

KANSAS FARMER

For the improvement  of the Farm and Home

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TOPEKA, KANSAS, JULY 22, 1916.

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IN a democracy the utmost freedom in the choice of an occupation is the fundamental right of every child, and this right must not be abridged.

If the public schools of the city sought to make blacksmiths of the sons of the blacksmith, and to induce the sons of the bank director to follow in the footsteps of their father, the country would be shaken with protest because the public school—the most powerful agency left us with which to promote democracy—was being employed to destroy democracy.

The boy or girl brought up in the country is entitled to as much freedom of choice of occupation as the boy or girl brought up in town, and is entitled to as substantial help from the public schools in making an intelligent choice.

The city children should be taught about the country, its opportunities, its beauties, its profits, and its advantages, as well as about its limitations and its labors.

It ought to be true that no one could determine by their dress, their manners, or their culture, which persons came from the country and which came from town.

—H. J. WATERS/

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*The Old School
and the New*

**Directors
of the
Kansas
Rural Credit
Association**



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Emporia, Kan.



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M. McAuliffe,
Pres. Farmers Union,
Salina, Kan.



W. C. Lansdon,
Editor Salina Union,
Salina, Kan.

Again Kansas Leads

**The Rural Credit Bill Has Been Passed by Congress,
Was Signed by the President, and Has
Become a Federal Law**

And Kansas, as usual in all forward movements, is prepared—is ready to take immediate advantage of it and to assume the lead in the development of the greatest Rural Credit System in the world—to be the first unit in the American system with

The Kansas Rural Credit Association

Members of this association are in position to be the first to profit by this great law. At a meeting of the stock-holders held on July 3rd, the following resolution was passed:

"Be it resolved, that the Directors of this Association be and they are hereby authorized and directed, through the proper officers of the Association, to apply to the Federal Farm Loan Board for a charter under the Federal Farm Loan Act as passed by both branches of the 64th Congress, and when such charter is completed to transfer to said corporation all of the assets of this Association; and we the stockholders of the Kansas Rural Credit Association hereby agree to accept stock in said new corporation so organized in exchange for the stock in this Association now held by us."

Securing This Federal Charter Means

That the Association will have power to issue non-taxable bonds secured by the first mortgages on the farms of its members. The government passes on the security of the mortgages before bonds may be issued, and after bonds are issued hold the mortgages which secure them.

The bonds issued in this way become instrumentalities of the Government like government bonds or National Bank notes. They are free from Federal, State or local taxation.

The rate of interest these mortgages will bear will be determined by the rate at which the bonds are sold. It is estimated at from 3½% to 5%.

Here is the opinion of Mr. J. R. Burrow, President of the Central National Bank of Topeka: "Bonds of this character will be in great demand at 4½%. They can be sold at 4%, but the market would naturally be smaller at this rate."

In any event the members of the KANSAS RURAL CREDIT ASSOCIATION will be able to secure their loans for long terms—from 5 to 40 years—at the very lowest rate which can be secured on such bonds.

If You Are Not a Member of This Association Now Is the Time to Join and to Share in Its Benefits

Until the Federal charter is secured, shares in the KANSAS RURAL CREDIT ASSOCIATION will continue to be sold at \$100 for each share, payable in four installments of \$25 each within one year from date of making the subscription. Borrowing members will be required to purchase one share for each \$2,000 they may want to borrow. The Kansas Rural Credit Association is ready to be the first to profit by this great law.

Share in Its Benefits

As a farmer place your business on the same basis as that of the railroad, the merchant or the manufacturer. This will mean success for you and independence for your children.

SIGN AND

MAIL THE COUPON TODAY

**The Kansas Rural Credit Association,
Dept. K, Emporia, Kansas.**

Without obligating me in any way please send me your twelve-page booklet which explains in detail the plan of The Kansas Rural Credit Association and tells how I can become a member and enjoy the benefits of this co-operative organization of Kansas farmers.

Name

Address

The Kansas Rural Credit Association

Dept. K

Emporia, Kansas

**Directors
of the
Kansas
Rural Credit
Association**



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KANSAS FARMER

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SAVE ALL THE CROP

Crops such as corn and the sorghums, that produce from fifteen to twenty thousand pounds of actual dry matter to the acre, are of greatest importance to live stock production. No other annual crops grown can compare with these in the total amount of feed value produced. They are the great heat-giving, energizing, fat-producing feeds for farm animals, but as commonly handled a large per cent of their value is lost.

With a normal yield of grain, fully two-fifths of the nutrient value of the corn plant is in the fodder part. When the grain yield is light, which is often the case, a much larger per cent of the feeding value is in the fodder part, and in a year when a dry spell in July or August prevents grain from forming, there may still be a large tonnage of fodder produced. Even though there is no grain, this fodder has cost labor and has taken plant food from the soil. If grain only is considered, the fodder represents an actual loss. This loss is taking place year after year when the crop is not stored in a silo and fed to live stock.

The silo is the great conservator of feeding value. The entire plant is harvested at a time when it contains a maximum of digestible nutrients. These are so preserved in the silo as to retain their digestibility and palatability for several years. This feed can be turned into cash. Stalks left in the field are practically worthless.

If we were sure of a forty- or fifty-bushel yield of corn each year, it would not be so serious a matter, but fodder is often the big end of the crop. The nutrient value is in the plant, but because of a shortage of moisture at a critical time it cannot be transformed into grain. The only way to get it is to harvest it as silage. A July dry spell does not menace the prosperity of the man equipped with a silo to save the feed value that is already developed. Millions of dollars' worth of feed is lost each year that might be turned into milk or beef by saving in the silo what is grown.

Including every item of expense, silage does not cost to exceed two dollars a ton on the average. It is difficult to place a positive feeding value on good silage, but many a farmer has figured that he got from four to five dollars a ton for it by feeding it to good live stock.

The silo is always an anchor to windward for the live stock farmer. We almost never have a total failure of silage crops—even in the driest parts of our state. If a failure does occur, the stock can be fed from a reserve supply of silage carried over from a year of good feed crops. In no other way can the surplus rough feed in a big feed year be preserved so as to be of any value a year later.

The farmer who makes any pretense of handling live stock is not fully equipped until he has a silo. Even a hole in the ground, with plastered walls, makes a successful silo in dry sections.

SLEEPING PORCHES

From the standpoint of comfort, nothing adds more to a house during the summer season than does a screened-in sleeping porch. Even though the days are unbearably hot in Kansas, the nights are usually cool, but without a sleeping porch the coolness of the night is not fully appreciated. The little room under the roof with only one window, such as the writer occupied when a boy, does not get cooled off during the night. Too much heat has been absorbed by the roof and the enclosed air during the day, and even when it is cool outside, the one who occupies such a room will swelter all night.

The sleeping porch is no fad. In the towns, houses are now seldom built without them. We sometimes wonder why sleeping porches are not more generally put on farm houses. They can often be added to houses already built, at little expense. On such porch one can get a comfortable night's rest even in the hottest weather. It is so open that the air cools early in the evening. People who have never experienced the pleasure and comfort of sleeping in the

open, find it hard to realize what a difference it makes.

Sometimes makeshift arrangements can be utilized, such as house tents with open sides covered with mosquito netting. We once visited on a farm where such structure had been built on posts so that the floor on which the beds were placed was five or six feet from the ground. It was screened and had curtains that could be rolled down and fastened in case a storm came up in the night. All the boys of the family slept out here in hot weather. These sleeping quarters did not cost much, but insured restful, healthy sleep. The hot weather can be stood much better if it is possible to get good refreshing sleep each night.

A sleeping porch is worth all it costs and more, and no farm house should be built without one. A screened-in dining porch is another great source of comfort in a farm house.

TRAINING ESSENTIAL TO SUCCESS

In all walks of life the places of honor and influence are being filled by men and women of special training. Even in the pioneer days special training was recognized and many of those who rose to prominence and leadership were men who had received more than the average amount of education.

The present generation will find they must meet a keener competition than did their fathers of pioneer days. It is a competition in which training and efficiency to meet the conditions as they now exist, are of the greatest importance. There will be no opening up of new territory such as took place in the pioneer days. The present generation must make the most of present day conditions and this demands special training. Those with untrained hands and minds will have as hard a time competing in the battle of life as did the pioneers who opened up the new territory.

We must give our young people the fullest opportunity possible to secure the needed training from the lowest grades of our common schools on up to the college and university, and including the special and technical schools. We would urge upon KANSAS FARMER folks the necessity for realizing to the fullest extent the value of education. We should covet the best possible in education for our children and not be content until we have given them all that is within our power.

SUMMER BREEDERS' MEETING

The Southeast Live Stock Breeders' Association is planning for a summer picnic meeting to be held at the fair grounds at Coffeyville, Saturday, July 29. This is a splendid idea. Breeders of the various kinds of live stock from Eastern Kansas and Eastern Oklahoma and from Western Missouri and Western Arkansas, should plan to attend this summer meeting and make some new acquaintances besides enjoying a good program by speakers of note. This section is destined to greatly increase its production of live stock, and breeders

should be awake to the situation and be preparing themselves to take advantage of the increased demand for better breeding stock. Getting together in such meetings is a good way to keep in touch with the situation.

John Keith, the well-known Hereford breeder of Coffeyville, and the Coffeyville Commercial Club will have charge of the local arrangements. Those who are near will be expected to bring basket lunches with them, and there will be ample provision for all who come from a distance.

MINERAL REQUIREMENTS OF COW

A cow cannot give a large flow of milk without having plenty of mineral matter in the ration. Calcium, magnesium, and phosphorus are essential constituents of milk, and unless the ration supplies these minerals in abundance there cannot be a heavy flow. Experiments have been conducted that show conclusively that mineral matter has a most important place in milk production. It is possible also that failure to breed may at times result from a lack of minerals in the feed.

The Kansas dairyman is especially fortunate because alfalfa supplies plenty of ash material, and cows fed alfalfa will seldom lack for mineral matter in their ration.

Very heavy producing cows, however, cannot digest enough mineral matter to keep up the maximum milk flow, so in order to get a full flow of milk from cows of such large capacity, it is necessary that a reserve be stored. It is possible for the animal to do this just as it is possible to lay up a store of fat to be used later. A heavy-producing cow will actually transfer mineral matter from the bones of her body to be used in making milk. It is thus highly important that milk cows be fed such feed during the dry period as will build up the mineral part of the body.

Nearly all grains are deficient in lime and other minerals. Feeds richest in mineral are the legumes—alfalfa, clover, or cowpeas. We habitually think of these as important sources of protein, but they are none the less important sources of mineral matter, and this can be accumulated and stored in the body. Protein cannot be so stored. Any in excess of immediate requirements is wasted.

The important point is that the dry cow of large capacity must not be fed too cheap a ration. Corn fodder, silage, straw, and other cheap feeds commonly used in maintenance rations, cannot build up the animal's reserve of mineral matter during the resting period. For this reason cows of large capacity should be fed rations that will supply them plenty of mineral matter during the dry period. Unless some reserve is stored, they may not produce up to their maximum capacity when they freshen.

A straw stack in the pasture is a fine thing for roughage and shelter for the stock cattle in the winter time.

HOME-MADE SHOWER BATHS

On some farms there are creeks with clear pools that make fine bathing places, but these are not numerous in Kansas. On most of the farms the only chance the boys have for a bath is to get into some hole with a mud bottom and, while they have considerable fun paddling in this muddy hole, it is not very inviting.

A clean shower bath for summer use can be fixed up at almost no expense, and there is no good reason why the men and boys who come in grimy and sweaty from the field should not make such provision for their comfort and cleanliness.

On farms where there is a pressure tank with a system of pipes carrying the water about the various farm buildings, all that is required is to bring up a line of pipe and equip it with a sprinkling device regulated by a valve. Holes can be drilled in a piece of pipe bent in a circle to form this sprinkler. A cement platform should be put in and arrangements made for draining away the water. If the supply tank is an elevated one, the water will usually not be too cool for a shower bath during the summer. Some blankets hung on wires can be used to enclose such bath and the dressing room connected with it.

Where there is no water system, an even simpler plan can be used. Get a big tin or galvanized bucket or an old milk can that still holds water and punch a hole in the bottom, soldering into it a piece of pipe two inches long. To this attach a piece of hose four or five feet long, with a sprinkler on the end. In the absence of a better arrangement, the sprinkler can be taken from a watering can. A valve must be put in to regulate the water, or if the hose is light enough a clothes-pin may be used as a clamp. Such device can be rigged up at the side of the barn, and by filling it with water in the morning it will be ready for use at night. A draining platform and some curtains are needed to complete this home-made shower bath.

These are only suggestions and many modifications might be made. The point we want to make is that such bathing facilities can be provided and at very little expense. When one comes in from the field with clothes saturated with perspiration and dirty from head to feet, a few minutes under such shower as suggested will make a new man of him. Hired hands will appreciate such provision for their comfort. The men will not only be in better condition physically for doing work, but will feel more inclined to exert themselves because of the effort made to keep them comfortable and clean. By all means, arrange so you can take your shower bath in the summer time, whether you can have a real bathroom with hot and cold water and sewer connections, or not.

In feeding silage at least two inches in depth should be removed from the surface daily. If a smaller amount is fed, the silage will spoil between feedings. Many silos have been built too large in diameter for the stock to be fed. It is always a good plan to store as large a tonnage of silage as possible, but it is not wise to get this large tonnage by building a silo so large across that there will always be spoiled silage. Consider this point carefully in putting up a silo. You can get increased capacity by increasing the height or depth without this difficulty. Any silage that is left can be carried over until the next season. This can be done without any loss of silage if some straw or chaff is tramped down on top of the silage left, and this removed when the silo is refilled in the fall. It is far better to have two moderate-sized silos than one that is too large.

Some people always feel like paupers and live in penury, regardless of the amount of wealth they possess. It is said that Mrs. Hetty Green, who was the richest woman in the world and who left a fortune recently of \$125,000,000, lived almost in penury at times.

A Satisfying Home—the Farmer's Goal

BEFORE farming as a business or profession can be considered successful in the highest and best sense, the profits arising from production and distribution of farm products must be shared by the household.

Good breeds of live stock and the most approved and up-to-date labor-saving farm implements are a necessity on the farm.

Likewise up-to-date, sanitary, and drudgery-saving conveniences are as appropriate for the home as this machinery is for the farm.

The wife and children must not be neglected.

The home is, after all, the thing most desirable.

The goal of the successful farmer should be the home that satisfies, the home that is restful, delightful, enjoyable—a home such as the children are loath to quit, when they arrive at maturity, but ambitious to prepare another one like it for themselves on some other farm.—DR. J. H. WORST.

WHAT ONE SCHOOL IS DOING

*Working Co-Operation on
Part of Board, Teacher,
and Community, Has
Borne Fruit Abundantly in
This One-Teacher District*

By J. A. SHOEMAKER
Supervisor of Rural Schools

NEW MALDEN School, the first standard school of Atchison County, located near Horton, is the basis for this story. It illustrates what may be done in an ordinary country school with a live, progressive teacher, a live community, a good school board—all sharing a fine spirit of co-operation.

Harold S. Mahan has been the teacher in this district for the past two years. Undoubtedly a very large share of the credit for what has been done is due to Mr. Mahan's natural qualities of leadership and his enthusiasm, but he is disposed to give the people of the community and the excellent school board most of the credit for what has been accomplished. This, in itself, is evidence of the co-operative spirit that pervades the neighborhood.

In all essential particulars the New Malden school has been a typical Kansas rural school. It has had just an ordinary building and ordinary equipment. While it had the reputation of being a good school—as good rural schools go—it had been content to do ordinary work in the ordinary way.

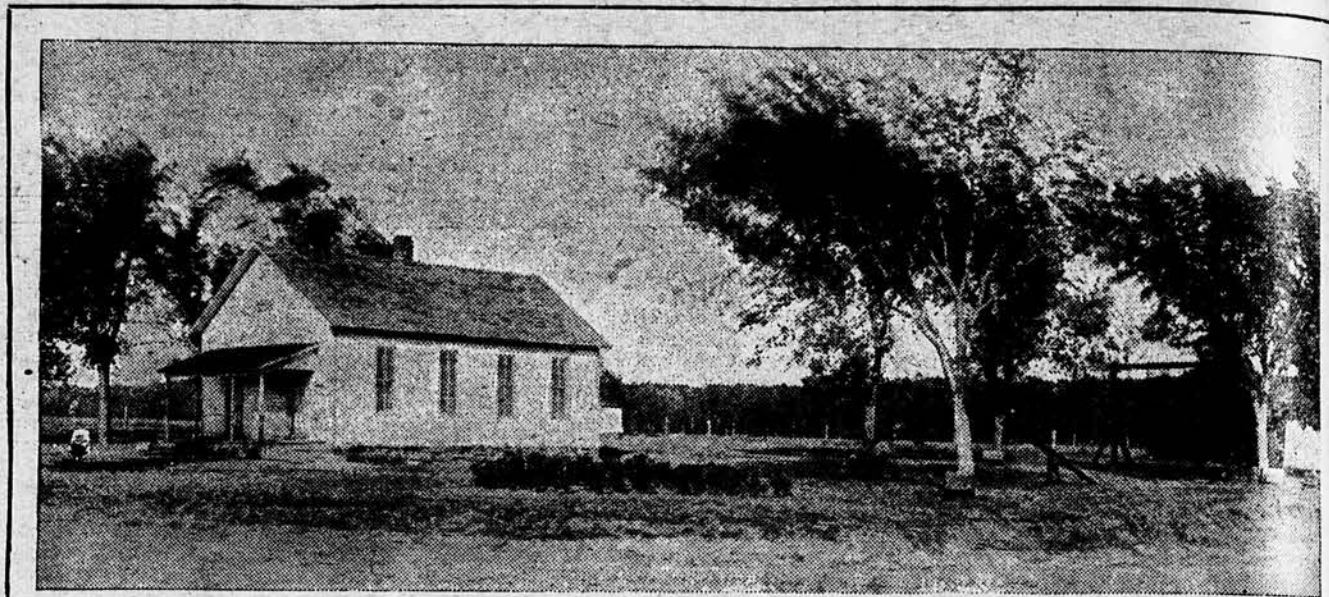
VALUE OF COMMUNITY FAIR

It is worthy of note that every new thing attempted has been done upon the advice and with the co-operation of the school board. No new venture is launched until its probable value to the community has been thoroughly discussed in the monthly meetings of the board and teacher. This plan of co-operation has made possible their very successful community fairs which serve the double purpose of interesting the community in the school and the school in the activities of the community. In these fairs five or six neighboring districts are invited to take part and they put on a very creditable exhibit of practically everything that is made or produced in any of the districts taking part. The exhibits are all made by the children. A nominal prize is offered to the boy or girl in each district making the best exhibit. At the beginning of school each fall, a list is made of all the possible exhibits and then the boys and girls place their names opposite the entries they will make and begin to select their products. At the 1914 fair one boy had about twenty entries. It is not necessary that the exhibitor grow or make the product exhibited, but it must be selected in his own district.

