

ILLUS. No. 21.

ROYAL SAXONY SMELTING WORKS, OF HALSBRÜCKE, NEAR FREIBURG, IN SAXONY.
Height, 460 feet; internal top diameter, 8 feet 4 inches.
Built by H. R. Heinicke.

BRICK CHIMNEY AT IMPERIAL FOUNDRY NEAR FREIBURG, IN SAXONY.

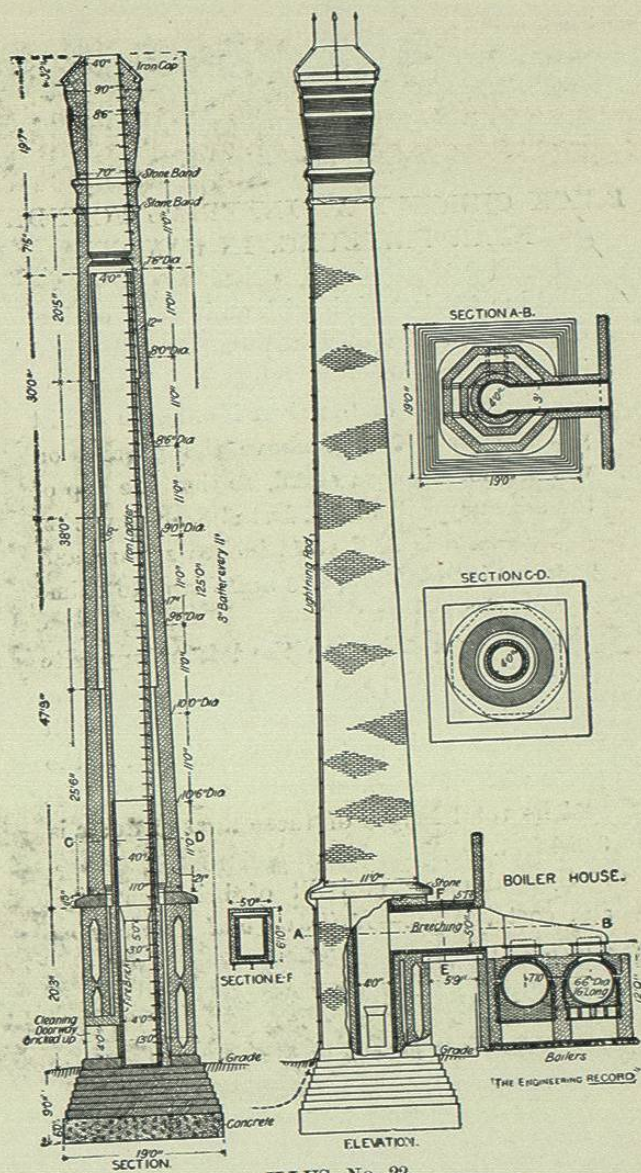
Flue 453 feet high, with an interior or flue-diameter of 15 feet 9 inches. Projected and designed by Engineer Huppner, it is built on the right bank of the river Mulde, on a hill which rises 259 feet above the ground on which the furnaces stand, so that the top of the chimney will be 712 feet above the works.

The base is 39 feet 4½ inches square, and 28 feet 6 inches high, and at its top the chimney proper begins.

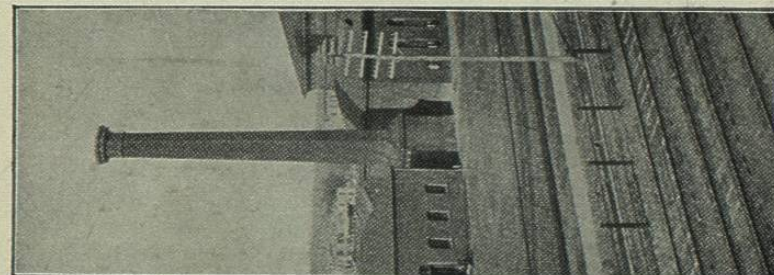
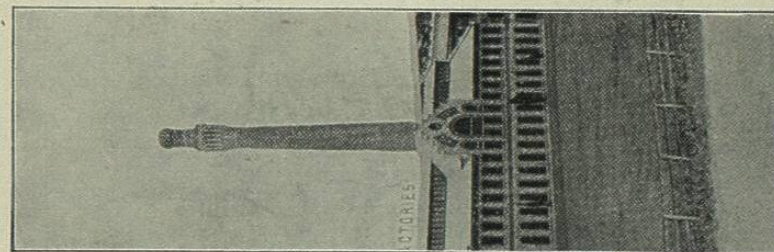
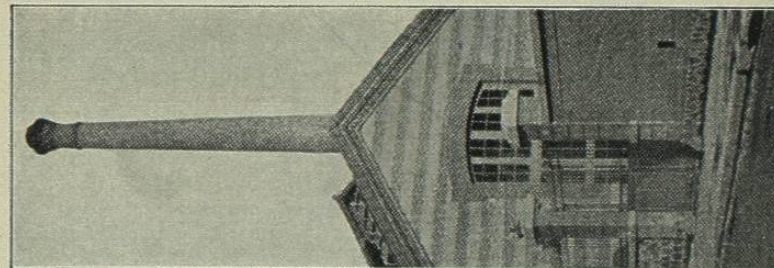
The works being on the left or opposite bank of the river, the flues running from the furnaces are carried across on a bridge built for the purpose, and then up the hill to the point where they enter the chimney.

