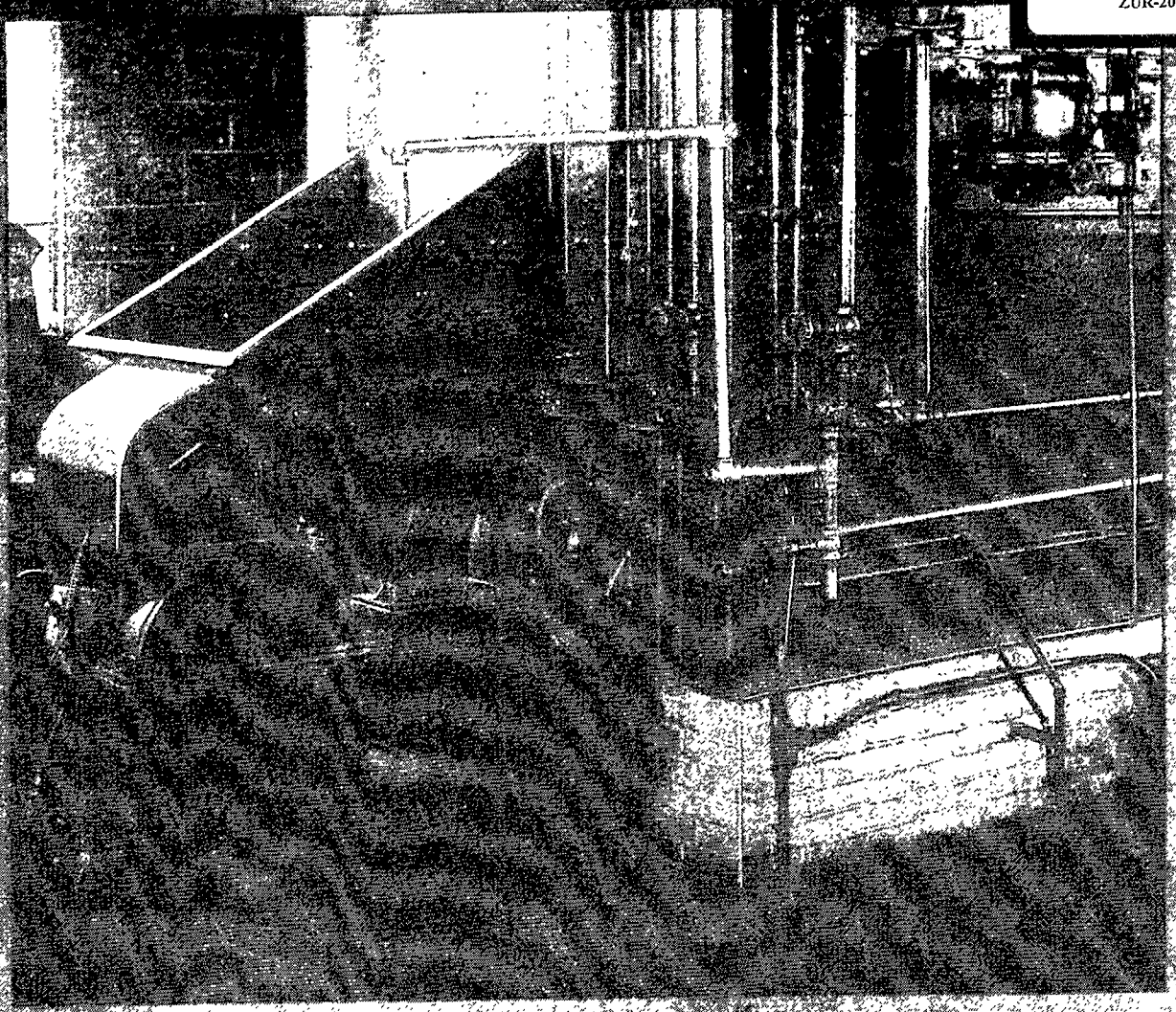
PLAINTIFF'S EXHIBIT

ZUR-20



ERIE CITY

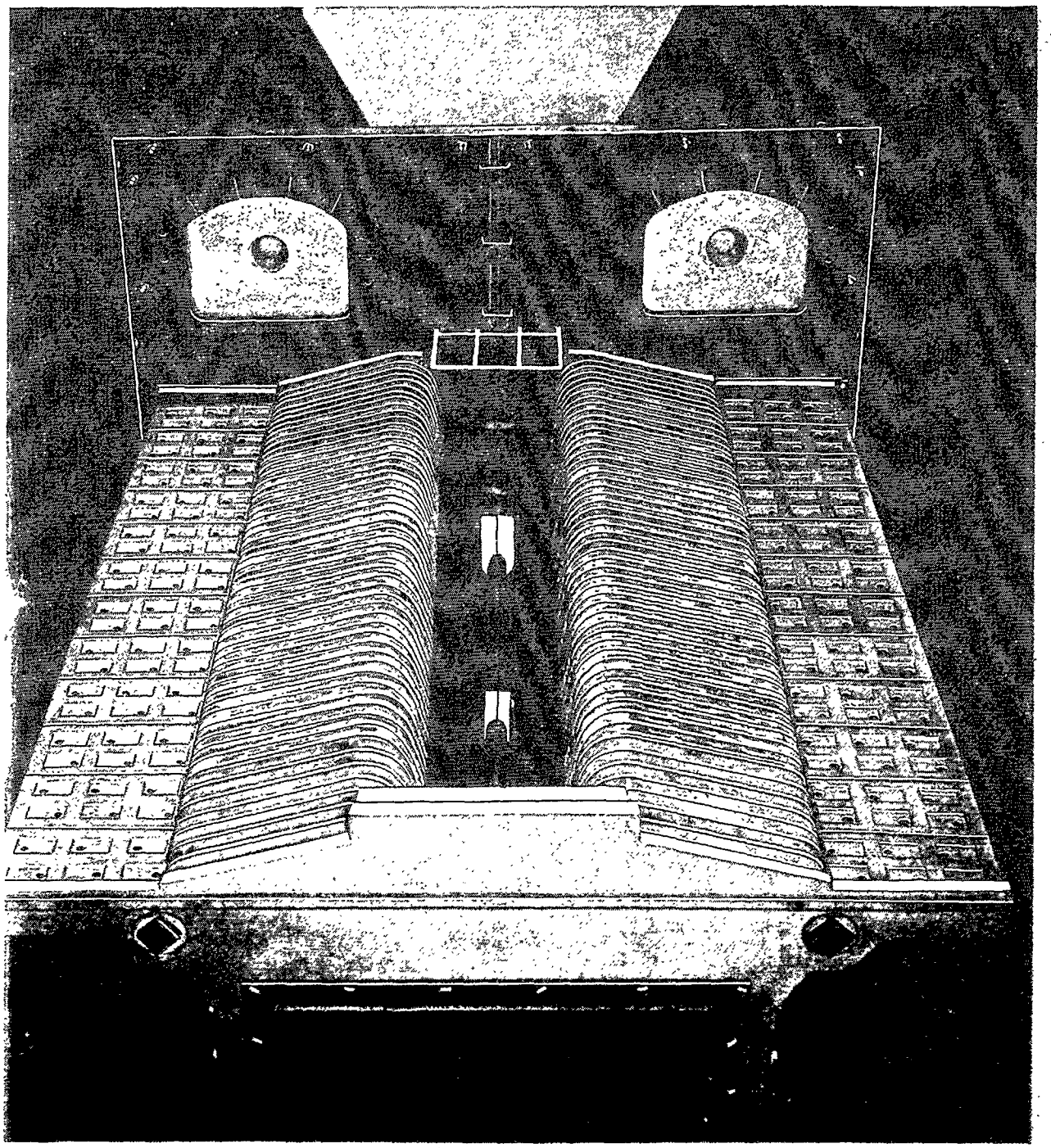
Underfeed

STOKERS

ERIE CITY IRON WORKS

ERIE CITY UNDERFEED

In the power boiler field, Erie City Iron Works is widely accepted as designers of soundly engineered and thoroughly dependable steam generating equipment. In the development of this Erie City Underfeed Stoker, we have stressed sturdiness and reliability factors that are reflected in continuous day by day performance, combining the best features of modern stoker design.



