

**THE MERRY HEART.**

When you come to a wearisome bit of the road,  
Where the stones are thick and the path is steep,  
And the back is bowed with the heft of the load,  
As the narrowing way is hard to keep,  
Don't stop just then for a wasteful sigh,  
But challenge the worst with steadfast cheer;  
If nowhere else, there is help on high—  
God's angel will hasten, your pioneer.

When you reach a lonesome bit of the road,  
Curtained about with mist and murk,  
And you hear faint sounds from the dread above,  
Where shivering, grim hobgoblin lurk,  
Just laugh to scorn their doleful cries—  
This is the place to whistle and sing;  
Brush the fog from your fearless eyes,  
And close to the faith of your fathers cling.

When you stand at a sorrowful bit of the road,  
And a hand you love has loosed its clasp,  
When streams are dry that in sweetness flowed,  
And flowers drop from your listless grasp,  
E'en now take heart, for further on  
There are hope and joy and the dawn of day;  
You shall find again what you thought was gone;  
'Tis the merry heart goes all the way.

—Margaret E. Sangster, in N. Y. Tribune.

**Their Last Charge**

By JOHN W. HARDING.

"HEARD the latest from the Philippines?" queried young Lieut. Gay at the Raconteurs' club, as he glanced up from his newspaper at a number of the members who, cigar in mouth, were enjoying the post-prandial hour of dolce far niente, utterly indifferent, in their contentment and comfortable surroundings, to the wind that rattled and the rain that beat against the windows of their Fifth avenue clubhouse. "Here's a single Filipino who has the sand to charge a whole American column!"

"Wow!" chorused his listeners, incredulously. "And what happened to the gentle Tagalog?"

"He isn't, or I suppose it is safe to say wasn't, a Tagalog, but a Moro," replied the lieutenant, "though I suppose all Filipinos are alike to us here. As to what happened to him, the dispatch leaves it to the imagination."

There was silence for a moment, then a slight, elegant man of medium height, with clean-cut features and a gray pointed beard, remarked quietly: "That recalls a similar and very extraordinary incident which I witnessed in the Soudan in 1885."

The speaker was Stanford Hylbish, a visiting English journalist and ex-war correspondent, to whom the courtesies of the club had been extended. The entire company was attention immediately, and Mr. Hylbish, on being pressed, continued:

"It was during the operations, begun too late, alas! for the rescue of Gordon at Khartoum. I was with the column commanded by Gen. Sir Herbert Stewart, which made that famous dash across the desert to Metemneh when 1,500 Tommies and bluejackets at Abu Klea fought off 10,000 tribesmen whose valor is immortalized in Kipling's barrack-room ballad 'Fuzzy-Wuzzy.'"

"The column was made up of the Sussex regiment, mounted infantry, a camel corps of guardsmen, and a detachment of men-o'-war's men, with a troop of the Nineteenth Hussars acting as scouts. We hurried along with our four screw guns and a couple of gatlings. Big Col. Fred Burnaby, of 'The Ride to Khiva' fame, was of the expedition, and rejoicing mightily thereat, caring nothing (if he had any premonition of his fate) that it was to mark the close of his adventurous career. Not having been able to get himself sent to the front, he had secured several months' leave of absence, and, armed with a shotgun, had undertaken the army on the Nile, having dodged, by avoiding the Egyptian towns, imperative orders to return telegraphed to every point of possible interception by the war department authorities, who had learned of his departure."

"We had made a forced march of 18 hours and were nearing the wells at Abu Klea. Not a man had had a morsel to eat or a drop to drink during all that time. Most of us were on the verge of prostration from fatigue and the torture caused by the sand and fine dust which clogged our mouths, ears and nostrils, causing an intolerable thirst, and penetrated our worn and in many cases ragged clothing. The scouts, dashing in at breakneck speed, apprised us of danger, and we barely had time to form a square about our baggage and animals when two mighty, surging torrents of black humanity swept upon us."

