce little white brook that never had time to make itself deep, but foamed and frothed and sputtered all the way down to the valley.

On the right rose one wall of the ravine, sloping a little, and richly green with hemlock, and on the left a very strange sight indeed, a "straight-up" wall of yellowish rock about fifty feet high, chequered with a row of ten great black squares. These squares are great openings high enough to serve as doorways for the tallest giants, and if you step inside your feet will fall upon a a solid, flat almost smooth black floor extending back many hundreds of feet, and disappearing into the blackest darkness. If you look up there is a smooth, shiny black ceiling, and supporting this wonderful ceiling at wide intervals, are enormous black pillars twenty-five feet in circumference, spreading out a little as they touch the roof full fifteen feet above your head.

If you will look closely, you will see that not only are floors, ceilings and pillars all of one material, but they are also actually in one piece. The material is coal, and the openings are the entrance to a long worked-out coal mine.

If you were to go to-day to visit a modern working coal mine, the only part you could see above ground would be the breaker, a huge, wooden structure containing machinery for hauling up and breaking the coal, and you would have to go into the earth some hundreds of feet, by means of an elevator, to find the place where the coal comes from. But many years ago, when people first began to look for coal, they often found it "cropping out" at the surface, and at this particular spot where Tony and "Ap" lived, there cropped out one of the largest veins of coal ever found—twenty-four feet thick. So it came about that this rocky hill was all dug out and turned into an anthracite palace.

Over on the other side of the hill was a new, vertical opening or "shaft," and every morning Tony's father, who was a miner, went down the ravine and around the base of the hill—a distance of a mile and a half—to his work; but there was a much shorter way if one chose to take it, and that was through the "old opening."

Following the long-deserted "gangways" for a quarter of a mile or so, you would come out upon the great smutty breaker, with its roar, and its dust, and its culm-pile. However, this was regarded as a dangerous thing to do, and the children were told repeatedly never to attempt it, but this caution was hardly necessary, for if ever they ventured back among the dark pillars, the blackness was so dense, and the feeling of dampness so unpleasant, that they were glad enough to run into the sunlight again.

All in and about the great doorways of the old opening, and among the stone chips of the slippery ledge outside, were found pieces containing "impressions" of ferns and other leaves that had flourished green and fresh many years before, and dying, had left their sculptured portraits upon the rocks.

There were also other pieces covered with what might be thought the molds in which dainty fluted sea-shells had been cast. Again there would come to light small sections of tree-stems, pith, wood and bark all turned to stone.

Inside were other strange and beautiful things; chunks of coal coated with sulphur, that looked almost as if they were crusted with gold—other chunks covered with what seemed like burnished points of steel—and most beautiful of all, slabs of "rainbow" coal, with their colors playing into each other as perfectly as on any peacock's tail, and almost making one believe that the first [illegible] which God set in the heavens must been somehow preserved in the bowels of the earth, like the shells and ferns and flowers, for future ages to see and enjoy.

Tony and his sister spent hours looking for these fossils, and one corner of their bedroom was piled up with a collection that would have delighted the hearts of geologists or curiosity-hunters.

Many such curiosity-hunters came to the old opening every summer—carriage-loads of them—gaily dressed, and the two children were always on hand when they heard the roll of wheels coming up the narrow road of the ravine, for the tourists always wanted fossils, and if they could not find enough to suit them, Tony or Ap would bring the best treasures from their stores, and offer them for sale.

One day there came up a carriage-load of unusually fine people. The gentlemen wore their stockings outside their trousers—so Ap told her mother—and their coats were short and belted like Tony's Sunday one. The ladies were beautifully dressed, and some of them wore little jackets like the men's coats. One of these ladies was so pretty that Tony and Ap lost their hearts to her, and all the young men in the party seemed to be already in the same condition of mind.

This young lady was eager to make a collection of the fossils, and had put on thick boots, and before beginning to pick over the shale she pulled off her gloves. If there was any hand in the world whiter than hers, at least Tony and Ap had never seen it, and on one of her lovely fingers was something they could not keep their eyes away from—a ring with a stone in it—a stone of satin whiteness, over whose surface played the most lovely colors, like those in the rainbow coal, only much more soft and radiant, and seeming rather to float around it than to be really in the stone.

