



Fig. 6.—The dam and spillway (right) with the intake raceway along the hillside (bottom foreground) looking upstream.



Fig. 7.—The reverse view, looking downstream, shows the dam with the raceway to the right and the spillway to the left.



Fig. 8.—The intake raceway channelled along a hillside.

### Reckoning Power Requirements

The power needed to operate electric equipment is usually expressed in watts, 746 watts being equal to one H.P. (Fig. 5). Farm power schemes utilising current for domestic and shed use usually operate with a minimum of  $3\frac{1}{2}$  h.p., the load being made up as follows:—

Milking machine motor  $1\frac{1}{2}$  to 2 H.P. (old style) or  $\frac{1}{2}$  to 1 H.P. for modern

rotary vacuum pump; water pump, separator, or shearing units, each  $\frac{1}{4}$  H.P.; hot-water cylinders, each 750 watts or 1 H.P.; lighting about  $\frac{1}{2}$  H.P.; cooking range (heat storage type), 1 H.P.

The full power load may be estimated in this manner as H.P. by totalling the wattage of all appliances needed and dividing the figures obtained by 746. It is necessary to point out that this will be the "total" load were

everything listed in use at the one time. As such a power demand is most unlikely, the "peak" load of the energy required to operate the appliances in use at any one time is often more important. Consequently, the total load can be built up above the generator's capacity provided everything is not in use simultaneously. Installations having insufficient power to run the total



Fig. 9—The terminal point of the raceway concreted and with a wire screen from which water is led down by pipeline to the power house below.  
Fig. 10—The power house and water discharging to the valley floor.

## Every Wagon Wanted For Railways' Constant Service

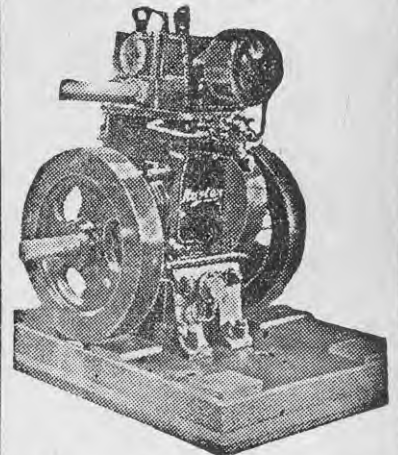
Distribution of food and produce, fuel and everything else so necessary to our existence is very largely dependent upon the unhindered and constant movement of all the rolling-stock of the Railways. Every loaded wagon standing idle means inconvenience or delay somewhere.

Consignments lying unclaimed in goods sheds are another serious cause of transport congestion.

Upon every user of the rail rests the responsibility of hastening the release of wagons and of promptly removing consignments from goods sheds.

### Collect Consignments Quickly

## FARMERS ... PROVIDE YOUR OWN ELECTRIC LIGHT and POWER with a RUSTON AND HORNSBY DIESEL ENGINE



ALL Sizes available — from 3 to 1000 h.p. Specially designed types for all purposes. For the farmer we can offer RUSTON and HORNSBY DIESEL ENGINES, suitable for supplying the home with electricity; driving shearing and milking machines, pumping water, etc.

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