Philadelphia, Reading & Pottsville Telegraph Co.

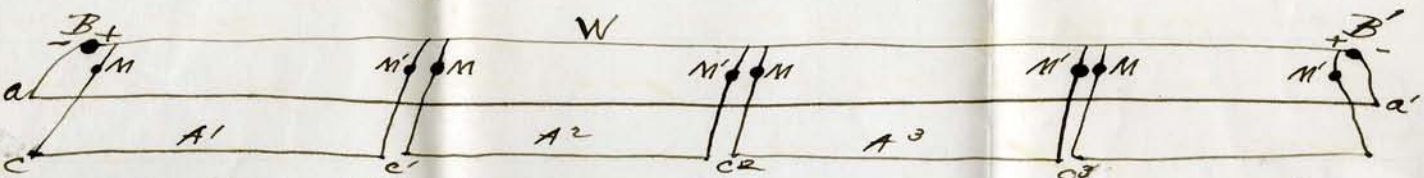
Reading, Pa. Oct. 28th 1873.

Friend Pope

In hastily writing to you to-day in reference to several methods of operating signals, I forgot to show & mention that for single track purposes the line wire W should be connected at both ends to the continuous line of rails A, as shown at a a' and the 2 Batteries should be arranged so as to neutralize each other, when a section of track is not occupied by an engine or car,

(can or not neutralize)

For single track.



or probably it will work satisfactorily with one battery B at one end, and dispense with Battery B' at other end and not have line connected to rails at a'. When a section is occupied by an engine or train, I think a current sufficient will flow through both magnets M and M' to work them satisfactorily. Do you not think so? A single Battery and a line wire can also be arranged to work a number of signals by demagnetism, on the principle I showed you in the

cars a short time ago.

Yours truly

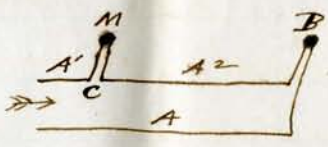
H. W. Spang

Philadelphia, Reading & Pottsville Telegraph Co.

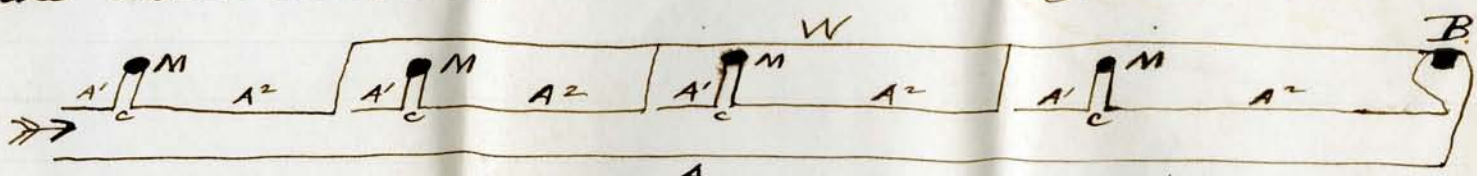
Reading, Pa. Oct. 30th 1873.

Friend Pope

In looking over my papers to-day relating to railway signals, I came across a sketch of a method, which I devised over a year ago, for operating railway signals, and which I had intended testing, but owing to a press of other matters, it was overlooked and escaped my memory. I intend however soon to give it a test and patent it. I think it will prove a simple and reliable method, it is as follows.



A is a continuous line of rails, a mile long more or less, A' a short section about 100 ft more or less and insulated at C from Section A² which is nearly a mile long. Magnet M is connected with A'A² by wires, Battery B is connected with rails A² A by wires. You will observe by above method that safety signal can be arranged, so as not to be displayed when a train is moving in direction of arrow, when rails A² A are occupied by an engine or train, or when Battery B or any its connections are out of order or when a rail or a switch is misplaced. By the following arrangement of a line wire W and a continuous line of rails A, one battery B can be arranged to operate a number of signals by the above method.



Philadelphia, Reading & Pottsville Telegraph Co.

Reading, Pa. 18

The arrangement hereinbefore described is new and is not shown in any patents to my knowledge. What do you think of the method? In addition to the methods recently shown you, I have devised a variety of other methods by using a line wire in connection with the rails for railway signal purposes, but if the method herein shown will work satisfactory, I prefer it to any other I have devised or seen, as it is simple, and will meet the wants of R. R. Co.

Yours truly

H. W. Spang.