

When the party got fairly in among these puddles, the old man stopped, and told the boys he would teach them something worth knowing. Bidding Joe bring him a spade and hoe, he led the boys to a small puddle which lay lower on the sloping ground than any other, and in a few minutes opened a trench or gutter leading from it to an adjoining lowland. The water immediately flowed away from the puddle through the gutter, until it fell to the level of the latter. He then deepened the gutter, and more water was discharged, and repeated the operation until the puddle was quite empty.

He then directed Joe to open a gutter between the puddle thus emptied and a larger one close by, then to connect a third with the second, until, by means of hoe and spade, he had the whole series of puddles communicating with each other, those on the higher ground of course discharging their contents into that first emptied, as it lay lower than the others. When the work was completed, there was a lively rush of water down, through the gutter first cut, into the meadow.

"Now, boys," said Uncle Benny, "this is what is called drainage,—surface drainage,—the making of water move off from a spot where it is a nuisance, thus converting a wet place into a dry one. You see how useful it is on this little piece of ground, because in a few days the bottom of these ponds will become so dry that you can walk over them, instead of having to go round them; and if Mr. Spangler would only have them filled up, and make the whole surface level, the water would run off of itself, and all these gutters could be filled up, leaving the yard dry and firm. These gutters are called open or surface drains, because they are open at the top; but when you make a channel deep enough to put in a wooden trunk, or brush, or stones, or a line of tiles, for the water to flow through, and then cover up the whole so that one can walk or drive over it, it is called an under-drain, because it is under the surface of the ground."

"But does draining do any good?" inquired Joe.

"Why," replied Uncle Benny, "it is impossible to farm profitably without drainage of some kind; and the more thoroughly the land is drained of its superfluous water, the surer and better will be the crops. I suppose that not one of you likes to have wet feet. Well, it is the same thing with the roots and grains and grasses that farmers cultivate,—they don't like wet feet. You know the corn didn't grow at all in that low place in our cornfield this season; that was because the water stood there from one rain to another,—the corn had too much of it. You also saw how few and small were the potatoes in that part of the patch that runs close down to the swamp. Water is indispensable to the growth of plants, but none will bear an excessive supply, except those that grow in swamps and low places only. Many of these even can be killed by keeping the swamp flooded for a few weeks; though they can bear a great deal, yet it is possible to give even them too much. Our farms, even on the uplands, abound in low places, which catch and hold too much of the heavy rains for the health of the plants we cultivate. The surplus must be got rid of, and there is no other way to do that than by ditching and draining. Under-draining is always the best. Let a plant have as much water as it needs, and it will grow to profit; but give it too much, and it will grow up weak and spindling. You saw that in our cornfield. There are some plants, as I said before, that grow only in wet places; but you must know that such are seldom useful to us as food either for man or beast. No-body goes harvesting after spatter-docks or cat-tail. This farm is full of low, wet places, which could be drained for a very little money, and the profits from one or two crops from the reclaimed land would pay back the whole expenses. Indeed, there is hardly one farm in a thousand that would not be greatly benefited by being thoroughly under-drained. But as these puddles are nearly empty, come over to the barn-yard,—they will be dry enough to-morrow."

Uncle Benny led the way into a great enclosure that was quite full of manure. It lay on a piece of sloping ground adjoining the public road, in full view of every person who might happen to drive by. It was not an agreeable sight to look at, even on a bright summer day; and just now, when a heavy rain had fallen, it was particularly unpleasant. In addition to the rain, it had received a copious supply of water from the roofs of all the barns and sheds that surrounded it. Not one of them was furnished with a gutter to catch and carry off the water to some place outside the barn-yard, but all that fell upon them ran off into the manure. Of course the whole mass was saturated

with water. Indeed it was not much better than a great pond, a sort of floating bog, yet not great enough to retain the volume of water thus conducted into it from the overhanging roofs. There was not a dry spot for the cows to stand upon, and the place had been in this disagreeable condition so long that both boys and men went into it as seldom as possible. If the cows and pigs had had the same liberty of choice, it is probable they too would have given it as wide a berth.

The old man took them to a spot just outside the fence, where a deep gutter leading from the barn-yard into the public road was pouring forth into the latter a large stream of black liquor. As he pointed down the road, the boys could not see the termination of this black fluid, it reached so far from where they stood. It had been thus flowing, night and day, as long as the water collected in the barn-yard. The boys had never noticed any but the disagreeable part of the thing, as no one had taken pains to point out to them its economic or wasteful features.

"Now, boys," said Uncle Benny, "there are two kinds of drainage. The first kind, which I have just explained to you, will go far toward making a farmer rich; but this kind, which drains a barn-yard into the public road, will send him to the poor-house. Here is manure wasted as fast as it is made,—thrown away to get rid of it,—and no land is worth farming without plenty of manure."

"But the manure stays in the barn-yard," replied Tony. "It is only the water that runs off."

"Did you ever suck an orange after somebody had squeezed out all the juice?" asked Uncle Benny.

