

**SOME ALCOHOL AND PETROL LOCOMOTIVES**

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FIG. 1. - AN ALCOHOL LOCOMOTIVE IN GERMAN FORESTRY SERVICE NEAR DARMSTADT

With the "free alcohol" bill shortly to become a law in the United States, the use of denaturized alcohol for power purposes is likely to receive a further stimulus. Special interest is, therefore, to be found in the several accompanying illustrations of alcohol locomotives in German and South American service.

Fig. 2, for example, shows such an engine in operation at Lima, Peru, hauling a small car and having a capacity of 8 H. P., while Fig 1 shows a similar 16-H. P. machine for use on forest railways in Germany. Fig. 3 shows still another locomotive of the same class of 6 H. P. capacity, hauling boxes on a German factory railway. These interesting types of engines are of special service for industrial work for haulage in shops and yards of iron and steel works and other manufacturing establishments, as well as for mining service.

In Germany and other Continental countries the alcohol locomotive is extensively employed with great economy, and elsewhere the increased price of gasoline is certain to produce a similar result. The cost of operation of one of these alcohol locomotives of 8 H. P. at Miesbach, Germany, at one of the mines of the Oberbayerische-Actien Gesellschaft for Kohlenbergbau, is 1.25 pfennig per ton-kilometer. Nine of these locomotives are in operation at this mine, operating in shifts of ten and one-half hours' service on a grade of 1 to 333. Two 12-horsepower gasoline locomotives are in operation at the Portland-Cementfabrik, at Amoneburg, near Biebrich-on-the-Rhine, Germany, hauling sixteen loaded cars, each having a total weight of 1800 kilograms, on a horizontal track. The gasoline consumed was found to cost 1 pfennig per ton-kilometer.

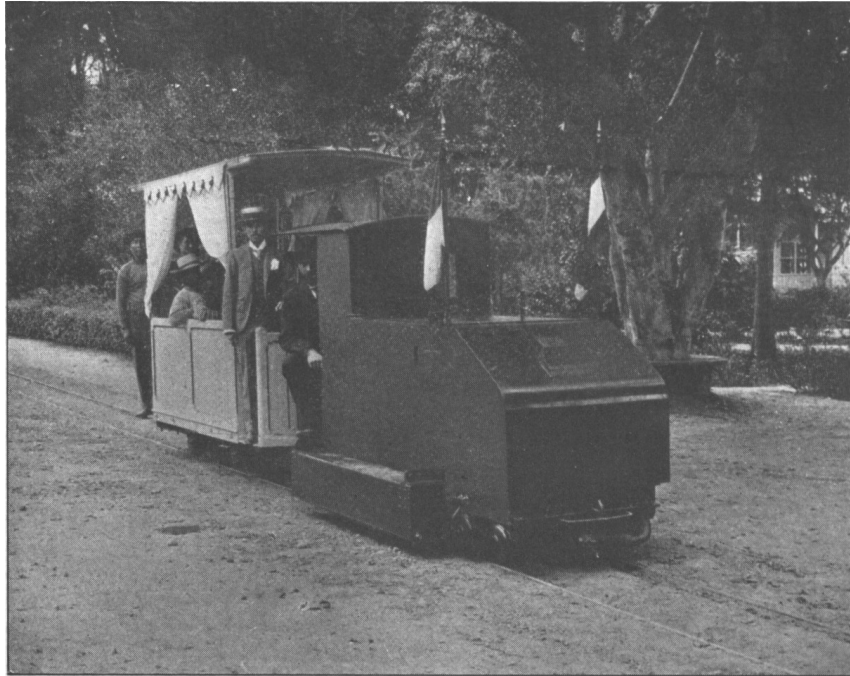


FIG. 2. - AN 8 HP. ALCOHOL LOCOMOTIVE, BUILT AT LIEUTZ, IN GERMANY, FOR SERVICE AT LIMA, PERU



FIG. 3. - A 6 H.P. ALCOHOL LOCOMOTIVE, BUILT BY THE GASMOTOREN FABRIK DEUTZ, NEAR COLOGNE, GERMANY, HAULING MISCELLANEOUS MERCHANDISE ON A FACTORY RAILWAY

Another 12 horse-power petrol locomotive of this type for industrial service is in operation at the Papierfabrik Neumühle, near Miesbach, Germany. At this plant the locomotive operates for twelve hours daily on a track about 4 kilometers long, having a rise in grade of 24 meters. It will handle a maximum of 55,000 kilograms on a grade of 2.5 per cent.

The forest railway locomotive in operation near Darmstadt, shown in Fig. 1, operates at a speed of from 2½ to 7 miles an hour, with a drawbar pull of 1500 pounds at the former speed and 500 pounds at the latter speed. It is about 12 feet long, 4 feet wide and 6 feet high, and weighs, complete, ready for operation, about 12,000 pounds, developing 16 horse-power.

The alcohol locomotive shown in Fig. 2 has a draw-bar pull ranging from 350 to 775 pounds, operating at speeds from 5½ to about 3 miles an hour. It weighs 8000 pounds.

The locomotive shown in Fig. 3 develops about 6 horse-power, and weighs about 7000 pounds.

The largest alcohol locomotive constructed at Deutz, Germany, is rated at about 32 horse-power, with a range of speed from 2½ to 7 miles an hour. This engine weighs about 25,000 pounds when ready for service.