

with wire nails and strongly bound by woven wire fencing tightly stretched and securely stapled to all the members. Hook and eye hinges should be used to allow the gate to be lifted off in times of deep snow, and the gate should be fastened with a strong light wire chain (with hook) long enough to encircle the post even when it has drawn away a few inches on account of the strain of the wire fencing.

The discussion on the subject of railway fencing is not complete without considering cattle guards.

The danger of wrecking a train in which a pair of wheels may be derailed has led to the abolition on all good roads of the open pit cattle guards, in which the rails are laid on the stringers. The danger of such guards to trains is not much reduced by placing ties and guard rails on the stringers, as cattle and horses are frequently caught in them by the legs, and in such positions are a very serious menace to the heaviest locomotives.

The writer knows of no surface guards that will actually stop horses or cattle when seeking food, when driven by men or dogs, or when frightened by a train. There are a number of excellent surface cattle guards (both metal and wood) in the market, and the writer favours the wooden ones with inverted wedge-shaped longitudinal-slats, painted white for the purpose of exaggerating in appearance the depth between the slats. These, with white painted board wing fences and return fences to the right of way fences proper, form a very efficient cattle protection.

In the case of oblique public road crossings, the writer has been in the habit of locating the cattle guards and wing fences just clear of the public road boundary, and carrying the return fences back from the middle of the cattle guards to the right-of-way side fence by the shortest straight line. This excludes from the fenced-in-right-of-way two small triangles, but gives a space for frightened animals to turn in and clear the track, if caught approaching the track in the face of a train.

It is probable, in the writer's opinion, that the lengthened spans which will probably be used in fencing, and which demand heavier posts, may ultimately lead to the use of some form of iron post set in concrete base or some design of hollow concrete steel post when the cedar available becomes more expensive.

Under present conditions, it is highly desirable to set the tension posts (at gates and corners) in a pyramidal concrete base, as the cost is low compared with the advantages gained in increased strength and durability and in preventing heaving from frost.

There is such a diversity of opinion evidenced by the large number of different styles of fencing, gates, and cattle guards in common use in the country, that the writer hopes to elicit a discussion on this paper that will prove of value.