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NEW MURRAY BRIDGE

ssive Steel Structure Opened by Premier

JMPH OF SOUTH AUSTRALIAN ENGINEERING AND SKILL

The new railway bridge over the Murray, for which there been an urgent need for several years, is an accomplished t.

Just south of the old structure at Murray Bridge there ns the stream a steel bridge 1,900 feet long, capable of rying the heaviest rolling stock the Railways Department put over it.

The cost of the bridge is approximately £215,000. The old icture cost £130,376. Two years have been spent in building new bridge, compared with six years in erecting the old

The opening ceremony was performed by the Hon. J. Gunn remier) today in the presence of a large party of members Parliament, railway officials, and townspeople of Murray idge.

years the huge cylinders on which portion of the old bridge which the reclaimed Burdett swamp on astern side of the river rest, have steadily sinking, and have caused no of trouble. The Railways Depart- had been compelled to maintain a watch over the defective section to it stable for the increasingly heavy which crossed it.

h the opening up of the mallee ry east of the Murray it was appa- that a new structure must be d. A definite decision was delayed to uncertainty whether Murray e or Tailem Bend would eventually osen by the Railways Department as capital" of the Murray for its pur-

ntually it was decided that the rn headquarters should be main- at the firstnamed town, and plans ne construction of the new bridge accordingly drawn.

completion of the new structure an important advance by the Rail- Department, which, since the ap- ment of Mr. W. A. Webb as Chief ays Commissioner, has made many le steps forward. Traffic to the rn States, the South-East, and the ay lands will be expedited. Train over the old bridge had to be limi- and between Murray Bridge and m Bend the heavy gradients more once proved too steep for the class gine used to haul trains. The size e engine was an important conside- n to railway officials.

ese difficulties will now disappear, and heavier trains which it will be pos- to use on the southern line will ex- te the handling of traffic, and enable department to lift the Murray lands rest much more quickly than has erto been the case.

LIKE HUGE MECCANO TOY

is worthy of note that the bridge was igned by and built under the super- on of Mr. R. H. Chapman (Chief En- eer for Railways), who is a South Aus- lian. The bridge was fabricated in a th Australian steelyard.

Mr. Chapman is a son of Professor apman, of the Adelaide University. He a brilliant scholastic career. Since appointment as Chief Engineer he given ample evidence of his excep- nal engineering attainments. The lding of such an important structure a remarkable achievement for a young gineer.

The structure was fashioned from raw terial in the engineering shops of ssrs. Poole & Steel at Osborne. The idge was placed on the bank of the rray in sections, like those of a huge ccano set. The work of assembling the spot consisted of setting the units the massive concrete piers, and rivet- g the girders together.

Blue prints of plans drawn under the rection of Mr. Chapman formed the sis of the structure. There were many these, drawn accurately to scale, and owing every truss, stay, gusset, and vet.

In the pattern loft at Osborne on the rgest floor of its kind in Australia, ac- rate replicas of the forms shown on ese plans, of the actual size needed for e bridge, were drawn on sheet zinc. ery measurement was checked to the action of an inch. Where a rivet hole as required a hole was punched in the attern. The zinc was then cut to the ape of the gusset or other piece it re- resented.

Hundreds of different patterns were thus made from the plans, and then on the ground floor of the shop men placed the zinc patterns on sheet steel and chalked them in. With steel-pointed tools the outline was scribed into the sheet and a punch mark made in the exact centre of each rivet hole. The steel sheet was handled over to the power shears by a travelling electric crane, and the metal snipped to the desired shape, much the same as cardboard might be cut by scissors. Then the shapes went on to the drills to be pierced with rivet holes.

For ordinary steelwork such as ship- building rivet holes are punched out of the metal like scones from dough, by great machines, but bridge building calls for such accuracy on account of the loads to be carried and stresses borne, that every rivet hole in the structure must be individually drilled. For this purpose at Osborne twelve radial drills were utilised.

Some idea of the number of holes re- quired to be drilled can be gathered from the fact that 114,000 rivets were put in the large truee span alone.

In the erecting shop the various con- stituent parts were brought together and the bridge began to assume shape. Cranes swung the heavier steel pieces into posi- tion. Then the pneumatic riveting ma- chines started their work. A red hot rivet was placed in the hole intended for it, and with the clatter of a maxim gun the riveter battered the rivet end into a dome that held the two joined pieces of steel as in a vice. This process was re- peated many thousands of times. Nearly 100 tons of rivets were used in the bridge.

The eighteen approach spans are each formed of two huge fabricated steel gir- ders 70 feet long and 7 ft. high. Each span weighs 36 tons. The great girders were railed from Osborne to the bridge site.

The weight of the large 214 ft. span is about 317 tons, and that of the two 185 ft. spans approximately 208 tons each.

All the fabricated material as it was completed at Osborne was sent forward to Murray Bridge by rail.

MURRAY BRIDGE CELEBRATES

It was not at first intended to have an official opening ceremony, but the towns- people of Murray Bridge considered it such an important occasion that they pre- vailed upon the Government to mark it in a manner befitting the dignity of the second largest country town in the State.

Today the river town was gaily decked, and residents for miles round made a huge picnic of the historic event. The special train which proceeded from Adelaide this morning carried a large party of politi- cians and railway officials to the river town.

Those who left Adelaide on the special train this morning were the Hon. J. Gunn (Premier), Messrs. W. A. Webb (Chief Railways Commissioner), J. McGuire (Railways Commissioner), A. N. Day (General Traffic Manager), G. J. Smith (General Superintendent of Railways), F. J. Shea (Chief Mechanical Engineer), R. H. Chapman (Chief Engineer for Rail- ways), S. A. Watson (Superintendent of the Adelaide Division), C. J. Boykett (sec- retary of the Railways Commissioner), R. R. Stuckey (Under Treasurer), C. B. An- derson (assistant Chief Engineer of Rail- ways), Mr. Legh Winser (private secretary to the Administrator), F. L. Parker (Clerk of the House of Assembly), A. H. Poole (of Poole & Steel, who placed the steelwork on the bridge), the Hon. A. P. Blesing, M.L.C., and Messrs. H. C. Richards, E. Anthoney, R. D. Nicholls, P. T. Heggaton, and S. Verran, M.P.