

WAR DEPARTMENT
OFFICE OF THE CHIEF SIGNAL OFFICER
WASHINGTON

February 25, 1931.

George A. Graham, Electrical Engineer,
Signal Corps Laboratories,
Fort Monmouth, New Jersey.

Dear Graham:

I hasten to reply to yours of the 20th which just reached me yesterday afternoon.

All our printer equipment was dismantled and stored about 18 months ago. Consequently, it would not be possible for me to produce those tapes without going to a good deal of trouble, which, I think, can be avoided by your getting them made at the school. I know that two years ago, at least, their printer equipment was in good shape and it probably still is. Of course, you won't be able to get celluloid tapes there, but you could run off several dozen paper ones.

Even if our printer equipment were working I could not furnish celluloid tapes at this time for the following reason. The celluloid stock came from motion-picture film from which the emulsion was dissolved by our photo laboratory. I had a cutting machine which Evans, at the laboratory, made specially for cutting the film down to printer-tape width, but the last I remember of it was that it was borrowed by Evans or you and taken over to the shop. It was never returned, so I have nothing with which to cut the film to size. Please look around in your bailiwick and see if that cutter is on hand there. Similarly, I will look at the remains of the shop here and see if I can find it.

Now with respect to the cipher wheel on which you ask my advice. I don't get you at all. I never had in mind a disk with 338 contacts above and 338 contacts below, or if I ever did have such an outlandish idea you or somebody else surely would have knocked it out of my head long ago. A disk with 26 contacts above and 26 below is all that is necessary. I refer you specifically to the drawing we made, and which I amended, and copy of which I send you herewith. I think it will be wise also to enclose the draft of the working arrangements as drawn up by me some time ago. I am a little bit troubled by your question, wondering whether we are in agreement on the set up, since your question re the disk is so at variance with my own idea. I think it would be advisable for us to have a talk on the whole business. There is a good chance of my coming to Monmouth for a day next week with Major Crawford,

who is planning to drive up on another matter. Such a conference would, I think, be advisable, don't you. Please answer on this point. Also, if you are unable to get the tapes you need, let me know and I will get busy.

Sincerely yours,