PLACE MADE FOR MANUAL TRAINING

This district wanted to put in manual training but there was neither room nor equipment. A pie social netted them enough money to buy the necessary tools to start the work, and the teacher and pupils made a bench which they installed in the small entry-way which had also served as a cloak room. They sought to make their work as practical as possible, trying for the most part to make such articles as might be useful to the community in some way. They made road markers for the New Malden highway. They also took orders from farmers in the community for such articles needed on the farm as they could make. That their efforts in this direction were successful is shown by the fact that at their annual meeting in 1915 it was voted to enlarge the building in order to provide additional room for the manual training department. At this same annual meeting the people voted to increase their school term from eight to nine months, and increased the teacher's salary from \$65 to \$80 a month.

Their first plans for enlarging the schoolhouse were later considered inadequate and they decided not only to enlarge it but to put a basement under the entire building. The work of excavating was all donated by the patrons



DISTRICT NO. 3, FRANKLIN COUNTY, FIRST STANDARDIZED SCHOOL IN STATE.—GROUNDS PARTICULARLY ATTRACTIVE WITH WELL TRIMMED TREES, SEATS, CANNA BEDS, AND GOOD WALKS.—BUILDING NOW BEING REMODELED.—IT IS FIXED UP NICELY INSIDE.—ONE BOY SAID ABOUT THIS SCHOOL, "IT'S SO NICE I'D LIKE TO LIVE THERE"

of the district and more than \$1,000 was spent on their enlargement program.

The basement furnishes a splendid place for manual training work, for furnace and fuel, storage room, a place for one of the ladies of the neighborhood to conduct a sewing class once or twice a week, a play room in bad weather, and may also be used as a class room when needed for this purpose. A fifty-gallon galvanized tank of the same diameter as the drum of the furnace, was placed on top of the furnace and this utilizes heat that would otherwise be lost. During the winter this tank is kept full of good, clean, hot water that the pupils draw from to make hot chocolate or cocoa, or use for washing purposes as desired. Plumbing for toilets was put in and at the last annual meeting an additional \$300 was voted for the purpose of installing indoor toilets.

WOMEN OF DISTRICT TEACH SEWING

They wanted to introduce sewing in the school, but the teacher did not feel competent to handle this subject. One of the women of the community—an excellent seamstress—volunteered to give the girls weekly instructions in sewing. The past year the wife of one of the board members—Mrs. Robert P. Waller—has had charge of the work in sewing. She has sacrificed time from her own housework to give two hours' instruction each week to the girls in the school. This work has been done at the school except when machine instructions were to be given, at which time she took the class to her home near by. The work of these girls in sewing would be a credit to any high school, and it has won first place in the county contest both years.

Their work in cooking has been done in a similar manner. Most of this work necessarily has to be done in the homes.

HOTBED PAYS ASSISTANT TEACHER

The past year the pupils built a large hotbed in which they produced sweet potato plants, cabbage, tomato, and pansy plants, and sold them to the farmers of the community. They realized enough from the proceeds of this

hotbed to pay the expenses of an assistant to the teacher for about five months. This assistant helped with the manual training work and did some of the teaching. He was not employed by the board but was dependent for his pay upon the earnings of the school in the various lines of activity.

A REAL LITERARY SOCIETY

Another community and school effort that deserves more than passing notice is the literary society, which meets every two weeks during the school year. In this "literary" not very much time is devoted to the discussion of the relative value of the cow and the horse, or similar time-worn subjects, but topics of live community interest are discussed and it has been made a vital force in working out some of the plans for better things. The school always provides a part of the program and the meetings are always well attended and very interesting.

Substantial improvements have been made in the grounds and outbuildings. The equipment of the school has been increased and improved and a very creditable school library has been built up from 25 to 134 volumes.

At the close of the school year an inventory is taken of every article of school equipment and this inventory is filed with the board.

HEALTH EXAMINATIONS MADE

The physical welfare of the children has not been neglected. During the past year the school board employed a physician to make a physical examination of every child in the school and numerous cases of adenoids, bad teeth, defective vision, etc., were discovered, which have since received proper treatment. This cost the district \$20, the work requiring one full day.

SCHOOL HAS BOOSTER CLUB

Another interesting feature of this school is its "Booster Club," an organization of the pupils. It has a president, vice-president, and other usual officers, and meets every two weeks. The children are given some parliamentary

drill, are taught to get up and talk before their fellow pupils and develop their initiative, and push for their school and community. The president of the club appoints committees to look after the roads each way from the schoolhouse, see that loose rocks are thrown out, bridges mended, ask that roads be dragged, and in general look after community improvements.

Most of the older boys and girls are active members in the clubs in canning, sewing, corn growing, and pig raising. Through this work they have found new interest in some of the commonplace duties of rural boys and girls.

"THREE R'S" ARE NOT NEGLECTED

Perhaps someone may wonder what the pupils have been doing in the way of actual school work all this time, and whether or not the ordinary work of the school has been entirely lost sight of through these various other activities. The answer to this question may be found in the returns from the diploma examination this last spring. Six members of the school were candidates for graduation and all were successful with very creditable grades. This shows that if properly handled the vocational work in the rural school does not detract from the regular studies, but that arithmetic, geography, physiology, and the other subjects studied come to have a new meaning and a more vital interest when hitched up in some way to the life of the community. It is safe to say that nothing worth while in the common school curriculum has been neglected in this school.

This is a brief account of some of the work the New Malden school and community have been doing the past two years.

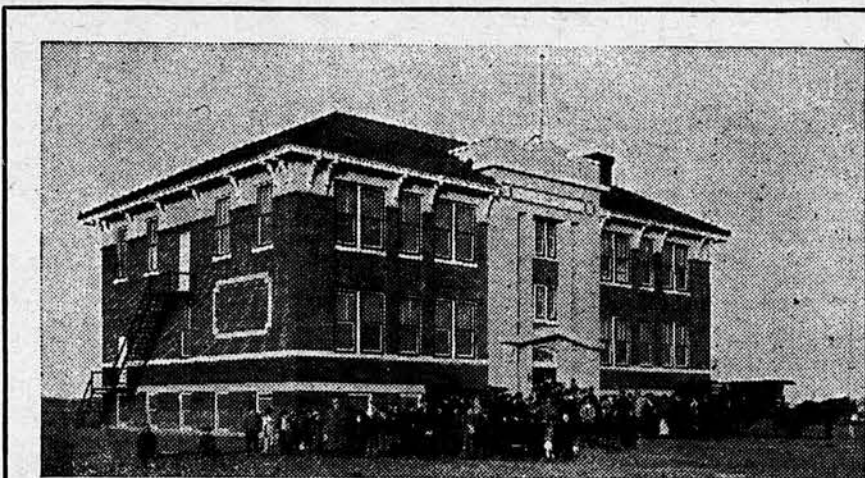
COMMUNITY'S RESPONSIBILITY

Can this work be duplicated in the average community? That will depend in a large measure upon the ability of the teacher to organize and lead the community to see the desirability of work of this nature, and upon the willingness of the community and school board to co-operate in working out the plans. Undoubtedly in practically every school district there is some woman who is a particularly good cook or a particularly good seamstress, and some man who has a superior working knowledge of some line of farming or who is skilled in wood work. In our one-teacher schools it is hardly possible to secure and hold a teacher who is capable of doing satisfactory work in all of these lines, but if some way can be found to utilize the local talent through the splendid spirit of co-operation exemplified in the New Malden community, one of our greatest rural problems will have been solved.

In Rush County five districts consolidated without one dissenting vote. A delegation representing all the districts was sent to visit the Rozel school in Pawnee County and all came back with very favorable reports of the work done there. The consolidated district is now erecting at Alexander, a building which will cost \$15,000 to \$20,000.

There are about forty rural high schools in the state at the present time.

Reno County stands first in the number of rural high schools and in the number of standard schools.



CONSOLIDATED school at Rozel, Pawnee County. Building cost \$20,000. Gymnasium in basement, also dry toilet system, and engine for pumping water into pressure tank. Building heated by steam. Running water on both floors. There are six class rooms, and an auditorium across north side, second floor. All rooms are well lighted. Three teachers for grades, three for high school. Three wagons and one automobile carry children back and forth.

GENERAL FARM INQUIRIES

Something For Every Farm—Overflow Items From Other Departments



SCENE AT TRACTOR PLOWING EXHIBITION HELD IN HUTCHINSON LAST YEAR.—THE DEMONSTRATION TO BE HELD NEXT WEEK WILL BE ON A LARGER SCALE THAN THE ONE OF A YEAR AGO.—IT IS AN EVENT OF GREAT EDUCATIONAL VALUE

SOME of our readers who dehorned their peach trees last spring are asking how to handle them this summer.

Dehorned trees throw up a very dense growth of branches. There will be twice as many new limbs as should be left. This dense growth must be thinned out so the air and sunlight can get down into the center of the tree. The tendency of these limbs is to grow straight up. Strong inside branches growing straight up may be tipped back to outside growing branches. By giving this strong new growth plenty of room, an abundant crop of fruit buds will develop. If left in the dense condition in which they are likely to grow, without attention, the fruit buds cannot develop and mature properly.

Why Plow Early?

M. T. L., Geary County, asks why it would not be better to let a big growth of weeds develop before plowing, so as to add a lot of vegetable matter to the soil.

It is a good idea to get all the vegetable growth possible into the soil, but if wheat is to be planted this fall the weeds will use up a large amount of moisture that the wheat will need at seeding time. It takes from 500 to 700 tons of water to produce a ton of dry weeds. This should be saved for the crop. If the weeds are allowed to grow, they will not only rob the soil of a great deal of moisture, but will use up much available plant food. This will not be returned to the soil until they have decayed and that will be too late for the wheat. Wheat seeded on land where a big growth of weeds has been turned under late in the season, will make a poor start and is very likely to winter-kill.

There is another good reason for plowing before a large weed growth can develop, and that is to bury the Hessian fly flaxseeds now in the stubble. If it is impossible to plow early, as it may be on many farms, a good disking will secure some of the benefits of early cultivation. Ground that is disked immediately after harvest can be plowed later when undisked ground will be so dry and hard that it cannot be plowed at all. A good disking will thus often make it possible to plow land in good shape a little later, when, without the disking, the work would have to wait for fall rains.

We would advise our correspondent to either disk or plow his land at once if he expects to sow wheat this fall.

Emergency Feed Crops

S. T. M., Miami County, writes that due to poor seed, a field of Orange cane he had planted for silage is a complete failure. He turned under the weeds that had started by plowing the ground rather shallow, and wants to plant something that will stand a chance of making some feed before frost.

Feterita is probably as good a crop as he could use in this field. It matures very quickly and while it is not considered as good a silage crop as is cane or kafir, it can be used for this purpose. H. M. Hill of Wilson County has used feterita for silage, and has found it is eaten readily by the stock. Other stockmen have made similar reports. It can be depended upon as an emergency crop at this late date. It should be drilled in rows and cultivated the same as cane or kafir.

Sudan grass is another crop that will mature very quickly and make a fine quality of feed. It is more of a hay crop than is feterita. Early Amber cane can be drilled broadcast at the rate of

75 to 100 pounds of seed to the acre and make some good feed before frost in Southeast and Southern Kansas. New Era or other early varieties of cowpeas drilled in a good seed bed at the rate of three pecks to one and one-half bushels to the acre, will make good forage, although not likely to mature much seed. They are richer in protein than are the other crops mentioned and are thus more valuable for feed, pound for pound. They can be harvested as a hay crop, grazed with stock, or turned under for green manure.

Sometimes cowpeas and cane are sown together with good results. A successful method is to drill the cowpeas three or four days ahead of the cane in rows the width of ordinary corn rows. The seed can be drilled between these rows with a one-horse grain drill or some of the hoes or disks can be removed from an ordinary grain drill so the rows of peas will not be disturbed. If the cowpeas and cane are sown at the same time, the cane will make the ranker growth and smother the peas.

On stock farms such emergency crops always come in handy and it will pay to utilize any land available for the growing of late feed crops. Such land might far better be growing a feed crop than producing weeds.

Watch Sheep for Maggots

R. L., Johnson County, asks what to do for maggots in sheep.

Lambs are likely to be bothered with maggots at this time of the year, especially those that have just been docked or castrated. Maggots will develop in twenty-four hours. Sometimes they get into patches of clotted filth about the hind quarters and spread and make bad sores if not checked.

To clean out maggots, pour on them lysol, creolin, or other strong dip; full strength. Several applications may be necessary. When the maggots are all killed, use a healing salve on the wound. Sheep and lambs should be watched closely at this season of the year and maggots destroyed before they do serious harm.

Barbed Wire Injuries

Many inquiries are made at this time of the year relative to the treatment for barbed wire cuts on horses.

These injuries are always dangerous, however slight. Frequently they are neglected and the future usefulness of the horse is greatly impaired.

The first thing to do in treating such an injury is to stop the bleeding. Sometimes quite large arteries are cut. If on a leg, a tight bandage between the wound and the body will check the flow of the blood. The bleeding from slight wounds may be stopped by bandaging a layer of cotton tightly over it.

After the bleeding has been stopped a 2 per cent solution of carbolic acid and water—two parts of carbolic acid to 98 of water—should be used to cleanse and disinfect the wound. Loose shreds of flesh or skin should be cut off with scissors. In healing small surface cuts, a healing powder which can be procured from a veterinarian should be applied once a day, keeping a layer of cotton over the injury with a bandage until it has healed so as to be in no danger of infection.

Large and deep wounds require in addition to the treatment already suggested, the use of stitches to hold the edges of the wound together. The lower part of a cut should always be left open so that the pus that forms can escape.

The most dangerous wire cuts are those near joints, and in treating these and also the deeper flesh wounds it is

best to consult a good veterinarian. A stiffened or enlarged joint greatly reduces the value of a horse and frequently through proper treatment such outcome may be avoided.

Fire Blight

V. B. N., Stafford County, writes that twigs are dying on some of his six-year-old apple trees. He can find no signs of insect injury, and asks what to do.

We referred this inquiry to Prof. Albert Dickens of the Kansas Agricultural College, who replied as follows:

"Your trees are undoubtedly affected with fire blight. This disease has been very common the past two seasons. It is not as serious on apple trees as pear trees and apple trees commonly outgrow the disease. It is much more serious in its work on young trees than on trees of mature age, although there are some varieties such as the Jonathan and Maiden Blush that seem to be more susceptible than others. It not infrequently happens that Jonathan trees will bear a good crop of apples at the same time the smaller twigs are affected with the blight.

"Fire blight is a bacterial disease affecting the pomaceous fruits, especially the pear and the apple, for which reason it is sometimes called 'pear and apple blight,' a distinctly different disease, so it should not be used. The fire blight is caused by myriads of minute organisms, living in the bark and the cambium just beneath it. The disease has been known for over a hundred years, but its true cause has been known only since 1878, when it was discovered by Professor Burrill of Illinois. The blight affects the tree in various ways and is hence known as 'twig blight,' 'flower blight,' and 'branch' or 'trunk blight,' according to the part of the tree affected.

"The twig blight causes the leaves to turn brown and the smaller twigs to die. The dead leaves remain on the tree during the following winter, giving the tree the appearance of having been scorched. The organisms generally enter the twigs through their stigma and nectar glands and with the undeveloped fruit, remain on the tree through the winter. The trunk blight is more common in the pear than in the apple, and causes whole limbs to turn brown. The younger growth is affected first and brown spots appear on the bark. Later it is found to have tiny drips of sap exuding all over the diseased area and the disease spreads to the larger limbs. The exuded sap is alive with the organisms which produce the disease. It is easy to see from this, one means of dissemination. Bees and other insects feed on this sap, and carry away the bacteria clinging to their mouth parts. They are forced into a healthy flower and the organisms left there to cause flower blight. It has been proved that fire blight is found more frequently around the bee hives than in portions of the orchard more remote from them, thus giving practical evidence of this theory of dissemination.

"Another means of dissemination is supposed to be high winds. One of the most easily avoided modes of infection is that of the pruning knife. Cutting through diseased and then through healthy tissue without sterilizing the instrument after the first cutting carries the germ into the tissue of the second limb. After cutting through the diseased tissue, the instrument should be sterilized by passing through a flame, wiping with a cloth saturated with kerosene, immersed in a 5 per cent solution of carbolic acid or otherwise thoroughly disinfected.

"Since the cause of the disease is be-

low the outer coat of bark, spraying is useless as a preventive or remedy. Careful and persistent pruning is the only means found effective in combating this pest. All affected parts should be cut off just before the trees come in bloom. Some authorities strongly recommend painting the cut ends of the limbs where the vascular bundles are exposed, as the germs can enter and infect the trees through any wound in the bark. In the case of twig and flower blight, which occurs most frequently in the apple, this painting is not practical, but in the pear where it is most frequently the larger limbs that are affected, this may be practiced. The diseased tissue should be cut away several inches below all discolorations, as the disease spreads down the branches and the organisms may be present in apparently healthy tissue. The second pruning should be done about two weeks after blooming, by which time the affected flowers will have turned brown. The trees should be examined a third time just before the leaves drop in the fall, and all diseased tissue removed. The diseased parts which have been cut away should be at once carefully collected and burned to prevent their serving as a source of further infection. The work should be done at the proper time, and very carefully done."

Two-Row Tools

J. B., Nebraska, asks if it is practical to use two-row listers and two-row cultivators on rolling ground.

Farmers are up against the labor proposition these days and every effort possible must be made to use tools that will increase the man's efficiency. It is only by so doing that a farmer can hope to become very successful. We would certainly advise that the two-row tools be used if the labor shortage is a factor in conducting this farm and the land is not so rough and uneven as to make it impossible to operate them successfully. This is a point we cannot answer positively.