"Three minutes after the first horde got within range we could scarcely see each other, owing to the smoke from the rifles. There was no wind. The atmosphere, heavy with the terrible heat, as it seemed to us, appeared to concentrate the powder smoke in a dense, acrid, choking pall through which it was impossible to see the onrushing tribesmen. The screw guns had to be cleared of sand before they could be put into action. As for the gatlings, they had to be taken to pieces and cleaned. Bluejackets inside the square were doing this expeditiously, but with the utmost calmness, amid pandemonium, for the men told off to look after the animals were having the tussle of their lives. Some of the camels and horses had been wounded, and were squealing and plunging madly. Mean-

while officers were rushing along the rear of the lines of the square, shouting amid the din into the ears of the men to aim low at their invisible foes.

"Suddenly, on the left rear of the square, where the heavy cavalry and camel corps men had formed, an immense black mass which had broken through the terrible circle of fire loomed through the smoke cloud at the very barrels of the rifles, and, hurling itself upon the square with the irresistible force of an avalanche, broke through the lines. Some of the cavalymen, true to their instincts, and lacking the infantrymen's training to meet such an emergency, broke ranks and rushed at the enemy. The others and the infantry stood their ground, and by dint of terrific fighting closed the gap. Many of the hapless cavalymen thus shut out fell, pierced by the bullets of their comrades. The tribesmen who had broken through were quickly cut down, though not before Col. Burnaby and many other gallant fellows had been killed. Burnaby, you may recall, received a spear thrust in the throat. Gen. Stewart himself had a narrow escape, his horse being slain under him."

"Meanwhile one of the fiercest and bloodiest hand-to-hand fights in the annals of warfare was in progress all along the line. Every man, handicapped from the first by exhaustion though he was, knew that not only his own existence, but the lives of the entire command, depended upon the square being kept intact. Tommies and tars fought like demons, and for the first time I understood how the expression 'to swear like a trooper' probably had its origin, for while they fought they swore continuously and horribly, and the curses of the wounded would in any other circumstances have been frightful to hear. What they were 'up against,' as you American say, will be better understood when I tell you that those gigantic and absolutely fearless blacks hurled themselves upon the bayonets and deliberately impaled themselves in order to reach, and enable other warriors behind them to attain, with their spears and long swords the men holding the square."

"All this took place in a few minutes. Then the gatlings and other guns got to work and the black mass withered away in their fire and the leaden hail from the rifles."

"The result is matter of history. Our casualties were 9 officers and 65 non-commissioned officers and men killed and 85 wounded. The tribesmen left about 2,000 killed and wounded on the field."

"It was then that the incident recalled by the lone Filipino with his bolo occurred. Nearly an hour after it was all over and the black host had vanished, the men not engaged in attending to the wounded and the animals were drawn up awaiting orders. They were in loose lines, propping themselves on their rifles and discussing the battle. A thousand yards away a superb Fuzzy-Wuzzy rose from amid the hillocks of slain and looked wildly upon the scene of carnage about him. He was of uncommon stature and proportions, even for these big athletic men of the desert, and evidently a chief. His actions attracted immediate attention. He gazed at the thin, grim ranks of the conquerors from the north who were blazing the way for the advance of civilization into the wild fastnesses of his ancestors; scanned the horizon on every side in vain for a trace of the Mahdi's mighty and reputed invincible cohorts; looked once more upon the bodies heaped and strewn around him, then picked up a shield and spear, and with a scream of defiance and despair charged upon the army at full speed!"

"The Tommies who had supposed he was wounded—as he doubtless was, unless he had been simply stunned by a bullet—were astonished beyond measure. Not quite knowing whether to take him seriously they were reluctant to kill him. Besides, perhaps they felt a little sympathetic admiration for him. But the warrior was out for blood, and evidently not disposed to listen to argument. His poised spear meant death to some one, and amid cries of 'Don't shoot; it 'im a toss with the butt!' 'Look out; 'e's as mad as a March hare!' and 'Give it to the poor beggar; it can't be helped!' a dozen men raised their rifles, there was a crackling fire, and the warrior pitched forward and lay about 100 yards from the detachment of guards."

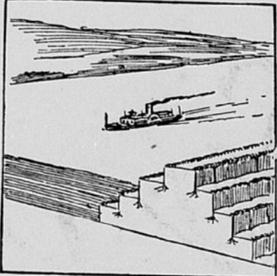
"That night, while soldiers and sailors, exhausted as men rarely are, were dreaming the battle over again, or of those they had left behind in the peaceful towns and villages of England, I lay sleepless from nervous excitement, watching the sentries silhouetted in the violet night and the great bright stars that twinkled seemingly so near to earth as to be almost within reach. The vision of that solitary warrior, such was the impression he made upon me, recurred with depressing persistence, and, although I have seen many terrible scenes of suffering and heroism in war, as it frequently has done since, and probably will continue to do when I am alone with my thoughts, until at my last bivouac I fall into the slumber that knows no dreaming."—N. Y. Times.

