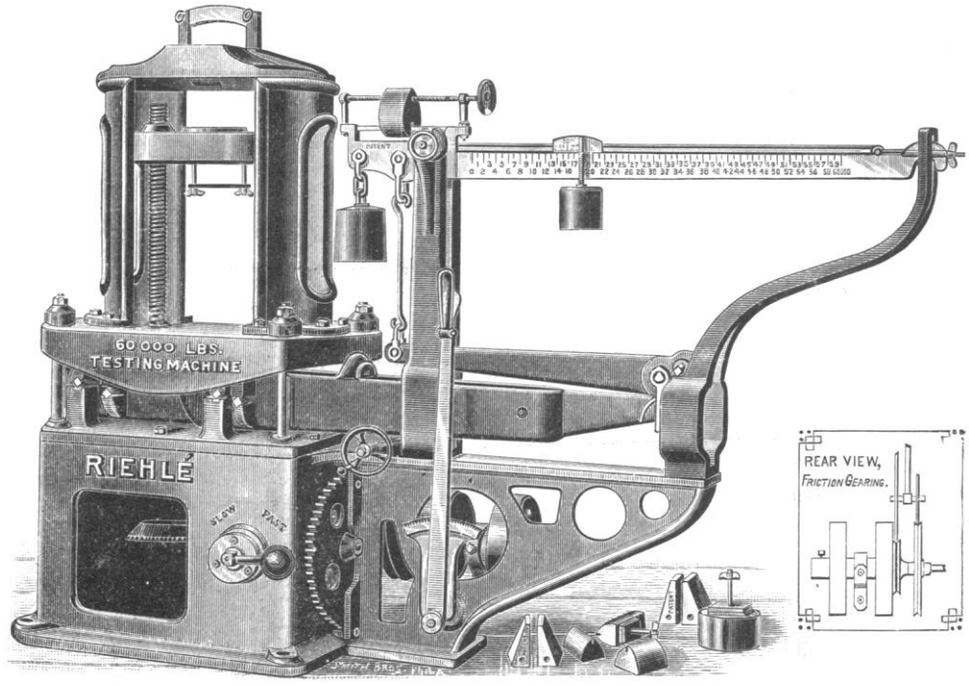
doubled, the position of the chimney being in the centre of the future station. Adjoining the power-station a new car-house has been erected, with capacity for twenty-six cars. The cars, when in this house, rest on skeleton tracks, under which the inspectors can walk, and, by aid of incandescent lamps with flexible connections, can examine and inspect the machinery of each car. After the party had fully examined the workings of the power-station, and listened to the explanations of its operation from the engineer in charge, they reboarded the electric cars, and were carried quickly out Beacon Street and Harvard Avenue to the terminus of the road at Oak Square, Brighton. To a great many in the party this trip was the first ever made on an electric railway, and the exclamations of surprise and delight were universal. On the return trip the cars were speeded to ten or twelve miles an hour in places, and much praise was bestowed upon the easy starting, which was prompt though without jar, the complete control over the car, and the ease of the car in rounding curves and in speeding. Each of the cars was brilliantly lighted by five incandescent lights of 16 candle-power each, — three inside the car, and one on each platform. These lamps had the municipal cut-out; and, when one breaks, the increase of candle-power in the remainder calls the attention of the conductor, who inserts a new lamp. The visitors left Boston for their respective homes full of enthusiasm over the application of electricity to street-railways, and with a better knowledge of the advantages which electric power has for this purpose over any other power.



RIEHLÉ SCREW-POWER TESTING-MACHINE.

THE RIEHLÉ TESTING-MACHINE.

TESTING-MACHINES have become a necessary part of the equipment of all manufacturing establishments and constructive works, government and private, where the strength of materials must be accurately determined. Among the testing-machines now in use, those made by the firm of Riehlé Brothers of Philadelphia stand prominent as examples of good workmanship, strength, accuracy, and convenience in use. The accompanying illustration shows one of these machines. It is a vertical screw-power machine for testing materials by tensile, transverse, and compression strains, and has a capacity of 60,000 pounds. Other machines made by the same firm range in capacity from 10,000 to 200,000 pounds. The levers on the machines of all capacities are adjusted to the United States Government standard.

The machine shown in the engraving is adapted for those whose requirements do not call for one of greater capacity. It weighs about 3,500 pounds, is 6 feet in height, and occupies a space 8 feet long by $2\frac{1}{2}$ feet wide.

For tensile strength, the machine will test specimens up to 18 inches in length, $1\frac{1}{4}$ inches square, $1\frac{3}{8}$ inches in diameter if round, and $2\frac{3}{8}$ by 1 inch if flat, allowing for a 25-per-cent elongation in the longest specimens, and more for those of shorter length. For transverse strains, it will test specimens from 6 to 20 inches in length; and for compression, specimens up to 8 inches long and surfaces up to 6 inches in diameter. The pulling head has a movement of 23 inches. The machine has four different speeds for tensile and transverse tests, and two for compression, as follows: transverse and tensile, 4 inches per minute, 1 inch per minute, 1 inch in $3\frac{1}{2}$ minutes, and 1 inch in 10 minutes; compression or reversing, 4 inches per minute, and 1 inch in $3\frac{1}{2}$ minutes.

Power is applied by levers and friction-pulleys for starting, stopping, and reversing; and for changing the speeds, a hand-wheel and tumbling ball are used. In compression tests, and in tests of material not ductile, when the pressure is run up rapidly, there is an arrangement of friction-gears, similar to those of a hoisting-engine, which gives an extremely slow and steady motion to the screw, thus enabling the operator to make the test with ease and accuracy. The bearings are of hardened steel balls, which do away with much of the friction incident to this class of testing-machines.

THE FLEISCHMANN SYSTEM OF GARBAGE-DISPOSAL.

ONE of the systems of garbage-disposal which seems to be one of the best is that known as the Fleischmann, and is now in practical operation in Buffalo. In speaking of this system, the *Sanitary Inspector* says: —

"The Fleischmann system of garbage-extraction consists principally of two processes. The garbage, as it is hauled in, is shovelled through man-holes into driers below. There are two of these driers, each receiving at one charge 5,000 pounds of garbage. Each drier consists of a double-walled metallic cylinder, between the walls of which steam at a pressure of about eighty pounds is admitted. In the interior of each drier, a rake revolves, constantly stirring up the garbage. These rakes are composed of steam-pipes into which steam of the same pressure is admitted, but the steam is not admitted into the chamber which contains the garbage. The steam which arises by the drying of the garbage is drawn out of