The young lady who wore this ring was very energetic and venturesome. She dug among the shale with her pretty pink fingernails, stood on tiptoe to pick the sulphur off the walls, and even went back as far as the third row of pillars.

Tony saw her starting off in that direction and followed her, for she looked as if she meant to walk straight through the mine. One of the young men followed, too, looking as if he meant to go wherever she did.

When she saw him she jumped behind a pillar and pretended to hide, and then the young man ran around the other side of the pillar, and Tony heard a sound of tussling and laughter, and out ran the young lady trying to get her hand away from her companion.

At length she did get it free, and they both walked back to the opening together, outside of which, in the broad sunlight, the rest of their party, with Ap to help, were still fossil-hunting. Tony stayed behind, for his eye had just lighted on some fine specimens of rainbow coal, which he thought he would gather for the pretty lady, and so engrossed did he become that, when at length he looked up, all the tourists had gone, and Ap stood alone in one of the great doorways calling to him.

As he stooped to pick up one last piece of coal, he saw a little glittering object at some distance before him. He picked it up, and in a moment saw that it was the ring with the rainbow stone!

The young man must have pulled it off the pretty lady's hand when she was trying to get away from him.

Tony's first thought was: "What a treasure!" and he ran eagerly to show it to his sister, but before he reached her the thought quickly came, "I must return it;" and a third thought quickly followed: "How can it be returned?"

When Ap saw the ring she gave a little scream, and understood at once that the lady had dropped it.

"Run, Tony, run!" she exclaimed; "they've started down already."

Tony ran a short distance, but soon came back, saying the carriage had got too far ahead; he could never overtake it.

"Perhaps the lady will miss the ring, and come back for it," said he.

"No," said Ap, "she won't, for she put her gloves on before she got in the wagon, and she'll never see that the ring isn't on her hand till she gets home."

Tony was thinking hard.

"There's only one way," he said, at length. "I can get through the opening before they reach the breaker, and I'm goin' to do it."

"O, Tony, don't, don't," cried Ap, holding on to him. "What'll mother say and father? You know they've said you mustn't never do such a thing; you might get lost or kilt."

"Ap," said Tony, "I'm goin' to do it, that's all there is. You just run up and tell mother what took me. That pretty lady's got to have her ring."

"You'll carry a lantern, won't you?" pleaded Ap.

"No, there aint no time for a lantern—I'm off." Tony's voice came already from behind the third pillar. Ap stood watching him with a dismal feeling of anxiety, then turned and scampered as fast as she could over the rocks and water, and up the hill, to tell mother.

Tony had started on a run, but soon came to a stop. The ground began to slope away frightfully, and the darkness was like a black curtain hung close before his face. Turning, he could still catch a glimmer from the far-away openings that looked no more than little spots of brightness. Another step, and their twinkling light could not reach him.

He held the ring tightly clasped in his hand; but remembering the necessity of having both hands free to feel his way, he bethought him of his pockets. Alas! Tony's pockets were like the bottomless pit, and were vain things for safety. So he put the ring in his mouth, and started bravely forward on his dangerous way in the darkness.

Bravely, indeed, but rashly, considering that he could not see a thing, for haste being the one idea in his mind, he did not wait to be cautious, and stumbling along with arms outstretched came plump against the sharp corner of a pillar, gave his nose a fearful blow, and almost swallowed the ring.

This would never do. He must go slowly and surely. But in what direction should he move next? He felt safe while touching the pillar, but to let go and venture forth was like jumping off a high cliff, or casting one's self into the sea. When would he ever touch another, and what pitfalls might lie between?

The air was chilling and smelt sulphury, and water could be heard trickling and dropping with a hollow, dreary sound. But he must not linger; so with one hand still on the pillar, he put a foot forward. It did not come down upon any thing, so Tony stretched out his leg a little more, and yet met with nothing. Drawing his foot back it struck against a sharp edge. Then he sat down and felt with his hands.

Horrors! he was on the brink of a precipice, and there was no telling how deep it might be.

Sitting down, with his legs hanging over, he could not touch bottom; lying prone he could not reach it with his arms extended. Tremblingly he let himself down, and hung by his hands, but his feet found no resting-place. He drew himself up again and sat down to think.

