out being killed meet their end before reaching the railroad right-of-way, and if so, did the audible-visible signal do the trick?

"A Subscriber" says that Recommendation No. 9 should be unequivocally and forever buried as it smacks of class legislation. We are interested to know whether it is first class, second or third class? The much maligned Recommendation No. 9 does not in any way prohibit or discredit the use of the wig-wag, and, under it, any signal displaying a disc, whether it is stationary, wig-wagging or moving in any way, or which displays a light or lights, is legalized. The only requirement is that the disc should display the word stop. Of course, a good deal of discussion was had at Spring Lake on the specific endorsement of the wig-wag, which proposition was defeated. This discussion had no bearing on Recommendation No. 9 and was introduced separately.

It is hoped that the committee this year will not be subjected to very severe criticism and that "the neutrality with which Committee XX should approach this very important subject until it knows where it stands" will be maintained.

Philadelphia, Pa. A. H. RUDD,
Chief Signal Engineer, Pennsylvania System.

[NOTE: The reader is requested to refer to the editorial mentioned and to read it in its *entirety*, when we believe that he will see that the standardization of the *banner* is the clinching argument. The Signal section may have occasion later to consider the approval of such developments as the "colored light, flashing lights, possibly whirling lights" long before such devices have been actually installed in numbers equal to the growing record of the wig-wag type. We hope that the committee in its search for a 100 per cent fool proof crossing signal will not overlook the major requisite (i. e.), the efficiency of the device to *arrest the attention of the highway traveler*, rather than a device considered solely from the technical standpoint of the signal engineer.

With reference to the "Comedy on Errors" emphasized by Mr. Rudd regarding the deaths at crossings, we will say that the letter from "A Subscriber" on page 302 of the August issue was abridged, thus omitting some of the qualifying data. The information given in the editorial entitled "Highway Crossing Protection" on page 253 of the July issue reads: "It may be pertinent to point out here that *no deaths* resulted from automobiles running into the sides of trains *where movable visible audible signals* were used. Editor.]

Signal Storehouse Problems

TO THE EDITOR:

A short time ago in a letter on another subject to —— ——, signal supervisor of the ———— railroad, I mentioned the fact that we were having considerable trouble in accumulating material for various construction jobs. I am now in receipt of the following from him.

"I hope that you will pardon this inundation of letters, but I find that I cannot sit here quiescent with your store troubles on my mind. I must solve the problem for you. It's so easy that I'm amazed that you have suffered for so long.

"When you order a carpet tack or a 10d nail, check up the requisition after it arrives at the storehouses. Do this personally. Trust none. You will soon learn where the unfilled requisitions are concealed at the various stores. Make copious notes as you proceed.

"It is also a good practice to locate the stock of tacks and 10d nails, make notes of the amounts, and the work you can do providing nobody grabs the tacks and nails. This provision I have not yet solved. It is exceedingly profitable to put on requisitions the location of the nails and tacks. Say, 'Plenty of tacks in the east end of the north aisle, right hand side, lowest till,' or something similar.

"Every three days visit every store in which you are interested and check all of the material that has any relation to signals. Carry 37 note books with you. You will find that the data acquired will help you a great deal. Various stores have various 'idiosyncracies,' and it will require considerable 'perspicacity' and time to hit home runs from the various curve offerings. No building is too remote; no cellar too noisome; no garret too dark for signal material. If you can make a wager with the storekeeper occasionally anent a requisition of receipt or non-receipt of material you will stimulate interest, for no storekeeper likes to lose a pocketful of Owls. Be sure to bet on an established fact, for if you lose you will be damned.

"If the above suggestions do not remove all of the difficulties, refer to your note books. As I said, they will be valuable. Should you figure on building 50 miles of signals, you may find, after the gangs are organized, that you can build 23 wigwags and no signals. In that case build wigwags. In other words, make your plans fit the material on hand. You will find that this method is a panacea for all signal material troubles.

"I have tried to give you the germ idea of a method that is well-nigh perfect. If there are any 'obfuscated' details I would be only too glad to shed light on them. You probably have small problems with which I am not acquainted, but I am sure that the general method outlined, modified to fit the peculiar twists of your road, will solve each and every one of them.

"I again trust you will pardon the superogatory advice from a mere tyro in the game to a veteran of superior rank."

I hope this advice may be of some assistance to readers of the *Railway Signal Engineer* having like difficulties with material.

California. E. W.

The Red Light*

TO THE EDITOR:

There is a question I have often thought to propound in railroad circles, but have thus far postponed, and this is: Who invented the red light? or rather, who first thought of using it as a signal on railroads?

Soon after the Pennsylvania Central was opened, i. e., about twenty-five years ago (1848), there was an accident and loss of life, caused by one train running into the rear of another, which had broken an axle, in a deep cut at night. Railroad disasters were new then, and the affair called out a great deal of newspaper comment; but the blame seemed all to attach to a brakeman sent back to notify the following train. Two days afterward, at dark, I was walking on the track from Wilkinsburgh to Swissvale, when a train came up behind me with its brilliant white headlight. I stepped off until it passed, then stepped on again, and was forcibly impressed with the suddeness of its disappearance in a place where the road is straight for a half a mile before me where I walked. I said mentally, what is to hinder the next train running into that, if any accident should detain it? The answer came to my mind like a revelation—a red light. No train should run at night without a red light on the rear platform.

Next day I wrote and published, in the Pittsburgh Saturday Visitor, an editorial urging the adoption of this precaution against that class of accidents then occupying public attention. Next week every night train on that road had a red light on the rear platform; and I was led to believe at the time that it was in consequence of my suggestion. Now, as women do so little in the line of original suggestions and inventions, I would like to know if I were the first to think of this beginning of the present signal system, that we may have this much more on the credit page of our general account.

JANE G. SWISSHELM.

No. 618 West Monroe St., Chicago.

*Taken from the September 6, 1873, issue of the Railway Age Gazette.