Perhaps arrangements can be made to try a two-row cultivator or lister before buying. Sometimes a little investigation around the neighborhood will help solve such problems. Men may be found who are successfully using two-row tools under the same conditions prevailing on our correspondent's farm. It is always a good plan to find out what other farmers are doing in a community. A lot of valuable experience goes to waste because it is not passed on to others.

Caring for Alfalfa Pasture

L. R. S., Allen County, asks if there is any danger of killing his alfalfa by pasturing it too closely with hogs. Whenever possible, enough alfalfa should be enclosed for the hogs so that a half ton of hay to the acre can be cut two or three times during the season in the pasture. When cut for hay, the whole pasture will be grazed much more uniformly. In a pasture where there is not enough alfalfa left to pay to put it up for hay, it is a good plan to run over it with the mower if there are many patches that are not grazed close. These patches that have grown up and become tough will send up new shoots and the hogs will not be so likely to injure other places where previously they had been grazing too closely.

A good stand of alfalfa is worth too much to permit its being injured by too heavy pasturing. Dividing the hog pasture into two parts will help some, as the hogs can be turned from one part to the other. One section will thus have a chance to recover while the other is being grazed.

OVERLAND RED

A Romance of the Moonstone Canon Trail



BEGAN IN OUR LAST ISSUE.

CHAPTER IV

"ANY ROAD, AT ANY TIME, FOR ANYWHERE"

THE boy Collie took the empty tomato-can and went for water with which to put out the fire. Louise and Overland Red gazed silently at the youthful figure crossing the meadow. The same thought was in both their hearts—that the boy's chance in life was still ahead of him. Something of this was in the girl's level gray eyes as she asked, "Why did you come up here, so far from the town and the railroad?"

"We generally don't," replied Overland Red. "We ain't broke. Collie's got some money. We got out of grub from comin' up here. We come up to see the scenery. I ain't kiddin'; we sure did! 'Course, speakin' in general, a free lunch looks better to me any day than the Yosemite—but that's because I need the lunch. You got to be fed up to it to enjoy scenery. Now, on the road we're lookin' at lots of it every day, but we ain't seein' much. But give me a good feed and turn me loose in the Big Show Pasture where the Bridal Veil is weepin' jealous of the Cathedral Spires, and the Big Trees is too big to be jealous of anything, where Adam would 'a' felt old the day he was born—jest take off my hobbles and turn me out to graze there, and feed, and say, lady, I scorn the idea of doin' anything but decomposin' my feelin's and smokin' and writin' poetry. I been there! There's where I writ the song called 'Beat It, Bo.' Mebby you heard of it."

"No, I should like to hear it."

The fire steamed and spluttered as Collie extinguished it. Overland Red handed the tobacco and papers to him.

"About comin' up this here trail?" he resumed as the boy stretched beside them on the warm earth. "Well, Miss, it was four years ago that I picked up Collie here at Albuquerque. His pa died sudden and left the kid to find out what a hard map this ole world is. We been across, from Frisco to New York, twice since then, and from Seattle to San Diego on the side, and 'most everywhere in California, it bein' my native state and the best of the lot. You see, Collie, he's gettin' what you might call a liberated education, full of big ideas—no dinky stuff. Yes, I picked him up at Albuquerque, a half-starved, skinny little cuss that was cryin' and beggin' me to get him out of there."

"Albuquerque?" queried Louise.

"Uhuh. Later, comin' across the Mojave, we got thrum off a freight by mistake for a couple of sewin'-machines that we was ridin' with to Barstow, so the tickets on the crates said. That was near Daggett, by a water-tank. It

was hotter than settin' on a stove in Death Valley at 12 o'clock Sunday noon. We beat it for the next town, afoot. Collie commenced to give out. He was pretty tender and not strong. I lugged him some and he walked some. He was talkin' of green grass and cucumbers in the ice-box and ice-cream and home and the Maumee River, and a whole lot of things you can't find in the desert. Well, I got him to his feet next mornin'. We had some trouble, and was detained a spell in Barstow after that. They couldn't prove nothin', so they let us go. Then Collie got to talkin' again about a California road that wiggled up a hill and through a canon, and had one of these here ole Mission bells where it lit off for the sky-ranch. Funny, for he was never in California then. Mebby it was the old post-card he got at Albuquerque. You see his pa bought it for him 'cause he wanted it. He was only a kid then. Collie, he says it's the only thing his pa ever did buy for him, and so he kept it till it was about wore out from lookin' at it. But considerin' how his pa acted, I guess that was about all Collie needed to remember him by. Anyhow, he dreamed of that road, and told me so much about it that I got to lookin' for it too. I knowed of the old El Camino Real and the bells, so we kept our eye peeled for that particular dream road, kind of for fun. We found her yesterday."

"What, this? The road to our ranch?"

"Uhuh. Collie, he said so the minute we got in that canon, Moonstone Canon, you said. We're restin' up and enjoyin' the scenery. We need the rest, for only last week we resigned from doin' a stunt in a movin'-picture outfit. They wanted somebody to do native sons. We said we didn't have them kind of clothes, but the foreman of the outfit says we'd do fine jest as we was. It was fierce—and, believe me, lady, I been through some! I been through some!"

"They was two others in checker clothes and dip-lid caps, and they wasn't native sons. They acted like sons of—I'd hate to tell you what, Miss—to the chief dollie in the show. They stole her beau and tied him to the S.P. tracks; kind of loose, though. She didn't seem to care. She jest stood around chewin' gum and rollin' her lamps at the head guy. Then the movin'-picture express, which was a retired switch engine hooked onto a Swede observation car, backs down on Adolphus, and we was to rush up like—pretty fast, and save his life."

"She was a sassy little chicken with blond feathers and a three-quarter rig skirt. She had a regular strawberry-ice-cream-soda complexion, and her eyes looked like a couple of glass alleys with electric lights in 'em. I wondered if she took 'em out at night to go to sleep or only switched off the current. Any-

how, up she rides in a big reddish kind of automobile and twists her hands round her wrists and looks up the track and down the track and sees us and says, 'Oh, which way has he went? Which way did Disgustus Adolphus beat it to?' And chewin' gum right on top of that, too. It was tough on us, Miss, but we needed the money."

"'Bout the eighteenth time she comes coughin' up in that old one-lung machine—to get her expression right, so the boss kept hollerin'—why, I gets sick and tired. If there's anything doin', why, I'm game, but such monkeyin'! There was that picture-machine idiot workin' the crank as if he was shellin' a thicket-full of Injuns with a Gatling, and his fool cap turned round with the lid down the back of his neck, and me and Collie, the only sensible-actin' ones of the lot, because we was actin' natural, jest restin'. I got sick and tired. The next time up coughs that crippled-up automobile with the mumps on its front tire, and she says, 'Where, oh, where has he went?' I ups and says, 'Crazy, Miss, and can you blame him?'"

"She didn't see no joke in that, so the boss he fired us. He wasn't goin' to pay us at that, but I picks up the little picture-machine box and I swings her up over the track kind of suggestive like. 'One!' said I. 'Do we get our money?'"

"'Drop that machine!' says he, rushin' up to me."

"'I'm a-goin' to,' says I, 'good and hard. Think again, while I count. Do we get our money?'"

"'You get pinched!' says he."

"'Two,' says I, and I swings the box up by the legs."

"'Hole on!' yells the boss. 'Pay the mutt, Jimmy, and, for Gord sake, get that machine before he ruins the best reel we made yet!'"

"'We got paid.'"

"'But the bell and Moonstone Canon?' questioned Louise, glancing back at Boyar grazing down the meadow."

"'Sure! Well, we flopped near here that night—'"

"'Flopped?'"

"'Uhuh. Let's see, you ain't hep to that, are you? Why, we crawled to the hay, hit the feathers, pounded our ear—er—went to bed! That's what it used to be. Well, in the morning, me and Collie got some sardines and crackers to the store and a little coffee. It was goin' over there that we seen the bell and the road and the whole works. I got kind of interested myself in that canon. I never saw so many moonstones layin' right on top the gravel, and I been in Mex., too. We liked it and we stayed over last night, expectin' to be gone by now.'"

"'And when you leave here?' queried Louise."

"'Same old thing,' replied Overland cheerfully. 'I know the ropes. Collie works by spells. Oh, we're livin', and that's all you need to do in California.'"

"'And that is all—now that you have found the road?'"

"'Oh, the road is like all of them dreams,' said Overland. 'Such things are good for keepin' people interested in somethin' till it's done, that's all. It was fun at first, lookin' up every arroyo and slit in the hills, till we found it. Same as them marriages on the desert, after that.'"

"'Marriages?'"

"'Uhuh. Seein' water what ain't there, like.'"

"'Oh, mirages!' And Louise laughed joyfully."

"'I don't see no joke,' said Overland, aggrieved."

"'I really beg your pardon.'"

"'That's all right, Miss. But what would you call it?'"

"'Oh, an illusion, a mirage, something that seems to be, but that is not.'"

"'I don't see where it's got anything on marriages, then, do you? But I ain't generally peppermistic. I believe in folks and things, although I'm old enough to know better.'"

"'I'm glad you believe in folks,' said Louise. 'So do I.'"

"'It's account of bein' a pote, I guess,' sighed the tramp. "'Course I ain't a professional. They got to have a license. I never took out one, not havin' the money. Anyway, if I did have enough money for a regular license, I'd start a saloon and live respectable.' You're real California stock. Knewed it

the minute I set eyes on you. Besides, you passed us the smokes."

"Red, you shut up!"

Overland turned a blue, astonished eye on Collie. "Why, kiddo, what's bitin' you?"

"'Because the lady give us the mak.' 'Won't you quote something?' And the girl smiled bewitchingly. 'Boyar and I must go soon. It's getting hot.'"

"'I'm mighty sorry you're goin', Miss. Ings don't say she smokes, does it?'"

Overland grunted. "Because you're foolish with the heat, don't say I am, does it? Them sandwiches has gone to your head, Chico. Who said she did smoke?"

Louise, grave-eyed, watched the two men, Overland sullen and scowling, Collie fierce and flaming.

"We ain't used to—to real ladies," apologized Overland. "We could do better if we practiced up."

"Of course!" said Louise, smiling. "But the poetry."

"U-m-m, yes. The poetry. What'll I give her, Collie?"

"I don't care," replied the boy. "You might try 'Casey Jones.' It's better'n anything you ever wrote."

"That? I guess not! That ain't her style. I mean one of my own—some-thing good."

"Oh, I don't know. 'Toledo Blake,' mumbled Collie."

"Nope! But I guess the 'Grand Old Privilege' will do for a starter."

"Oh, good!" And Louise clapped her hands. "The title is splendid. Is the poem original?"

The tramp bowed a trifle haughtily. "Original? Me life's work, lady." And he awkwardly assayed to button a buttonless coat, coughed, waved his half-consumed cigarette toward the skies, and began—

"Folks say we got no morals—that they all fell in the soup;
And no conscience—so the would-be good-ies say;
And I guess our good intentions did jest up
and flew the coop,
While we stood around and watched 'em
fade away."

"But there's one thing that we're lovin' more than money, grub, or booze,
Or even decent folks that speaks us fair;
And that's the Grand Old Privilege to
chuck our luck and choose,
Any road at any time for any where."

And Overland, his hand above his heart, bowed effusively.

"I like 'would-be goodies,'" said Louise. "Sounds just like a mussy, sticky cookie that's too sweet. And 'Any road at any time for any where'—I think that is real."

Overland puffed his chest and cleared his throat. "I can't help it, Miss. Born that way. Cut my first tooth on a book of pomes ma got for a premium with Mustang Liniment."

"Well, thank you." And Louise nodded gaily. "Keep the tobacco and papers to remember me by. I must go."

"We don't need them to remember you by," said Overland gallantly. Then the smile suddenly left his face.

Down the Old Meadow Trail, unseen by the girl and the boy, rode a single horseman, and something at his hip glinted in the sun. Overland's hand went to his own hip. Then he shrugged his shoulders, and slowly recovered himself. "What's the use?" he muttered.

But there was that in his tone which brought Collie's head up. The lad pushed back his battered felt hat and ran his fingers through his wavy black hair, perplexedly. "What's the matter, Red? What's the matter?"

"Nothin'. Jest thinkin'." Yet the tramp's eyes narrowed as he glanced furtively past the girl to where Boyar, the black pony, grazed in the meadow.

Louise, puzzled by something familiar in the boy's upturned, questioning face, raised one gauntleted hand to her lips. "Why, you're the boy I saw, out on the desert, two years ago. Weren't you lying by a water-tank when our train stopped and a man was kneeling beside you pouring water on your face? Aren't you that boy?"

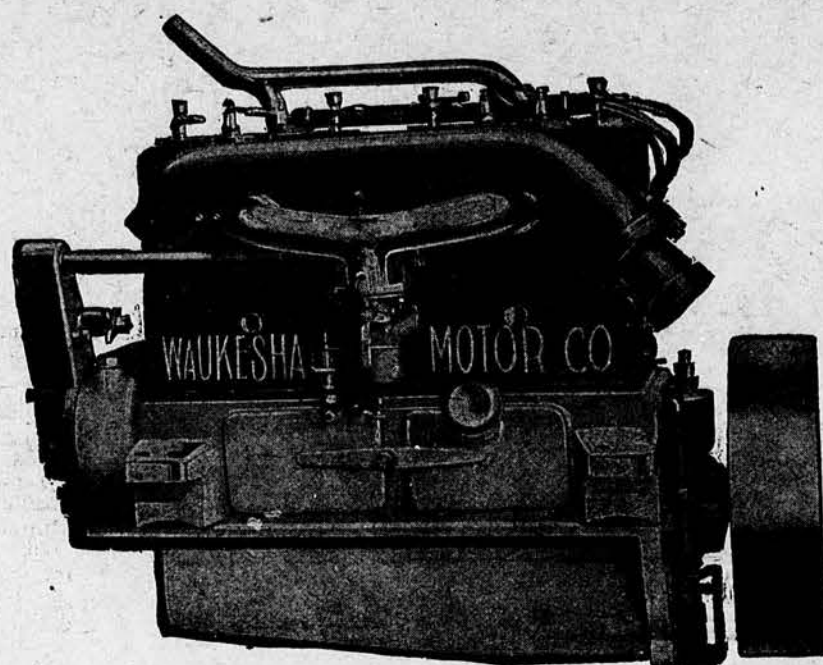
"Yes!" exclaimed Collie, getting to his feet. "Red told me about you, too."

"Yes, it's her," muttered Overland, nodding to himself.

"And you chucked a rose out of the window to us?" said the boy. "Overland said she did."

"Yes. It's her, the Rose-Lady Girl," said Overland. "Some of the folks in

[Continued on Page Fifteen.]



A Message to Tractor Buyers

Visit the Tractor Demonstration at Hutchinson, Kansas.

You will have an opportunity there to study the world's best tractors.

Pay close attention to the question of tractor *power*. Keep in mind that the vital part of a tractor—the feature that determines its real value is the *motor*—the power plant.

The tractor operator who *knows* would prefer to have a tractor of questionable design equipped with a *good motor* rather than a tractor of approved design equipped with a *poor motor*. The reason for this is obvious. In the first case, he *has the power* and with a little ingenuity can use it. In the second case, *not having sufficient power*, his tractor can accomplish little or nothing. Therefore, carefully consider the *motor* before you buy the tractor.

More than a score of America's leading makes of tractors are equipped with Waukesha Motors. In fact, one out of every three tractor builders in the U. S. equips his product with the Waukesha Motor.

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World's largest exclusive builders of tractor motors



Patrick Henry Addressing the First Continental Congress, Philadelphia, 1774

One Nation; One People

WHEN Patrick Henry declared that oppression had effaced the boundaries of the several colonies, he voiced the spirit of the First Continental Congress.

In the crisis, the colonies were willing to unite for their common safety, but at that time the people could not immediately act as a whole, because it took so long for news to travel from colony to colony.

The early handicaps of distance and delay were greatly reduced and direct communication was established between communities with the coming of the railroads and the telegraph. They connected places. The telephone connects persons irrespective of place. The telephone system has provided the means of individual communication which

brings into one national family, so to speak, the whole people.

Country wide in its scope, the Bell System carries the spoken word from person to person anywhere, annihilating both time and distance.

The people have become so absolutely unified by means of the facilities for transportation and communication that in any crisis they can decide as a united people and act simultaneously, wherever the location of the seat of government.

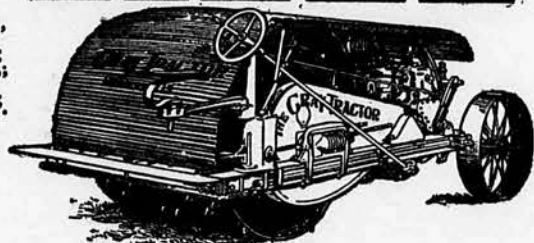
In the early days, the capital was moved from place to place, because of sectional rivalry, but today Independence Hall is a symbol of union, revered alike in Philadelphia and the most distant American city.

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FEDERAL AID FOR ROADS

Kansas Fully Equipped to Make Use of Government Funds

THE bill providing for Federal aid in the construction of rural post roads, just approved by the President, will be the means of constructing a large system of substantial highways in Kansas and throughout the United States.

The Federal money, of which 5 million dollars is available at once, is apportioned by the United States Secretary of Agriculture to the several states, after deducting not to exceed 3 per cent for administration, in the following manner: One-third in the ratio which the area of each state bears to the total area of all the states. One-third in the ratio which the population of each state bears to the total population of all the states. One-third in the ratio which the mileage of rural delivery routes and star routes in each state bears to the total mileage of rural delivery routes and star routes in all the states.

For the year ending July 1, 1917, there will be available for Kansas approximately \$149,000; for 1918, \$297,000; for 1919, \$446,000; for 1920, \$595,000; and for 1921, \$743,000.

These funds can be used only for road improvements of a substantial character and the Federal government cannot pay to exceed 50 per cent of the total cost of the material and construction work. Either the state or the counties must provide at least 50 per cent of the total cost of the improvement before any Federal aid can be had.

There is apparently no reason why the Hodges road law cannot be used in Kansas in connection with the Federal appropriations, for the Supreme Court of Kansas has passed upon its constitutionality and the county commissioners are authorized to issue county improvement bonds, thus practically guaranteeing the funds to be collected from the benefit district.