"If you did, you must have discovered that he had extracted all that there was in it of any value,—you had a dry pull, Tony. It is exactly so with this barn-yard. Liken it to an orange, though I must admit there is a wide difference in the flavor of the two. Here Mr. Spangler is extracting the juice, throwing it away, and keeping the dry shell and insides for himself. Farmers make manure for the purpose of feeding their plants,—that is, to make them grow. Now, plants don't feed on those piles of straw and cornstalks, that you say remain in the yard, but on the liquor that you see running away from them. That liquor is manure,—it is the very life of the manure heap,—the only shape that the heap can take to make a plant grow. It must ferment and decay, and turn to powder, before it can give out its full strength, and will not do so even then, unless water comes down upon it to extract just such juices as you now see running to waste. The rain carries those juices all through the ground where the plant is growing, and its thousands of little rootlets suck up, not the powdered manure, but the liquor saturated with its juices, just as you would suck an orange. They are not able to drink up solid lumps of manure, but only the fluid extracts. Boys, such waste as this will be death to any farm, and your father must make an entire change in this barn-yard. Don't you see how it slopes toward the road, no doubt on purpose to let this liquid manure run off? He must remove it to a piece of level ground, and make the centre of it lower than the sides, so as to save every drop. If he could line the bottom with clay, to prevent loss by soaking into the ground, so much the better. If he can't change it, then he should raise a bank here where we stand, and keep the liquor in. Then every roof must have a gutter to catch the rain, and a conductor to carry it clear of the yard. The manure would be worth twice as much if he would pile it up under some kind of cover. Then, too, the yard has been scraped into deep holes, which keep it constantly so wet and miry that no one likes to go into it, and these must be filled up."

"But wouldn't that be a great deal of work?" inquired Tony.

"Now, Tony," replied the old man, "don't expect to get along in this world without work. If you work to advantage, as you would in doing such a job as this, the more you do the better. You have set up to be a farmer, and you should try to be a good one, as I consider a poor farmer no better than a walking scarecrow. No man can be a good one without having things just as I tell you all these about this barn-yard ought to be. Whatever you do, do well. I know it requires more work, but it is the kind of work that pays a profit; and profit is what most men are aiming at. If this were my farm, I would make things look very different, no matter how much work it cost me. I can always judge of a man's crops by his barn-yard."

"Then I'm afraid this is a poor place to learn farming," said Joe. "Father don't know near as much about doing things as you do, and he never

talks to us, and shows us about the farm like you."

"He may know as much as I do, Joe," replied Uncle Benny, "but if he does, he don't put it into practice;—that is the difference between us."

"I begin to think this is a poor place for me, too," added Tony. "I have no friends to teach me, or to help me."

"To help you?" exclaimed the old man, with an emphasis that was quite unusual to him; "you must help yourself. You have the same set of faculties as those that have made great men out of boys as humbly born as you, and you will rise or sink in proportion to the energy you exert. We can all succeed if we choose,—there is no fence against fortune."

"What does that mean?" demanded Tony.

"It means that fortune is an open common, with no hedge, or fence, or obstruction to get over in our efforts to reach it, except such as may be set up by our own idleness, or laziness, or want of courage in striving to overcome the disadvantages of our particular position."

While this conversation was going on, the boys had noticed some traveller winding his slow and muddy way up the road toward where they were standing. As he came nearer, they discovered him to be a small boy, not much larger than either Joe or Tony; and just as Uncle Benny had finished his elucidation of the fence against fortune, the traveller reached the spot where the group were conversing, and with instinctive good sense stepped up out of the mud upon the pile of rails which had served as standing-ground for the others. He was a short, thick-set fellow, warmly clad, of quick movement, keen, intelligent look, and a piercing black eye, having in it all the business fire of a juvenile Shylock. Bidding good afternoon to the group, and scraping from his thick boots as much of the mud as he could, he proceeded to business without further loss of time. Lifting the cover from a basket on his arm, he displayed its flashing contents before the eyes of Joe and Tony, asking them if they didn't want a knife, a comb, a tooth-brush, a burning-glass, a cake of pomatum, or something else of an almost endless list of articles, which he ran over with a volubility exceeding anything they had ever experienced.

The little fellow was a pedlar.

"What is your name, my lad?" asked Uncle Benny.

"John Hancock, sir," was the reply.

"I have heard that name before," replied Uncle Benny. "You were not at the singing of the Declaration of Independence?"

"No, sir," replied the courageous little fellow, "I wish I had been,—but my name was there."

This was succeeded by quite a colloquy between them, ending with Uncle Benny's purchasing, at a dollar apiece, the coveted knives, and presenting them to the delighted boys. Then, again addressing the pedlar, he inquired, "Why do you follow this business of peddling?"

"Because I make money by it," he quickly replied.

"But have you no friends to help you, and give you employment at home?" continued the old man.

"Got no friends, sir," he responded. "Father and mother both dead, and I had to help myself; so I turned newsboy in the city, and then made money enough to set up in peddling, and now I am making more."

Uncle Benny was convinced that he was talking with a future millionaire. But while admiring the boy's bravery, his heart overflowed with pity for his loneliness and destitution, and with a yearning anxiety for his welfare. Laying his hand on his shoulder he said: "God bless you and preserve you, my boy! Be industrious as you have been, be sober, honest, and truthful. Fear God above all things, keep his commandments, and, though you have no earthly parent, he will be to you a heavenly one."

The friendless little fellow looked up into the old man's benevolent face with an expression of surprise and sadness,—surprise at the winning kindness of his manner, as if he had seldom met with it from others, and sadness, as if the soft voices of parental love had been recalled to his yet living memory. Then, thanking him with great warmth, he bade the company good by, and, with his basket under his arm, continued his tiresome journey over the muddy highway to the next farm-house.

"There!" said the old man, addressing Tony, "did you hear what he said? 'Father and mother both dead, and I had to help myself!' Why, it is yourself over again. Take a lesson from the story of that boy, Tony!"

(To be Continued.)