

finished steers. There from 1,000 to 1,200 were good steers and heifers, and common either the demand is the heavy stuff is not of hogs sold were from 450 to 800 to markets at a price

to be a disposition of their stock which winter. This rush on the market. The secure stockers and not appear to be in any possibly owing to the and the uncertainty this hence. Drivers purchasing the right Far too many of the quality and under- ing asked, one wishes of feeding quality.

ing market showed a previous. Evidently over the price, but the interacts their efforts. not conducive to an With the high price ny kind, the price of 0 before the producer or labor. It is un- ch as they are be- is impossible for any a market unless there throughout the entire cattle markets are no carries his usual the end. What he ally makes up on the are high. Of course, ing high-priced feeds price of the finished there will be a labor



must be remembered successful agriculture. in the land will not ps. The man who should be the best

## Pasture.

ing from winter ver of losses in the eed to fresh, green system. Once the n feed there is no from disease than ing conditions the modified to conform ived. The grass it takes some little med to green feed. ly fed there is not re the animal has only.

s with ruminants als eating a large ats quickly in the y noticeable when this form of feed. e may prove fatal. the stock on grass gradually lengthen treatment would of turpentine in a al is not at hand, given as drench. pe in the animal's which facilitates to give relief the d canula, to allow

the gas to escape. This puncture is made in front of the point of the left hip. If the animals have a feed of hay or straw before being turned out, they are not so likely to gorge themselves on the green feed.

In some fields there is an abundance of dried grass through which the green grass is growing. Sometimes an animal will consume too much of this old, dried grass, and compaction or indigestion results. Quite a few cattle have been lost in the spring owing to this trouble.

When the cattle are first turned out the ground is more or less wet, and the animals, not being used to tramping the field, contract sore feet. A muddy barnyard is also the cause of foul in the feet of cattle. With this trouble the feet and legs swell and often break out between the clouts and discharge a fetid matter. Clean, dry quarters should be the first move in treatment. The feet should be bathed in warm water and hot linseed oil applied. Recovery is sometimes slow and the patient may fail in flesh; consequently every care should be taken to prevent individuals in the herd from contracting this trouble.

Owing to too sudden a change in the ration, the stock fail to thrive as they should when first turned on grass. This could largely be avoided by making the change in the ration gradual, instead of all at once.

## THE FARM.

### Lessons in School Consolidation.

EDITOR "THE FARMER'S ADVOCATE":

From common observation it may be stated that roads and schools are the two most tangible returns received from rural taxation. If they are not commensurate then the ratepayer is not receiving an adequate return for the assessment. Directly and indirectly, both are of first rate importance to public welfare and in some respects are closely related. Good highways promote school attendance and better health. The discharrow of consolidated school discussion bids fair to give the educational field of Ontario a livelier airing than it has received for about thirty years. This should prove beneficial if it clarifies conceptions of the purpose and process of public schooling and improves the facilities used. In a democratic state, by means of publicity and patience, a desirable end will be reached. This mode of procedure also safeguards against the idea that officialdom is undertaking to "put something over the people." Knowing that many new devices do not work out as expected, farmers did not all start building silos at once and there were wasteful trials, but experience proved their value and led to correct practice and general adoption.

At the outset, however, it should never be forgotten that the prime factor in any school is yet as it always has been, the directing head—the teacher. Schools have been made famous and historic by great teachers. One has but to recall the records of some little one-roomed teaching places by the roadside to trace splendid results lasting for generations from the work of men and women rightly endowed for their mission. Schools may be cluttered with fine appliances, helpful in their place, but to little purpose, if inspiring leadership is lacking. Nor is such teaching a lost art, as might be supposed from some of the criticism afloat. It is no more than right to say that preparatory courses for teaching in Ontario were never quite equal to those now available. With regard to the school system itself, it is not to be wondered that the recent Provincial Minister of Education, took occasion lately to enter a rather vigorous dissent from some of the onslaughts of slashing reformers who would have things unceremoniously relegated to the scrap heap. Hon. Dr. Cody could do this with good grace for his own promising tenure of office had been only brief. He was not one of the fathers of the system. Having regard to the general progress of the Province and the achievements of the young people of the farm in agriculture and other pursuits, things have not gone altogether to the educational bow-wows!

Mainly by reason of a half-century emphasis on commercialism, rural depopulation, reported to have been running at the rate of some 16,000 per year, has been emptying the rural schools to such an extent in not a few localities as to compel consideration of closing some of them and combining sections or, if practicable of adopting the larger project of consolidated schools. By so doing it is hoped to develop in the rural public school a type more complete in itself with a program of studies that would hold pupils longer in attendance qualifying them better for life and incidentally laying a foundation favorable to agricultural pursuits. Enquiries are being made as to the courses contemplated. The anticipation is that regularly graded consolidated schools would work out as a substitute for good, existing continuation schools as found in villages in addition to the primary grades. The question is also asked if its curriculum of studies would be so related to the general scheme of education that pupils who might elect to enter professions other than those of the farm would have a recognized standing. Our modern youngsters will be asking what there is in it for them at the end.

