

The Sumter Watchman was founded in 1850 and the True Southron in 1866. The Watchman and Southron now has the combined circulation and influence of both of the old papers, and is manifestly the best advertising medium in Sumter.

What became of the \$400 contributed by Jim Farnum and which Jos. B. Wylie says he used to accomplish his election as a State dispensary director? Wylie was elected by the General Assembly of South Carolina. Does his testimony that Farnum put up the money to insure his (Wylie's) election carry with it the intimation that money was used to buy the votes of legislators? All we have to say is that if \$400 sufficed to buy an election in the legislature, the legislators were a cheap lot.

We have heard nothing of the proposed railroad from Georgetown via Sumter to Blowing Rock, N. C., beyond the meagre information contained in the news articles under a Georgetown date line published on Thursday. But Sumter needs more railroads and will cordially welcome all that may come this way.

Since the advent of the hook worm thymol and epsom salts bid fair to replace calomel and castor oil as the regulation annual spring dose for all manner and condition of people residing in the South. The reading of an article in October McClure's Magazine is enough to start every one who has had that tired feeling, toward a drug store for a bottle of thymol and a pound or so of salts. The pellagra and hook-worm literature that fills the magazines and newspapers these days is enough to give a well man a scary feeling.

Jim Farnum would have made a more valuable and more interesting witness for the State than Wylie. It is a great pity he was not persuaded to turn State's evidence. As chief contributor of grafts he had opportunities for knowing who were grafting that no one else had, and if he would tell all he knows the population of the State Penitentiary would be considerably augmented.

We cannot understand why Mr. Farnum and his attorneys objected so strenuously to having the second trial immediately. He certainly could not hope for or desire more considerable treatment than he received.

The acquittal of James S. Farnum by a Richland county jury puts the mark of approval of the courts or the carnival of graft that disgraced and destroyed the State Dispensary. That Farnum bribed Jos. B. Wylie and that he paid him the money he agreed to pay him upon the consummation of the corrupt bargain into which they had entered to defraud the State was proven beyond doubt or question, but the jury, nevertheless set him free. The State of South Carolina made out the case but twelve of her citizens, sitting as a jury, declared that Mr. Farnum was guilty of no wrong—that he was merely a shrewd, sharp business man who knew how to get business and adopted the means necessary to get what he was after. Attorney General Lyon made good, Messrs. Abney and Stevenson made good and only the jury stood between the grafter and the punishment was justly coming to him. Mr. Lyon has failed to put the stripes on the first grafter he brought to trial, but his failure was a victory in that he produced evidence that convinced a majority of the people of State that he had found a guilty man and dragged him to the bar of justice.

C. H. Kress, the 10 cent store man, who recently bought the Whilden lot, on Main street, this city, on Thursday bought a lot in Anderson, paying \$14,000 for it.

On Thursday evening, Sept. 30th, Rev. C. C. Brown will lecture at the Court House on his travels abroad this summer, for the benefit of the Civic League Library.

The statute provides that when an officer is sent into another State for a prisoner he goes as the representative or agent of the Governor and that he shall be paid \$3 per diem and expenses by the State, nevertheless Gov. Ansel declines to pay the expenses of an officer to go to Chicago for George W. Murray. The Sheriff has no authority to go beyond the borders of the State for a prisoner and the county commissioners have no authority to appropriate money to pay the expenses of an officer who goes armed with the requisition issued by the Governor. Gov. Ansel's attitude in the Murray case is peculiar to say the least.

An officer left Friday night for Jacksonville, Fla., to get Mose Piersen, alias St. Plunkard, who escaped while under a chain-gang sentence.

Farmers' Union News

—AND—

Practical Thoughts for Practical Farmers

(Conducted by E. W. Dabbs, President Farmers' Union of Sumter County.)