**INDUSTRY & MECHANICS**

**LIVE WALL FOR LEVEES.**

Growing Roots, According to a New York Inventor, Are Sure to Prevent Washouts.

In forming embankments where the earth is filled in from sediment from running water or to hold a stream in place it is common practice to plant willows at close intervals, as these



LATEST LEVEE CONSTRUCTION.

trees are of rapid growth and will readily establish themselves to form a live wood wall and their roots permeate the sediment deposited around them so thickly that the earth will be

more difficult to wash away in case of an overflow.

The illustration shows a levee which is intended to apply this idea on a more extensive scale, to confine a river safely within the embankments, so that there will be no danger of breaking through the walls. John Patten, of New York city, has obtained a patent on this form of embankment and has designed several methods of planting which are capable of holding a heavy body of water in place, the one shown having the trees set in curves, with the earth terraced up to the proper height. Another design contemplates the formation of a power canal along the top of the levee to a point where the fall to the main body of water would be sufficient to run a dynamo to furnish power for operating boats and trolley cars.

It is not intended that this levee building shall be done hurriedly, but that the deposits of soil carried down by the current shall gradually fill in around the roots until the embankment rises and confines the water in a narrow channel, thus affording access to otherwise unavailable land without danger of overflow in floods.

—Chicago Daily News.

**The Plants of the World.**

According to the count of an Italian botanist, P. A. Saccardo, there are 173,706 species of plants known in the world to-day. There are 12,178 algae, 39,603 varieties of fungus, 5,600 lichens, 7,650 mosses and 2,819 ferns. Prof. Saccardo calculates that there are six times as many unknown plants in the world as there are known varieties. He includes many forms of bacteria in his estimate of plants.

**ATTRACTIVE SUBURBAN HOME**

THE elevations and floor plans, as shown herewith, represent a modern inexpensive suburban home.

There is a cellar under the entire house. The walls are built of brick, and the floor is cement, and there is a steam boiler in the cellar which heats the entire house.

There is a broad porch all way across front of house, and large reception hall and parlor, 13 feet by 15 feet, with an open fireplace, quartered oak mantel (cabinet) with large beveled plate mirror, tile facing, floor, and fireplace fixtures complete.

There is a library, 12 feet 6 inches by 11 feet 4 inches, which has neat

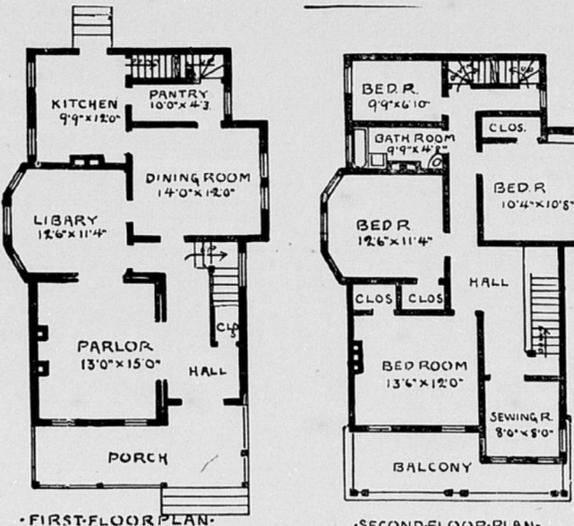


FRONT ELEVATION OF SUBURBAN HOME.

book cases, and a handsome cabinet mantel with beveled plate mirror, all of cypress finished natural.

The dining-room is 12 feet by 14 feet, and is finished in oak complete. Kitchen and pantry and all bedrooms are finished in cypress of special design. The kitchen is 9 feet 9 inches by 12 feet, the pantry 4 feet 3 inches by 10 feet; bedrooms are as follows: 12 feet 6 inches by 12 feet, 12 feet 6 inches by 11 feet 4 inches, 10 feet 4 inches by 10 feet 8 inches, 7 feet 9 inches by 9 inches; sewing-room, 8 feet by 8 feet, and bath room, 5 feet by 9 feet 9 inches.