The roads to be improved must be "rural post roads" and must be selected by the state highway department. "Rural post roads" are defined as "public roads over which the United States mails now are or may hereafter be transported, excluding every street and road in a place having a population, as shown by the last available Federal census, of 2,500 or more, except that portion of any such street or road along which the houses average more than 200 feet apart."

Some have asserted that Kansas was barred from the use of this Federal money because we have no State Highway Commission. As a matter of fact, Kansas is in a better position to use this money to good advantage than some other states having State Highway Commissions.

The bill provides that "the term, 'state highway department,' shall be construed to include any department of another name, or commission, or official or officials, of a state empowered, under its laws, to exercise the functions ordinarily exercised by a state highway department."

The Kansas law, passed in 1914, provides that "whenever the county engineer or board of county commissioners

of any county may desire the advice and scientific knowledge of the state engineer of roads and highways at the State Agricultural College at Manhattan, Kansas, in relation to road building materials and their use, grading and draining roads, plans and specifications for bridges, culverts, concrete and metal construction and the best methods of caring for roads and highways, they may command such services; and it is hereby made the duty of the state engineer and the State Agricultural College at Manhattan, Kansas, to furnish all such advice and scientific knowledge without charge and expense to the county engineer or to the board of commissioners requiring the same, or to the county they represent."

Since 1909 the agricultural college has maintained a highway department, and since 1911 the college has been authorized by law to carry on road work and to exercise the functions ordinarily exercised by a state highway department, so that Kansas is legally, technically, and financially able to take advantage of this Federal aid.

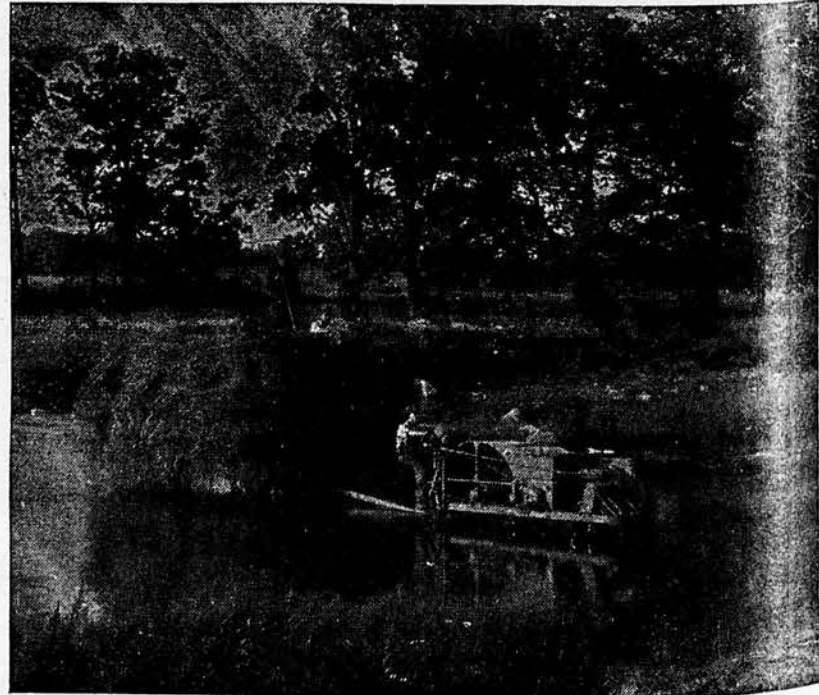
The bill requires that the roads selected must be approved by the United States Secretary of Agriculture. The highway department of the state must then make the necessary surveys and prepare the plans, specifications and estimates of cost and submit the same to the Secretary of Agriculture for his approval. After the road is selected and the plans, specifications and estimates have been approved by the Secretary of Agriculture, the construction work must be carried out under the direct supervision of the highway department of the state under rules and regulations agreed upon by the Secretary of Agriculture and the highway department.

The roads constructed by Federal aid must be maintained by the state or its civil subdivisions. In Kansas these roads will have to be maintained by the counties and townships, since the state cannot appropriate money for highways. If any of these roads improved by Federal aid are not maintained, the Secretary of Agriculture is authorized to withhold appropriations from the state or counties until the roads are properly maintained.

Funds appropriated to a state and not used that year are available for the following year only.

States having no highway department are given three years' time in which to establish one, and the funds appropriated are withheld and cannot be used until a highway department is established.

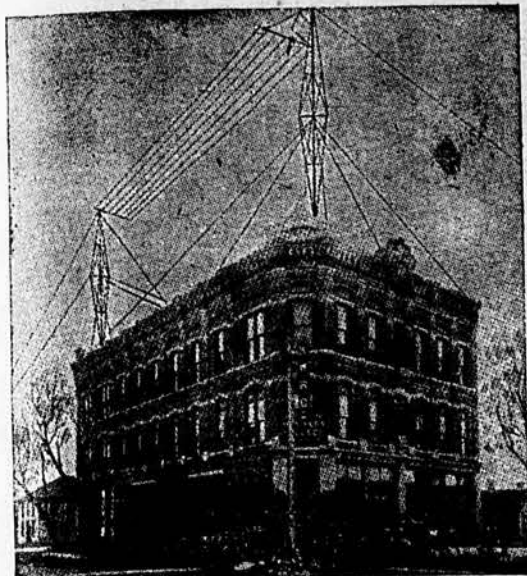
The successful farmer is the one who has a diversity of crops. It does not pay to farm, neither would it be the best thing to plant nothing but corn. The farmer who makes a success has a few cows, a few hogs, a few head of mares. He plants corn, wheat, oats, alfalfa, kafir and other crops for feed. Then if one fails he stands a chance to make something out of some of the others.



**THIS TRACTOR HAS BEEN USED IN THE HAY FIELD.—
THE STREAM IS NO IMPEDIMENT TO ITS PROGRESS**
(Courtesy J. I. Case Threshing Machine Company)

EDUCATE! TRAIN!! SUCCEED!!!

DON'T WORRY ABOUT YOUR FUTURE Control Your Future by Having a Specialty SPECIALIZE AT THIS SCHOOL



Kansas Wesleyan Business College YOUR INTERESTS ARE FIRST HERE

KANSAS WESLEYAN BUSINESS COLLEGE occupies the entire building shown in the accompanying illustration. It affords plenty of room for over one thousand students. It has modern equipment and office appliances throughout.

Business men, banks and railroads respect our training and employ our graduates.

Why? Because they always **MAKE GOOD.**

Expert teachers with business experience train students efficiently.

Every modern business appliance, including Dictagraph, Multigraph, Burroughs Adding Machine, Bank Posting and Listing Machine, Addressograph, Graphotype, Check Writer, McCaskey Account Register, National Cash Register, two Banks completely outfitted, most powerful and best equipped Wireless Station in the West, Stenotypes, and Remington, Underwood and Royal Typewriters keep our students up-to-date.

We have the strongest and most complete business and stenographic courses of any school in the country. These courses equip our students so well that Kansas City

business firms send to us for bookkeepers and stenographers, offering \$75 to \$125 a month for our graduates. Wichita took two of our graduates recently, one at \$1,000 a year and one at \$1,500. A number of our graduates in competitive civil service examinations have won positions paying from \$1,000 to \$1,800 a year. Nothing but superior training can account for these facts. Banks in the West are using 1,500 of our graduates and are calling for more all the time. Twenty positions a week to fill and ten people to fill them with! Do you understand now how we can guarantee a position to every graduate? The Kansas Wesleyan Business College can get you ready for the big job and can put you next to it when you are ready, but, young people, it is your move. We can't help you till you give us a chance.

Do not forget our Department of Telegraphy and Wireless. Some of the biggest opportunities in modern business life are open to the telegraph operator. If you will write President Tucker, mentioning Kansas Farmer, he will give to the first ten enrolling under this offer a \$50 course in wireless telegraphy, absolutely free, in connection with the regular telegraph course.

Young Women at the College. Nearly a third of the students enrolling last year were young women. Special provision is made for their welfare, care, and comfort, by Mrs. L. L. Tucker, Dean of Women. With Mrs. Tucker and our fine group of Christian women on the faculty, our girls are not only safe, but they are happy, contented and successful.

The Kansas Wesleyan Business College Offers You Eighteen Courses.

COMMERCIAL COURSE.
SHORTHAND AND TYPEWRITING COURSE.
SPECIAL BUSINESS COURSE.—Preparing for the best bookkeeping positions and expert accounting.
SPECIAL STENOGRAPHIC COURSE.—Giving choice of Pitman, Gregg, or Machine Shorthand. Prepares for rapid dictation or court reporting.
SPECIAL COMBINED COURSE.—Prepares for finest business positions or commercial teaching.
COMBINED BUSINESS AND SHORTHAND.
BANKING COURSE.—Modern banking methods, real banking office practice, clearing house, instruction on Burroughs Bank Posting and Listing Machine. 1,500
GRADUATES IN BANKS.
PENMANSHIP COURSE.
COURT REPORTING COURSE.
CIVIL SERVICE COURSE.
ADVERTISING COURSE.
BUSINESS COURSE AND TYPEWRITING.
FARM ACCOUNTING COURSE.
TYPEWRITING COURSE.
TELEGRAPHY COURSE.
WIRELESS TELEGRAPHY COURSE.
STENOGRAPHY.—The machine way of shorthand.
PREPARATORY COURSE.
SHORTHAND AND BUSINESS COURSE.

A Few Things to Remember.

We have eighteen bright, snappy courses of study, full of the very things that young people need in their fight for success.

We employ a high priced coach and physical director for our football, basketball, baseball, and track teams. We have a fine lecture course free for all students.

Both young men and young women have access, under proper restrictions, to gymnasium practice, swimming pools, baths, and other spiritual, social and physical benefits to be found in the Y. M. C. A. and Y. W. C. A. organizations.

Stenotypy or "Machine Shorthand" has proved its value at the college. Machine shorthand is faster and more accurate than pencil shorthand and we are sending our stenotypists to the best and highest salaried positions that are open. Find out about stenotypy before you decide on your course. We have the second largest stenotype department in America.

The college provides a leader and trainer for the college band and orchestra. This is a free service also. Bring your instruments with you.

A faculty of twenty expert, experienced teachers.

On the recommendation of the college management, graduates from our special combined courses receive from the Kansas Wesleyan University the degree of Bachelor of Commercial Science or the degree of Master of Accounts.

We not only guarantee you a position when your work is completed, but we guarantee you satisfaction with the treatment you receive while in college. If you have any reason for dissatisfaction with the courses of study or with the treatment accorded to you from our officers and teachers, the money you have paid in with 6 per cent added will be returned to you.

President L. L. Tucker, B. C. S., M. A., member of the National Association of Commercial Teachers, is also an expert and consulting accountant. He is one of the best known and most highly respected commercial school men in the United States. His presence at the head of this great school is an assurance that the interests of every student will be both wisely and conscientiously guarded.

Salina a College and Business Town

In selecting a school, it is important to look at its location. Salina, Kansas, the home of Kansas Wesleyan, is one of the cleanest and most progressive business cities in the United States. It is known from ocean to ocean as a "clean city." Its citizenship is high, exerting a wholesome influence upon the students who come here to school and supporting the school in its principles of discipline and training. And Salina is big enough so that many students can earn their way through school.

FILL OUT, TEAR OFF, AND MAIL TODAY.

L. L. Tucker, Pres. Kansas Wesleyan Business College, Salina, Kansas.

Dear Sir.—Please send me FREE and POST-PAID your 1916 catalog and a copy of "THE NEW ERA" telling me all about your school and guaranteed positions to graduates.

My Name

My Address

Kansas Farmer Dairy Club

Protect Your Cows From Flies

THE fly season is here and this is always a trying time for the milk cow. Flies annoy them while they graze so they cannot eat as much grass and the constant irritation tends to reduce the milk flow. Cows never do well when they are uncomfortable, whatever may be the cause.

It will pay to protect your cow from the flies. There are materials sold on the market that you can put on the cow to keep the flies away. These are in liquid form and can be sprayed on the cow's legs and back where she cannot reach the flies with her tail. If you spray the cow just before you milk, she will stand much more quietly. You must be careful, however, in using the sprays at this time or the odor of them will get into the milk. Do not let any of the spray get on the cow's udder and see that your hands are free from it. The following home-made mixtures are good: Fish oil or crude cottonseed oil 3 parts, pine tar 1 part. Crude cottonseed oil or fish oil 100 parts, carbolic acid 1 part. These can be applied with a broad brush or piece of cloth. Another good one is made as follows: One and one-half pounds resin, 2 cakes laundry soap, and water enough to make 3 gallons. Boil the resin and soap in part of the water and add the balance. One-half pint of kerosene added to this will thin it and make it easier to use.

Doing Club Work in Earnest

My cow is certainly doing fine. She is large, dark red, and is in fine condition. She is one of the best cows around here. Her cream, if run through a separator, is so thick that it would have to have water put with it before being churned. Her calf is growing fine. I call my cow "Martha," which was her name before I bought her. I call my calf "Dale."

I have sent you my June reports. I sent them as soon as I received my test. I sold more butter fat than the test gave credit for, besides feeding Dale about two quarts of fresh milk a day. Would the cow being re-bred the night before make any difference or would formaldehyde put in to keep the sample sweet, lower the test?

I would not sell my cow for a great deal more than I gave for her. I have never missed milking her myself since she has been fresh. It is very easy to milk her.

I read every KANSAS FARMER.—LELA MAE HAYNES, Rawlins County.

EDITOR'S NOTE.—The preservative does not affect the test. The fact that the cow was re-bred the night before the day on which the composite sample was taken, might influence the test. It is always best under such circumstances to delay taking the sample until the day following, so the cow will be thoroughly quiet when the sample is taken.

When the total butter fat is figured from a single day's composite sample taken the middle of the month, there may be a slight variation from the actual butter fat produced, but in the course of a year these variations will tend to offset one another, so the actual amount produced and the amount figured from the monthly tests will be very close.

You do not seem to understand that the cow has nothing to do with the richness of the cream as it comes from the separator. This is regulated by the way the separator is set. It can be made to skim a thick cream or a thin cream. The total amount of butter fat it contains will be the same in each case.

Asks About Letter Contest

Enclosed find twenty cents for which please send me one set of bottle and container and one dozen corrosive sublimate tablets.

Please send me a copy of KANSAS FARMER of May 13 and June 3, as I am not a subscriber and wish to enter the contest for letters and pictures given in KANSAS FARMER.

My cow has a fine heifer calf born the eleventh of this month. I am very proud of it.—MAHALA SMITH, Leavenworth County.

EDITOR'S NOTE.—The issue telling about the letter-picture contest was May 20. In the May 13 issue will be found complete instructions for taking the sample of milk and sending it to Pro-

SPECIALIZE AND YOU WILL MAKE MONEY

This is the age of Specialization—to gain a general smattering of business subjects nets you nothing. Concentrate on one subject—your services will always be in demand. You should, at least, read what we have to say about it in our 1916 catalog. Address

THE STANDARD SHORTHAND SCHOOL, Topeka, Kan.

St. Joseph Business University

"The School That Secures Positions"

WRITE FOR FREE CATALOG

ST. JOSEPH, MO.



ST. JOSEPH VETERINARY COLLEGE

Thoroughly modern course in veterinary medicine leading to the degree of D. V. M. College recognized by the U. S. Dept. of Agriculture. Modern and completely equipped laboratories. New building. Unexcelled clinical facilities. For catalog and full information address DR. ROBERT C. MOORE, Pres., 918 Mary St., St. Joseph, Mo.



Special advantages in Music, Art, Expression, Piano Tuning and College Courses. Only one tuition for College, Academy, Domestic Science and combined Business courses. Board, \$2.75 per week. Famous Messiah concerts every Easter. For catalog, write President, ERNST E. PIHLBLAD, LINDBORGE, KANSAS

SILOS

Lowest prices ever made on silos for immediate orders. One piece clear fir stave silo, complete with all staves, cables, anchors, hoops, rods, doors—everything complete at bottom prices. Write for our 25 per cent reduction offer. This offer void after July 30. Get your silo now. Write

HODGES BROTHERS --:--:-- OLATHE, KANSAS

fessor Reed of the Dairy Department of the Kansas Agricultural College at Manhattan, and the June 3 issue shows how the milk record should be made.

Glad He Joined Dairy Club

My cow came fresh July 7, 1916. The calf is in good condition and I will send sheet in a day or so. The calf is a bull and is well marked.

I expect to start my record soon. Am glad I joined the Dairy Club.—MAX HOLISTER, Harvey County.

Charles C. Evans of Sherman County, Republican candidate for State Treasurer. He served two terms as Treasurer of Sheridan County, was Receiver of the United States Land Office at Colby from 1902 to 1909. A member and director of the Kansas Live Stock Association. Shawnee County has a U. S. Senator, Governor, Insurance Commissioner and two members of the Supreme Court. Why not give the west half of Kansas and the farming and live stock interests one representative on the state ticket? —[Adv.]

THE WEST'S GREAT COMMERCIAL SCHOOL

OFFERS YOU THE MOST UNUSUAL OPPORTUNITIES



GEO. E. DOUGHERTY

President of Dougherty's Business College, Author of "Dougherty Shorthand System"; "Dougherty All-Touch Typewriting Method."

in actual business Training for Merchant, Farmer or Professional Man. Farming is a business, and there is no business where actual business training is needed more.

You Cannot Afford to Guess What It Costs You to Do Business

Farming is the largest business in Kansas.

A very large per cent of the farmers of Kansas are bankers and stockholders in banks, part owners in mercantile establishments, telephone companies, mills, creameries and dozens of other Kansas largest industries.

And best of all, they are the owners of the great business farms, producing millions and millions of dollars' worth of foodstuffs and live stock every year.

As the farmer's business grows, and his wealth and holdings increase, and as his sons and daughters take an active interest with him, there is a growing need that they fit themselves for these duties by acquiring a business training.

The farmer who knows what crop pays best and what business is making or losing, and how much, is infinitely better able to increase and take care of what he has than the farmer who, without any specific method or training or business system, merely guesses what this or that crop paid, or that this or that business is a good investment.

Mr. Farmer, train your sons and daughters in business. Send them to Dougherty's School of Actual Business Training. The scientific knowledge of how to keep accounts is just as necessary on the Kansas farm as in any other business.

There are many reasons why you should select Dougherty's. First of all, it is a school of high ideals and situated in the capital of this great state in which you are most interested. Educate in Topeka because it is a clean, live, progressive city, an ideal home city, with numerous schools, businesses, churches and all conditions wholesome and uplifting.