The Watchman and Southron having decided to double its service by semi-weekly publication, would improve that service by special features. The first to be inaugurated is this Department for the Farmers' Union and Practical Farmers which I have been requested to conduct. It will be my aim to give the Union news and official calls of the Union. To that end officers, and members of the Union are requested to use these columns. Also to publish such clippings from the agricultural papers and Government Bulletins as I think will be of practical benefit to our readers. Original articles by any of our readers telling of their successes or failures will be appreciated and published.

Trusting this Department will be of mutual benefit to all concerned,
THE EDITOR.

All communications for this Department should be sent to E. W. Dabbs, Mayesville, S. C.

TILE DRAINAGE IN FOUR CHAPTERS.

Chapter IV.

(Continued.)

In the fall of 1896 I began draining part of a very fertile creek bottom. The field in shape, is as follows: The east side, a north and south line is 1225 feet long. The west side, parallel to the east side, is 640 feet long; and the south side, an east and west line is 1400 feet long. The creek, nearly straight, forms the north boundary, and flows south-westerly until it passes the northwest corner of the field, after which it sweeps around to the south, and passes near the southwest corner. So if you plot this on paper, you have the shape of the field.

The highest part of the land is along the margin of the creek, and at the southeast corner, and a line drawn from near the southwest corner and about parallel to the creek, striking the east side of the field about 400 feet south of the creek, represents the lowest part of the field. Up this line was laid the main drain. The laterals ran west and south to their junctions with the main.

The elevation of the surface of the ground at lowest end of this line, calling the bottom of the creek, at the southwest corner of the field 0.0, is 7.2 feet; while the surface at the north-east or upper end of the line, is 8.3 feet, and the line is 1700 feet long; so the ground along this line has a fall of 1.1 feet in 1700 feet. You will readily see there that to the unaided eye this field appears as an absolutely level expanse. After very hard and long continued rains the field is entirely covered with water, but the current is so sluggish that in every inundation there is a deposit of silt, and no erosion.

After taking such preliminary levels and measurements as were necessary to procure the above data, I was afraid to attempt this work, as I then knew of no case wherein tile drains had been laid with such slight inclination as would here be imposed. However, I finally concluded to proceed with the work and increase the grade by laying the outlet nearly five feet below the surface, adopting a minimum grade of one in 500, and allowing the upper ends of all drains to rise to wherever they would.

The preliminary surveying consisted in laying off the field into squares of 100 to 200 feet on a side, and taking the elevation of the ground at every corner of each square. This enabled me to make an absolutely correct map of the field, showing elevations of the surface above the creek bed, and consequently indicating the positions and amount of all rises and depressions of the surface. I could there lay down on the map the lines of drains in the most advantageous positions noting their lengths and sizes. From the map was then taken the estimate of tiles needed for the work.

The next step was to lay out the drains on the ground just as they were represented on the map. This consisted of placing two stakes at intervals of twenty-five feet along the lines of the proposed trenches. These stakes were not placed on the centre line of the trench, but on an offset of 18 inches, always to the same side, so they would not be disturbed by the operation of digging the trench. One of these stakes, called the hub, had a flat head which was driven flush with the ground. The top of the hub is to furnish a definite point from which to measure, in getting the sides of the trench and also its depth. The other stake called the witness stake, has at least one flat side, and was driven two or three inches from the hub to one side. This stake is left projecting a foot or so above the ground, and on it is to be written the distance of the hub from the point of beginning the measurement at the lower end of the drain, and also the depth of the trench below the hub. This work was all completed before the tiles were shipped from the factory; so when they arrived the wagons were

ready to haul them directly from the car to the field, distributing them along the staked lines.

Further instrumental work was running the levels in order to get the precise elevation of each hub, after which it was possible to establish the grades and ascertain exactly the depth of the trench at each hub. When the hauling was finished all the work here outlined had been done and we were ready to begin digging the trenches.

In discussing each step in the work I have not taken for granted that the farmer, upon short notice, can qualify himself for acting as his own engineer—if he can use a level and from his notes, prick out a profile, so much the better—but I wanted to give him a comprehensive idea of what is necessary to be done in order that he may be able to prepare for the work intelligently.