The total length of these flues or ducts is 3,228 feet.

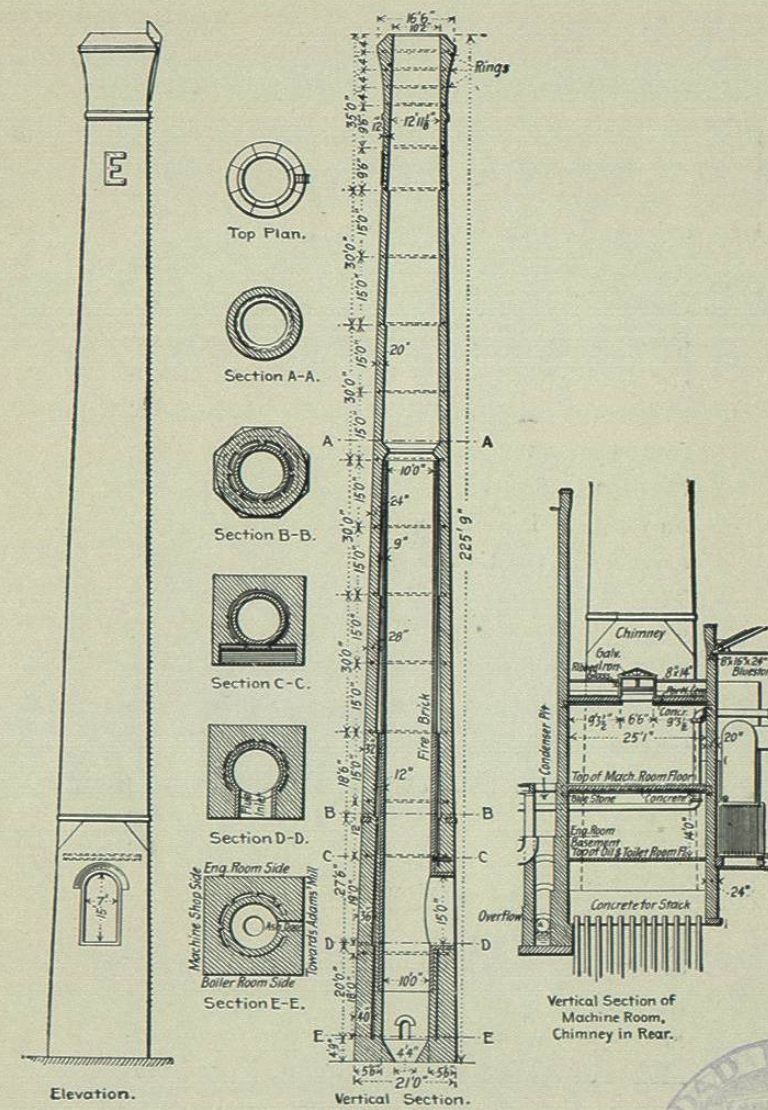
The chimney is built of brick entirely, and cost \$40,000.—*Railroad and Engineering Journal.*



ILLUS. No. 22.
BRICK CHIMNEY, TWEEDVALE MANUFACTURING COMPANY.
4 feet diameter by 125 feet high.—*Eng. Record*, vol. xxxii., p. 407.



ILLUS. No. 23.
THREE BRICK CHIMNEYS.



ILLUS. No. 24.
EDISON ELECTRIC ILLUMINATING COMPANY, PATERSON, N. J.
From *Electrical Engineer*, vol. xxii., Dec. 9, 1896.