WE WILL GUARANTEE YOU MORE MONEY OUT OF YOUR FARM

if you will spend from four to six months with us on our Farm Accounting Course—Business Law, Business Letter Writing and General Business Training.

The knowledge any young man or woman can obtain in our School along business lines will be worth many times what it costs, all through life.

WE EDUCATE YOU FOR THE BEST POSITIONS

A good education is the best insurance against hard times. Floods, storms, fires or other destructive agencies can wipe out a fortune, but a trained young man or woman with an education has a fund—a fund of knowledge that can always be drawn upon for the necessities of life.

DOUGHERTY'S SHORTHAND

"THE Shorthand for EVERYBODY": Because it is vastly simpler than any other; it is easier to read, it is easier to write; it gives greater speed—better service every way. It is just like longhand in general make-up—that is why it is so simple.

DOUGHERTY'S TOUCH TYPEWRITING

Copyrighted method of learning the keyboard in from five to fifteen minutes—simple, unique, effective plan for keeping the hands in position—helps to writing without sight—forming the right habits from the very start—all combine to make it the best. Adopted by the French Government for use in all the commercial schools of France; placed on the approved list by the Board of Education of New York City.

STENOTYPY—"Shorthand by Machine"

Successful because—like Dougherty's Shorthand—it can be read. Because of the machine feature, many find Stenotypy more fascinating—and therefore more successful for them—than shorthand. The machine is small, noiseless, and puts the writing in plain letters. Send for a sample lesson.

The Ability to Earn a Competence

Means independence, confidence to look into the faces of men and into the future, undaunted. It supplies the means for comfort, culture and character.

"A good life is more than a good living," but a good living is necessary to the best rounded life. The instruction that equips young people to take a part in the great industrial doings of our day—that teaches the hand and mind to work in unison and usefully—that fits youth for real accomplishment—to do good work—

This must be the solid center of all our education.

Education for use must be placed before education for ornament.

10 BIG REASONS Why Dougherty's Is the Best School for You

It gives training under the personal direction of the Author.

Vastly more actual business training and experience while in school.

Eight hours' instruction daily instead of five or six.

More teachers in proportion to students.

A typewriter for each stenographic student.

The simplest and most efficient shorthand method.

The best typewriting system.

Unusually strong course in Bookkeeping, Penmanship, etc.

Free lecture courses by prominent men.

Topeka business men believe in our school; they show their confidence by their demand for our graduates. The people of Topeka, and of Kansas, have confidence in our school, in our teachers, in our methods, and the influences which we place around our students. Ask for other reasons.

Earn Your Own Way If Necessary

Opportunity is offered to both young men and women for earning expenses while attending Dougherty's Business College. We have found hundreds of places—in fact, places for all students who have wanted them—to work and earn their living expenses while attending school.

Centrally located in the business section of Topeka, in commodious quarters and with ample, up-to-date facilities and a large and efficient corps of trained, experienced teachers, you are offered at no greater expense, any or all courses in Dougherty's Business College, from which school hundreds and hundreds of Kansas young men and women have left directly for good salaried positions or to take up the management of their own businesses.

THE LEADING BUSINESS MEN of Topeka Endorse and Share in the Management

Among the men whose names are well known in all parts of Kansas, who have a part in this management, are Albert T. Reid, President Kansas Farmer; Frank P. MacLennan, Proprietor Topeka State Journal; Arthur Capper, Governor and Proprietor of the Capper Publications; J. C. Mohler, Secretary State Board of Agriculture; George A. Guild, Cashier Central National Bank; L. M. Jones, Superintendent of Telegraph, A. T. & S. F. Ry.; John F. Eby, County Superintendent; W. R. Arthur, Dean Colorado State University Law School; Chas. S. Elliott, Secretary Capitol Building & Loan Association; Dr. E. S. Pettyjohn, National Medical Director K. & L. of S., and scores of other business men, prominent in various lines and professions.

Why Topeka?

Go to school in Topeka, because it is a clean, live, progressive city, an ideal home place—schools the best—churches numerous—conditions wholesome and uplifting. There are more and better positions here for trained young people: The central offices of the great Santa Fe Railway—the offices of the State—state and local headquarters of numerous, thriving, expanding industries, make a call upon us for graduates that we cannot fill. In a big, active business center, our school has, and uses, abundant means for actual business training during the course; schools in smaller towns cannot do this, other schools in large cities do not do it. Topeka affords unusual opportunities for earning expenses while in school; we have found hundreds of such places—in fact for all who have wanted them, and then had scores more places than were needed. Write us for other reasons.

DOUGHERTY'S BUSINESS COLLEGE
TOPEKA, - - - KANSAS

FREE TO YOU!

OUR STUDENTS COMMAND

over the world. You can be a success just as easily. Make up your mind now to prepare for a successful career. Be awake to your opportunities. The best isn't too good for you. A practical business training is the demand in all walks of life. A few of the many that we have started upon successful careers:

I will give, absolutely without charge, a **TRIAL LESSON** of my business system to the first 150 people filling out this coupon. Just follow the arrow and fill out the coupon below.

Read These Wonderful Endorsements

Miss Frances B. Davis, Atchison, Kansas:

I find I can read my notes a week after or a month even, and never have any trouble, so that I know it is no matter of memory with me. I am sure that we can rival any other system in speed. I am not so sure that the others can come up to ours for accuracy.

Prof. C. W. Thompson, formerly Superintendent of

LaCygne Schools:

My students learn Dougherty's Shorthand easily and they read their notes readily, which is not common under any other system with which I am acquainted.

R. B. Bailey, Washington, D. C.:

The greatest merit of Dougherty's Shorthand is its simplicity. Other systems may equal it in point of speed when written by experts; however, Dougherty's is more easily and quickly learned. I have never yet found a writer of one of the old-line systems who learned to write shorthand in less than twice the time it took me, and four times is about the average, with eight times no unusual record. On the other hand, my record is commonplace among those made by other Dougherty writers.

R. V. Leeson, Chief Engineer of Topeka Bridge & Iron Works:

For years I wrote a so-called "standard" system of shorthand, but for the past eight years have been using Dougherty's and consider it superior in every way.

J. K. Coddling, Warden State Penitentiary:

During the past ten years nearly all of my work has been done by graduates from Dougherty's, and because of their ability to read their notes, I have found them very efficient.

J. D. Johnson, formerly Court Reporter, Olathe:

When I began to study Dougherty's Shorthand I was earning \$600 a year. My income now is \$2,000. Court reporting requires a high degree of skill, speed and ability to read back the notes readily as one may be called to do so at any instant. From my own experience I can cheerfully speak for Dougherty's.

E. J. Bush, Chicago:

The more I use Dougherty's Shorthand, the better I like it. There is no question as to the ease with which it is learned, written and read. I heartily recommend Dougherty's School and especially Dougherty's Shorthand.

Frank Petree, Lawyer, Oregon, Mo.:

I have been employing stenographers for a number of years, and have had stenographers writing numerous systems of shorthand. Being a shorthand writer myself, I have, of course, observed closely the different systems in use in my office; and I will say that I have never had any system used in my office that appealed to me as being superior to the Dougherty System. It is easily the simplest and most easily learned of all I know anything about.

Frank B. Smith, Judge, Fourth Judicial Circuit of South Dakota:

Miss Mamie Denning was the official court stenographer for this circuit for two years. She used Dougherty's Shorthand. We found that it answered all the requirements. As far as results were concerned, it is fully capable of ranking with any other system of Shorthand.

Ross Lloyd, Assistant Cashier, LaPorte, Ind.:

I have not used my shorthand much, but I can write nearly as fast right now as I ever could. My last work as a stenographer was in the Register of Deeds office.

Miss Eleanor Eastburg, a graduate of Dougherty's School, says:

I cannot speak too highly of Dougherty's Shorthand and all-touch typewriting, and four members of our family having studied the system will prove the high esteem in which we hold it.

John N. Dugan, Private Secretary to the Superintendent of the Santa Fe at Beaumont, Texas, writes to Mr. Dougherty:

I cannot say too much for Dougherty's Shorthand. I have compared it with five or six other systems and I find that my outlines are very much shorter than those of the others. I am teaching the system to one of the boys here in the office and he likes it fine. When he found out my salary had increased to three times what I got a little over a year ago, he asked me how I got ahead of the other fellows and when I told him that it was Dougherty's Shorthand, he immediately asked me to teach him.

H. C. Hall, Moosejaw, Sask.:

Some time ago I sent for your handbook on Dougherty's Shorthand and I got the surprise of my life. I was at one time a stenographer, writing another system, but after I gave up that work I have searched for a writable, readable system, with very poor success. I learned in a more or less thorough manner no less than six different systems, and this is the most practical system I have seen. I am going to boost Dougherty's. I find I can write anything and everything at a good fair speed, although I have only been at it a little while—in the evenings for about a month.

Miss Eunice Casey in a \$2,500 civil service position as private secretary to the vice-governor and superintendent of public instruction of the Philippine Islands, within two years after leaving Dougherty's Business College. She reads her shorthand like print.

Oscar Giesel, just out of Dougherty's Business College, in Galveston, a stranger, secured a position the first place he applied, with promise of \$75 a month; but before pay-day his employers decided to pay him \$100 from the start—for they had found that he writes Dougherty's Shorthand—and reads it like print.

Harry Dixon entered the employ of the Grier Eating House Company as a stenographer in the Kansas City office, and within two years and a half was manager of the Chicago office, with several times the salary he started with. He says the training at Dougherty's did it—and he reads Dougherty's Shorthand like print.

Mrs. Annie E. Perkins, now sales manager of a large manufacturing establishment—a man's job with a man's pay—within six months after leaving Dougherty's Business College was superintendent over a dozen other stenographers—because she was a better stenographer than the most experienced of them. And her employers said she read her shorthand like print.

C. H. Osborn, private secretary to United States Senator Elihu H. Root of New York, with an extra large salary because he writes Dougherty's Shorthand—and reads it like print.

Geo. P. Beck—stenographer with the Santa Fe—chief clerk—clerk with American Express Company, general offices, New York—private secretary to the president—cashier—chief of one of the two general departments. Dougherty's Shorthand was a great factor in his success—and he reads it like print.

Charles A. Brown, one of the very best court reporters in Kansas City, learned Dougherty's Shorthand from the book, without any help—and he succeeded because he reads it like print.

C. D. Wellman, official reporter District Court, Topeka, is conceded to be the best shorthand writer in Topeka. Of course he writes Dougherty's Shorthand—and reads it like print.

H. A. Ault earned his way through Columbia University Law School, New York, with Dougherty's Shorthand, and a large concern for which he worked said he was the best stenographer they had ever had or known of. Of course he reads his shorthand like print.

Ernest Chamberlain studied Dougherty's Shorthand a month in school, and after some more work on it at home was able to pass a civil service examination easily, and so well that he quickly received an appointment to a good position at Washington, which will also make it possible for him to finish his college course and take a law course in Washington University (outside of office hours). And he couldn't have done it so easily if he had not been able to read his shorthand like print.

And we might mention Paul Barnhart of the Methodist Publishing House in Callao, Peru; Burton Sheppard, private secretary to Bishop Hartzell of Africa; Miss Clara Stunz, private secretary to Bishop Stunz of South America; Miss Frances Gilles, office secretary of the National Y. W. C. A. work in China; and hundreds of others, at home as well as abroad.

Why Dougherty's All-Touch Typewriting Method Is So Remarkably Successful

Here are three paragraphs taken at random from an advertisement and two letters. Every letter which is marked with a line through it is one of eight letters in the normal position. That is, one on which the fingers rest. In these three paragraphs there are 788 letters and punctuation marks. Of these, 418 are in the normal position—eight letters—while all the other letters of the alphabet used in this matter number only 371.

By other methods, in which the position of the hands is on the outside of the keyboard instead of on the inside as in Dougherty's, only 184 of these 788 characters would be written without moving from the normal position. One hundred eighty-four as compared with 418 in Dougherty's. Only 87 letters are in the lowest row, leaving 701 in the normal position and adjoining keys.

Greater accuracy is the necessary result of keeping so closely to the normal position. The more moving around, the more chance for errors.

There is probably nothing that provokes the average man more than to try to force upon him a substitute instead of the article he asks for. He feels his own intelligence is being insulted. He thinks the proprietor of the store is trying to make an extra profit off of him. He believes the proprietor has neglected the salesman to sell, if possible, an inferior article which carries a larger profit for the dealer than the article which he asks for.

The business interests of Topeka and the surrounding towns have always been very closely associated with Dougherty's Business College. This is natural, because the function of a school like this, of supplying trained employees to business concerns, makes close co-operation mutually important.

We bought the land on a limited capital, and while we are honestly of the opinion that in five years it will sell for three times the price we are now asking, we feel that we have carried it as long as we can.

The French Government

Has adopted Dougherty's Shorthand System, placing its official O. K. on its use for the nation. Why? Because Dougherty has the shortest, quickest and most complete system ever invented. Endorsed by the world's experts. Notice how simple and easy.

Do Your Preliminary Training at Home

If for any reason you cannot attend school at present, you can enroll and do your early work at home. But do it—start now—don't put it off. You receive full credit for this work toward graduation.

The big advantage of Dougherty's over other schools lies in the fact that every student receives the personal help and attention of Mr. Dougherty, the inventor of Dougherty's Shorthand and All-Touch Typewriting. Mr. Dougherty's personal time is always at the command of his students. His pride in his students is only the pride of any man who has invented a monumental work such as Dougherty's System, and he personally sees that every student acquires a thorough knowledge of Dougherty's Shorthand.

Mr. Dougherty's success in introducing his shorthand and typewriting methods into other schools depends upon the success of his students so much that he considers it a duty to himself to give his students his undivided personal attention.

Write now for complete information.

Dougherty's Business College
TOPEKA, KANSAS

Fill Out this Coupon and Send in NOW.
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Topeka, Kansas.

Please send me a trial lesson and tell me why I can earn more money if I learn Dougherty's Shorthand (THE Shorthand for EVERYBODY) than I can with any other Shorthand.

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Please send me a trial lesson in Stenotypy, "the machine way of Shorthand," and full particulars.

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Fill Out this Coupon and Send in NOW.
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I realize I need a business training, and I am determined to have it. I want to see your catalog, and if you will send me a copy I will write you at least once after looking it over, if only to acknowledge its receipt.

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Better Cut Silage Helps To Increase Stock Profits

THESE animals were fed on silage cut by Silver's "Ohio." Note their records. "Ohio" cut silage makes better feed than ordinary silage. Better because it's cut more uniform—packs air-tight in the silo—free from air pockets—mold-proof—ferments properly—gives the animal all of the good food value of the corn or silage material.

Silver's "Ohio" The Logical Silo Filler

The secret of cutting Silverized silage is all in the construction of the "Ohio"—the pioneer silo filler. The strength of the machine, the giant grip feed rollers, and double-bearing, non-springing knife cylinder all combine to give you a fine, evenly-cut silage no matter how hard you crowd the machine. You can set the knives at half inch cut and you get half inch. With heavy bearings at both ends, they cannot spring away from the cutter bar. Silage is all mold-proof—no shreds nor leaves can work through.

But there are many other big features in the "OHIO." The beater feed, friction reverse, direct drive, single lever control, non-explosive blower, etc. Write and let us tell you about them—and why more "Ohios" are used by Experiment Stations and Colleges than all other fillers. Backed by 62 years' manufacturing experience.

Two Books—FREE

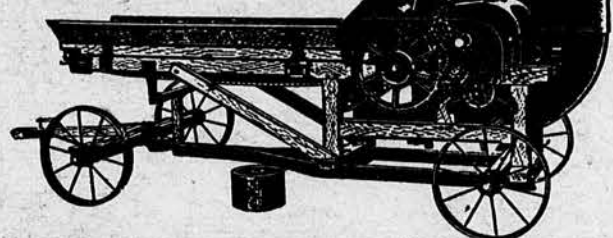
One is our catalog. The other is our booklet on "Silverized Silage." Write for them today.

The Silver Mfg. Co., 352 Broadway, Salem, O.

Animals illustrated here are owned by the Maplecrest Stock Farm Co., Kalamazoo, Mich. They have had an "Ohio" Cutter for about 12 years.

Silver's "Ohio" is made in seven sizes—fit any farmer's needs. 40 to 300 tons a day. Four horsepower up to big tractor power.

Special Light Draft Model—adapted for home silo filling. For four to eight horsepower gas engine. Write for three-color folder on these.



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25592.5 lbs. milk;
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in 365 days



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25106.3 lbs. milk;
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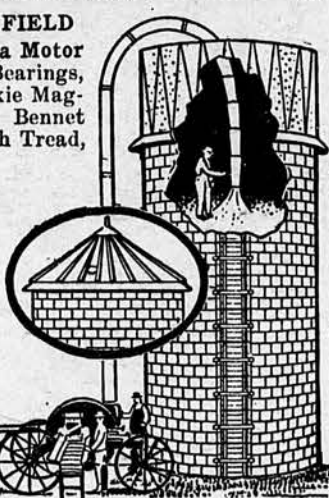
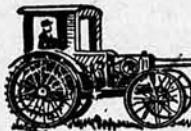
12x30—75 Tons, \$148.00
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RE-SEEDING PRAIRIE PASTURE

A WORN-OUT prairie pasture is the serious problem on the farm of one of our readers in Osage County. This pasture is somewhat stony, and since the dry season of 1913 has produced very little grass.

This is a real problem, and one that is not easy of solution. Pastures are almost essential to any great success with live stock, and land which is rough and stony cannot be used satisfactorily in any other way.

Our correspondent states that whether there is any grass or not he is almost obliged to run cattle on this pasture. He asks if it can be seeded to some kind of grass, whether Kentucky bluegrass is to be recommended, and what would be the chance of getting a stand of this grass if sown before September 1 or during the winter or early spring.

There is no grass so satisfactory for pasture purposes in this state as are the native grasses. Every effort possible should be made to keep the pastures well set to these wild grasses. Kentucky bluegrass will gradually work into pastures in this part of the state along the draws and in the more favorable locations. It is a slow process, and there would be little chance of getting any started from September sowing.

