

ENGINEERING

# St. Louis Cuts Smoke Density Over 11 Per Cent in Drive

## Smoking Stacks Spotted From Watch Towers in Tall Buildings; Public Opinion Roused for Cooperation

**T**HROUGH continual spotting of smokestacks in St. Louis, St. Louis has been able to reduce the density of smoke by over 11 per cent. from some sources, it was reported to the American Society of Mechanical Engineers meeting in that city.

Continual enforcement, plus a sustained and aroused public opinion to lessen smoke in the city, is the only way a community can free itself of air pollution, said R. R. Tucker, commissioner of smoke regulation of St. Louis.

Citing the lessons of 73 years of smoke troubles in St. Louis, Mr. Tucker said:

"As we glance over these records, we find they reek with ordinances. The fundamental fallacy in all smoke programs is that air can be purified by legislation. No administration or public officials can wave a wand and clear the skies. The public must come to a full realization of its responsibilities."

All coal and solid fuel dealers in St. Louis, Mr. Tucker indicated, are licensed and receive their permit only after they supply information as to the type of coal they are to sell, its origin and so on. Thus a check is made to see that coal with very high ash or sulphur content, or both, is not sold.

A corps of smoke inspectors also watches the blackest smoke stacks in

the city and reports on the smoke densities measured. Ten tall buildings in the city are the spotting towers for these smoke abatement inspectors. Observations last four hours each day with readings every minute.

Due to this surveillance there has been a marked reduction in St. Louis' smoke density, with the biggest improvement coming from the commercial group. Here an 11.65 per cent. decrease was reported. The smallest reduction was in institutional cases. Residential cases showed an average decrease of almost four per cent.

The final solution of St. Louis' smoke problem, Mr. Tucker indicated, can only come when an essentially smokeless fuel is provided for the large group of domestic consumers.

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ject to permit the construction of these panels on a production basis utilizing more mechanical equipment than has heretofore been possible."

Special three-hinged barrel arches, never used before anywhere, will span the basins and support their sheltering roof.

So exacting will be the work conducted in the new basin and its associated

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laboratories that artificial lighting will be used entirely, for artificial lighting is not subject to the variations of sunlight.

Not only that but the giant towing cranes, which will haul the models not equipped to travel under their own power, will run on rails curved with the curvature of the earth. The deflection is slight in the 1,050 feet of the high-speed tank; it is less in the shorter basins, but it is enough to throw delicate calculations out if due allowance isn't made in the construction of the rails themselves.

A force of 150 will man the new basin, around which is expected to grow a new community. Since model construction and testing is a highly specialized craft, most of the men will come from the testing basin at the Washington Navy Yard.

Number One man in the little wooden hut which serves as the headquarters of the officer in charge today is Lt. Comdr. Hugo Carl Fischer, Civil Engineering Corps of the U. S. Navy. But Lt. Comdr. Fischer, when you mention the subject of what naval officers are responsible for the development, reminds his listeners that Admirals William G. Du Bose and Emory S. Land, the latter now head of the Maritime Commission, were among those who had a hand in initiating the project. The work is being carried out under the supervision of Rear Admiral Ben Moreell, chief of the Bureau of Yards and Docks.

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CHEMISTRY

## Tear Gas Used To Fight Weeds

**B**ACK DURING the World War, tear gas was one of the weapons of military offense. Many a crucial objective was gained while its defenders were weeping, helplessly, like small boys.

Today, when strikes and riots pre-

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