

The amount of material in the several trusses, including floor beams and stringers, is as follows:—

LENGTH OF SPAN.	TIMBER.	WROUGHT-IRON.	CAST-IRON.
130	35,739 ft. B. M.	44,053 lbs.	27,137 lbs.
176	57,854 "	72,969 "	49,491 "
198	78,277 "	89,449 "	54,119 "
248	101,688 "	147,432 "	70,646 "

To this must be added 194,911 feet B. M. of pine lumber, 24,167 ft. of oak, 7,200 lbs. of wrought-iron, and 1,700 lbs. of cast-iron, used in the planking, pavement blocks, hand rail, vertical bracing, anchor rods and chord covering, on the fixed spans; this additional amount includes the floor and footway of the 66 ft. span.

The method of manufacture by which the wrought-iron parts were prepared rendered them free from the common danger of defective welds. The chord links were made by upsetting the ends of flat bars of rolled iron till an increase of section somewhat in excess of that required was obtained, and then working down under the hammer and drilling the hole for the pin, leaving them absolutely free from welds. The only weld in the panel ties was that formed in joining the return end of the loop to the long bar; this weld would at most be exposed to but half the strain upon the tie; and even if the weld were absolutely worthless, the tie would have the full strength of a hook around the chord-pin. For these reasons, it was not considered desirable to test every piece of iron with a moderate strain of 20,000 to 25,000 lbs. to the inch, as is often done for similar works. Such a strain could at most be expected to reveal the defects of manufacture, which the methods here adopted precluded the possibility of; while the effect of such a strain, by giving a set to the iron, and impairing its perfect elasticity, would be deleterious rather than otherwise. Samples of the iron were, however, taken and tested to breaking in an hydraulic tester under a slow and long-continued strain, with the following results:—