

penciled on tracing paper and are inked in or redrawn when the condition of the tracing demands it.

Individual circuits and case diagrams are drawn for each location, even if they are identical in construction, as the tracing of nomenclature necessarily differs in each location. On a construction program where the field construction forces were increased and the drafting forces were unable to supply them promptly with wiring diagrams, a scheme was developed of using vandyke prints for identical locations, with rectangles blocked out on the master tracing of the wiring diagram wherever nomenclature was required, in order to leave a blank space on the vandyke.

The individual nomenclature could then be applied to each vandyke print. By the use of this method, case diagrams were produced very rapidly. The nomenclature was the only thing that had to be checked on these plans, since the vandykes were produced from a master tracing.

The disadvantages of using this system, however, were that if any changes were necessary at that time, or in the future, the plans would have to be redrawn. Also, the life of a vandyke print is very short and all plans must be reproduced to keep a permanent record. Thus, it is seen that the only reason for using this scheme was to keep the construction forces supplied with working plans as they needed them. If permanent records are desired, these drawings must be reproduced.

F. W. Pflieger, signal engineer, Union Pacific, states that the following practice is followed on that road: Written circuits are used in the preparation of interlocking plans; all plans are inked on tracing cloth; standard plans are used for identical locations; brown non-fading prints being used.

Point Detector or Switch Circuit Controller for C. T. C. Switches?

"On centralized traffic control and similar installations, is it permissible to dispense with the use of a point detector in the power switch machines? Is the use of a separate switch circuit controller just as satisfactory? If a point detector is used, should it be connected directly to the point of the switch, or to the front rod?"

Prefers Point Detectors

By **W. F. Zane**

Signal Engineer, Chicago, Burlington & Quincy, Chicago, Ill.

My answer, based upon the experience I have had with power switch machines, is that in centralized traffic control and similar installations, the point detector is preferable to a separate switch circuit controller, because the point detector is a better designed piece of apparatus than is the separate switch circuit controller. By this I do not mean that a switch circuit controller does not function properly, but rather the point detector will wear longer in service due to its type of construction and operation and to the connection that controls it. Also, when the point detector is part of the switch machine, it is not necessary to use additional space on the ties for a separate switch circuit controller, which simplifies in-

stallation and maintenance considerably. When a point detector is used, it should be connected directly to the point of the switch, giving preference to the normal high-speed point.

I am not in favor of depending entirely upon a point detector or a separate switch circuit controller, as I believe that, from a safety standpoint, it is preferable to have, in addition, a lock rod which gives two checks on the position of the switch, namely mechanical locking of the rod and the action of the point detector.

Protection Against Improper Trailing Movements is Essential

By **G. H. Dryden**

Signal Engineer, Baltimore & Ohio, Baltimore, Md.

One of the major requisites of interlocking plants is that signals shall be caused to indicate Stop, unless the switches, derrails and movable-point frogs in the route are in a position corresponding with that of their controlling levers, and locked. If switches which are not equipped with point detectors are trailed through and not moved again until a reverse train movement in a facing direction is made, derailment may result at the open point. A point detector, which may be an ordinary switch box connected directly to the switch point, should protect in such instances.

Connection to the front rod is considered equal to that of a separate connection. In either case the movement of the point when trailed through should be sufficient to open the SS and, indirectly, other signal circuits. Close adjustment of contacts must be maintained.

Point Detector Has Distinct Advantages Over Switch Circuit Controller

By **B. J. Schwendt**

Assistant Signal Engineer, New York Central, Cleveland, Ohio.

It is possibly permissible to dispense with the use of a point detector in power switch machines but I would recommend against it. The inclusion of a point detector in the machine has advantages which cannot be had if it is omitted. A separate switch circuit controller is not just as satisfactory as the arrangement wherein a point-detector is included in the switch machine, for the reason that such a point-detector not only is controlled by the movement of the point but also is an index that the switch machine is "over and locked." This necessarily applies whether or not the lock rod is used, as the locking is on the cam bar and is effective on the throw rod.

Where a point detector is used, it is of course desirable that it be connected in such a way, either to the switch point or to the front rod, as to produce the best result in indicating when the point is not in proper position for the safe movement of trains.

Point Detector Should Be Fastened Directly to Point of Switch

By **L. S. Werthmuller**

Assistant Signal Engineer, Missouri Pacific, St. Louis, Mo.

I personally believe that the use of a point detector is an improvement over the use of a switch circuit controller, but the point detector should be connected directly to a lug fastened to the switch point. This can, of course, be accomplished by attaching the detector rod to the same lug that is used for the front rod. This would also hold true if a switch circuit controller were used.