The native grasses can be brought back if but given a chance to mature some seed. This is Nature's way. In our eagerness to realize on these pastures we have grazed them so heavily that the grass does not have a chance to re-seed itself. It is kept gnawed down so close that its vitality even is weakened, and many plants die as a result. In a season such as 1913, the effects of too close pasturing are more serious than in ordinary seasons. The grass is weakened by both the grazing and the lack of moisture, and weeds which are rejected by the stock thrive and take its place.

To bring such pasture back it must have some relief from steady grazing. If there is little or no grass left in this pasture, it certainly cannot maintain much stock. Such stock as is now on the farm might better be kept up in the yard and fed, than allowed to run on a pasture where there is nothing for them to eat.

Where there is even a little native grass left the pasture can be brought back through proper treatment. It must, however, be given a rest from stock. This does not mean that stock should be kept from the pasture all through the season. During the early part of the season, however, the grass should have a chance to grow up and acquire some vitality and mature seed. After the seed has formed the grass that has been produced can be grazed with stock. In fact, such grazing with stock is almost a necessary factor in planting the seed produced, the seed being tramped into the soil by the stock. The next year there should be a good many new plants started and these should be protected by keeping the stock off the pasture early in the season.

In the pasture experiments being conducted by the Kansas Experiment Station, it was found that all our native grasses began to mature seed by August 10.

We can offer no better solution to the problem of re-seeding this native pasture than to take the stock off until late in the summer. If the stock is kept in the pasture it will gradually get worse and the animals will make no gains. It would be a good plan to mow the weeds. Many weeds can be killed

by mowing just before the seed forms. This mowing will give the grass a little chance as well as reducing the number of undesirable plants which draw heavily on the moisture and plant food.

In this pasture there will probably be little seed matured this year because the cattle have kept what little grass there is grazed close during the early part of the summer. If mowed now and then not grazed until September or the first of October, some seed may form. This can be determined by close observation.

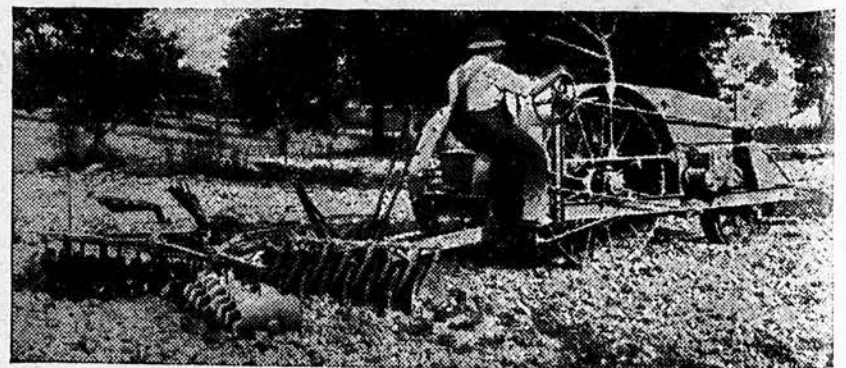
When a pasture is allowed to make a big growth of grass more stock can be turned in for a short time than it would ordinarily carry. The sowing of some Kentucky bluegrass seed during the winter or spring will help such pasture, but this grass cannot be expected to take the place of the native grass. Bluegrass will not furnish any pasture during the hot part of the summer. Its habit is to grow during the early spring and rest during the hot weather, growing again during the fall.

Stacking Wheat

Stacking wheat is one means of storage that is being practiced more and more each year. Where diversified farming is followed, labor must be distributed through the year as much as possible or many things cannot be done at the proper time.

When well stacked, wheat will be better in quality than that threshed from the shock. Wheat must go through a sweat, and if it is threshed from the shock it will go through the sweat in the bin or elevator. The buyer has to figure on handling it in such manner as to prevent its being injured during the sweating process. Stacked wheat goes through this sweat without danger, and the wheat comes out superior in quality to that threshed from the shock and which goes through the sweat in the bin. It is also possible to do the threshing when it is most convenient, and this is a matter of considerable importance when there is much other farm work to be done.

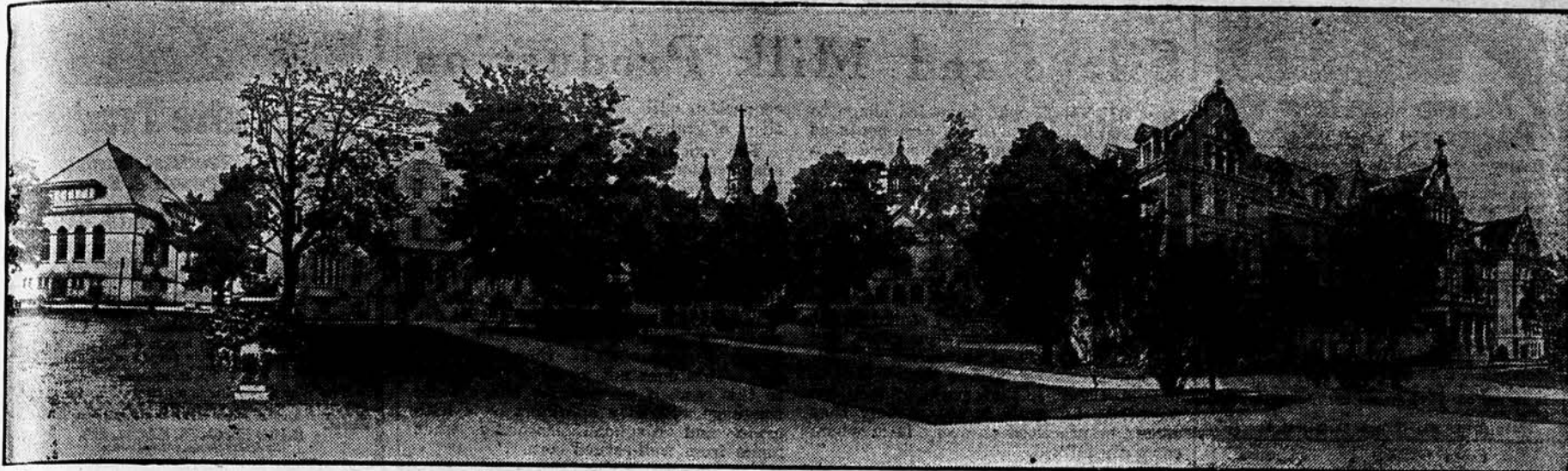
There is some knack of stacking wheat and other bound grain, but the art can be revived if there is any general demand for knowledge along this line. There are a few men in most neighborhoods who can stack wheat or other bundle grain so it will keep, and as the practice of stacking increases more will learn how it is done. In Clay County this year, more wheat is being stacked than ever before. Letting wheat stand in the shock, waiting for a threshing machine to come, is considerable of a gamble. The machine due in a few days may not come for several weeks. Meanwhile the shocks are being blown down and the rain injures the wheat. Frequently when the machine finally gets around there has been a great deal of loss in wheat that has stood in the shock. The way to avoid this and be independent of the thrasher is to stack the wheat at the earliest opportunity. We have heard of a Washington County farmer who stacked his wheat and did not thresh for two or three years. He waited until wheat was bringing \$1.50 a bushel and then had a thrasher pull in and threshed and marketed the grain he had been storing in the stack. This is an unusual circumstance, and few could afford to carry wheat in this way, but the man with his wheat carefully stacked is in a far better position than the one with wheat standing in the shock waiting for the thrasher.



TRACTOR CAN BE USED TO GOOD ADVANTAGE IN CULTIVATING ORCHARD
(Courtesy J. I. Case Threshing Machine Company)

ST. MARY'S COLLEGE and ACADEMY

ST. JOSEPH CO. NOTRE DAME, IND.



RECOGNITION BY THE INDIANA STATE BOARD OF EDUCATION

College—Standard; Normal Department—Accredited; Academy (High School) — Commissioned
CREDITS accepted by the leading Universities

AN institution where your daughter is assured of all the benefits of an exclusive school, while surrounded with all the comforts and protection of home life. St. Mary's is devoted to the development of the highest type of womanhood in the girls entrusted to its care. Many features of this school of high ideals, its broad campus and well equipped, commodious buildings, cannot be touched upon in the limited space of this announcement. The President, therefore, cordially invites correspondence from parents having daughters to educate, and will take pleasure in mailing an illustrated catalog and descriptive literature. Address the President,

ST. MARY'S COLLEGE AND ACADEMY, St. Joseph County, Notre Dame P. O., Indiana

Education Brings It's Rewards

SUPPOSE your boy or girl expressed a wish to go away to college this fall. No doubt you would be pleased to know that your children showed interest in getting a college training, and you would be willing to give them all the support you could afford. Parents who were not able to get much of an education when they were young are more than anxious to give their children a chance. But there are other things to be considered besides just the desire to send your children to college. Perhaps you cannot afford it, or you need your boys on the farm, or you may think that if you send your boy to college he will not want to return to the farm. Perhaps your children do not want to go to college. Your boy would be just as well off in most cases if you did not support him in school, entirely.

The boy who comes back to the farm after receiving an education should be worth a great deal more to his parents and to the farm. Regardless of whether his education has been a thorough course in a business college, an agricultural college or in a university, he should be able to put the farm on a business basis by keeping a strict cost and expense accounting system. He should be able to grasp things mentally more easily and be able to put farming knowledge into practice.

If your boy has chosen some other vocation than farming, the best thing to do is to let him follow the work he desires to do. It is an unpleasant task working at something in which you are not interested. The man who has found his work is to be envied.

A boy who does not want to go to college should never be sent against his will. If he cannot be made to see the real advantage of a college training, it is useless to send him. It is a waste of time and money, because the boy will not apply himself to his lessons closely enough to ever get anything out of them.

A good many people think that going to college is a process of studying diligently, and the student who sticks to his books is the one who will be sure to succeed. A college training is something more than just merely grinding away at books. A student should hope to get some social training out of his college life as well as get all the lessons that are assigned to him. This is especially true of boys who are from the farms. There is no better place than a college to gain experience in mingling with people in a social way. And this is as important to a man's education as what he will get out of books. A person will get acquainted with many kinds of people while at college, and they will scatter all over the United States after they are graduated. It is a great asset after you are thrown out into the world, to be able to find an acquaintance in nearly every section of the country.

A word about choosing a definite course or profession. It is much better of course to have some definite aim in

life. You should have something definite in mind as to what you would like to do as a life's vocation. If you are undecided, however, do not refrain from going to college just for that reason, because a good many times you will find out what you are able to do best after attending school a while. In this case you are able to specialize in the particular work in which you are interested. Even if you go through college without choosing any special course, it is better than not going at all. When you do decide to specialize in any kind of work, you will have a good foundation to build upon.

There are enough colleges today so that a person should not have much trouble picking out the one he would like to attend. There are colleges for business training, which will help a man along in the business world. Even if you intend to go back on the farm after getting your college education, a business training for a farmer is as important as it is for any other business man. Then there are short courses that are especially good for the farmer boys and girls who are not able to take long courses. Since the farm has become a regular engineering plant, some of the schools which teach automobile and traction engineering are especially useful for the farmer boys. The short courses offered in agricultural subjects at the state colleges are valuable. A boy who has not the time or money or inclination to go to school for eight years, and take the regular college course, can derive many fundamental ideas about agricultural problems and how they are treated, from the regular former's short course.

It is a well established fact that it is best to get all the education that it is possible for you to get. There is no use arguing to the contrary, because there have been too many figures compiled to prove it. Some statistics of this nature were gathered from 635 farmers in Kansas in the counties of Allen, Harvey, Jewell, Leavenworth, Pottawatomie and Cowley. Of these men 498 had received only a common school education. Their average annual labor income was \$499. There were 126 of them who had gone farther than the common school but had not received a college education. Their average annual income was \$635. Only eleven had completed a four-year college course. Their average annual income was \$1,452. It pays in dollars and cents to get all the education that it is possible to acquire. Of course, there are men without college training who have a larger income than these men who have completed the four-year college course, but they are exceptions. It is difficult to calculate just what they could have done if they had had the advantage of a college training.

Select your tractor from those advertised in KANSAS FARMER.

THE GREAT FARM MACHINE

Will Be Shown at the Hutchinson
Tractor Demonstration,
July 24-28



The NILSON

Has solved the vital problem of "Traction" without excess weight. The application of a simple scientific principle of leverage makes the Nilson create its own traction.

A Tractor That Gets Perfect Traction---Big Saving in Fuel

Wits, not weight, solved the biggest of all tractor problems. A practical farmer, disappointed with big, heavy, fuel-hog machines and little, light machines that would not hold the ground, built the Nilson. By an ingenious method of hitching the load he produced a LIGHT strong machine that creates its own traction. By eliminating useless parts and weight his machine will do as much heavy work as machines twice its size and weight, at half the fuel cost. The machine itself is a mechanical marvel; plenty of power and strength; easy to handle; nothing to wear out or break.

A BIG SUCCESS

This farm machine was an instantaneous success when put on the market two years ago—because it had been tested for five years previous and was sold only after the machine was crowned with success. It stands today as a perfect field, road and power plant.

Get advance information on this tractor—study it, then see it at the show. Write for big free folder, and at the same time advise us that you will make your headquarters with us at the Hutchinson Demonstration.

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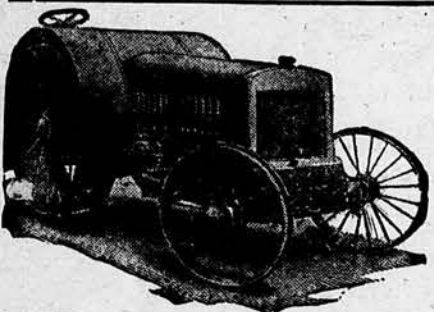
More Bales Bigger Profits

Bale your own hay, bale your neighbors' hay. There's money in it—big money when you use the fast-working Sandwich hay press (motor power).

SANDWICH HAY PRESS

Solid steel construction. Sandwich Gas and Oil Engine, with magneto, mounted on same truck furnishes power. All designed and built in our own plant, superior to assembled machines. Heavy steel chain transmission (no belt to slip). Simple self-feeder and block dropper. Turns out a continuous stream of solid salable bales. Starts or stops instantly. Best press for alfalfa. Horse and belt power presses also. "Tons Tell." See Book Sent Free. Your guide to big profits. Pictures and describes these great presses. Write

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LITTLE GIANT TRACTOR

Model "A," 26-35 H. P., 6 Plovs, \$2,000
Model "B," 16-22 H. P., 4 Plovs, \$1,250
Each model has 17 set Hyatt Roller Bearings, besides numerous ball bearings. Glyco bearings on crank shaft and connecting rods. Built on automobile lines from high grade automobile material. In design, material and workmanship, will compare favorably with highest priced automobile made. Has three speeds forward—1 1/4, 3 and 6 m.p.h. and one speed reverse. With proper care will outlast any automobile. Orders filled promptly. Owing to great demand for our tractors, we will not exhibit this year at any tractor shows.

MAYER BROTHERS COMPANY
184 W. Rock St. Mankato, Minn., U. S. A.

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GEO. C. PRITCHARD, CANDIDATE FOR County Commissioner, Third District, Shawnee County, subject to the Republican Primaries August 1. Your support respectfully solicited.

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RANCH FOR SALE.
1,280 Acres, two streams, two sets improvements; 175 acres under irrigation, fenced and cross-fenced, outside range. \$10.00 per acre. No trade considered. This is a bargain.

C. A. WILLIS, DOUGLASS, WYOMING
North Mississippi, 160 acres. 110 cultivation. 20 pasture, 30 timber; rural route, phone line, near town; schools, churches; grow anything. Buildings worth \$1,500. High, dry, healthy; mild winters. \$25 per acre. Owner, Taylor Smith, Elenz, Miss., Route 1.

One Thousand Acre Stock Ranch in Kansas to exchange for rental property or merchandise. W. C. Bryant, Elk City, Kansas.

SEVEN ACRES strictly first class bottom land, all cult., 1/4 ml. McAlester, city 15,000. \$45 per acre. Terms.
SOUTHERN REALTY CO., McAlester, Okla.

COLORADO wants dairymen, poultry and hog raisers; good market; top prices; will see that you get square deal; nothing to sell. Write: State Board of Immigration, Capitol Bldg., Denver, Colo.

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800 Acres adjoining town; two sets of buildings; every acre lays perfect; 250 acres of finest growing wheat, all goes with sale if sold before cutting, which will be about July 4th. Price, \$27.50 per acre. Will carry \$10,000 at 6%. No trades. Other bargains.
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You have been thinking about a bluegrass and big red clover farm. We have it for sale. Write for special description of any size farm which would interest you. Special price on 320 acres 1 1/2 miles of good town. Exceptional bargain in 160 acres 4 1/2 miles of town. The land to buy for the big increase in land which can be built up by changing the same to clover. Write today for special list of what you want.

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THIS WILL INTEREST YOU

Do you want to move to Topeka to educate your children? If you do, this modern five-room home near Washburn College will just suit you. New, only occupied ten months. A choice location. Must sell quick. \$3,200 takes it. Address
S. CABE KANSAS FARMER, TOPEKA.

PLEASE MENTION KANSAS FARMER WHEN WRITING TO ADVERTISERS



Silage and Milk Production

DAIRYMEN who have fed silage to milk cows need no arguments as to the economy of this feed in a milk-producing ration. A great many, however, are still getting along without a silo. If you keep up the milk flow on a dry roughage ration you cannot avoid feeding more grain than would be necessary if silage were fed. Silage saves grain, and this nearly always means money saved. Roughage is always cheaper than grain. When stored in the silo it is as palatable as June grass, and even with the cost of harvesting and filling and the investment in the silo added, it is still cheaper than grain. Substituting silage for grain is an economy that should be practiced on every farm where cows are milked.

We visited a dairy farm last week where there is a 10-foot silo that has not been opened yet. A large silo was emptied during the winter, but the pasture has been so good this season that it has not been necessary to start on the small silo. The very tone of voice used by this farmer in calling attention to this reserve silo, indicated his satisfaction in having such splendid supply of feed left over to keep up the flow when the pastures become short and the hot weather and flies begin to get in their work.

Silage and alfalfa make a standard milk cow ration that is hard to beat, both for economy and efficiency. Very little grain is needed with this combination. We do not see how anyone milking cows can afford to overlook the silo.