The consolidated school established through the liberality of Sir Wm. Macdonald, on the outskirts of Guelph, with the Ontario Agricultural College on the other side, originally consisted of five rural sections from three of which the pupils had to be transported through the city in the vans. From one section some children were driven seven miles so that they had to leave home about seven o'clock to reach the school

before nine. Owing to the awkwardness of the situation, three sections finally dropped out but by a majority of only one in one case and of two in another. Since then it continued with two rural sections and an average attendance of 120, some scholars coming in from other sections not consolidated for the benefit of the more attractive course which include manual training, domestic science, school garden work and agriculture. Its work has been highly commended but bringing children over 5 or 5½ miles did not prove successful. A similar school was established at Middleton, Nova Scotia, about the same time, eight rural schools uniting but only Middleton and two nearest sections remain. Transportation for the others proved very expensive and was the principal difficulty. Others have been started in Nova Scotia. In Prince Edward Island five miles from the capital, Charlottetown, the Hillsborough Consolidated School was opened in May, 1905. It included the school districts of Bunbury, Mt. Herbert, Mermaid, Bethel, Cross Roads and Hazelbrook and continued until June, 1912. In the judgment of the Provincial Superintendent of Education it was an excellent school in every respect. In addition to special teachers, for different grades, there was tuition in manual training, domestic science, farming, gardening and music while physical training, military drill and sports were fostered. Pupils living more than one mile distant were conveyed to and from the school in vans. The average attendance the first year was 125 compared with 89 aggregate attendance in the six districts the preceding year. While in the year previous to consolidation scarcely any pupils had gone from the six districts to Prince of Wales College, the Consolidated School sent 20 or 30 graduates able to matriculate within the first three years. During those three years all the extra expenses were also borne by Sir Wm. Macdonald, with little increase in school taxes. In 1909 the districts were required to increase their taxes from eleven cents on \$100 worth of assessed property to forty cents and for that reason chiefly, three schools dropped out. Later on two others, including Mt. Herbert in which the building is located, voted to discontinue. The work of the school was most satisfactory but the difficulty arose in regard to meeting the cost. It would probably have been better had the school been inaugurated in less ambitious and expensive fashion, but the expectation now is that it may be reopened in the near future as conditions have materially changed since it was closed. In several cases two one-roomed Prince Edward Island schools have been consolidated with very satisfactory results. One of the chief difficulties with consolidation on the Island has been conveying pupils during the bad roads of winter. The experience gained in the foregoing cases should be valuable to people elsewhere by indicating what should be avoided in making a trial of consolidation. Plainly in territory with an inevitable four or five months of fall, winter and spring roads the most serious obstacle to meet will be that of transport by horse or motor vans or both and the minor provision of road shelters in case all pupils could not be called for. That the areas consolidating should be compact and not too extensive is quite evident. Until building outlays return to more normal condition people may not authorize very elaborate projects. People will not be averse to liberal outlays if assured of the results and no money is better invested than in compensating teachers in the work of educating good citizens.

ALPHA.

## AUTOMOBILES, FARM MACHINERY AND FARM MOTORS.

### Some Cases of Improper Rodding.

By R. R. GRAHAM, O. A. C. GUELPH.

The facts presented herewith concerning improper rodding were secured from inspection of two barn fires that occurred in the County of Dufferin last summer, the cause being lightning stroke. One of the barns in question was an exceptionally large and well equipped one and the loss was very heavy, the other was an average-sized barn but had the special feature of a power windmill installed on the roof. Both were rodded by windmill the same type of cable, and judging by the similarity of the two installations, I would judge that both barns were rodded by the same firm, and the installations done by the same men.