The thought of turning back never once came to him; this thing had been undertaken, and it was to be carried through—Tony did not say to himself, "if possible"—he simply meant to do it.

Where he sat the coal was crumbled up, and his hand played unconsciously among the loose pieces.

Suddenly he remembered once seeing his father drop a stone down a "cave-in," and that his father had said it was a very deep hole, because of the long time they had to wait to hear the stone touch bottom. So he took a bit of coal in his hand, held it over the ledge and dropped it. Instantly there came back a little sharp clink that sounded very near.

Not a moment was to be lost. Again he let himself down by his hands, took a long breath, let go, and fell—about four inches.

After another long breath of relief, Tony began exploring on his hands and knees. He did not intend to risk falling off any higher ledges. The floor still sloped downward, and Tony almost walked on his head as he crawled along. Presently he bumped upagainst another pillar, or was it the side wall? He felt carefully along for some distance, and decided that it was the wall; then rising up from his knees, which was cramped and cut, he ventured to walk, or rather, creep, feeling the wall all the while with his hands, which gave him a certain sense of security.

But he yet felt as if at any moment he might step into a hole, and he did step into deep pools of water, getting wet up to his knees, and sometimes he stumbled over stalagmites—curious ringed formations made by water dropping upon the mine floor—but by dint of pluck he gained headway.

Also, he began to grow used to the utter blackness, as he found that however needful the sense of sight seems, there are other senses that will take its place. He was certainly kept on the alert. To guard his face from sharp projections of the wall; to find a safe footing before ever he dared plant a foot—waving his leg before him as a measuring-worm waves its head—above all, to keep from swallowing the ring; Tony's mind and body were well occupied, even though his eyes were of no use to him.

He now felt sure from the sound of his footsteps that he had left the great open chamber with its pillars, and had entered the gangway, or corridor, which connected this old mine with the new one. He knew, for he had heard his father say so, that this gangway was forked at a certain point, leading in one direction down into the working mine, and in the other direction bringing one out upon the surface of the ground.

How was Tony to choose the right way, when he did not know whether the working vein led to the right or to the left?

This difficulty was a serious one, for, although he could not get hopelessly lost, he could not lose much precious time. However, he thought that if the worst came he might meet a miner in the new gangway who would show him the way out.

So he took heart and plodded on warily. His hearing was uncomfortably sharp. Every noise seemed important, and now and then came a sound which made his heart thump. It was a crackling, sometimes succeeded by a falling sound, and it brought to Tony's mind all that he had ever heard of miners buried beneath falls of coal.

This old mine had lost many of its supports. Sometimes the huge pillars had been "robbed," as it is called by the miners, who hated to see so much good coal wasted, and also found it easier mining than drilling into a solid "breast." Then they would neglect to put in wooden props, or where they did put them in, these props would decay, and then the wall overhead, already cracked by the action of springs, would tumble in by sheer, unsupported weight.

Tony felt—and had good reasons to feel—that at any moment he was likely to be crushed by tons of coal and rock.

The floor was now getting soft and culmy, as is the case when much trodden upon by men and mules, so he thought he must be nearing the fork, or else, that without knowing it, he had entered the new gangway.

He quickened his steps a little, and in another moment bumped his head against a great wooden door, and at the same time got a big splinter in one of his hands.

He did not mind either the bump or the splinter, however, in his joy at finding himself in some definite place, and no longer wandering about blindly in those vague, dreadful chambers, kept in constant suspense between pits in the floors and cracks in the ceiling. Tony was sure there would be some men on the other side who would show him a short way out to the surface, so he knocked hard with his fist, calling out at the same time.

He thumped with all his might, and vainly strove to open the heavy timber door himself, but it was fastened on the other side, and presently he heard the men's voices die away in a distance. Then the brave little fellow sat down in the darkness and cried like a girl.

He pictured himself dying there deserted by every body; he pictured Ap wandering lonely in the ravine, and not caring to pick fossils; he thought of his father's coming home and asking for him, and giving him up for lost, for Tony was not just now in a state of mind to reason, and it didn't occur to him that his father would come with a lantern and rescue him.

It seemed hours, days, since he had torn himself away from Ap, and started upon his terrible journey. And now the lady would never get her ring; he and the ring were buried in one grave.