In this connection a test conducted at the Ohio Experiment Station some years ago, is of considerable interest. The purpose was to determine to what extent heavy silage rations could be substituted for heavy grain rations. The cows were divided into two lots and the test continued for 120 days. The following extract from a station circular gives the results:

"The silage used in the test was composed of corn, soybeans and cowpeas in about the following proportions: 7 1/2 tons of corn, 2 tons of soybeans and 1 ton of cowpeas. The addition of the soybeans and cowpeas made the silage richer in protein than corn silage alone. The percentage of dry matter in the silage as it went into the silo was 18.63 per cent, which is low when compared with that of silage from well-matured, well-cared corn, which often contains as high as 30 per cent of dry matter. The high water content of the silage had an important bearing on the total water consumed by the cows in this test.

A ration consisting of about 58 pounds of silage, 6.8 pounds of mixed hay, 2 pounds of linseed oilmeal and 2 pounds of wheat bran was compared with a ration containing 4.7 pounds of corn stover, 6.4 pounds of mixed hay, 2.5 pounds of linseed oilmeal, 5 pounds of cornmeal and 6 pounds of wheat bran. The former will be called the silage ration and the latter, the grain ration.

It will be noted that the silage ration contained but 4 pounds of grain other than that contained in the silage, while the grain ration provided 13.5 pounds of grain. The object of the experiment was to determine whether the silage could take the place of the extra amount of grain, and make it necessary to feed, in

connection with silage, only small quantities of grains high in protein.

The amount of dry matter in the silage ration was 20.16 per cent and that in the grain ration, 20.51 per cent, making the dry matter practically equal in amount in the two rations. In the silage ration, 82 per cent of the dry matter was supplied by roughage, while in the grain ration only 43 per cent of the dry matter was thus furnished. It is commonly considered that the dry matter in grain is more digestible, and hence is more efficient, than in roughage. This does not seem to prove true in this case, if we consider silage to be roughage. Strictly speaking, it is both grain and roughage especially when made from well-earned corn.

The silage ration contained 48 pounds of water; the grain ration, 4 pounds. Still the cows on the former ration each drank 45 pounds of water daily and those on the latter ration, 65 pounds. This, together with that in the rations, made a total daily consumption of 93 pounds and 69 pounds of water, respectively. The cows on the silage ration thus consumed 24 pounds more water daily.

Furthermore, the two rations contained practically the same amount of digestible nutrients, according to Henry's tables. The great differences between the two rations, therefore, were the proportions of grain and the quantity of water consumed. Was the dry matter in the corn-soybean-cowpea silage more digestible than that in the stover and grain of the grain ration? The following results in production indicate that it was more effective or that the extra water caused the entire ration to be more effective.

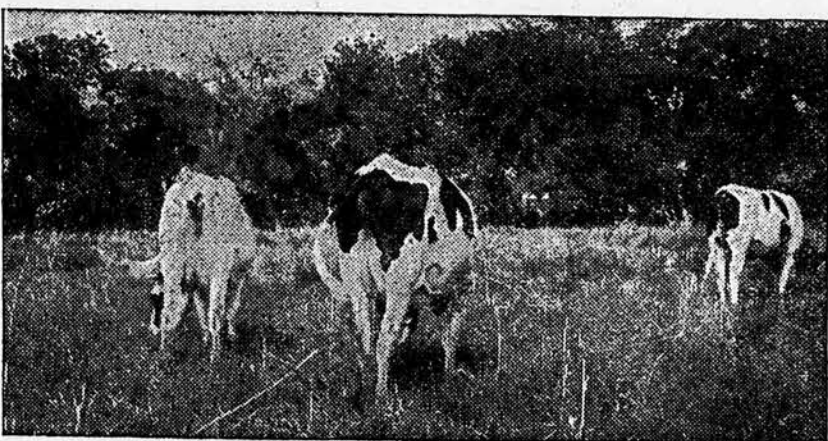
Previous to the test, the cows which later received the silage were producing 9.4 per cent more milk and 8 per cent more butter fat than those which received the grain ration. During the test, the silage-fed cows produced 17 per cent more milk and 28.4 per cent more fat than the other lot. This was a gain of 7.6 per cent in milk and 20.4 per cent in fat in favor of the silage ration.

The cows on the silage ration gained in weight an average of 47 pounds while on the test and those on the grain ration, an average of 57 pounds, a difference of 10 pounds in favor of the grain ration.

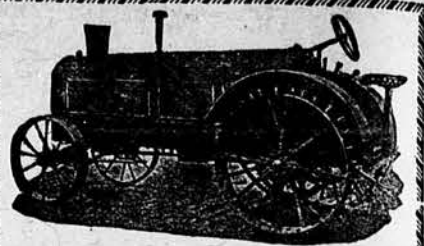
The feed cost of the production of 100 pounds of milk with the silage ration was 69 cents and with the grain ration, \$1.05. The feed cost of a pound of butter fat with the silage ration was 13 cents and with the grain ration, 22 cents. The prices of feeds per ton were as follows: Silage \$2, hay \$10, corn stover \$4, wheat bran \$18.74, cornmeal \$20, and linseed oilmeal \$23.25.

One lesson to be drawn from this test is that home-grown feeds should be used as far as possible. Carbohydrate feeds can usually be grown more cheaply than those purchased, and only the feeds high in protein need be bought if they cannot be grown on the farm.

Another point should be emphasized, and that is the increased consumption of water where silage is fed. During the winter cows do not, as a rule, drink enough water. Feeding silage which contains, as it does, a high per cent of water, tends to increase the actual amount the cow gets.



REGISTERED HOLSTEIN HEIFERS ON FARM OF J. C. ROBISON, BUTLER COUNTY.—
THEY PROFITABLY CONVERT INTO MILK THE SPLENDID GRASS OF THIS FARM



The Waite Tractor

Light, Simple, Practical, Durable,
Efficient, Powerful, Economical

IMPOSSIBLE TO STRIP GEARS

"I plowed 65 acres in less than 8 days with a Waite Tractor. It can do the work of 8 horses in the field."—R. H. Jones, Hartford, S. D.

"I averaged about 9 acres a day plowing and the Waite Tractor will do the work of 8 mules."—M. A. Sharp, Woodlawn, La.

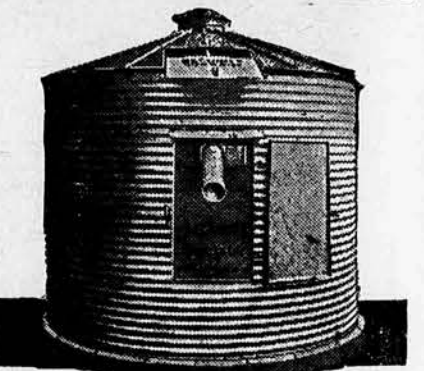
"The Waite Tractor handled an 8-foot binder easily, and made it possible for me to cut 20 acres of wheat in 7 hours and 30 minutes."—A. H. Ripberger, Dundee, Ill.

The Waite Tractor is a general purpose tractor; will do your field work, your belt work, your road work, your hauling, at less cost than any other tractor on the market.

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OVERLAND RED

(Continued From Page Six)

the train laughed when I picked up the rose. I remember. Some one else says, "They're only tramps." I recollect that, too.

"But those men were arrested at Barstow, for murder, Uncle Walter said." "They was, Again Overland Red nodded. "They was, Miss. But they couldn't prove nothin', so they let us go."

"We always was goin' to say thanks to the girl with the rose if we ever seen her," said the boy Collie. "We ain't had such a lot of roses give to us."

"So we says it now," said Overland quickly. "Or maybe we wouldn't never have another chance." Then he slowly rolled another cigarette.

Just then the black pony Boyar nickered. He recognized a friend entering the meadow.

Overland lighted his cigarette. As he straightened up, Louise was surprised to see him thrust both hands above his head while he continued smoking placidly. "Excuse me, Miss," he said, turning the cigarette round with his lips; "but the gent behind you with the gun has got the drop on me. I guess he's waitin' for you to step out of range."

Louise turned swiftly. Dick Tenlow, deputy sheriff, nodded good-morning to her, but kept his gun trained on the tramp.

"Just step out from behind that rock," said Tenlow, addressing Overland. "Don't know as I will," replied the tramp. "You're no gentleman; you didn't say 'please.'"

"Come on! No bluff like that goes here," said the deputy.

"Can't you see I ain't finished smokin' yet?" queried Overland.

"Come on! Step along!"

"No way to address a gent, you Johnny. Say, I'll tell you now before you fall down and shoot yourself. Do you think you got me because you rode up while I was talkin' to a lady, and butted into polite conversation like a drunk Swede at a dance? Say, you think I'd 'a' ever let you got this far if there hadn't been a lady present? Why, you little nicker-plated, rubber-eared policeman, I was doin' the double roll with a pair of Colts .45's when you was learnin' the taste of milk!"

"That'll be about all for you," said the sheriff, grinning.

"No, it ain't. You ain't takin' me serious, and there's where you're makin' your mistake. I'm touchy about some things, Mr. Pussy-foot. I could 'a' got you three times while you was ridin' down that trail, and I wouldn't 'a' had to stop talkin' to do it. And you with that little old gun out before you even seen me!"

"Why didn't you, then?" asked Tenlow, restraining his anger; for Louise, in spite of herself, had smiled at Overland's somewhat picturesque resentment. "Why didn't you, then?"

"Huh!" snorted Overland scornfully. "Do you suppose I'd start anything with a lady around? That ain't my style. You're a kid. You'll get hurt some day."

Deputy Tenlow scowled. He was a big man, slow of tongue, ordinarily genial, and proverbially stupid. He knew the tramp was endeavoring to anger him. The deputy turned to Louise. "Sorry, Miss Lacharme, but I got to take him."

"There's really nothing to hinder, is there?" Louise asked sweetly.

CHAPTER V.

"CAN HE RIDE?"

The tramp glanced up, addressing the deputy. "Yes, even there is something to hinder, if I was to get busy." Then he coolly dropped his arms and leaned against the rock with one leg crossed before the other in a manner sometimes supposed to reflect social ease and elegance. "But I'm game to take what's comin'. If you'll just stick me up and extract the 38 automatic I'm packin' on my hip,—and, believe me, she's a bad Gat. when she's in action,—why, I'll feel lots better. The little gun might get to shootin' by herself, and then somebody would get hurt sure. You, see, I'm givin' you all the chance you want to take me without gettin' mugged up. I'm nervous about firearms, anyhow."

Deputy Dick Tenlow advanced and secured the gun.

"Now," said Overland Red, heaving a sigh; "now, I ain't ashamed to look a gun in the face. You, see, Miss," he added, turning to address the girl, "I was sheriff of Abilene once, in the ole red-eye, rumpus days. I have planted some citizens in my time. You see, I kind of owe the ones I did plant a silent apology for lettin' this here chicken-rancher get me so easy."

"You talk big," said Tenlow, laughing. "Who was you when you was sheriff of Abilene, eh?"

"Jack Summers, sometimes called Red Jack Summers," replied Overland quietly, and he looked the deputy in the eye.

"Jack Summers!"

Overland nodded. "Take it or leave it. You'll find out some day. And now you got some excuse for packin' a gun round these here peaceful hills and valleys the rest of your life. You took Jack Summers, and there ain't goin' to be a funeral."

Something about the tramp's manner inclined the deputy to believe that he had spoken truth. "All right," said Tenlow; "just step ahead. Don't try the brush or I'll drop you."

"Course you would," said Overland, stepping ahead of the deputy's pony. "But the bunch you're takin' orders from don't want me dead; they want me alive. I ain't no fool all shot up. You ought to know that."

"I know there's a thousand dollars reward for you. I need the money."

Overland Red grinned. "It's against me morals to bet—with kids. But I'll put up that little automatic you frisked off me, against the thousand you expect to get, that you don't even get a long-range smell of that money. Are you on?"

Tenlow motioned the other to step ahead. "I'm bettin' my little gun to a thousand dollars less than nothin'. Ain't you game? I'm givin' you the long end."

"Never mind," growled Tenlow. "You can talk later."

The boy Collie, recovering from his surprise at the arrest, stepped up to the sheriff. "Where do I come in?" he asked. "You can't pinch Red without me. I was with him that time the guy croaked out on the Mojave. Red didn't kill him. They let us go once. What you doin' pinchin' us again? How do you know?"

"Hold on, Collie; don't get careless," said

Overland. "He don't know nothin'. He's followin' orders. The game's up."

Louise whistled Boyar to her and bridled him. The little group ahead seemed to be waiting for her. She led the pony toward the trail. "Did he do it?" she asked as she caught up with Collie.

"No," he muttered. "Red's the squarest pal on earth. Red tried to save the guy—out there on the desert. Gave him all the water we had, pretty near. He dasset to give him all, for because he was afraid it would kill him. The guy fell and hit his head on the rail. Red said he was dyin' on his feet, anyway. Then Red lugged me clean to that tank where you see us from the train. I was all in. I guess Red saved my life. He didn't tell you that."

"Is he—was he really a cowboy? Can he ride?" asked Louise.

"Can he ride? Say, I seen him ride Cyclone once and get first money for ridin' the worst buckin' bronc at the rodeo, over to Tucson. Well, I guess!"

"Boyar, my pony, is the fastest pony in the hills," said Louise pensively.

"What you givin' us?" said the boy, glancing at her sharply.

"Nothing. I was merely imagining something."

"Red's square," asserted the boy. "Sheriff Tenlow is a splendid shot," murmured Louise, with apparent irrelevance.

They had crossed the meadow. Ahead of the sheriff walked Overland, his slouch gone, his head carried high. Collie noted this unusual alertness of poise and wondered.

"Don't try the brush," cautioned Tenlow, also aware of Overland's alertness.

"When I leave here, I'll ride. Saabe?" And Overland stepped briskly to the trail, turning his back squarely on the alert and puzzled sheriff.

"He's been raised in these hills," muttered the tramp. "He knows the trails. I don't. But—I'd like to show that little Rose-Lady Girl some real ridin' once. She's a sport. I'd ride into hell and rake out the fire for her. . . . I hate to—to do it—but I guess I go to."

"Step up there," said Tenlow. "What you talkin' about, anyhow?"

"Angels," replied Overland. "I see 'em once in a while." And he glanced back. He saw Collie talking to the girl, who stood by her pony, the reins dangling lightly from her outstretched hand.

"Snakes!" screamed Overland Red, leaping backward and flinging up his arms, directly in the face of the deputy's pony. The horse reared. Overland, crouching, sprang under its belly, striking it as he went. Again the pony reared, nearly throwing the deputy.

"Overland Limited!" shouted the tramp, dashing toward Boyar. With a spring he was in the saddle and had slipped the quirt from the saddle-horn to his wrist. He would need that quirt, as he had no spurs.

Round swung Tenlow, cursing. Black Boyar shot across the meadow, the quirt falling at each jump. The tramp glanced back Tenlow's right hand went up and his gun roared once, twice. . . .

The boy Collie, white and gasping, threw himself in front of Tenlow's horse. The deputy spurred the pony over him and swept down the meadow.

Louise, angered in that the boy had snatched Boyar's reins from her as Overland shouted, relented as she saw the instant bravery in the lad's endeavor to stop Tenlow's horse. She stooped over him. He rose stiffly.

"Oh! I thought you were hurt!" she exclaimed.

"Nope! I guess not. I was scared, I guess. Let's watch 'em, Miss!" And forgetful of his bruised and shaken body, he limped to the edge of the meadow, followed by Louise.

"There they go!" he cried. "Red's way ahead. The sheriff gent can't shoot again—he's too busy ridin'!"

"Boyar! Boyar! Good horse! Good horse!" cried the girl as the black pony flashed across the steep slope of the ragged mountain side like a winged thing. "Boyar! Boy!"

She shivered as the loose shale, ploughed by the pony's flying hoofs, slithered down the slope at every plunge.

"Can he ride?" shouted Collie, wild tears of joy in his eyes.

Suddenly Overland, glancing back, saw Tenlow stop and raise his arm. The tramp cowboy swung Black Boyar half-round, and driving his unspurred heels into the pony's ribs, put him straight down the terrific slope of the mountain at a run.

Tenlow's gun cracked. A spray of dust rose instantly ahead of Boyar.

"Look! Look!" cried Louise. The deputy, angered out of his usual judgment, spurred his horse directly down the footless shale that the tramp had ridden across diagonally.

"Look! He can't—The horse—! Oh!" she groaned as Tenlow's pony stumbled and all but pitched headlong. "The other man—knew better than that—" she gasped, turning to the boy. "He waited—till he struck rock and brush before he turned Boyar."

"Can he ride?" shouted Collie, grinning. But the grin died to a gasp. A burst of shale and dust shot up from the hillside. They saw a flash of the cinchas on the belly of Tenlow's horse as the dauntless pony stumbled and drove headlong down the slope, rolling over and over, to stop finally—a patch of brown, shapeless, quivering.

Below, Overland Red had curbed Boyar and was gazing up at a spot of black on the hillside—Dick Tenlow, motionless, silent. His sombrero lay several yards down the slope.

"Oh! The horse!" cried Louise, chokingly, with her hand to her breast.

As for Dick Tenlow, lying halfway down the hillside, stunned and shattered, she had but a secondary sympathy. He had sacrificed a gallant and willing beast to his anger. The tramp, riding a strange pony over desperately perilous and unfamiliar ground, had used judgment. "Your friend is a man!" she said, turning to the boy.

"But Dick Tenlow is hurt—perhaps killed. He went under the horse when it fell."

"I guess it's up to us to see if the sheriff gent is done for, at that," said the boy. "Maybe we can do something."

"You'll get arrested, now," said the girl. "If Dick Tenlow is alive, you'll have to go for help. If he isn't. . . ."

"I'll go, all right. I ain't afraid. I didn't do anything. I guess I'll stick around till Red shows up again, anyhow."

"Hold on, Collie; don't get careless," said



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By all means plan to attend one of these demonstrations, where you will get a practical education in Power Plowing, Harrowing, Disking, Seeding and Road Building.

"You're a stranger here. I should go as soon as you have sent help," said the girl. "Maybe I better. I'll help get him up the hill and in the shade. Then I'll beat it for the doc. If I don't come back after that," he said slowly, flushing, "it ain't because I'm scared of anything I done."

Far down in the valley Boyar's sweating sides glistened in the sun. An arm was raised in a gesture of farewell as the tramp swung the pony toward the town. Much to her surprise, Louise found herself waving a

vigorous adieu to the distant figure. The tramp Overland, realizing that the deputy was badly injured, told the first person he met about the accident, advising him to get help at once for the deputy. Then he turned the pony toward the foothills. In a clump of greasewood he dismounted, and, leaving the reins hanging to the saddle-horn, struck Black Boyar on the flank. The horse leaped toward the Moonstone Trail. The tramp disappeared in the brush.

