

The Franklin Press and The Highlands Maconian

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Obituary notices, cards of thanks, tributes of respect, by individuals, lodges, churches, organizations or societies, will be regarded as advertising and inserted at regular classified advertising rates.

Buy a Farm!

NOW is the time to buy a farm, advises "The Progressive Farmer." We hasten to add an emphatic "Amen."

To some tillers of the soil, discouraged over their paltry cash incomes in the recent lean years, this may sound like foolhardy advice. We do not gainsay that the depression was disheartening for farmers, especially for those heavily laden with mortgages...

Agriculture is still the basis of American life and industry and, as surely as this nation of ours will climb out of "the slough of despond," farm crop prices are going to improve and the farmer again will come into his own.

Urging those interested in farming not to delay in buying land, "The Progressive Farmer" points out:

"x x x for most ambitious, industrious, enterprising families, there is still time to buy before prices go up materially. The history of nearly all depressions is that land values are among the slowest to reach bottom..."

"The wholesale foreclosures by joint stock land banks and other mortgage holders and a veritable saturnalia of tax foreclosure sales all over America—all these have forced land prices far below what they are likely to be within the average reader's lifetime."

Already the government's action in providing means for refinancing farm mortgages is having the effect of buying prices. The decline at least has been halted. The next thing to occur will be an upward trend; it is as natural as the swing of a clock pendulum.

The Lakey Creek Rucus

THE recent rucus down on Lakey Creek was unfortunate, to say the least. It is an unhappy and unhealthy state of affairs when folks think it is necessary to take a stick in hand to separate the black sheep from the white.

We don't know and, furthermore, don't care to know, all the evidence in the case. It was such a mess that it would be difficult to get anything but a garbled story from it.

Now that the Lakey Creek people have discovered that drawing a line between the righteous and the unrighteous is a job open only to the courts and the Lord, we hope they will go back to tending their own crops and their own business...

Clippings

PUTTING THE ROADS IN POLITICS

There are two and only two reasons for the reorganization of such an agency of government as the State Highway Commission...

sign of political favoritism or the improper spending of a single dollar.

It was for this reason, particularly, that the State was distressed when there were strong indications that the organization in 1932 was almost as active in politics as it was in the maintenance and construction of the roads of the State.

dictated by Governor Ehringhaus, by the dropping of State Highway Engineer Leslie R. Ames who held that place under the Frank Page administration of the Highway Commission.

Against none of these veteran officials have any charges been made. The very length of their service and the fact that they were part of the fine original organization of the Commission is evidence of their efficiency.

A State highway system, however, must be maintained as well as built. Today millions more are to be expended in Federal funds for roads in the State.

Therefore, not only for reasons of old pride but also for reasons of present importance, the people of the State will hope that the signs which seem to point to a political reorganization of the Highway Commission are wrong.

Editor of the Press: Long since a friend and I were climbing a steep mountain to visit a sick man; meanwhile my fellow traveler was expounding his own view of the plan of salvation as the only true and safe one.

Ever since I have been interested to discover beliefs, opinions, deeds that will endure that Great Conflagration. By far the greater number of deeds of daring are foolhardy and can not "point a moral," though they may "adorn a tale."

Few are living now who have an adequate conception of the destitution and suffering in divers manners of the women and children, the aged and infirm during the Civil War and a long but indefinite period of recovery under the reconstruction regime.

When times were at their worst, when famine stalked the land the events of my story occurred.

South of the Blue Ridge some miles beyond Highlands there lives a man whose most prized possessions were a fine farm and a snug conscience. He could have eluded himself in purple and fine linen if he hadn't been too stony.

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matters by the evil results which elsewhere attended politics in highway control. North Carolina learned the value of freedom from politics in building roads and spending millions by having freedom from politics.

But despite that little detail of classifying Horace we all can unite in deploring that a man who has not experienced in person the ravages of alcohol has no business having an opinion on how to control it.

DISQUALIFIED Many people will be astounded that a man like Horace Williams, professor of philosophy at the University, will express himself in favor of repealing the 18th amendment when he admits simultaneously a complete unacquaintance with whiskey.

But despite that little detail of classifying Horace we all can unite in deploring that a man who has not experienced in person the ravages of alcohol has no business having an opinion on how to control it.

Indeed (and we trust our utter satire is not wasted), to have Horace say he favors this or that with respect to prohibition is like listening to a white ribboner describing the evil effects of beer.

Public Opinion

Once There Were Heroines

Editor of the Press:

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to my father," but by force and arm they sought bread. One carried a rifle, one an axe, one a fiddle, the others carried sacks. They were prepared for probable eventualities; even sacks were made to hold corn.

