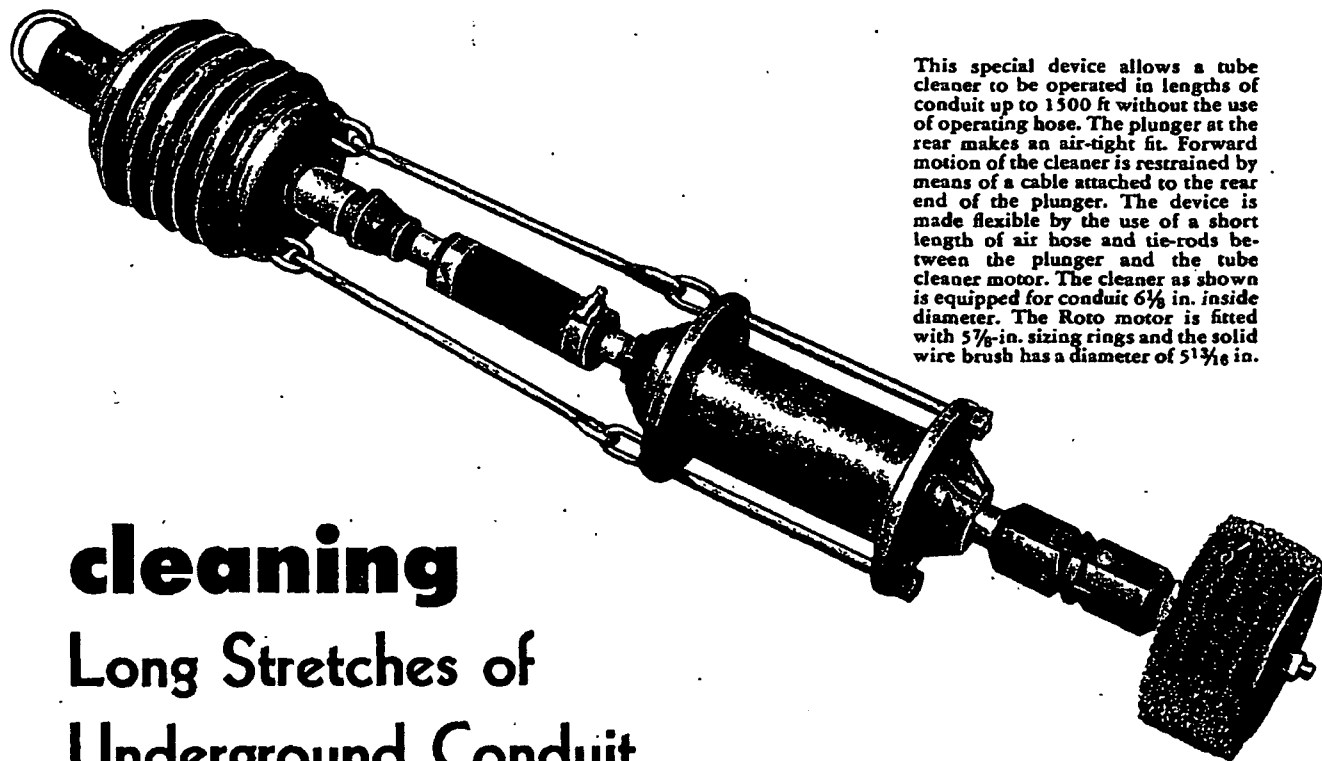




This special device allows a tube cleaner to be operated in lengths of conduit up to 1500 ft without the use of operating hose. The plunger at the rear makes an air-tight fit. Forward motion of the cleaner is restrained by means of a cable attached to the rear end of the plunger. The device is made flexible by the use of a short length of air hose and tie-rods between the plunger and the tube cleaner motor. The cleaner as shown is equipped for conduit $6\frac{1}{8}$ in. inside diameter. The Roto motor is fitted with $5\frac{1}{8}$ -in. sizing rings and the solid wire brush has a diameter of $5\frac{1}{8}$ in.

cleaning Long Stretches of Underground Conduit

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● The Philadelphia Electric Company has been laying an extensive system of underground steel conduits for high-tension cables. These connect generating plants with substations, not only throughout the City of Philadelphia, but also to points as far distant as the State of Delaware.

Before laying underground, the interior surfaces of the conduits must be put in prime condition. Rust and dirt are removed by steel grit blasting which also cleans out any remaining mill scale. Interior surfaces are then polished by the use of Roto tube cleaners (which are equipped with sizing rings to fit them to the different sizes of conduit) driving solid wire brushes through universal joints. Since the lengths of conduit, as they come from the mill, generally measure between 40 and 50 ft there is no cleaning problem, and a single pass through them is sufficient to give the required polish.

After cleaning, the lengths of conduit are filled

with nitrogen gas to expel any oxygen which might be present and to prevent moisture or dirt from entering the conduit while being handled preparatory to welding in place. Open ends are plugged, and the conduit sections are taken to the required location and welded to previous lengths already laid. When sections between manholes have been laid, they are carefully tested for leaks under a pressure of 500 psi.

Every stage of the installation is thoroughly checked and inspected. Such inspection uncovered the fact that in some already laid sections moisture had somehow entered and rust had formed. The company then began looking for a method of cleaning a long length of curved conduit without digging it up and having to cut it into short lengths in order to clean by ordinary tube cleaning methods. Conduits follow streets and roads. They bend around corners and go over and under obstructions. Since