RECONSTRUCTION OF BURNSIDE INTERLOCKING.

The extensive reconstruction of the Burnside, Ill., interlocking plant on the Illinois Central, which has been under way, is now nearing completion. The changes were required by a raise in grade of about one foot at a street

Fig. 1. Burnside Interlocking Tower.

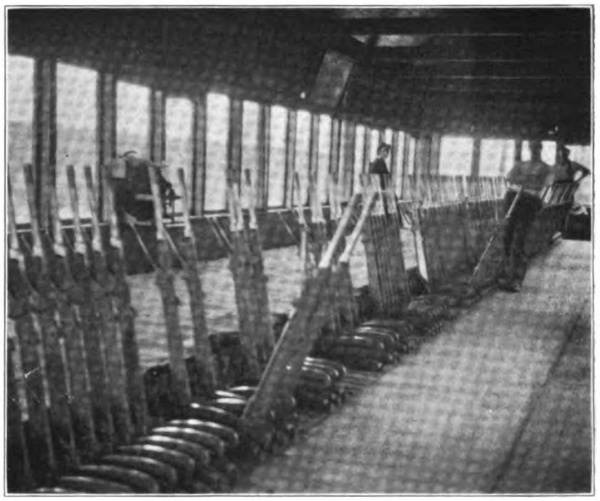

Fig. 2. View of Machine.

railway subway near the south end of the plant, the grade line being adjusted to make a very slight change under the crossing, about a quarter of a mile away. All foundations, pipe lines and connections on the south half of the plant had to be raised to the new track level, keeping as much of the interlocking as possible in service. It was necessary in some cases, however, to disconnect a function and operate it by hand. All work was done by Illinois Central signal forces.

The interlocking governs the crossing of eight tracks of the Illinois Central with four tracks of the Chicago & Western Indiana and two tracks of the Chicago, Rock Island & Pacific. The Illinois Central tracks are used also by the Michigan Central, the Chicago, Cincinnati & Louisville, and the Cleveland, Cincinnati, Chicago & St. Louis. The Chicago, Rock Island & Pacific and the Chicago & Western Indiana tracks are used also by the Lake Shore & Michigan Southern suburban trains, the New York, Chicago & St. Louis, the Baltimore & Ohio, the Elgin, Joliet & Eastern, the Chicago, Indianapolis & Louisville, the Erie, and the Wabash. The interlocking machine is a 144-lever Saxby & Farmer machine installed by the Union Switch & Signal Co. It has 48 signal

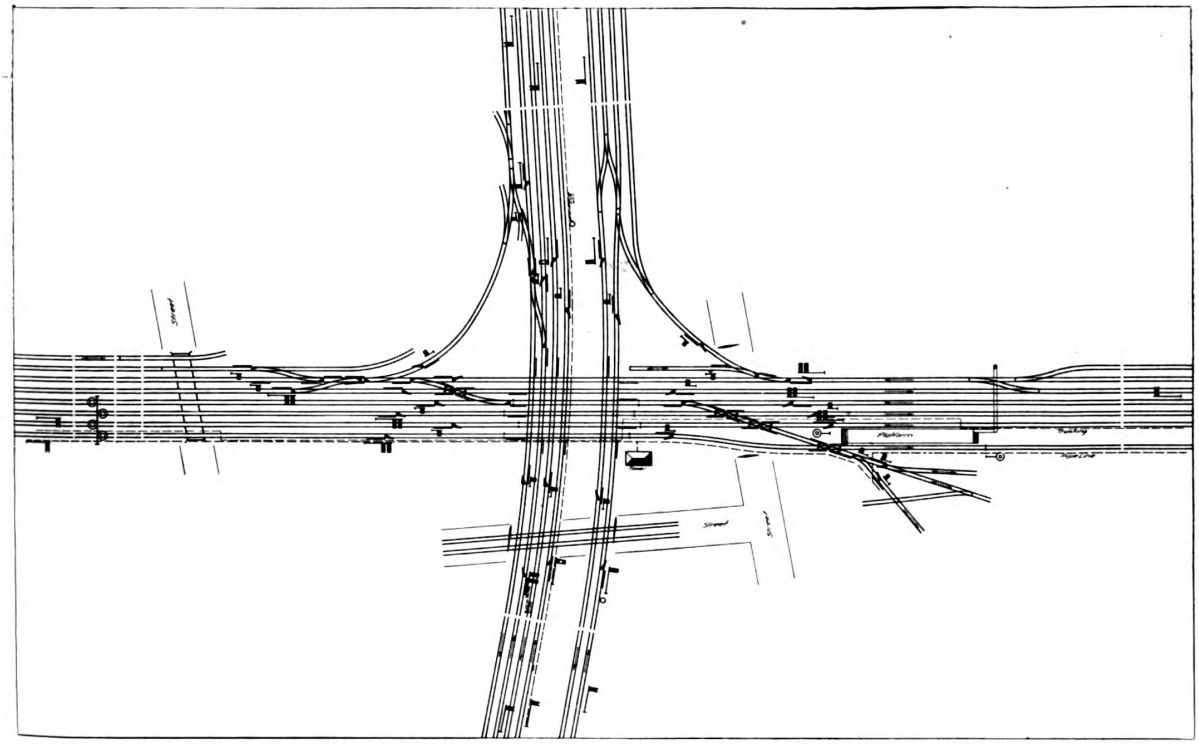

Fig. 3. Track Plan; Eight Tracks of the Illinois Central Cross Four Tracks of the Western Indiana and Two of the Rock Island.

