

Cost of painting a 100-foot railway bridge (clean new iron) with different kinds of pigments and linseed oil :

Oxide of iron—14 gals. 1st coat, at 50c ; 10 gals. 2nd coat, at 50c.	
	Labor, \$68.00 = \$80.00
Red lead—10 gals. 1st coat, at \$1.25 ; 7 gals. 2nd coat, at \$1.25.	
	Labor, \$68.00 = \$89.25
White Lead—14 gals. 1st coat, at 85c. ; 10 gals. 2nd coat, at 85c.	
	Labor, \$68.00 = \$88.40
Graphite—14 gals. 1st coat, at 70c. ; 10 gals. 2nd coat, at 70c.	
	Labor, \$68.00 = \$84.80
Asphalt—23 gals. 1st coat, at 40c. ; 14 gals. 2nd coat, at 40c.	
	Labor, \$68.00 = \$82.80
Carbonizing coating—7 gals. 1st coat, \$1.50 ; 5 gals. 2nd coat, \$1.50.	
	Labor, \$68.00 = \$86.00

SCRAPING.

The labor of scraping the metal and applying the paint is from four to eight times the cost of the pigment and oil ; so that there can be no economy in using cheap paint. To remove scale, loose rust, oil, dirt and cinders, use benzine, chisels and hammers, wire brushes and scrapers, as may be necessary. Unless the metal is perfectly clean and dry, no paint can be successful. Scraping should not proceed far ahead of the painting. Should salt spray touch the scraped metal, it should be scraped again before painting.

KIND OF PAINT AND ITS APPLICATION.

It is absolutely necessary that the first coat should contain a large quantity of pigment, and should dry quickly with a dense, firm surface, to receive the second coat in from 48 to 72 hours. If not dry and firm, the paint will blister, because of the separation of the first coat from the metal. To secure this, a pigment of high specific gravity must be used in boiled linseed oil, with a considerable quantity of turpentine, and we cannot do better than use a heavy, finely ground oxide of iron pigment, inert toward both metal and oil, and which has already been tested for durability, such as No. 1 of my experimental plates. Iron oxides often contain acids, lime, sulphur, clay, etc., so that there is much room for choice. Red-lead has been largely used for first-coat work, because