

# SCIENCE

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## THE THOMSON-HOUSTON ROAD IN BANGOR, ME.

THE accompanying cuts illustrate the new electric railway which has been put in at Bangor, Me. One of the cuts shows the car on Main Street Hill, opposite the Opera House, a grade of 7 per cent; and the other, the car in West Market Square, the very heart of the city. The road at Bangor is three miles in length, single track, with three turnouts, and contains many sharp curves and grades, the most severe of which is a curve of 35 feet radius, which occurs on a grade of 7 per cent. There is one stretch of the road, about

The power-plant consists of one 80-horse-power Thomson-Houston generator, with the necessary station-fittings, which is driven by a 14 by 13 Armington & Sims engine, running at a speed of 250 revolutions per minute. This is the only tramway which has ever been constructed in Bangor, and it has, from the very start, given the utmost satisfaction, but one schedule trip being missed since the day of starting, May 21. The travel has been very heavy, averaging 1,600 passengers per day, and on one day 3,000 were carried by three cars. The success of the road has been such, that extensions have been asked for in many parts of



THOMSON-HOUSTON ELECTRIC ROAD IN BANGOR, ME.

three-fourths of a mile in length, which has five curves and an average gradient of 5 per cent. No difficulty, however, is experienced here, and the cars climb these grades with a scarcely perceptible diminution of speed. The nature of the overhead work necessitated by these can readily be seen from the accompanying map, on which the situation of the road is indicated by a heavy line.

There are four 16-foot cars, made by the Newburyport Car Manufacturing Company, which are handsomely finished, and equipped with two 15-horse-power Thomson Houston motors. Three cars are in operation from 6 A.M. till 11.30 P.M., the fourth being held in reserve for special occasions.

the city, and it is probable that before long the equipment will be greatly increased.

## THE USE OF OIL ABOARD UNITED STATES NAVAL VESSELS.

MANY hundreds of reports have been published on the "Atlantic Pilot Chart," and elsewhere, relative to the great benefits derived by means of the use of oil to prevent heavy seas from breaking on board vessels. By far the greater number of these reports have been received from merchant vessels, very many of which have undoubtedly been saved, with all on board, by the use of a