

fully, are infinitely superior to gravel roads, and are well adapted for rural districts where the travel is not too heavy. In the construction of Macadam roads it is necessary that the earth foundation should be made to conform to the finished shape of the road, it is also of prime importance that the earth foundation should be well rolled and drained. The metaled surface should be put on in three layers, and each layer well rolled; the last two layers should have the necessary amount of binding material, and should be watered as described for Telford roads. All the stone for the first two layers should be cubical in form and should pass through a 2½ inch ring, and in the top course the stone should pass through a 2 inch ring. The metaled surface in a Macadam road need not exceed, when completed, 9 or 10 inches, and in many locations where the traffic is light 6 or 7 inches will be found sufficient. The finished surface should be completed in the same manner as in Telford roads.

In the top course good clean gravel may be substituted for broken stone with very good results.

Fig. 8 shows a cross section of a macadam road.

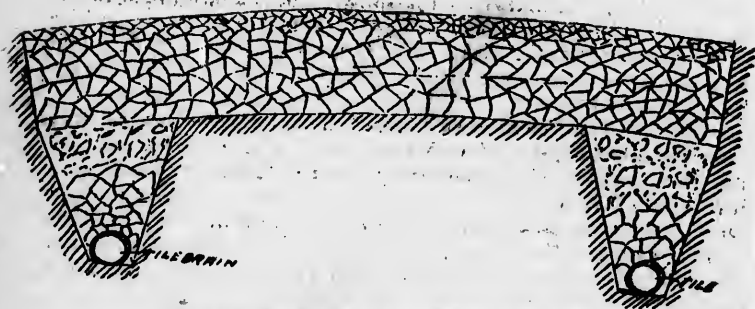


Fig. 8. Macadam Road Surface with Tile Drains.

**Gravel Roads.** The foundation for gravel roads should be prepared in the same manner and with as great care as that specified for either Telford or Macadam roads. To make a good road of gravel the material must be carefully selected, it should be screened and all stones discarded that will not pass through a 2-inch ring. The large stones afterwards can be broken and used, or they form a first-class material to fill in over the tile drains. Gravel should be put on in two or three layers and each layer thoroughly rolled. The last layer may require a small amount of binding material of coarse sand in order to make a solid, smooth surface capable of bearing the heaviest loads without cutting or sinking. If the gravel is angular in shape, hard and of uniform size, it will make a hard, durable roadbed.

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