The charge of the Light Brigade, the Noble Six hundred, was a blunder, a flop. The charge of the Noble Six Heroines brought home the corn.

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DEVELOPING FARM WATER POWER

MACON county has scores of small streams which could be harnessed to the advantage of its farmers. Traveling about the county, the editor of The Press and Maconian has observed many sites where water power could be developed at small cost.

Strange to say, few farmers in this section have taken advantage of the water power opportunities they possess, and there are some who have abandoned old water wheels for gasoline engines and steam boilers.

Locations where there is sufficient water and sufficient fall for operating grist or saw mills are not numerous. But there are many places where enough power can be produced, and with a very small cash outlay, for lighting the home and barn, turning the churn and operating small farm machinery.

The July issue of the Farmers' Federation News, published at Asheville, gave some very valuable information and advice concerning the construction of farm power plants. We reprint the article in part:

Ready-Made Equipment

"Several reliable manufacturers sell water wheels, generators, and complete outfits which can be put up by a local engineer, or sometimes by a millwright or the farmer himself. This equipment is general made well and will give satisfaction if the right model and size outfit is chosen and properly installed.

"The cost of ready-made equipment bought new will generally run to several hundred dollars, but will be worth the money in most cases if the farm can afford the outlay. Several firms in Western North Carolina are agents for reliable ready-made equipment: wheels, electric generators, pulleys, bolts, gears, and fittings.

"It should not be forgotten that many used pieces of equipment can be bought second-hand in Western North Carolina for a few dollars, especially generators. Often a damaged wheel can be taken to a local machine shop and put in running condition again at small cost or a generator can be rewound at a local electric repair shop.

"In buying second-hand equipment, be sure it is reasonably well suited in size and design to the proposed power plant, or else the piece will not be a bargain after all.

Home-Made Plants

"Except for generators, small plants can be built from lumber and fittings from discarded farm machinery, saw mills, and automobiles. There are probably fifty such home-made plants in Western North Carolina. Most of them are giving the owners fairly good service, with occasional breakdowns.

"The builders had to be jacks-of-all-trades to build them, and must be so against to fix break-downs. These plants seldom give all the power that the stream is capable of giving with factory-made equipment. But the owners are getting lights and power from plants costing less than \$100 plus the labor of building, and there is little cost of upkeep.

The Overshot Wheel

"This is the best wheel for most farms unless the head of water available is over 20 feet. It is fairly easy to build of wood, and the design can be found from some wheel now in use.

"Overshot wheels make from six to twenty revolutions per minute. In running an electric generator the chief disadvantage of the overshot wheel is that several gears or pulleys are required to step up the slow speed of the wheel to 1,000 to 2,000 revolutions per minute which most generators must turn.

"Steel overshot wheels are not troubled by ice as wood ones sometimes are, and they do not become waterlogged and unbalanced.

Undershot Wheels

"The undershot wheel is much like the overshot wheel in design, except that the water turns the wheel by flowing underneath. It is more expensive for the power delivered, and is used mainly where the fall is less than five feet and where an overshot wheel is impractical.

"The turbine is not unlike the

old fashioned tub mill in principle. It is built of steel or iron, with curved buckets revolving around a shaft that is usually vertical. As turbines turn faster than overshot wheels, less stepping up is needed to run the generator.

"When properly suited to the location the turbine outfit is slightly more efficient than the overshot generating plant because of the saving in friction from belts or gears.

"However, turbines must be protected by a trash rack, and this should be cleaned often. Most small turbines are designed for heads of eight to 25 feet with a medium or large flow of water, which must be rather steady in quantity.

"A detailed estimate on the cost of a home-made plant, using an automobile generator, is given for those who would like to try their hand and still spend only a few dollars:

3 pair ball bearings at \$1 each \$6.00 2 used drive shafts (bad order) 1.00 2 4x1 1/2-inch flat fan belt pulleys .50 1 12-volt Dodge generator (1924) (or other starter generator) 2.00 2 10-ft. 1 1/2-in. belts (salvage) 6.00 5 auto lamp sockets at 15c. .75 5 auto lamps at 15c. .75 Wire, insulators (knobs, tubes) 4.00 \$21.00

"At most, the parts for such a plant should not cost over \$25 when bought at a second-hand auto parts dealer's. On some farms every single item might be picked up from old autos, except wire and insulators.

Before Starting To Build

"Before starting to build or install a plant, these things should be figured out in advance: 1. How much fall or head is available? 2. What is the smallest flow of the year in cubic feet per minute? 3. If you have a storage pond, how many cubic feet of water will it hold? 4. What amount of power is needed in watts for:

a. Lamps. b. Electric irons, heaters, ranges, etc. c. Motors.

