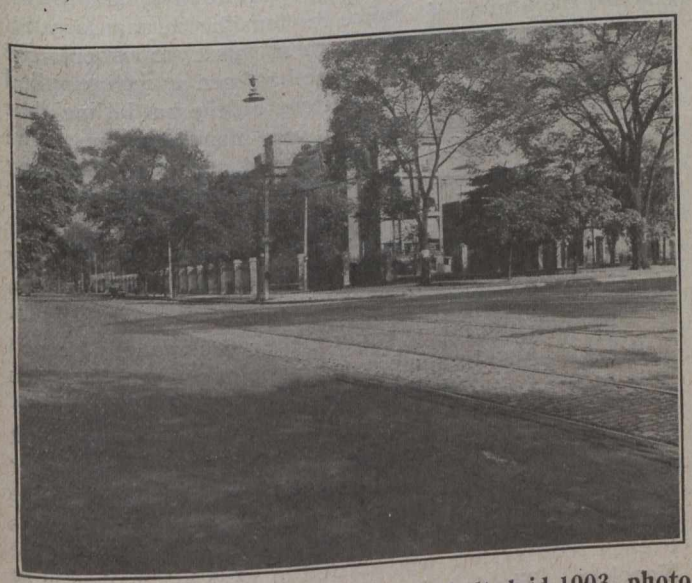
struction method that may be used to build a fairly well-proportioned and thoroughly mixed pavement that will carry any class of traffic, and be constructed as continuously as any other type, and regardless of water supply, by machinery of low cost, and mobile, *viz.*, the ordinary concrete mixer with the heating attachment, traction wheel and distribution arm, that can be obtained from the many manufacturers of contractors' plant. After the base has been prepared in the maner decided upon and ready to receive the wearing surface, the machine can be placed on the travelled way or pavement area, and the material distributed along the line of work. It is preferable, however, if there is space available on the side of roadway, to place the machine there and protect the base; the construction to be carried out as follows:—

Mixing

Stone aggregate to be of a size that will pass a 2½-inch ring and retained by a 1½-inch ring, to be placed in the mixing drum and the hot blast applied. When the stone is heated to a temperature of approximately 250 degrees Fahrenheit, the asphaltic binder, previously heated in a portable heater to a temperature of not less than 200 and not more than 275 degrees Fahrenheit, is then added to the already heated stone, the quantity to be within the limits of 12 per cent. to 13 per cent. by weight of the total quantity of the stone in the mix.

Laying

When the stone is thoroughly coated, the batch should be emptied as soon as possible, and carried by the distribution arm, or any other means convenient to use, to the dumping platform if macadam base be used; if concrete base, on the base within spading distance of the laying



College Street, Toronto, hot-mix asphalt, laid 1903, photo 1917. Heavy traffic, repairs negligible

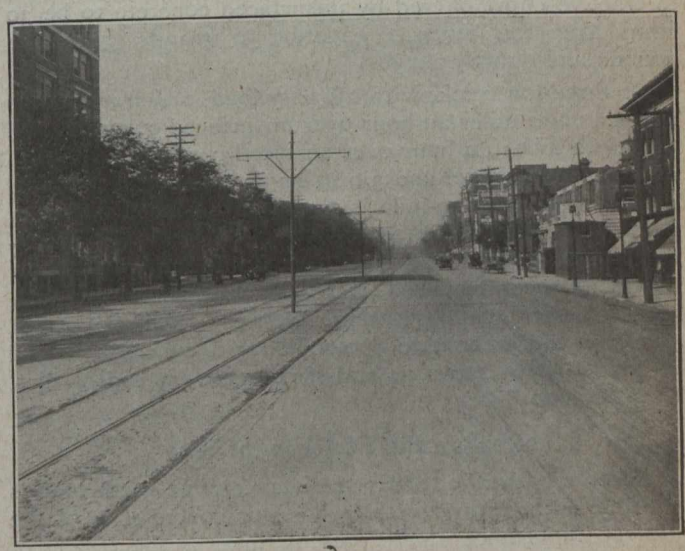
point, the mixture to be laid either by spade or fork, level and even to a depth of 3 inches loose, and well packed into position.

Rolling

When slightly cooled off, the rolling is done by a 12-ton macadam roller, care to be taken that the line and camber are maintained. Any hollow spots must be immediately levelled up during the rolling, and the roller kept moving until the pavement is thoroughly compacted. When this is done, and before the pavement is cooled, the mix in the machine should be changed.

Surface Coat

This consists of a mixture of three parts of stone, one part of rough sand, heated as the stone, and mixed with 12 per cent. to 13 per cent. asphalt cement, heated to the temperature of not less than 225 or over 275 degrees Fahrenheit. The stone and sand are thoroughly coated. When the mixing is completed, a surface treatment is given to the already laid and still warm pavement to a depth evenly laid of approximately ½ to ¾ inches in thickness, and as soon as laid the roller started again to drive this coat into the voids that may exist between the previously laid stone and here care should be taken to watch that any parts of the surface needing extra material



Spadina Ave., Toronto, hot-mix asphalt, after 16 years' heavy traffic. Repairs on asphalt less than one-fifth cent per square yard per annum

should receive it during the first rolling, when it will manifest itself. When sufficiently rolled, the whole pavement should be then just covered with a coat of warm stone chips of ¼ inch down, and as soon as cooled off, the pavement may be used for traffic.

Asphaltic Cement

Any well-known brand that will fulfil the standard specification requirements of a penetration of from 60 to 90 at 77 degrees Fahrenheit, will be a satisfactory material to use for this class of work.

Mixer

A standard mixer of ¾ yard capacity will turn out 800 to 1,000 yards per day, or 200 yards of 16-foot roadway per day, and can be operated either by steam or gasoline power, and the heater be provided with crude oil burners. The traction attachment makes it possible to eliminate considerable haulage delay and the machine can always be kept alongside the work being laid.

In conclusion I beg to say that I find the asphaltic cement binder a satisfactory material to use, due to the fact that its natural ductility allows ample time for compacting before setting up. It is less subject to variation of temperature than any other material, and climatic changes have no effect. In spring and fall it does not get excessively hard and slippery, and in summer the heat does not have any appreciable effect, and at all times it will carry any load that the foundation will carry. It will give good service, easy to repair and low in maintenance cost.