[TO BE CONTINUED.]

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Little Talks to Housekeepers

Helpful Hints Here for the Women Folks of the Farm

If we do our best, if we do not magnify trifling troubles, if we look resolutely, I do not say at the bright side of things, but at things as they really are; we avail ourselves of the manifold blessings which surround us, we cannot but feel that life is indeed a glorious inheritance.—SIR JOHN LUBBOCK.

The housewife should never forget the value of a few minute's rest during her busiest hours. This sounds impossible, but if made a part of each day's schedule it can be accomplished, and its value will be many times that of the work that might be done in the same amount of time.

If the baby must be bottle-fed, wash the bottles by themselves and know that everything used in washing and filling them is scrupulously clean. Know also that the milk and water used are absolutely pure. Cleanliness is one of the most important factors in preventing the baby's health.

Choose Rugs Carefully

Have you ever been in a room which made you want to scream? Nine times out of ten, if you will notice, you will find that it is the rug or carpet that gives the room this appearance. Why is it that the bright-colored rug or the extravagantly figured one catches the eye of so many people?

Has it ever occurred to you how large a part the floor covering has in the beautifying of a room? The thing of greatest importance in the estimation of all authorities in home decoration is the value of color combinations.

The floor covering is just as important as the other decorations, and the color scheme of the room in which the rug is to be used should be kept in mind when purchasing. A red rug and blue wall paper would clash, and there are many other colors which do not combine any better.

On the whole, the plain carpet is the more satisfactory, for in time the eye becomes tired of the figures in a carpet, as well as those in the wall paper. The plain rug with the border a tone or two darker, will fit into almost any color scheme.

The English ingrain rugs are being used much and wear well. Woven rugs, made of the odds and ends of old carpets are much in vogue at present, and wear excellently. The shades of the old carpet are blended beautifully into the new with no definite figure. There are many other kinds of carpets and rugs, suiting all purses. But quality in a carpet or rug pays, as it does in other things.

While the choosing of a good rug has much to do with making an attractive room, it is only one of the things that contribute toward it. The window curtains, hanging in soft, straight lines, and made of some white or cream material, will do far more toward making the room genuinely attractive than will the most expensive and elaborate valances.—HAZEL L. BECK.

Prolong School Days

We believe there is a time in every child's life when he feels it is unnecessary for him to spend more time in school—when he feels he might better be really doing things that count, as he expresses it. Sometimes this feeling is encouraged by the pressure of duties exacted of him, or by keeping him out of school a few days now and then when there is extra work to be done.

If the child is thus permitted to cut short his years of education, in after years this may be the regret of his life. Even if he does not realize his loss, he may be compelled to spend his life doing ordinary hard labor, when if he had been encouraged in seeking an education he might have used his brain in place of his hands, or, better still, might have combined brain and hand work to very great advantage.

If necessary, sacrifice should be made in order to start the children to school at the beginning of the term and to keep them there until the last day, except during sickness, and this practice should be kept up just as long as possible. The boy or girl who has mastered the fundamental principles of education will be

much better equipped for life's work in every way, and the early school days are the time to instill a desire for knowledge. If allowed to lag for a time it is hard to again pick up the threads.

Fight Flies Constantly

1. Where is the house fly born? In filth, chiefly in horse manure and out-houses.

2. How long is the life cycle of his birth? About ten days from the time the egg is laid until the mature fly is born.

3. What are the steps in the transformation from the egg to the fly? The egg, the maggot, the pupa, the fly.

4. Where does the fly live? Where there is filth.

5. Is there anything too filthy for the fly to eat? No.

6. Does the fly like clean food, too? Yes, and it appears to be his delight to wipe his feet on clean food.

7. Where is his favorite place of feeding? The manure heap, the garbage can, the privy vault, the spittoon.

8. Where does the fly go after leaving the manure pile, the garbage can, the privy vault and the spittoon? Into the kitchen, dining room and bedroom.

9. What does he do in the kitchen, dining room and bedroom? He wipes his feet on the food, bathes in the milk, and annoys the sleeper.

10. Does the fly visit those sick with typhoid fever, consumption, smallpox and cholera infantum? He certainly does, and may call on you next.

11. Is the fly dangerous? Yes, he spreads disease.

12. How does he spread disease? By carrying infection on his legs and wings, and by "fly specks" after he has been feeding on infectious material.

13. What diseases may the fly thus carry? He may convey typhoid fever, tuberculosis, cholera, dysentery and "summer complaint."

14. Did the fly ever kill anyone? He killed more American soldiers in the Spanish-American War than the bullets of the Spaniards, and was the direct cause of much of the typhoid fever in the United States last year.

15. Where are the greatest number of cases of typhoid fever and summer complaint? Where there are the most flies.

16. Where are the most flies? Where there is most filth.

17. Is the presence of flies therefore an indication of near-by filth? It most certainly is, and that is disgraceful.

18. How may we successfully fight the fly? By destroying or removing his breeding place, the manure pile, removing all garbage and making the privy vault fly-proof, and by keeping our yard clean; by screening the house; by the use of the wire swatter and sticky fly-paper; by trapping the fly.—Kansas State Board of Health.

Choose Corset with Care

A well fitted corset, because it may cost more than one dollar, should not be considered an expensive luxury. Quite the opposite is true—any corset that binds or causes discomfort in any part of the body is expensive.

Two things should be considered in buying a corset—whether or not it is entirely comfortable, and whether or not it gives you a shapely form. If it is not comfortable, by wearing it you may seriously injure your health. If it is not suited to your build, it will materially detract from your personal appearance, and it is the duty of all of us to look as well as we can. By this is not meant that we should spend just as much as possible on our clothes. It is not necessarily the woman who spends the most money on her clothes who makes the best appearance. The woman who chooses her clothes thoughtfully with regard to materials, styles, and colors, will always be well dressed and will appear at her best for the reason that she will have no need to think about her clothes while she is wearing them, but can turn her whole attention to other matters.

A well fitted, comfortable corset has more to do with a woman's appearance than many of us imagine. Discomfort makes ease and grace impossible, and an ill fitting corset will spoil the appearance of a pretty dress.

In buying a corset, do not be satis-

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fled to take the first one shown you at the price you have decided to pay. Look at all the models of that price and if the store provides a fitting room, ask the clerk to try on you those which seem best suited to your type and decide upon the one that feels and looks the best. If there is no fitting room, take several home with you and try them.

A comfortable corset can be worn every day without tiring the wearer. In fact it will be a great help in holding the weight of garments and catching the strain of bands at the waist.

It is very necessary that corsets worn daily during the summer be washed. A very good way to do this is to scrub them with a clean, stiff brush and good soap, rinsing them carefully and hanging in the sun to dry.

Garden Club Numbers 150

In the town of Dodge City 150 school boys and girls are spending their vacation season tending square-rod gardens. This work will not only prove interesting but bids fair to turn a profit to the contestants that will make it well worth their while.

The Social Service League of Dodge City started the work and has directed it until recently. Director of the Playgrounds H. P. Olsen is now overseeing this work. The plan followed is that outlined by Otis E. Hall, state leader of boys' and girls' club work, and by reason of this fact each of the 150 members of the club belongs to the state contest conducted by Mr. Hall.

The use of the six lots was donated by individuals, and water for irrigating the gardens is furnished by the city. Each child is required to grow at least one square rod of vegetables. The points which will be considered when the grades are placed are as follows: The length of time vegetables are available for use will count 20 points, variety of vegetables grown 20 points, total value of vegetables grown 20 points, net profits 20 points, and the records and story 20 points.

Each contestant is required to keep a record of the time he works in the garden and charge this up against the garden at 10 cents an hour. If outside help is obtained it will be necessary to charge 15 cents an hour against the garden. Weekly records are to be kept of the sales made in order to know how much the gross receipts are and in order to estimate the net profits at the end of the season.

Business men and others of Dodge City have offered liberal prizes to the boys and girls. Enough money has been offered to send four of the winners to Manhattan for the State Farm and Home Institute to be held during the Christmas holidays.

The more work of this kind done in our state, the better it will be for our boys and girls. The club work is educational and its possibilities in the development of the child cannot be overestimated.

Breakage of Jars in Canning

When breakage of jars occurs it is due to such causes as—

- (1) Overpacking jars. Corn, pumpkin, peas, lima beans, and sweet potatoes swell or expand in processing. Do not fill the jars quite full of these products.
- (2) Placing cold jars in hot water, or vice versa. As soon as the jars are filled with hot syrup or hot water, place immediately in the canner.
- (3) If top cracks during sterilization the wire bail was too tight.
- (4) In steam canner, having too much water in the canner. Water should not come above the platform.
- (5) Allowing cold draft to strike the jars when they are removed from the canner.
- (6) Having wire bail too tight, thus breaking the jars or glass tops when lever is forced down.—Circular, Federal Department of Agriculture.

Blackberry Pudding

- 1 pint flour
- 3 teaspoonfuls baking powder
- 1/4 teaspoonful salt
- 1 cupful milk
- 2 tablespoonfuls melted butter
- 2 eggs
- 1/4 cupful sugar
- 1 pint berries

Mix flour, baking powder, and salt. Add milk and melted butter. Beat yolks of eggs well, add sugar, and beat well into the dough. Add whites of eggs beaten stiff, and the berries well floured. Steam two and one-half hours. Sauce: One cupful sugar, one-half cupful butter creamed thoroughly, and one pint of mashed berries added.

Nothing is more restful at the end of a day of toil, than a warm bath. This, and comfortable, airy sleeping quarters will do much toward lightening the next day's labors.



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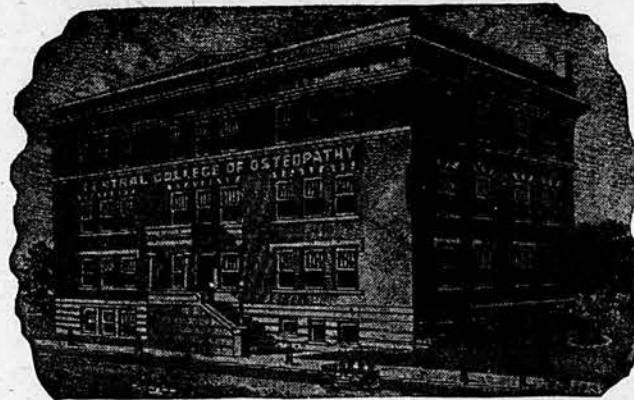
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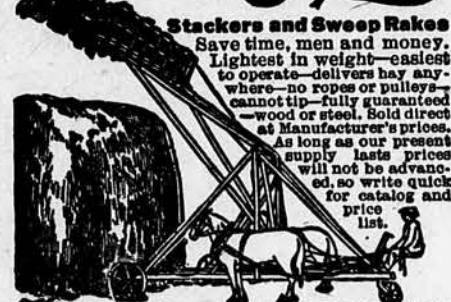
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FARM POWER

Items of Interest About Automobiles, Engines, Tractors, and Motorcycles

A BARTON County farmer cut 200 acres of wheat this year in nine days, using a small tractor for power. He has formerly used a gang of seven men in harvest. This year he had but four besides himself. He saved \$80 in wages and estimated that he saved \$40 in horse flesh, and \$60 more by reason of other economies brought about by the use of the tractor. It cost him only \$30 to operate the engine while harvesting this wheat. He used 200 gallons of kerosene and seven gallons of lubricating oil.

In Scott County tractors have played an important part in harvesting this year. Even header outfits with header barges have been drawn by tractors, thus saving eight horses.

Remember Tractor Show

Don't fail to go to Hutchinson July 24-28 for the tractor demonstration.

So rapidly has the tractor farming idea advanced that it promises eventually to revolutionize the whole system of farming. It has, in reality, assumed proportions of national interest. No matter whether a farmer is in the market for a tractor or not, if he would keep abreast of the times he must recognize the important place which the tractor now holds. At such demonstrations as the one to be held in Hutchinson next week, each farmer can feel sure of one thing—that he is the judge of a large field of would-be prize winners doing actual field work instead of simply listening, on his own farm, to a salesman's story of the merits of some particular tractor. Plan to attend this demonstration, taking it in as a part of your education for better farming.

Tractor Road Grading

Good equipment with plenty of power to operate it is necessary in the making of roads. Power outfits have almost entirely superseded horse-drawn equipment in road building. A big tractor grading outfit is being used most successfully in building and maintaining the county roads in Reno County. With this outfit a good system of drainage has been established, and is being maintained. The county roads were in fine condition even when water was standing in fields along the way.

Testing Draw-Bar Pull

How much will a tractor pull is a question frequently asked. The power of pull it is capable of exerting mean much more to a farmer than its horsepower. The number of plows being pulled does not answer the question satisfactorily, because of varying soil conditions.

There has been considerable dissatisfaction in tractor demonstrations of the past on account of the varying conditions of the ground in the demonstration fields. Although the demonstration officials have selected ground as near uniform as possible, it has been found to be physically impossible to get a plot sufficiently large where the soil conditions are absolutely uniform. At the demonstrations last season some of the tractors were placed at a great disadvantage,

laboring with a heavy gumbo soil, while others of the same class had a comparatively easy time at a different section of the field where light loamy soil was encountered.

To overcome this disadvantage, the management of the National Tractor Farming Demonstrations have arranged with the Hyatt Roller Bearing Company, to make draft tests on the ground with a view of establishing an average pull per plow. Trial furrows will be cut daily in different sections of the field, and at the head of each furrow the result of plow draft will be posted. By comparing these furrow records and the performance of the tractors in the different sections, a fair comparison can be found as to the relative showing of each machine. This instrument that will be used has been tested and approved by the United States Department of Agriculture officials at Washington. The dynamometer consists chiefly of a hydrostatic pressure unit which is coupled between the tractor and the plow, and a recording gauge which automatically records the draw-bar pull. All the energy required to pull the plow must be taken through on the hydrostatic pressure unit. The pressure thus created actuates the pressure gauge by which an absolutely accurate record is obtained.

While this dynamometer is not intended to be used as an official testing machine for each tractor during the demonstration, nevertheless it will be available to any manufacturer who wishes to make use of it.

Any one interested in the dynamometer will be given an opportunity of seeing it in action either while the trial furrows are being cut, or some other time during the day.

Several tractor manufacturers have made arrangements with the Hyatt Company to test their tractors for maximum draw-bar pull. The demonstration officials have accordingly arranged for extra grounds for this purpose with the understanding that these tests be conducted in the morning while the official demonstration will take place in the afternoon at the regular demonstration field.

Threshing by Electric Power

Out in Dickinson County nine wheat growers have organized the Farmington Electric Threshing Association. They are threshing their wheat from the shock, using power from the Riverside Light & Power Company which supplies electric current to twenty-one towns in this vicinity. These men have purchased co-operatively a new separator, a 25 h. p. motor, and 1,000 feet of transmission cable. They figured as a result of their first day's run that they had reduced the cost of threshing their wheat to four cents a bushel—or a 50 per cent reduction. This is an experiment in the use of electric power that will be watched with considerable interest. Such use of power should increase where large electric power plants are located and have their transmission lines running through the country.

The potato crop in the Kaw Valley which will total about 600,000 bushels, will prove a record breaker.



THE AUTOMOBILE IS GREAT AID TO WORK OF AGRICULTURAL AGENT
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The oldest and largest herd on earth. Every hog recorded in the recognized records. MID-SUMMER SALE AUGUST 9. If interested in the world's greatest pork hog, ask for catalog. H. L. FAULKNER, BOX K, JAMESPORT, MO.

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Fall boars, also gilts bred or open, sired by Mammoth Orange. Spring pigs by Mammoth Orange and Big Bob Wonder. JOHN D. HENRY, Route 1, Leocompton, Kan.

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For Sale—White King 86445 by Chief of All and out of Minnehaha. Spring pigs, pairs and trios, no kin. F. C. GOOKIN, Route 1, RUSSELL, KANSAS

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Wood Banks of Oswego, Kan., is fitting a "boarder" herd of Jerseys that he will exhibit at number of our county fairs. Mr. Banks is the owner of some of the very best specimens known of the breed. A number of the cows in the herd are sired by Financial Countess Lad, the grand champion Jersey bull at the American Royal stock show last year and also champion at the Iowa Dairy Show, 1913. A feature of the Banks herd now is a choice lot of young stock, including young bulls that are good prospects.

A herd of eighty cows with an average production of 427.18 pounds butter fat is the remarkable record hung up by John Mammuth's herd of grade Jerseys in the Kansas Cow Testing Association's tests for the year 1915. This is a noteworthy record and as it is generally stated that a cow should produce 150 pounds of butter fat a year to pay her keep, it is quite evident that this herd is a long way from being in the "boarder" class. That Mr. Mammuth is a progressive breeder and a firm believer in pure-bred sires is evidenced by the fact that pure-bred Jersey bulls have been used continuously for thirty years at the home of this record herd in Modesto, California.

W. R. Crow & Sons of Hutchinson, Kan., owners of one of the great Duroc herds in the West, write that their herd is doing fine. They expect to be at the big fairs over shown. They will be strong contenders in the Duroc futurity and will be at the Topeka fair with forty-six head of show

HOLSTEIN CATTLE.

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Pure-bred bulls, serviceable age, from A. R. O. dams and sires.

A grand lot of pure-bred heifers, some with official records. Choice, extra high grade cows and heifers, well marked, heavy springers, in calf to pure-bred bulls, constantly on hand. High grade heifer calves 6 to 10 weeks old, \$25. Bargains. Send draft for number wanted. All prices f. o. b. cars here. Inspect our herd before purchasing. Write, wire or phone us.

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High grade cows and heifers and registered bulls. The best breeding. Call and see them.

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Must Reduce Herd

Forty head of registered cows, heifer and bull calves for sale. Of the best blood lines among the breed.

I am a member of the Southwest Jersey Cattle Breeders' Association.

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For Sale—White Hall's Baron 138966, solid color, 28 months, fine individual. Sire Blue Boy, Baron 99318; dam White Hall Duchess 299731, used on a few of our best cows. Females all ages and three bull calves, \$25 up.

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stands for Economical production. More profit from every pound of feed. Do you want cows that will improve your Dairy? Write for free literature.

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