Tony cried so hard that the ring tumbled out of his mouth, and he had to feel around for it among the coal-dust. He now held it tightly in his hand, not daring to trust it in his mouth.

Soon his ear was caught by a slight hurrying sound among the culm, and something ran over him. In a moment he felt himself attacked on all sides by small animals, and he knew he was at the mercy of rats! This brought the tears to an end, and Tony to his feet. The creatures were all about him, and every time he put his foot down he stepped on one, so that the air was filled with horrible little squeaks and yells.

The rats were ravenously fierce, and jumped upon Tony as he staggered along, biting through his stockings and trousers. The horror of being beset in the darkness by hungry rats made Tony desperate, and he rushed on madly, banging himself against the walls, and receiving cuts and bruises on the right and left.

Tony felt his strength and courage giving out, and in another moment would have fallen, when there suddenly twinkled out before him a light, far away but clear, shining like the day, which indeed it was.

His strength returned upon him, and making a final effort he sped like a deer toward the ever-growing brightness, leaving his tormentors far behind to squeak out their disappointment by themselves, and to search for other food.

When Tony reached daylight again, he was a dreadful looking object. His face was covered with a compound of coal-dust, tears and blood, his clothes were tattered and soaking wet, and the hand which clenched the ring was nearly skinned.

He looked about dazed by the light, and with the strange bewildering sensation of being in a new world which always comes to one at the first instant after emerging from dark, underground places. Soon, however, he got his bearings, and saw to his delight the carriage standing by the breaker, and the party just alighting and preparing to descend the shaft.

They had driven slowly, stopping often to admire the views, and so had taken twenty-five minutes to accomplish a distance of a mile and a half; twenty-five minutes that had been as twenty-five hours to Tony in his underground passage!

When he reached home, taking the ravine this time, he looked to see his mother watching for him with a stick, but she only ran and fell on his neck and kissed him, weeping as if he had been the prodigal son returning.

Ap asked immediately what the pretty lady said when he gave back the ring.

"She asked me what for I'd scratched it, and got it so dirty."

"And didn't she give you nothin'?"

"One of the gentlemen he give me this," and Tony showed a silver coin; "he looked kinder cross like at the lady when she said that to me, and I don't think she's so very pretty after all!"

And if "pretty is that pretty does," I don't think so either.—Edith Brown, in Youth's Companion.

THE TIME FOR REST.

How to Cure the Indisposition Caused by Over-Much Brain-Work.

When people become peevish, nervous and restless from overwork, the class of medicine they generally seek relief from consists of such drugs as quinine, phosphorous, iron and the vegetable bitter tonics. These they expect to pull them together, and there is no doubt they are valuable medicines, but the error made by the sufferer is this—they do not first remove the cause.

"O, I can't stop working to rest," a man said to me once, "I can go on as I am; I can suffer."

This might be all very well if he could go on as he was, that is, get no worse. One might suffer even the inconvenience of ill-health in order to support one's family, but the thin end of the wedge of indisposition having once effected an entrance, there is no staying its advance except by using radical means.

The indisposition caused by over-much brainwork, or a too prolonged attention to business, is very insidious in its advance. When once fairly established, its symptoms are patent enough to the invalid, and rest then becomes imperative. In fact, he is "knocked out of time," so to speak, and wishes then he had noted his failing powers before, and laid down his pen or closed his ledger.

When, then, is the rest cure indicated? Probably one of the earliest signs is slight dyspepsia, which can not be attributed to errors in diet, want of fresh air, etc. It is a nervous kind of atonic dyspepsia, sometimes combined with acidity from liver sympathy. There is not the same relish for food, and no relief from this state is sought for in piquant relishes, wine or tea.

Another symptom is an uneasy or tired feeling about the head, fullness it may be, or sleeplessness and stupidity, especially after eating. The brow is often hot, so is the top of the head, and the hand is pressed wearily across the eyes. Life begins to lose its brightness, then things begin to go a trifle wrong, and there are moments of peevishness and irritability. Lowness of spirits is succeeded by want of sleep. There is danger ahead, if not indeed close at hand, and happy is he who sees the signal in time, I say most emphatically in time, for, effective though the rest cure may be, there is a point of divergence from the path of health, beyond which no one can go with the slightest hope of return or recovery. I pray none of my readers may ever reach this point.—Cassell's Family Doctor.