All of the walls throughout are plastered with hard plaster, sand finished. The bathroom and kitchen contain full and complete modern fixtures and plumbing.



FIRST-FLOOR PLAN.

SECOND-FLOOR PLAN.

The exterior is covered with narrow panel cypress siding. The gables and main roof are covered with dimension cypress shingles. All of the exterior woodwork is covered with two good coats of white lead and linseed oil paints complete.

The roof and other shingle work is covered with shingle stain, brush coated.

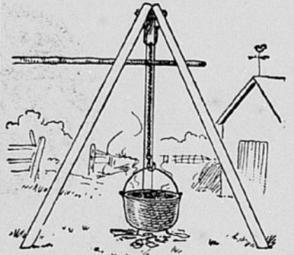
This house as here shown can be erected in most places as low as \$2,500. The plans were made by Stanley A. Dennis, of 280 Broadway, New York city.



**DERRICK FOR KETTLE.**

It Can Be Used for Such a Variety of Purposes That No Farm Should Be Without One.

The cut accompanying this article shows a kettle derrick we have in use on our farm. It is a great convenience whenever one wishes to butcher a hog or two for family use, as no time need be spent getting things together. Last spring we heated the water for treating the oats for smut by the use of this derrick and believe we saved a great deal of time that would other-



STRONG KETTLE DERRICK.

wise have been spent getting ready. The derrick was made out of three straight, common rails. At the top they were fitted together and secured with a half-inch bolt twelve inches long. As near the top as possible, on the middle rail, we bolted a large clevis to hold the kettle. This clevis will also be found a good place to chain a pole to hang the hog on, letting the other end rest upon two posts chained in the form of an X. The kettle can in this way be hung close enough to the ground so that very little heat escapes. I have cooked feed for my hogs in this manner many times, but as I question the practicability of cooked food for stock, I no longer use the derrick for this purpose.—Leo. C. Reynolds, in Ohio Farmer.

**SHELTER FOR STOCK.**

The Northern or Western Farmer Who Does Not Provide It Is Guilty of Wanton Cruelty.

There ought to be a law to prevent farmers keeping more stock than they can provide shelter for. But it is not always for want of stable room that many farmers allow their cattle and hogs to go without protection. In some cases it is nothing short of downright carelessness; in others something like ignorance. The writer, of course, has reference to climates where shelter is needed, and without which live stock is apt to suffer. When the temperature falls near zero, an animal will suffer more than most people suspect from cold rains and sleet, and being compelled to sleep on the frozen ground. In this neighborhood there is a man who is known as a good farmer as well as a thorough Christian. Last fall he built a fine large sheep house on his farm and as he had only a few sheep which he kept in the basement of his barn, allowed the sheep house to stand idle all winter while a number of young cattle went without shelter of any kind. The only excuse for this was that the sheep house is a little distance from his dwelling house—too far to go to do the feeding. Perhaps he might have hired someone to do his feeding for less than what he lost by allowing his stock to go without shelter.—C. L. Burns, in Epitomist.

**NOTES FOR SHEPHERDS.**

Australia, New Zealand, and South America, have supplied England with 7,000,000 carcasses of frozen mutton and lamb during the past year.

Wool shipped from Rockhampton, Australia, has shown a steady falling off since 1898, 104,920 bales being the figures for that year, and 44,767 for 1901.

The step taken by the New York State Fair association of providing a class for home-bred and another for imported sheep is one in the right direction.

"When the happy time comes," said Mark Twain, "that the lion lies down with the lamb, I reckon it will be found that the lamb lies inside the lion."

It seems to us that the establishment of big slaughtering plants in Texas is bound to revolutionize the present system of stock raising and farming in this state.

With sheep the period of gestation is about 150 days. The limits for lambing are between 145 and 155 days, though in a few cases these limits have been overreached.—Rural World.

**The Pigs That Pay Best.**

Young pigs that can be forced to 200 pounds in six or seven months are one of the most profitable things raised on a farm. In order to have them attain this growth several things must be borne in mind. The pigs must come from good mothers, and it is well to have the litter the second or third which she has had. Spring pigs are best, for they will take on more weight in six months than fall pigs. Growth must be steady. When they reach maturity and show increasing signs of lagging in putting on weight, send them to market. For food, give them skim milk, good clover in season, and roots and grain enough to produce rapid growth.—Midland Farmer.