Further preparations had been the assembling of the following articles: Eight tiling spades with blades 18 inches long; six common long handle shovels, three of which were narrowed to 5 1-2 inches by clipping off the sides; two stout garden lines for marking the trenches; a small but strong fishing cord for the overhead grade line.

One grade rod 7 feet long and half a dozen other rods 2 1-2 inches shorter, the seven-foot rod being readily distinguishable from the others. These rods are simply straight pieces of wood cut to the exact lengths given.

50 stakes, A. (Fig. 1) two inches square and five feet long, made of straight grain pine and nicely sharpened.

20 grade boards E, half an inch thick, 5 or 6 inches wide and two feet long, on which were nailed the battens C to prevent splitting.

On the top edge of B and 19 inches from the edge of the bottom C, was driven the small carpet staple D, through which the line F (Fig. 2) was passed.

These several pieces of wood, when assembled in position, formed the arrangement shown in Figure 1. The stake A was driven firmly into the ground about two inches from the hubs, and in line with them, so when the boards E were placed in position the staples D were directly over the centre of the trench.

The stakes A were driven before the digging was begun, as driving them after opening the trench would have caused the side of the trench to cave.

The boards B could not be placed in position until the trench had been worked out deep enough for the heads of the workmen to be out of the way.

Fig. 1 shows a cross section of the completed trench with a grade board in position. Fig. 2 shows several grade boards in perspective, with the open trench below. In this figure the bank of earth thrown from the trench is purposely omitted in order to give a view of the trench.

In marking out a trench for pipes not larger than four-inch, I stretched my lines 16 inches apart. Taking a staff of wood 26 inches long, I make some distinguishing mark on one end, and 10 inches from this end I cut a notch. Laying the staff on the ground at right angles to the line of hubs, and with the marked end at the centre of a hub, I drive two stakes, one at the notch, the other at the end of the staff and consequently 26 inches from the hub. These stakes (a pair opposite each hub) are thus placed 16 inches apart. The two garden lines are now drawn taut from pair to pair of these stakes, and mark the sides of the trench. The lines are left in position until the first spading of earth has been thrown out and the sides of the trench neatly trimmed. As the workmen do not trim the trench exactly to the lines, the top of the trench when finished is about 14 inches wide.

The grade-boards B are so placed that their top edges are exactly seven feet above the proposed grade of the trench bottom. To get this position, subtract the depth of the trench as

marked on the witness stake from 7 and the difference is the height the grade-board should be above the hub. For example: the depth at a certain hub is to be 3.79 feet; then 7.00—3.79 or 3.21 is the height in feet of the grade-board. With a staff graduated decimally, measure up from the top of the hub 3.21 feet, and make a pencil mark on the stake A, nailing the grade-board so its top edge will just come to the mark. Before driving your second nail level the board across the trench.

After getting down to the depth of two spadings, drive the stake B (Fig. 2) from which the small fishing line F is drawn taut through the staples D down to another stake G. The stakes E and G should be some twenty feet from the grade-boards nearest to them, so the downward pull of the line on these two boards will not be very great. This cord has the same slope in it that the bottom of the trench will have when finished. That is to say, the cord is parallel to the grade and seven feet above it, and the bottom of the trench, is to be found by equal measurements of seven feet down from the cord. The last spading is entrusted to the more careful men to each of whom is given one of the rods whose length is 2 1-2 inches less than seven feet, so when they have finished their work on the bottom there are yet about 2 1-2 inches to be taken out. Following these men is a careful man called the grader equipped with the seven-foot rod and a scoop of the pull pattern. This scoop cuts out a half-round groove in the bottom of the trench of the exact radius of the pipe. Standing on the unfinished bottom of the trench and facing down grade, the grader draws the scoop towards him, cutting the earth and slinging it out, until the seven foot rod, when held on the bottom of the trench, just touches the line above. By taking frequent measurements, the grader, if an intelligent workman, soon becomes very expert, and finishes the bottom very rapidly and with precision. When the earth is not too dry he will keep up with fifteen to twenty spades and shovels in four foot work. In work done as I have described it, a man never places his foot on the bottom of the trench, which consequently presents a firm and even surface for receiving the tiles.

