



Fig.1—Method of Checking a Forest Fire. ●

engine using a fuel which throws off sparks (coal, peat, wood, etc.,) is dangerous. In the pamphlet published by the Royal Prussian State Railway Commission in 1901 treating of the Prevention of Forest Fires, it is especially stated that, in spite of all efforts to the contrary, engine-builders have been unable to devise any practical means to prevent sparks being thrown off by locomotives. They have succeeded in making fire-boxes tight, which prevents the dropping of coals, but these latter are not very dangerous, falling, as they do, on the track. It is the glowing sparks which fly from the smoke-stacks which are especially dangerous and cannot be held back without interfering with the draft; this is especially the case with fast trains. Patrolling the right of way is also no longer possible, as the number of trains has so increased, and one locomotive on a trip can set numerous fires in rapid succession in widely separated places.

It is therefore necessary to protect the track on both sides by some arrangement which will automatically prevent sparks, thrown out by an engine, from setting fires. For this purpose fine wire netting of sufficient height and hedges or shields such as are used against drifting snow, could, of course, be employed, but their first cost and upkeep would be entirely too expensive. It has been proved by experience that keeping the soil broken up and bare is a certain means of preventing the spread of fire. The danger from sparks is in proportion to the size of the red-hot particles, the amount and direction of the wind and the inflammability of the ground-cover.

The larger the sparks, the more likely they are to start a fire, but the shorter the distance they are carried, the distance depending on the velocity of the wind; but the danger is always greatest near the