STOKERS

ERIE City Underfeed Stokers are built in two classes:

Type "L" designed to carry loads of 100 to 360 developed boiler horsepower.

Type "H" designed to carry loads up to the maximum usually required of a single retort, ram type, side dump underfeed stoker.

CONSTRUCTION

All castings exposed to combustion are of special heat-resisting alloy iron developed in our own foundry.

Adjustable pusher blocks provide distribution of fuel.

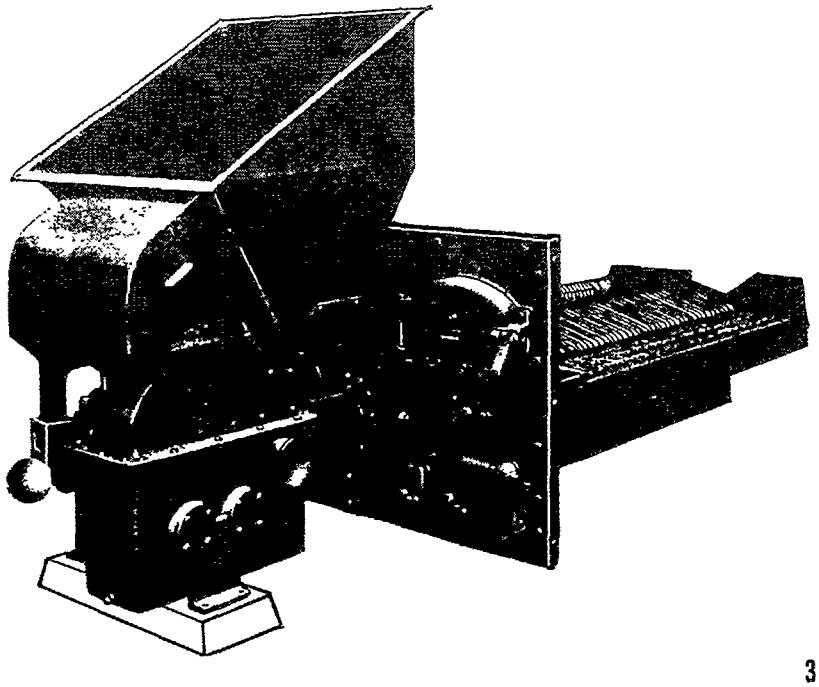
Heavy dead plates support front furnace wall independently of stoker moving parts.