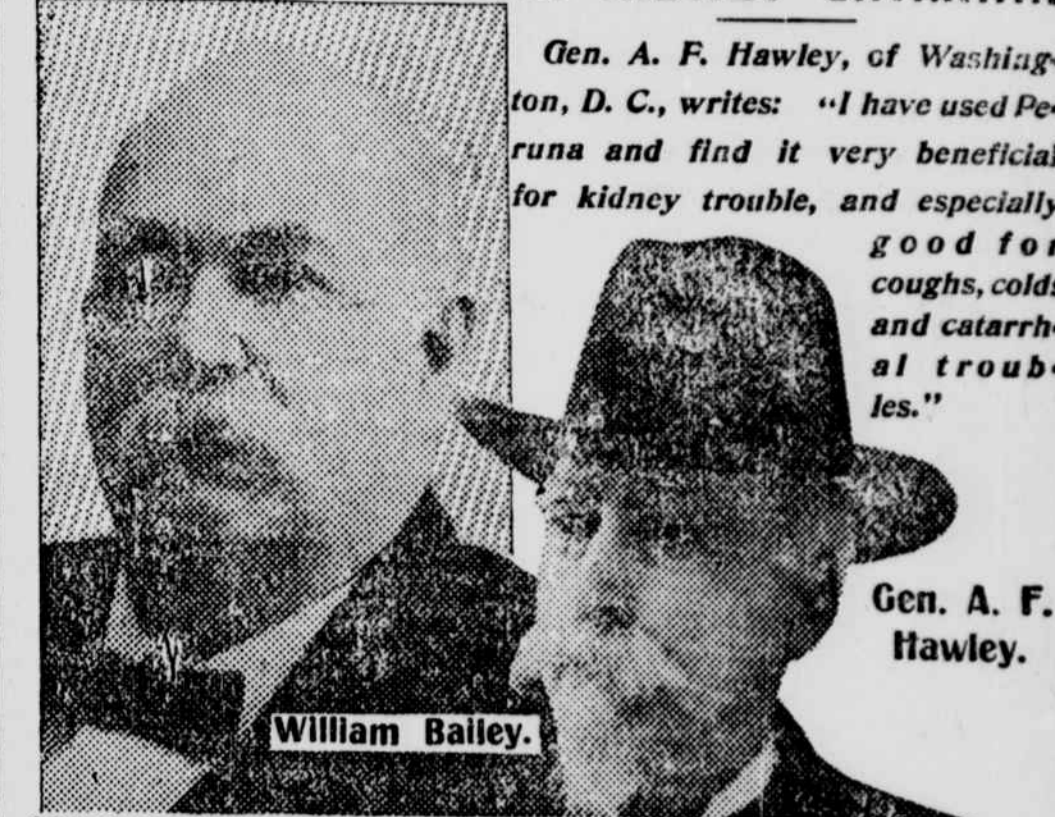
Laying the tiles after the trench has been properly finished is a simple operation, but one requiring some skill and great care. In trenches not over 3 1-2 feet deep I let the tile layer walk on the top of the tiles as he lays them, facing up grade. This has the effect of mashing any little crumbs of soil that might get into the trench and thus give the tiles a firm and even bearing. Of course in some soft mucky soils it might be improper to proceed in this manner, as the tiles might be pressed below grade. In this case and in deeper trenches, the tiles may be placed in the trench, the man standing on the surface of the ground and using an implement resembling a carpenter's square. He inserts the small arm of the square into the tile, and using the long arm as a handle places the tile in the trench. Each tile after it is laid should be turned until it makes the best fit with the tile next below it. The joints should be made as close as possible. The small openings thus made will always be sufficient to admit all the water that the drain can carry. The work of laying the tiles should proceed as fast as the trench is opened keeping it close up with the grader. As flat grades I place a scrap of cloth over each joint and immediately cover the tiles with a foot of the dampest soil that can be had, over which a man walks, packing it with his feet. This foot or so of soil should be at once placed on the tiles to prevent any accident that might result from caving of the sides of the trench. For tiles not more than four inches in diameter a fifty-yard piece of cheap cotton cloth twenty-seven inches wide, was torn into about 1,600 pieces a little more than three inches wide and nine inches long, which would cover 1,600 joints. The cloth bands are intended to exclude the silt until the loose earth has become impacted by the rains.