—When you have a cold you do not know how to cure it. All your friends know how, and they tell you but that does not affect the cold.—R. O. Pinsgrass.

AGRICULTURAL HINTS.

MAKING STONE DRAINS.

Stone, Being Imperishable, Is the Best of All Materials for Drains.

There are several ways of making permanent drains of stone; each of these depends upon the kind of stone to be used. Stones differ very much in their form; the best kind is the hard slates and gneissoid rock, which consist of flat pieces which can easily be split or broken, and of such a texture that they will not soften or break down under the action of water. The worst are the round waterworn nodules of the hardest kind of granite or quartz, which defy the sledge and are almost impossible to be broken in the ordinary way. But these may be reduced to a more manageable shape by burning them in a heap with coarse wood mixed with them. When the heap has burned down and the stones are still red hot a few pails of water thrown upon them will cause them to split and bring them into a more manageable and useful shape.

The drains of stone should not be less than ten or twelve inches in width and made round in the bottom so that the water channel may be kept in the middle, and the cutting out of the sides of the ditch will be avoided. Then

FIG. 1.

with the flat stones the manner of building the dam will be as follows. A stone-breaking hammer of six or eight pounds' weight will be required, and with this the stones are broken into long narrow strips as nearly equal in width and thickness as possible. These pieces are placed lengthwise along the sides of the ditch and firmly bedded so that the tops are even with each other, and they will not fall inward. Flat pieces are then trimmed so as to fit across the ditch and lie firmly upon the side pieces as shown in Fig. 1.

This leaves a free channel for the water, with plenty of room at the sides for it to percolate into the drain. To cover the top joints so that earth will not drop through, all the fragments are thrown into the ditch upon the cross pieces, and if there is plenty of stone to spare the ditch may be partly filled up to within a foot of the surface, so as not to interfere with the flowing. It is then filled with the earth taken out in the digging. A drain made in this way at the foot of a high slope to cut off the water from a piece of creek bottom which was a useless marsh nearly thirty years ago is still discharging a large and continuous stream of pure clear water; it is an underground brook, in fact, and works a hydraulic ram, which has delivered water at the house and barn to supply all needs since it was made.

The round stones need a different method. These should be laid in such a manner as to wedge them in the bottom of the ditch in the manner shown in Fig. 2, and throwing other stones

FIG. 2.

on the top to wedge the upper stone firmly in its place, and then filling in with small stone. This upper filling is important, for otherwise the capstone may be moved sideways and one of the bottom ones fall out of place. In taking up a stone drain which had become choked it was found that by neglect of this, or by the wrong doing of it, the drain had collapsed in many places, and the carelessness of a workman with the neglect of the employer to oversee and direct the work properly caused an expense for repair which was more than twice the necessary original cost of the work.

When only coarse gravel is to be procured very good drains may be made in this way. The ditch is dug narrow, not more than six inches wide, or even less, at the bottom; the largest stone is thrown in first, and is covered with the smaller stone, which is trampled firmly with the feet. The more firmly the top gravel is laid the safer will be the drain.

With all these drains, as the earth covering is not more than a foot thick, the surface water should be kept from sinking directly into them, by which the soil would be washed down into the drain. To prevent this the soil should be well rounded on the surface and kept so, if it is possible, by plowing the land suitably; at least this should be done for a few years, until the earth becomes consolidated and firm. It is a good plan when a field has been drained to seed it with grass for a few years. The grass does well on newly-drained land, and if it has been very wet it will require this time for the water to find its way to the drains from the intermediate ground, after which the land will be full of small waterways and quite spongy, so that the heaviest rain will sink of course into the soil and find its way into the drains in a very short time, often not longer than three or four hours.—N. Y. Times.

ABOUT MANURE.

The Relative Value of Horse and Cow Manure Discussed.