**BE DECENT ABOUT IT.**

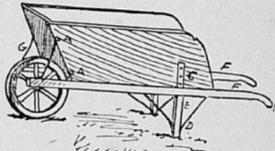
If You Kill Hogs on the Farm Do It in a Way That Is Neither Cruel Nor Demoralizing.

The season for hog killing will soon be present on every farm, and then we shall see repeated the usual cruel, heartrending scenes of man's thoughtless inhumanity. Three or four men and boys, and perhaps a yelping dog, will lay siege to the doomed animal, and with much ado will catch and throw the beast, which meantime rends the air with his squealing as though crying lustily for mercy; and when at last the knife has been driven home and the arteries severed, all at once the quietness of death prevails, the hog arises, totters about awhile, ghastrly blood pouring from the wound, the animal gets weaker and weaker and finally tumbles over and gives his last dying kick. The man's wife and children, and perhaps some of the children of the neighborhood, have been silent but horrified witnesses of the direful scene. Now is this not a delightful picture to present for the inspection of women and children? And is it not ennobling to all who witness it? If there could be a greater exhibition of man's apparent cruelty to animals, and one that is more likely to create a feeling in the young of disregard for things that are gentle and kindly, I do not know where to look for it. True; swine must be slaughtered; but let it be done in decency. When a lad I witnessed swine killing at an abattoir, and I regarded the method so wicked that I never forgot it, but really it was no worse than this. The animals were in a close pen. Three men did the work. One with a hog hook would catch an animal under the jaw, an assistant would help him raise the head up, and the third would do the sticking, when the hog was dragged to a chute and tumbled down it, kicking and bleeding. A merciful way to kill a hog is to strike it in the head with a suitable implement, producing stupor, then instantly use the sticking knife. This causes instant death. An animal suffers more from fear than it does from death itself. A neat, unobjectionable method is to drop the open side of a suitable long, narrow box down over the animal and then turn box and animal upside down, when the knife can do its work and the hog be righted again that the hog can bleed properly. Humane men will be apt to pursue one of these better methods; indeed, many of them do now; but if they will not, they should be thoughtful enough to have children absent from hog killing, that no evil be done by bad example.—Progressive Farmer.

**PLAN FOR WHEELBARROW.**

For Ordinary Farm Purposes This One Is Just as Good as Those Found in Stores.

A wheelbarrow is a great convenience for many kinds of farm work. While several strong, durable, light barrows, and of various styles and sizes may be procured of advertisers, yet not infrequently it is desirable to make one at home. Two pieces of tough, durable wood 1 1/2 x 1 1/2 inches and five feet long, f f, for the frame, are 16



HOMEMADE WHEELBARROW.

inches apart at the axle and 24 at handles. Mortising is not required the bottom being nailed to f f. A 16 inch board is nailed to bottom with two iron cleats or catches on each side, a a, to hold side boards, b, on; these are braced with two braces, g, g. The iron, c, riveted on b, extends through a staple in the frames f f.

The legs are made of band iron, 1 x 1/4 inch, having cross braces of same size iron and riveted together at the bottom or where it rests on the ground. It is attached to the frame and the bottom with wood screws. Side braces are at d d; cross braces at c. The wheel should be 18 or 20 inches in diameter to run easily over uneven surfaces and be made as light as possible. An iron wheel can sometimes be found on the farm which will answer the purpose.—D. L. Allen, in Farm and Home.

**Fatness Is Not Health.**

It has been remarked that some swine breeders mistake fatness for health and vigor. Fat does sometimes indicate thrift, but not always. When a pig has been properly fed on balanced rations and lays on fat it is an indication of vigor, for the animal is getting the most possible out of the food. But when the ration is one of corn only and the pig gets fat the indications are not such as may be trusted to indicate health. The fat comes in that case from an attempt of nature to build up the body through elaborating a large quantity of food. As the food is in that case mostly fattening a great deal of fatty tissue is elaborated in the work of getting a small amount of muscular tissue.—Farmers' Review.

Before the use of drainage tile was thoroughly understood two-inch and three-inch tile were quite generally used. To-day four-inch tile is considered as small as should be used in any case.

There still remains much land that can be rendered more valuable than it is now by thorough drainage.