levers, 36 switch and derail levers, 28 facing point lock and crossing bar levers, four movable-point frog levers and one lock lever—a total of 117 working levers—and 27 spare

Fig. 4. View of the Interlocking.

spaces. The tower is provided with Hall disappearing disc annunciators for the Illinois Central tracks and Continental Signal Co., indicators for the Chicago & Western Indiana tracks. Route locking is used only on the Chicago & Western Indiana. All signals are mechanically operated except

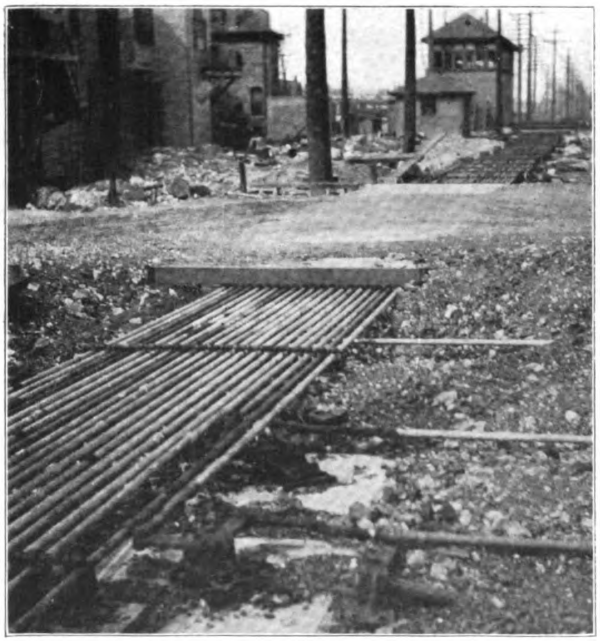

Fig. 5. Pipe and Wire Lines Under Street Crossing.

the home signals on the Chicago & Western Indiana, which are power operated. The leadout is of the rocker shaft type with hexagonal rocker bars. In carrying the pipe and wire line under a street which crosses the tracks at grade, the concrete slab construction shown in one of the accompanying illustrations was adopted. The slab was made long enough to span the road and wide enough to contain iron pipes to carry all the operating pipes and wires.

In connection with the reconstruction work, all of the crank foundations were altered by removing the wooden block and replacing it by a bent steel plate, bolted by the same bolts which held the block, and embedded in concrete flush with its upper surface. This form of construction was described in *The Signal Engineer*, for June, 1910. One of the

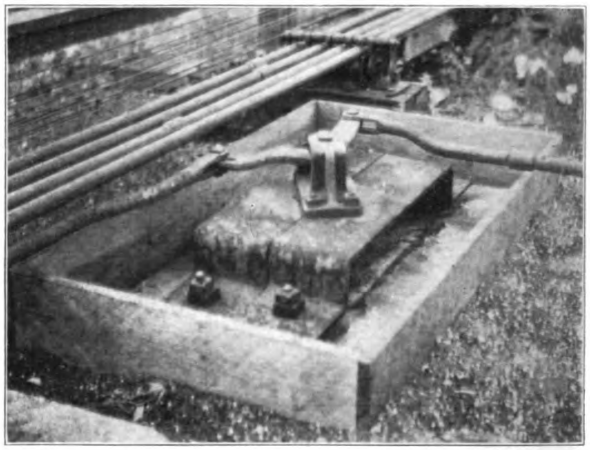

Fig. 6. Crank Foundation Raised by Means of Iron Plates.

illustrations on this page shows a foundation with the old block removed, the steel plates bolted in place, and the forms set for pouring the new concrete top.

COTTERS.

D. R. MORRIS.*

The full importance of cotter pins and keys is not fully realized, nor in fact are these given as much thought as is due them by a large number of the signal maintainers. Unless extreme care is used and unless regular inspections are made, as well, by the maintainers, these little friends of ours will get out of their proper place, and in numerous instances cause large losses of property and injury, or, perhaps loss of life, to passengers and employes of the railroad involved. This, of course, when traced down to disconnected apparatus due to lack of a cotter being in its proper place and spread open, is a direct reflection upon the signal department and its members, whose only excuse for this negligence—"I must have overlooked it"—makes the reflection stand out more prominently. There are no doubt many cases in which cotters are left out of connecting pins where the leverman has to disconnect apparatus that is not working properly, due to snow or to its being out of adjustment, in order to make train movements over his plant;—these cotters, being somewhat small articles, are overlooked and lost in the hurry to avoid all possible train delays. Then again trackmen working around interlocking appliances during storm periods, and at other times, in removing snow and ice around these connections, sometimes pull out the cotters that have not been spread open far enough to hold them in place. This can only be taken care of when it does occur by constant attention and regular inspection of each pin at least once a week, and more often wherever possible. A small hand mirror will be found very valuable as a time saver in this work, as in most cases it can be held in a position so as to give a full view of the pin to be examined, showing the exact position and condition of the cotter, if there is any, in the appliance inspected.

The prevailing idea among some maintainers is that it is sufficient if the split ends are separated one-eighth of an inch. While it is true that it will require considerable effort to

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