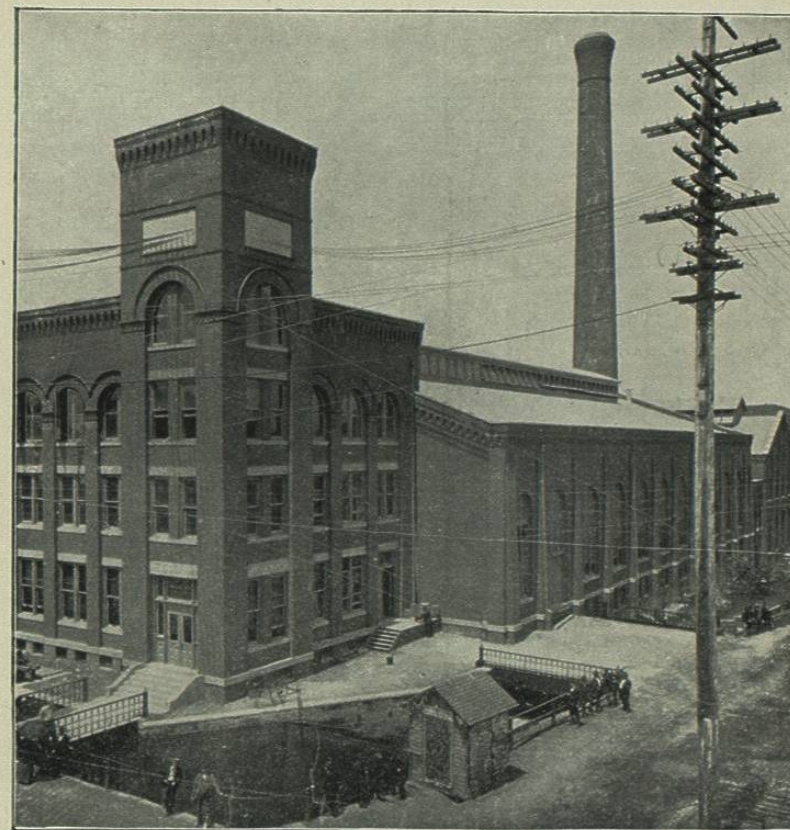


EDISON ELECTRIC ILLUMINATING
CO., PATERSON, N. J., 1896.

Flue, 10 feet diameter, 225 feet high ; calculated for 4,000 boiler horse-power.

The smokestack is the highest but one in the State of New Jersey, and its construction deserves special attention. The height from the foundation to the top is 235 feet, with a 10-foot flue, and its diameter at the base is 22 feet ; the other dimensions will be found in the detail drawing, Fig. 9. The foundation on which it is built is piling driven into the earth and over this is laid 5 feet of concrete. The chimney is double walled for 130 feet 9 inches, and at every 15 feet a wrought iron ring is set into the brickwork, in this way bonding the chimney together. There were 900,000 bricks used in the construction of this chimney, and an electric hoist was used during its construction, no outside staging whatever being employed. The material was hoisted on the interior of the chimney.

In their old plant the company used an octagonal brick chimney ; flue, 8 feet diameter by 200 feet high ; calculated for 2,500 boiler horse-power, and it is reported to have furnished draught for 5,000 lbs. of coal per hour.



ILLUS. No. 25.

EDISON ELECTRIC ILLUMINATING COMPANY, PATERSON, N. J.

Amoskeag Manufacturing Company, Manchester, N. H.
Architect, George W. Stevens; Steam Engineer, Charles H.
Manning; builders, Amoskeag Manufacturing Company.

Description.—Circular brick; built 1883; 60 days occupied
in construction.

Dimensions.

	Feet.	Inches.
Total height, including foundations	265	0
Height from ground line to top	255	0
Outside measurement at foundation	25	8
Inside measurement at foundation	19	8
Outside diameter at ground surface	25	0
Inside diameter at ground surface	19	8
Thickness of brick at ground surface	2	8
Outside diameter at top (exclusive of cornice)	12	6
Inside diameter at top	10	0
Thickness of brickwork at top	1	3

Foundation.—The shaft is founded on a bed of ledge. No
concrete used.

Pressure.—On foundations (as given by the firm) is 10,220
lbs. per square foot.

Bond.—Headers every tenth course.

Batter.—1 in 40.8.

Bricks.—1,000,000 common bricks used in construction.

Weight.—2,330 tons.

Scaffold.—Outside scaffold used, costing \$750.

Duty.—This shaft was designed to burn 18,000 lbs. of an-
thracite coal per hour. It carries off the fumes from sixty-four
boilers = 8,400 horse-power. The company chiefly manufact-
ure gingham, ticking, and fancy shirtings.

Inner Shaft.—The chimney has an inner shaft of 10 feet
internal diameter.

Lightning Rods.—Wrought-iron; costing \$95.

Cost.—Complete, \$16,000.

Merrimack Manufacturing Company, Lowell, Mass. En-
gineer, J. T. Baker, C. E.; chimney built 1882.

Description.—Circular brick shaft, with inner shaft and
core.