Taking both horses and cows as they are generally kept on the farm, the manure from the former will be the most valuable. I do not feel, however, like dropping the subject, says a contributor to the Breeder's Gazette, with such a brief answer, for there should be a reason given for the answer when possible, and if one will only follow up the subject opened by this question he will gain light upon one of the most important topics that can be considered on the farm. To begin at the beginning, we should bear in mind that there can only pass from our cattle what has been given to them, and that all of the elements in the manure must have been supplied in the food. As we may suppose that foods vary in amounts of fertilizing elements they carry with them, we may hold it as correct that the kind of food given to our farm animals governs the kind of manure we get from them. This is the basic principle to be borne in mind in considering the subject. The three elements of fertilizers that we care for are nitrogen, phosphoric acid and potash. Of our feeding stuffs, grains and concentrated foods like cotton-seed meal and oil-meal contain the greatest amount of those three fertilizing constituents, and straw contains the least. Starch and woody matter are not fertilizing elements in themselves.

The next point to be borne in mind is that each animal we feed appropriates to itself of the elements of fertility in accordance with its nature and wants, so that if we supply the same amount of feed to different animals we will not get exactly the same amount of fertility in the excrement of each. A little reflection will point out the reason for these differences: A grown horse, which does not increase in weight, but each day wears out as much of his body in labor as was built up by the food, must evidently give out in the excrement all the fertilizers in the food supplied him. The colt, or a horse gaining in weight, evidently retains some of these elements in the body, as they go to help make up the increased weight. A cow giving milk transfers some of the nitrogen to the milk in the shape of caseine, and some of the potash and phosphoric acid in the shape of ash; these are for the building up of the muscle and bone of her calf. Evidently, then, the excrement of the cow giving milk does not contain all of the fertilizing elements supplied in the food, since a portion of them is carried off in the milk. Sheep require nitrogen, potash, etc., for the wool and the yolk that accompanies it, so that the manure of sheep, also, does not quite contain all of the fertilizing material in the food.

Fattening steers gain in weight, but the increase is almost wholly tallow, and there is not nitrogen, phosphoric acid or potash in that, so the steer gives practically all of the fertilizing elements in his excrement. The growing pig, like the young of other animals, takes out of the food fertilizing elements for his frame and muscle, but when grown, takes out very little, for the same reason that the fattening steer takes little. In all cases, however, the amount of fertilizing elements extracted from the food by one farm animal is less than most would suppose. The bulk of the food consumed is made up of carbo-hydrates, which are burnt up in the body or converted into fat, and carbo-hydrates are valueless as manure. We may allow that growing animals take out something like ten per cent. of the fertility from the food, while milch cows take out from twenty to twenty-five per cent. We have, then, a second proposition to be borne in mind, viz.: That the amount of fertility taken out of the food varies from nothing with animals that gain nothing in weight, such as work horses and grown cattle, up to milch cows, which place from twenty to twenty-five per cent. of the fertilizing elements in the milk.

The third important point to be remembered is that a large part of the fertility is in the urine. In a general way it is fair to estimate that three-fourths of the fertilizing elements under consideration are in the liquids and only one-fourth in the solid excrement. This being true no space need be occupied in showing the importance of saving the liquid part of the manure.

A SLED WITH WHEELS.

A Useful Implement to Move About the Place.

One of the most useful implements that can be brought upon a farm or market garden is a small sled. The one shown in Fig. 1 is six feet long, three feet wide and fourteen inches deep—

FIG. 1.—WHEEL SLED.

that is, the plank of which the runners is made is fourteen inches wide. It differs from ordinary sleds only in having two wheels attached, as shown in the engraving. These wheels are made of oak and turn upon an iron axle which passes through both runners. An axle made of hard, tough wood would do as well. The wheels "drop" two inches below the runners, and a person who has

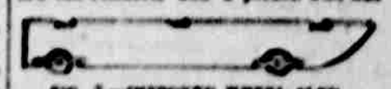

FIG. 2.—IMPROVED WHEEL SLED.

never used a sled with them on has no idea how much easier they make it run.

One like that shown in Fig. 2 runs even easier than the other. The wheels are smaller, but in line with the runners, and travel in the same track, and then there is no axle stretching across between the runners. The wheels are oak, two inches thick, same as the runners, and they may be tired with heavy strap-iron if desired. The fore ends of the runners are shod with iron or hickory. Such a sled may be used for drawing in corn-fodder, hauling manure on the garden, carrying harrows, plows, etc., about, and other similar work.—American Agriculturist.