The work of backfilling proceeded as fast as the tiles were laid, so there was no completed trench left open on stopping work for the night and the end of the drain was securely closed by placing a brick or other object against it.

In the work of draining this field no departure from the original plan was made; but during the progress of drainage work, any deviation from the original plan such as changes of alignment, depth, etc., should be at once recorded, and after the work is finished the plat should be amended or a new one made, showing the work as it actually exists in the ground.

I do not consider that this field is well drained, as it is a clay soil and the drains are from 80 to 160 feet apart. My intention has been to lay intermediate drains, bringing all the work to 80 feet intervals; but the laying of these has been put off in consequence of the condition of the creek lower down in its course over which I have no control. The good

PE-RU-NA USED FOR KIDNEY CATARRH.



Gen. A. F. Hawley, of Washington, D. C., writes: "I have used Peruna and find it very beneficial for kidney trouble, and especially good for coughs, colds and catarrhal troubles."

Gen. A. F. Hawley.

Kidney Trouble for Nearly Thirty Years.

William Bailey, Past Col. Enc. No. 69, Union Veteran Legion, and prominently identified with many of the great labor protective associations in Chicago and New York, and secretary of one of the largest associations in the former city, had for nearly thirty years been afflicted with kidney troubles.

Within a short period he has been persuaded to try Peruna, and his present healthy condition is attributed to his judicious use of that great remedy. Washington climate is notoriously bad for kidney and liver troubles, yet by a judicious use of the remedy he is now quite cured and in excellent physical condition.

This brief statement of facts, without exaggeration or hyperbole, appears to tell the whole story, which the Peruna Company is authorized to use, if it so chooses, believing, as I do, that by so doing it will be for the general good.
William Bailey, 58 I St., N. E., Washington, D. C.

Kidneys Affected—Back Weak.
Mr. M. Broderick, Secretary and Treasurer Local Union No. 406, International Brotherhood of Teamsters, writes from 435 E. 46th St., Chicago, Ill., as follows:

"I have been suffering from a weak back and kidney trouble for some time, and have been able to find relief only through the use of Peruna."

"During the winter season I usually keep a bottle of your medicine in the house, and by taking a dose at night I am feeling fine the next morning."

"Some of my friends assure me that Peruna is equally as good for their various ailments as it is for my complaint; but I do know that for kidney trouble and suffering from a weak back it has no equal."

Cold Settled in Kidneys.
Mr. Joseph Klee, 215 East 4th St., Topeka, Kas., writes:

"My wife took Peruna for liver trouble and a run-down condition incident to the same. A few bottles built up her health and strength."
"I took Peruna for a cold which settled in my kidneys, giving me much pain. In two weeks I was much better, and in a few months I was well."

For Liver and Kidneys.
Mr. W. H. Armistead, Cumberland, C. H., Va., writes:

"Your Peruna has cured me of chronic catarrh of long standing. I thank you so much for your advice. I think it is a great medicine. It will do all that you recommend it to do. Besides, I can recommend it to cure all liver and kidney troubles."
Chronic Kidney Trouble.
Judge C. J. Park, R. F. D. 1, Buckhead, Ga., writes:

"For a long time I was troubled with catarrh of the kidneys, and after taking Peruna I feel like a new man. I think it the greatest catarrh medicine of the age, and believe it will cure any case of catarrh on record."

effect of the limited amount of work done has, however, exceeded my expectations. Though the land is rich, up to the time of draining, I had never made a profitable crop on it, and there had been many crops lost on it before it came into my possession.

