which gave these first settlers hope? Let it be borne in mind that after a man has chiseled and blasted canal channels along some of our winding canyon sides in Utah, a flat country where all the work can be done by teams and scrapers would be the first thing to appeal to his faith. Such is the condition of the ground along the entire course of forty miles which this canal will cover, save perhaps half a dozen bars not exceeding a rod or two each in length, which will require blasting.

The river is tapped about nine miles above the bridge west of Blackfoot. For about seven miles the canal hugs the lava ledges which lie within three or four miles of the river. Here the current is rapid (about eight feet fall per mile) by reason of the lava ridges presenting the grading to higher ground. There is, however, this obvious advantage. No canal can ever get above it save by twenty miles of blasting and then cementing of the cavern us lava seams in the bed which otherwise would swallow the entire river. Then it is a decided advantage to have so swiftly flowing a stream directly below the headgate.

The right of way has to be purchased for four miles through a man's farm. This cost the settlers $1050 which sum, together with the cost of headgate and other such incidental expenses, is the only cash outlay to the owners of the canal stock.

After the canal gets beyond the lava ledges, it takes a quick rise upon the bench land. For two miles there are some comparatively heavy fills, then follows a stretch of four miles along a natural draw, requiring scarcely no work. After that the way is comparatively level or slightly undulating, requiring about as much dirt on one side as upon the other. It must be borne in mind that the face of the ground is such that breaks in the canal are extremely unlikely. Even should they occur, the stream would cut its way for miles down the valley ere it would re-enter the river.

The head-gate is a very substantial affair, its main timbers being 12x12 red pine. It is twenty-two feet wide and has three wings and three aprons. It is next to impossible to wash it out. The gate is fourteen feet in height. During low water, as is the case now, five feet of water will pour into the canal, and during high water, which ordinarily lasts during the main irrigating season, the river presses eight to ten, against it. There will never be any need of building a dam or a wing in the river during low water. On the other hand, embankments high above the highest known watermark are built for a quarter of a mile to elevated points on each side of the head-gate.

The canal will be finished this fall for twenty miles. It is expected that 150 teams will be at work on it after September. Settlers at its upper half are preparing to put in crops next year. The canal has been incorporated according to the laws of Idaho, under the general name of the People's Irrigation and Canal company. Shareholding is upon as equitable a plan as simple co-operation can make it. The canal will not be bonded. There will be no watered stock. No set of men are getting the lion's share without work or capital simply through having originated the scheme. The cash assessment will be about 10 per cent, and the rest, or 90 per cent, will be paid in work at $4 a day for team and scraper. A conservative estimate places the cost of water to irrigate one acre at about $3.

The canal will cost about $60,000 and the land that it will irrigate is about 20,000 acres. Perhaps not half this amount is taken as yet. The builders of the canal will therefore necessarily have to take more stock than they need for their own farms. But I know of no investment so good as water stock at $3 an acre, with the certainty of a ready market in the near future. Ten years from now, it would not be astonishing to find it selling for $20 an acre.

I stated just now that the wages allowed a team and scraper is $4 per day. That has been the rule, but hereafter the work will largely be let by contract, at 8 cents per cubic yard, where the embankments do not exceed four feet, and at relatively higher prices where there are unusual cuts or fills. But there are very few of the latter. There is one fill eighteen feet for a very short distance, and a few others that reach ten feet, but it is safe to say that ninety per cent of the grading does not depart from the normal. The embankments are placed sixty feet apart, but where cuts are made only thirty feet are taken out. The rest will be removed as the demand for water increases. Sixteen inches per mile is the fall of a number of prominent canals in Utah. This produces a distinct ruffle in the current. Two feet per mile is the fall allowed in the People's canal, and this, it is believed, will keep the canal clean and make subsequent assessment very light.

I have now answered all the questions that I can think of relative to the canal save one, and I approach this very reluctantly, not wishing to injure a legitimate undertaking even by contrast. But so many people have confounded the People's Canal company with another company working on the bonding and speculative plan, that it is necessary for me to clear up the matter. There can be little doubt that had the right of way of the people's canal not been secured when it was, it would now be held by the company just alluded to, who proposed to build and own the canal and sell the water right. The plan, as I remember reading it, was to charge the settler from six to ten dollars per acre for water right, and then make an annual assessment of from fifty cent to one dollar per acre to cover repairs, etc. This was reasonable, indeed, as compared with the demands of some irrigation companies, whose circulars flood the country; and many farmers were attracted to the valley by their representations, only to join in with the people's scheme as soon as they made the comparison of their merits.

This circumstance has of course taken the wind out of their sails. They began work this spring, however, hiring men and teams, but for some reason operations are at a standstill at present. There has been no clash between the two companies, nor is there likely to be. The speculators tried to get a half interest in the people's headgate; but the latter company wisely refused to join interests with men whose mode of operation differed so radically from their own. The speculators' canal will therefore be taken out lower down the river, and the two will run parallel for several miles.

It will be remembered that the fall in the People's canal is about eight feet per mile while it skirts the lava ledges. This fall the other company propose to conserve by building levees, so that at a point about eight miles below the headgate the latters will cross to the bench by means of a flume perhaps ten feet above the People's canal. As they propose to run with as little fall as practicable, they will cover a large part of the land above the Peoples's canal. The scheme is too good a one not to succeed ultimately; but in the meanwhile, unless eastern capitalists become interested in it, a thing not unlikely, it must remain on paper, until all interests in the People's canal are secured and have appreciated in value several hundred per cent. This may easily happen within the next five years.

Our next consideration is the land. This has already been touched upon from the point of view of the geologist. It remains to be discussed from the standpoint of the farmer. For clearness of perception divide the forty mile strip covered by the canal into three sections, an upper of twelve miles, a middle of sixteen miles, and a lower of twelve miles. The upper section enjoys the advantage of being first on the canal and also nearest the cedars, making it easy to get wood; so it has attracted most of the settlers. The land is nearly all taken, but in view of the certainty that the canal will be completed to the other sections, claims can just now be purchased very cheaply from men who would then move below. The upper section enjoys also the advantage of being near the railroad at Blackfoot. But its soil does not compare, in my estimation, with that below. I examined the strata presented in a well that was being dug, and found about twenty inches of soil, then twelve inches of clay hardpan, then thirty to forty feet of cobble stone. "I can show you places on this farm where the soil is only four inches," said one man whose pioneer ardor is cooling off. "I have no doubt that you can find places where there is no soil at all," said I, "but the crops of wheat and oats and lucern and potatoes that I see, prove to me that generally the depth of soil may be depended upon."

It is only in the upper section that as yet the soil has been tested by actual crops. It is here that the numerous farms dependent upon small local canals, before referred to, are located. I saw wheat that I felt certain would yield fifty bushels to the acre, and believe that the general average will not be far below thirty bushels per acre. Potatoes, I was informed, is a particularly fruitful crop. I saw likewise thrifty young orchards, apple trees being the only variety old enough to bear.

The middle section does not at first strike the settler so favorably as the upper or the lower, but I am not certain but that it will prove the best land after all. It can scarcely be called hilly; it is rather undulating, just such slopes as fruit trees delight in. In imagination I seem to see the sandy loam of this section covered with orchards and vineyards. While 95 per cent of it can be brought under irrigation, there will