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. . . *The Axis Radio Agents must be eliminated . . .*

DEADLY RADIO TRANSMISSIONS

By the Editor — HUGO GERNSBACH

WE have found it necessary to speak from time to time of the real peril confronting the United States, due to the activity of Axis agents, who operate secret radio transmitters in the United States and its territories.

This is all quite ancient stuff and, as often before, history merely repeats itself.

I probably was one of the first to point this out, even before the First World War got under way, when the then Imperial German Government—even before the United States entered World War No. 1—succeeded in sending valuable information from the United States to Germany.

At that time, the German Telefunken Company had erected on Long Island a transmitter known as the Sayville Station.

In my former publication *THE ELECTRICAL EXPERIMENTER*, (August 1915 number), I pointed out that secret messages could no doubt be sent out over this station, violating the neutrality of the United States. It will be remembered that the director of the station went to great pains to denounce me, in no uncertain terms, for the publishing of such a "fantastic story." Yet before the ink was dry, phonograph records had been made showing that the station actually had sent out high-speed signals, interspersed with the regular signals, which could not be detected by the normal ear; but by recording these signals on a phonograph record and then slowing up the record, the secret messages became clear. Subsequently, the United States Government took over the Sayville Station and thus prevented secret messages from going out over that channel.

In the present War, when there is a super-abundance of radio stations and facilities all over the country, it becomes much simpler for the Axis agents to use their ingenuity in trying to get information out of the United States.

Troop and ship movements particularly, in the very nature of things, must be transmitted speedily if the enemy is to get any advantage. The telegraph, telephone and cables are pretty closely watched, and such slow means as the mails cannot be considered.

The agents who are charged with the transmission of important information must be resourceful; they also must be good radio technicians, if they are to succeed at all. This makes the problem all the more complicated for our authorities. No foreign agent would be foolhardy enough to operate a fixed transmitter.

Taking a leaf from the book of our own bootleggers—who operated mobile transmitters during prohibition—Axis agents necessarily will use only such mobile transmitters. When located in automobiles or trucks they can be moved rapidly from point to point and it becomes a problem of the greatest magnitude to locate and apprehend the men who operate such transmitters. As the agents for obvious reasons, use short waves almost exclusively, their problem is simplified too, because such equipment weighs little and can be readily concealed in an automobile, truck or motorboat.

There has been a movement in this country to prohibit the sales of all radio parts and accessories because it was thought that this would stop the assembly and manufacture of such illegal spy-transmitters.

Such a course would be the height of foolishness, because any radio man, even without being a brilliant technician, can easily assemble a good transmitter from junk radio receivers. It thus becomes not only impossible but quite impractical to stop any wilful agent from plying his trade if he so chooses.

It often takes quite a while before a mobile transmitter can be run down, but we believe that sooner or later the majority of them will be apprehended.

The F.C.C. recently reported that approximately 100 monitoring stations have been set up during the last few years in order to stamp out the illegal short-wave transmissions from the United States. These stations not only search out the illegal stations themselves, but they analyze suspicious communications and unknown sounds as well. But we should realize that the monitoring of all the multitude of wavelengths day and night is a tremendous undertaking, and while recordings are made of every transmitter on the air—located not only in the United States but of every transmitter in the entire world (which can be heard in this country)—I believe also that something more is needed, if we are to cope successfully with the menace.

It has been suggested many times that amateurs should monitor as many wave lengths as possible and report immediately any suspicious-sounding transmission to the proper authorities.

The trouble with this plan is, that so far such listening posts to the best of our knowledge have not been organized in such a manner that every section of the country would be under constant surveillance 24 hours a day. In each section of the country there should be listening posts monitoring continuously certain wavelengths and no others. This in itself would be a huge undertaking but it is believed that only in this manner full safety can be realized during the long war which we are certain to have.

Nor will it be satisfactory to have even expert amateurs and listeners just "listen in". It is more important that there be a record of each emission, and this means high-grade equipment which few amateurs possess.

Instead of only 100 F.C.C. monitoring units, we really need between 1,000 and 3,000 such posts, scattered all over the country and in our territorial possessions as well. In my estimation, trained radio amateurs, of which there are many thousands, and particularly men above 40 years who have been amateurs, could be sworn in by the Government for a listening-monitoring network with only one purpose in mind to account for all illegal transmissions that may emanate from the United States. The problem is further complicated by what is known as the skip-distance effect, whereby short-wave emissions are not heard at all in the immediate vicinity, and for that reason such stations are best monitored from a distant point, or points. With such a listening-monitoring network, mobile enemy transmitters could be watched and located much more readily than is the case now. *The principle that it is easier to catch a fox with a dozen dogs, than with two, holds good in radio as well.*

Finally, I wish to go on record once more and repeat what I have said numerous times—that I believe illegal messages can readily be sent out over our small foreign-language stations of which there are too many in this country and territories now. The possibility of sending out secret intelligence through the means of an innocent violin or piano or other music solo should be apparent to every one.

The foreign-language stations are a powerful magnet to every Axis agent who would like to try his hand on a new and fanciful code, that can be sent out easily by radio performers without too much danger of being apprehended. *It is here that our greatest vigilance should be centered for the duration.*