"5. What will be the heaviest total load on the system at any one time, and how many hours per day will this peak load be needed?"

Measuring the Head

"It is not hard to measure the water flowing in a small stream. July or August is a good time to prepare for measurements, as the driest months of the year are usually September and October.

"There are many ways by which streams of water can be measured approximately, but undoubtedly, the most correct way by which it can be done is by means of a 'Weir Dam.' If the stream is not too large, take a board or, if required, join and nail together with cleats more than one, wide and long enough to form a dam across the stream. Cut a notch in the top of the board of sufficient depth to allow all the water to pass through. The length of said notch should not be more than half to two-thirds the width of dam, and should be beveled on the down side of the stream nearly to a feathered edge. Be particular to have the notch level across the stream, so the water will be of the same depth at both ends. Drive a stake in the ground about four feet up the stream from the board, so that the top of the stake will be on a level with the bottom of said notch, which can readily be seen when the water begins to flow over it.

"When the dam is made perfectly tight, so that all the water passes through the notch of Weir, and the water raise off its greatest height, measure carefully how much the water raised to its greatest the stake. Near sundown is the best time to measure stream flow. This measurement is the basis

"The storing of power by means of extra water in a pond or by storage batteries will help to make the generator pull the peak load during dry spells.

from which the calculations are made to find the amount of water that flows per minute. Care must be taken to get a board wide enough to dam the water to a dead level before it begins to flow over the notch, and that the water has a fall, enough to clear itself below—say a depth of six inches, or more in a large stream.

Figuring The Horsepower

"With the weir measurements at low water we can figure the horsepower from the table below and then choose a water wheel and generator of the proper size. This is done as follows:

"Down the left side of the table find the number nearest under the depth of water at the stake. From this number run across the table to the column headed by the fraction of an inch which gives the exact depth of the water at the stake.

"For example, say the depth of water above the stake was 1 3/4 inches. We run down the left side of the table to 13, then across to the column headed by 1/4, and find the number 19.29.

"Now take the number thus found (19.29) and multiply it by the width of the weir notch in inches. Suppose this width is 44 inches. We multiply 19.29 by 44, which equals 848.76, and this is the number of cubic feet of water per minute flowing over the weir at this measurement of depth.

"A week later the water might measure only 1 1/4 inches deep, and by using the table with this figure we would find that only 685.96 cubic feet of water per minute flowed over the weir at this measurement.

"To get the horsepower at low water, take the cubic feet per minute as found from the table, and multiply it by the number of feet the water can fall at the proposed water power plant, and divide by 528. This fall will generally be the distance from the water level at the wheel end of the flume to the water in the tail race directly below the wheel.

"In working out the example stated above, suppose the fall is 10 feet. We take the 685.96 cubic feet per minute and multiply it by 10 feet fall, giving 6859.6. When we divide this by 528, as directed above, we get a horsepower of 13.

"If, instead of figuring the horsepower, we would like to know the kilowatts or KW (1,000 watts), take the cubic feet per minute (685.96), multiply by the fall in feet (10), and divide by 708, giving 9.7 kilowatts. To change horsepower into kilowatts, multiply by .75 (thus 10 h. p. is 7.5 kw).

Estimating Power Needed

"Lamps use about 40 watts each, electric iron 500 watts, electric range (full load) 5,000 watts, 1/2-horsepower motor 288 watts, 1/4-h. p. 518 watts, 1/8-h. p. 746 watts. 1-h. p. 966 watts. By adding up the number of watts needed for each light bulb, appliance, or motor to be used all at the same time, the total watts needed from the proposed generating plant can be estimated. Dividing the total watts by 1,000 will give the kilowatts. With most plants, the motors can be used in daytime and the lights at night.

"With the facts mentioned above figured out, it is not a hard matter to make plans for the power plant. The head will, of course, limit the diameter of the overshot wheel, while the cubic feet of water per minute will determine the width of the buckets.

"Select a generator of the same horsepower as the water wheel, or possibly 80 per cent of the water wheel's horsepower. If the power of the wheel is too much greater than the horsepower of the generator, it will burn out the generator when the generator is overloaded.

"The storing of power by means of extra water in a pond or by storage batteries will help to make the generator pull the peak load during dry spells.

WEIR TABLE

Table with columns for depth (0 to 24) and flow rates for various notch widths (1/4, 1/2, 3/4, 1, 1 1/4, 1 1/2, 2, 3, 4 inches).