

THE MESTA GAS ENGINE

The important position in the power field now occupied by the modern heavy duty gas engine has received careful consideration by the Mesta Machine Company, and after several years of close observation of the various types developed both here and abroad, this company has actively taken up gas-engine design and construction along with its regular established heavy duty Corliss and piston-valve-reversing steam engines. Since this company has been engaged for years in designing and building engines of the largest sizes to meet the exacting requirements of rolling-mill and blast-furnace work, it enters the gas-engine field under most favorable auspices. The company has air furnaces to supply iron of high-tensile strength; open-hearth furnaces for steel castings containing nickel or vanadium, and a brass foundry.

The company is now building a 600-hp, 400-kw, direct-connected unit at West Homestead, which typifies the series of sizes called for in the designs as at present laid down. While natural gas as a source of power is at present a very attractive proposition, it has been kept in mind that producer gas will eventually supplant it, and, accordingly, very careful attention has been given to the development of a design suitable to the use of producer, blast-furnace or other by-product gases.

These engines, which are for operation on the four-cycle principle, are built either tandem or twin tandem. This method of placing the two double-acting cylinders in tandem results in two power strokes per revolution, giving very close regulation and making it perfectly feasible to operate 60-cycle generators in parallel without the use of any form of flexible coupling. Where the twin tandem type is employed, the power strokes are doubled and result in the same effective torque as in a cross-compound steam engine.

Following the American custom, the overhung crank construction is used, and, owing to the tandem arrangement, very careful attention has been given to the matter of longitudinal expansion, the cylinders being permitted to expand or contract with the varying temperature, while in no way affecting the engine alignment. Simplicity and reliability are attained in the valve gear first, by doing away with the spiral-gear drive for the lay shaft, and, second, by operating both inlet and exhaust valves from a single eccentric. All parts subject to wear are fitted with adjustable devices of proved effectiveness, the aim being to produce an engine well suited to the demands of 24-hour service.

For the development of this line of engines, ranging in capacity from 500 hp to 4000 brake hp, the Mesta Machine Company has secured the services of Frederick Ottosen, who has had wide European and American experience in gas-engine design and has spent over a year in the development of designs particularly adapted to the American requirements.

NATURAL RESOURCES

The convention of governors invited by President Roosevelt to consider the preservation of the natural resources of America began in Washington on May 13, being preceded on Tuesday evening by a dinner at the White House. On Wednesday the conference was opened by the President in the East Room. There were sessions also on Thursday and Friday. Among the addresses was one by Andrew Carnegie on the mineral resources of the country. J. J. Hill also spoke, and H. St. Clair Putnam read a paper on water power.

ELECTRIC RAILWAYS TO GIVE SPECIAL RATES TO OHIO G. A. R.

The electric railways of Ohio, Indiana and Michigan are preparing to make special rates for the encampment of the Department of Ohio, G. A. R., to be held at Lima in June, as well as for the Grand Encampment, which will be held in Toledo this summer. The steam roads have, so far, declined to make a rate of 1 cent a mile for a distance greater than 100 miles and this places the electric railways in a position to secure a large amount of business, as the members of this organization will favor those lines which are willing to give them the advantage of reductions from any points they reach. Both towns may be conveniently reached from Indiana, Ohio and Michigan. With the completion of the Lima & Toledo Railway there will be a continuous line from Toledo to Cincinnati. To the east the Lake Shore Electric reaches Cleveland and has extensions reaching to many sections of the central portion of the State. On the north the Detroit, Monroe & Toledo Short Line, with its connections, touches almost every important city in eastern and southern Michigan, while on the west the Schoepf lines, with connections in Indiana, will be able to handle the traffic from Indianapolis and many other large cities in that State. It is not known what rate the traction lines will make, but in all probability the figures will be satisfactory to the members of the G. A. R.

SPEED RECORD IN OHIO

On Sunday, May 3, the Ohio Electric Railway established a new record for a long-distance run at a high speed with a chartered car of Zanesville baseball enthusiasts going to Dayton. The run of 135 miles was made in four hours flat. The 10 miles over the city tracks of Zanesville, Newark, Columbus, Springfield and Dayton consumed 1 hour and 30 minutes, so that 125 miles were actually covered in 2 hours and 30 minutes, or an average of 50 mph. To maintain this average a speed of 70 mph had to be maintained through long stretches. No regular cars were delayed despite the fact that the Columbus-Zanesville and Dayton-Columbus divisions, over which the car was operated, were crowded with their usual heavy Sunday business. The run from Zanesville to Columbus was made in 1 hour and 40 minutes, which is 20 minutes faster than the limited schedule on this division. Deducting 35 minutes for the 6 miles in Zanesville, Newark and Columbus, the average maintained was 53.5 mph. After 10 minutes' lay-over in Columbus, the run to Dayton was made in 2 hours and 10 minutes. With 45 minutes deducted for 4 miles over the city tracks in Columbus, Springfield and Dayton, the distance of 67 miles was covered at an average speed of 53.6 mph. This time includes numerous slow-downs through towns and villages, where ordinances prohibit higher speed than 8 or 10 mph. There were 11 grade crossings over steam roads, with as many derrails, besides a long crossing over two steam roads.

A report has been received by the United States Department of Commerce and Labor from an American Consul in South Africa, in which he states that an inquiry has been received at his office from a local business man for the addresses of dealers in electric railway supplies, such as overhead wires, cars, steel and iron rails, etc. The business man in question also desires the names of contractors engaged in electrical railway construction.