

## MUNICIPAL ENGINEERS, CONTRACTORS AND MATERIALS

## SMOKE WITHOUT COLOR.

A very simple method of extracting the coloring matter from smoke has been devised by J. T. Sands, and is thus described by the Scientific American: The exhaust steam pipe is extended either outside or inside the chimney to within about four feet of the top. Live steam is also connected to the exhaust, to be used in case of emergency. A vacuum is produced by the velocity of the steam entering the air, and a slight down draft is also caused, carrying the carbon saturated with moisture of the steam to a soot box at the bottom of the chimney. The gases in the chimney receive an extra impetus in filling the vacuum, thus drawing an additional amount of oxygen into the furnace and the draft in the chimney is uniform, because governed by the velocity of the steam at 212° F., the point of condensation. Ninety-six per cent. of the carbon entering the chimney is said to be precipitated, and can be sold for lampblack, for making inks, etc. The other four per cent. is either precipitated on the roof or chemically changed, as no color is visible from four to ten feet from the chimney. This device has been in successful operation for the past eight months on the chimney of the Roe building, a large office structure in the city of St. Louis, Mo., and by actual test 96 per cent. of the carbon entering the chimney was found to be precipitated, analyzing: 2.06 per cent. moisture; 34.26 per cent. volatile matter, mostly carbon, with some salts of ammonia; 63.68 per cent. ash, metallic, mostly ferrous oxide; total, 100; which shows much less volatile matter than either London or Glasgow soot. A close observation, covering the past eight months presents some peculiar phenomena. Most of the time nothing is visible coming from the chimney, and although it is three and a-half feet in diameter and has a six-inch steam pipe within four feet of the top pouring in its vapor, still the chimney looks as though no work was going on. In this condition a paper placed in the soot box will show only a few drops of clear liquid per minute; shovel a bushel of coal into the furnace, and in another moment the paper will be covered with small black pellets of carbon, quite moist.

There will be some glazing of green-houses to do this spring. Try putty mixed with as much dry white lead as it will take while retaining the necessary softness. Such putty will last much longer when greatly exposed than the ordinary kind.

A patent has been granted in Germany for a process for manufacturing a substance for use in making varnish capable of withstanding the action of steam and hot and cold water. Fat tar, obtained by dry distillation is heated with a mixture of lead oxide, such as litharge and lead peroxide until combination takes place. The resulting product is dissolved in a mineral oil, such as benzol, and is finally brought to a proper consistency by mixing with a suitable diluting agent.

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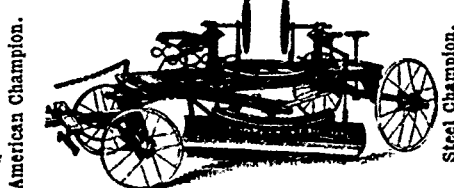
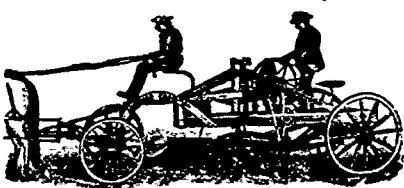
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