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WILLIAM G. HARTRANFT GEMENT GOMPANY, Sole Selling Agent

September 18, 1907

CEMENT

v. Philadelphia

## HIGH PRESSURE HYDRAULIC LIFTS.

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The mechanical equipment of the Metropolitan LifeInsurance building at New York has been reconstructed, and includes fifty-three lifts. The building is twelve stories high, with a ground area of 120,000 square feet, exclusive of a wing 60 feet by 100 feet. Five of the lifts are in the wing and six in a fortyeight-story tower now being built. Of the forty-two in the main building thirty-four are for passengers six being powerful enough to handle sates; the other six run from the footwalk to the basements, and one of these can handle safes. All the lifts are operated from a central high-pressure hydraulic plant, working at a pressure of 850 lbs. Duplicate delivery mains lead to the several machines, and a discharge system from the machines delivers to roof tanks. To maintain a constant pressure, and also a constant supply of water in case a number of lifts should start before the puraps have gained speed, there are a number of weighted accumulators con-Slight nected to the delivery line. fluctuations of pressure in the delivery mains, caused by stopping and starting, are provided for by air chambers. Most of the lifts are operated by horizontal machines, controlled by special operating valves withlow-pressure pilot valves and motor cylinders to actuate the high-pressure valve mechanism.

There are three high-duty pumps of the three-cylinder crank and flywheel type. The passenger lifts have maximum capacities of 1,000 feet to 2,800 feet, with speeds of 500 feet per minute; the lifts to the basements have capacities of 2,000 pounds to 4,000 pounds, and speeds of 500 feet to 100 feet per minute. The passenger elevators are geared





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