trians and 22,000 vehicles cross this bridge every 24 hours. The building of the Tower Bridge was started in 1886 and completed in 1894; was designed by Sir Horace Jones and Sir Wolf Barry. The permanent foot passage is 142 feet above low tide and the twin lift is 22½ feet above low tide. The central span is 200 feet, and it requires 1½ minutes to open. The Tower Bridge cost £1,600,000, and it is estimated that 50,000 pedestrians and 12,000 vehicles cross it every 24 hours.

In general, it may be said that the arch is common to the bridges all over Europe; the various individual characteristics of the French being artistic effect and long span; of the Swiss, the viaduct type; of the German, the short arch and church-like architecture; of the Dutch, the short arch with straight break in the center; of the English, the arch and general harmonizing effect with surroundings. Many fine views of the different bridges of each country were shown during the evening.

HIGHWAY DUST REDUCTION IN THE URBAN DISTRICT OF ALTON.*

(B) Road Laid with Rowley Regis Granite.

	£	s.	d.
212 tons 2¼-in. Rowley Rag at 13s. 3d.	140	9	0
84½ " 2-in. " " 13s. 6d.	57	0	9
42 " 1-in. " " 11s.	23	2	0
Hauling granite	18	7	6
Spreading, &c.	6	17	11
Rolling	10	0	0
Scarifying	4	15	8
Sweeping	3	10	8
Hauling water and cost of water	3	0	0
Hauling binding	4	1	4
Grouting 40 yds.	4	15	0
Earth binding	0	0	0
	£275	19	10

2,508 actual yards at 2s. 2.4d.
2,268 effective " 2s. 5.2d.

Note.—Some of the above were spread on a flint surface which did not require scarifying.

(C) Clee Hill Granite Spread in 1908.

	£	s.	d.
227 tons 18 cwt. 2¼-in. Clee Hill Stone at 14s. 6d.	165	4	7
219 " 14 " 2-in. " " at 14s. 8d.	161	2	3
18 " — " 1-in. clean stone at 12s. 7d.	11	6	6
16 " 3 " 1-in. to dust at 11s. 7d.	9	7	1
40 yds. grouting at 3s. 2d.	6	6	8
Haulage	20	17	5
Spreading, &c.	7	10	0
Rolling	16	1	5
Scarifying	6	5	0
Water and binding	9	11	9
Sweeping	4	7	1
	£417	19	9

Actual area 3,370 yds. at 2s. 5¾d.
Effective " 3,130 " 2s. 8d.

(D) Clee Hill Granite Spread on Flint Surface Partly Scarified.

	£	s.	d.
153 tons 2 cwt. at 13s. 9d. and 13s. 11d. per ton.	105	15	4½
10 yds. grouting	1	11	8
16 yds. earth binding	0	0	0
8,000 gallons water	0	4	0
Rolling	4	6	3
Scarifying	0	17	8
Hauling granite	7	13	0
Spreading	3	5	0
Sweeping	1	4	0
Hauling water and binding	5	1	0
	£129	17	11½

1,074 actual yards at 2s. 5d.
978 effective " 2s. 7.9d.

(E) Rocmac Road.

	£	s.	d.
93 tons 10 cwt. 2-in. Clee Hill stone at 13s. 11d.	65	1	2½
15 " 18 " ⅜-in. limestone chippings at 10s.	7	19	0
30 " 5 " limestone dust at 10d.	15	2	6
568 gallons Rocmac fluid at 10d.	23	13	4
Team labor	8	11	4½
Manual labor (including night watchman)	9	15	2
Steam rolling, 44 hours	5	10	3
Scarifying	3	2	6
	£138	15	4

The area covered was 1,266 yds. with an average thickness of nearly 2½ in., at a cost of 2s. 2.3d., but on the 3-in. basis costing 3s. 1½d.

Note.—A portion of granite was hauled from station to depot and from thence to road, otherwise cost would have been 3s. 1d. on 3-in. basis.

(F) Tarviated Road.

	£	s.	d.
69¼ tons 2-in. Clee Hill basalt at 13s. 11d.	48	3	9
32¾ " ¼-in. " chippings at 13s. 10d.	22	13	0½
7½ " ⅜-in. limestone at 10s.	3	15	0
Rolling, 21 hours at 2s. 6d.	2	12	6
Scarifying, 1,208 yds. at ⅝d.	3	2	11
Hauling chippings and limestone to depot	1	0	4
Other team labor	2	18	3
524 gallons Tarvia at 4⅜d.	9	11	0½
Haulage and return carriage on Tarvia barrels.	0	12	6
Fuel for tar boiler	0	5	10
Manual labor	9	17	4
	£104	12	6

1,208 yds. at 1s. 8.8d. per yard.
666 yds. by 3-in. at 3s. 1.7d. per yard.

Other Comparisons.

(1) Tonnage of granite and limestone used—total cost—

	s.	d.	
(a) Waterbound roads without imported grouting	16	4	per ton.
(b) Waterbound roads with imported grouting	17	1½	"
(c) Rocmac road	19	11½	"
(d) Tarviated road	19	2½	"