In my talk with the owners of these barns, I was strongly impressed with the fact that they thought that the system of rodding was in good condition, and because it had not proven effectual in protecting their barns, it had not been naturally disposed to believe that there was anything in rodding. Perhaps it will require some persuasion to induce these men to rod their barns when re-built. However, I took particular pains to point out wherein their systems had been defective, and I believe that they will undertake to install a system of lightning rods on their new buildings, provided that they are given definite guarantee that the rod is of the right type and that the installation will be done in a proper manner. They realize now, I believe, that rodding a building is a special line of work that should be undertaken only by experts. We believe that they are justified in this stand, and judging by recent movements among lightning rod dealers, (this Conference being the first of its kind on record) and by the recently proposed legislation on lightning rods, that the farmers or owners of rodded buildings will receive a much better deal in the future than they have in the past. One needs only to inspect a few buildings that were rodded and burned to be con-

vinced that a great deal of improper rodding has been done in the past. Promoters of this present Conference are deserving of a great deal of credit, as their chief aims are higher education in regard to types of lightning rods, better methods of installation and thorough training of men for installing them. It is sincerely hoped that this new idea will permeate the whole lightning-rod business in order that we may have in this country an intelligent, up-to-date and efficient number of lightning rod dealers whose chief aim may be public service. This movement in conjunction with some form of efficient legislation ought to assure the farmers of a square deal and bring about a great reduction year by year in the loss by lightning of valuable farm buildings throughout the Province.

In my inspection of the two barns in question I discovered the following defects which I believe contributed to the causes of the fire.

IMPROPER CONNECTIONS.—In both cases I found that the splicings of the main cables and of the uprights to the main cables were made in a very loose and careless manner. The method adopted was to place the parts side by side and join them by two or three pieces of single copper wire tightened with a fence pincher. Most of these splicings were found to be very loose, and it is my opinion that if the barns had not been burned, that some of these splicings would have separated completely in time. I was very much surprised to find this method in use.

LOCATION OF MAIN CABLE FROM PEAK TO GROUND.—In every case the cable ran down the end of the roof about half-way and then directly down the end of the barn to the ground instead of running all the way down the end of the roof to the eave and then down the corner of the barn to the ground.

POOR CONNECTIONS.—The metal parts of the barn itself and all metal equipment installed were not connected to the lightning rod system. In both cases apparently there had been no attempt whatever to ground these metal parts. The metal eave-troughing and conductor pipes, steel hay-fork track, litter-carrier track, water pipes, etc., should have been connected up to the main cable and grounded.

CABLES POORLY LAID.—The main cable was supported on metal dispersers which maintained the cable an inch at least from the boards. This arrangement is likely to result in loose and displaced cable in time. The better method is to fasten the cable directly to the wall with some form of staple.

THE GROUNDINGS.—I was able to pull up some of the cables in the ground and found that they were not deeper than about six feet. In some cases, too, they were very close to the wall, and in one case I noticed that the cable ran into the ground along side of a post. If the grounds had been kept away from any thing of this kind they would probably have been in moister earth throughout the dry season than they were. I do not believe that the grounds at either of the barns were sunk low enough to be in perpetually moist earth in the very dry season of the year.

FAILURE TO GROUND POWER WINDMILL.—In the case of the barn with the power windmill on it I found the metal shaft from the wheel down to the machinery in the barn was not connected at all to the lightning rod cable nor grounded separately. Apparently an attempt had been made to ground it as two pieces of cable were tacked along the wooden mast on two opposite corners, the upper ends being made brush-like to serve as points and the lower ends spliced to the main cable along the ridge, but these uprights were not connected to the metal shaft running down into the barn and neither was the lower end of the shaft grounded to carry off any current that might run down it. This, I consider, was a very serious oversight in this installation, and I believe that it was the real cause of the barn being struck and burned. The owner said that when he saw the fire first it was in the vicinity of the shaft.

IRON-CENTRED RODS WERE USED.—The type of rod was the solid iron-centre with a layer of copper wires twisted tightly about it. The rod consisted of a small iron rod about 5-16 of an inch in diameter covered with one tight layer of 10 copper wires about No. 12 in size, wound on spirally. Although these rods had not been on very many years, there were a few places where the rust was making considerable headway on the iron centre. In no case though did I find any places where the rods were broken. This type of rod certainly would not last as long as a pure copper rod.

THEORY OF THE FIRE.—I would like to emphasize that in dealing with the theory of the fire that the lightning bolts in both cases were heavy ones judging by what the owners and neighbors reported. Granted that this be true, probably no kind of rod or system of rodding would have prevented the stroke entirely. However, I would not feel justified in believing this in these two cases. My opinion is that if the connections throughout the systems were tight, the grounds deeper and in perpetually moist earth, all the metal part on and within the barns properly connected to the system of rods and in the one case the power windmill properly grounded, that the fires would not have occurred. The defects enumerated above, I believe, are sufficient to warrant this judgment. There is a theory which I believe applies here and one which many people have seen verified in their actual experience, namely, that metal bodies not connected to earth become charged with electricity during a thunderstorm, and if the storm be severe enough the charges on them will become so great that they will jump considerable distance along paths of the least resistance in order to get to earth, and the sparks generated will set fire to any inflammable substance between, and the more combustible the material, the more likely that a fire will follow. In