The year after draining, half the field made as much as a bale of cotton (500 pounds) to the acre. The other half, though more fertile, made not more than a bale to three acres. In the operation of thinning the entire crop was left of a uniform thickness in the drill, which afterwards proved to be too close for the cotton on the more fertile part of the field where it shaded the ground too much. The boll weevil took possession of the more shaded, and consequently damper part of the field, ruining the crop.

The next year the field was planted in corn, and produced about 1400 bushels. No fertilizers have ever been used, but the field has continued to produce profitable crops. This spring the excessive storms broke the levee on the canal flooding the crop eleven times, which had the effect of stunting it; and now, as I write these last lines (Aug. 29) the crop, after an unprecedented drought though small, is holding its color and still fruiting nicely.

The manner of doing the work of underdraining as I have described it, is just as I have done it and am now doing it. I have followed the method of having four men on each trench, and during the rainy season, if the men possess some skill, it has several advantages over my present way of doing. As only a few feet of the trench are open at a time, the sides of the trench are not so apt to cave, and the soil is never so wet as to interfere with the work. The first spading works the trench down about 18 inches, and the loose earth is thrown out with common shovels. A second man follows, and with a similar spade works the trench down 18 inches deeper. Facing down grade, he spades a distance of four or five feet, and then with the scoop already mentioned, throws out the loose earth. The third man, standing on the bottom thus formed three feet below the surface and also facing towards the outlet, by using a grade rod to check his work, spades down to within two or three inches of the grade. He, like the second man, spades a distance of five feet, and throws out the loose earth with his scoop, which he then uses to bring the bottom to the exact grade. The fourth man, standing on the surface of the ground, lays the tiles and fills the trench. It is seldom necessary for the workman to place his foot within a foot of the bottom of the trench. I once had four men whom I taught to work in this way, and they, working together could average seventy-five feet per day to the man in stiff clay soil. When following

this method of trenching it is necessary to place the grade line to one side, as it would be in the way if placed directly above the trench. It then becomes necessary to use a grade rod, in shape resembling the capital letter T with a small level fixed to the cross bar. The level enables the workman to hold the cross-bar in a horizontal position and consequently the stem of the T in a vertical position. Otherwise, the device would not give correct measurements. When the upper edge of the cross-bar is at the line the lower end of the stem is at the grade.

The cost of underdrainage will depend, of course, upon the cost of the tiles, the cost of labor, the efficiency of the workmen, upon the amount of work you are willing to put upon an acre, and upon the nature of the soil. In figuring this cost for yourself you are enabled to use the result of my own experience when I say that I have completed from forty to seventy-five feet per day to the laborer, in stiff clay soil, and all three and one-half feet deep. The work included digging the trench, laying the tiles and back filling. The difference in the amount of work done depended almost entirely upon the difference in skill of the laborers. Much of the labor that I have employed has been of the most unskilled class. Many of the men had to be taught the use of the spade, and after acquiring some degree of skill, would probably leave and go to other work where they would perhaps get less pay. Recently I have been getting the work done in clay three and one-half feet deep at a cost of two cents per foot when the men were paid seventy-five cents per day.

The labor required for tile draining should be classed as skilled labor, and the shifting element that comes and goes, such as we are too apt to get here, is ill-adapted to such work.

I am informed that two cents per lineal foot for three and one-half foot work is considered a reasonable price in Illinois, the men getting \$2.00 per day. Such is the difference between skilled and unskilled labor. The man getting \$2.00 per day must complete 100 feet of trench per day. The skilled men, however, do not complete the back-filling. They only put in soil enough to secure the tiles in position. The cost per lineal foot of the back-filling must of course be added to the two cents to get the total cost per lineal foot of the work. It would be well to state here that these items of cost apply to tiles of not more than four inches diameter. For sizes above this the trench would need to be somewhat wider.—Jesse G. Whitfield, Demopolis, Ala., in Southern Cultivator.

Policeman J. C. Crumpton, of Winnsboro, who killed Joe Murphy, was found not guilty.