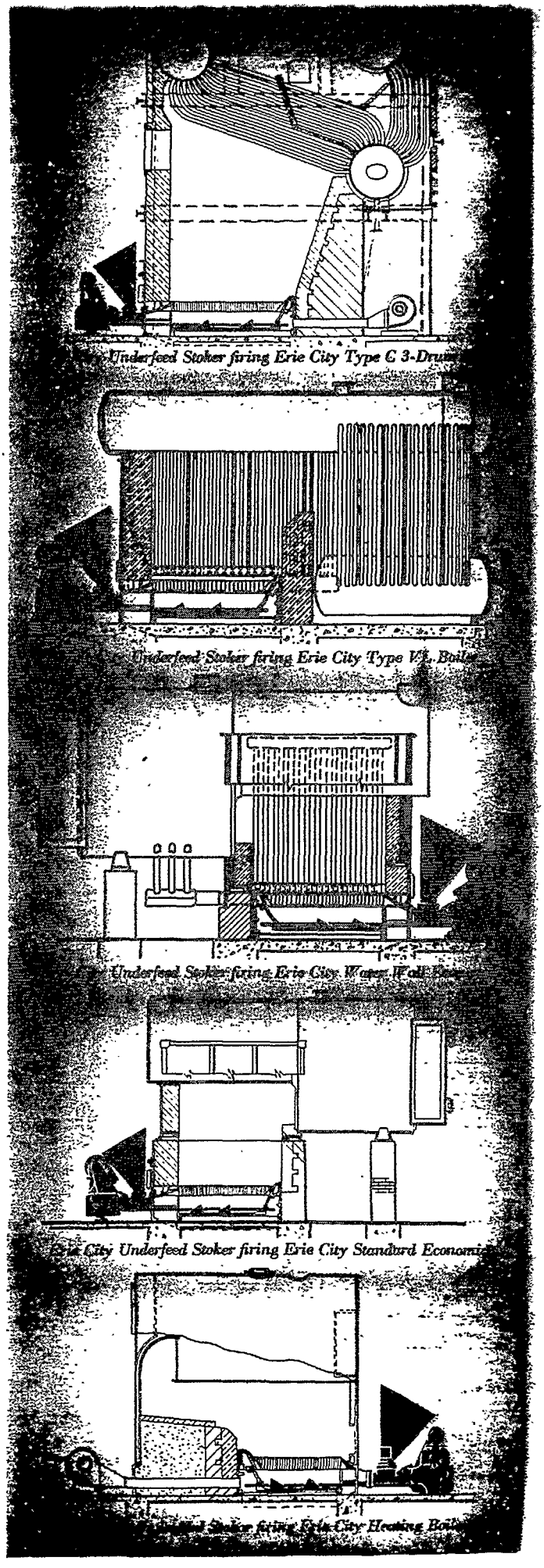
Fan can be assembled as a unit with the drive or placed elsewhere to suit operating conditions.

Any usual type of combustion control can be applied.

An examination of the revealing photographs on the next two pages demonstrates more clearly than words, the simplicity and all around sturdiness of Erie City's Underfeed Stoker. Over three generations of experience in designing and building boilers and furnaces is your assurance of getting a properly engineered stoker and boiler combination.

Five typical combinations of Erie City Stokers and Boilers, here illustrated, meet the needs of small to medium steam users with the advantages inherent in one contract—one shipment—one responsibility.





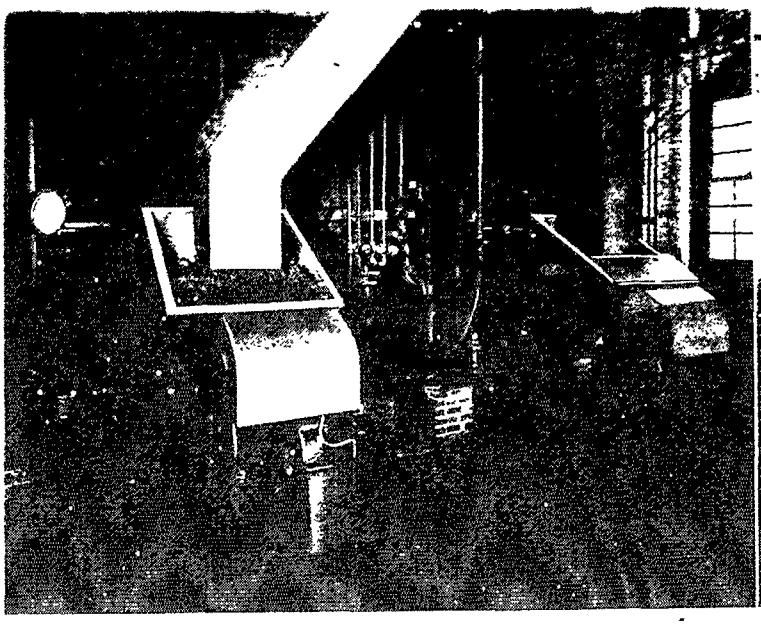
Underfeed Stoker firing Erie City Type C 3-Drum

Underfeed Stoker firing Erie City Type V-L Boiler

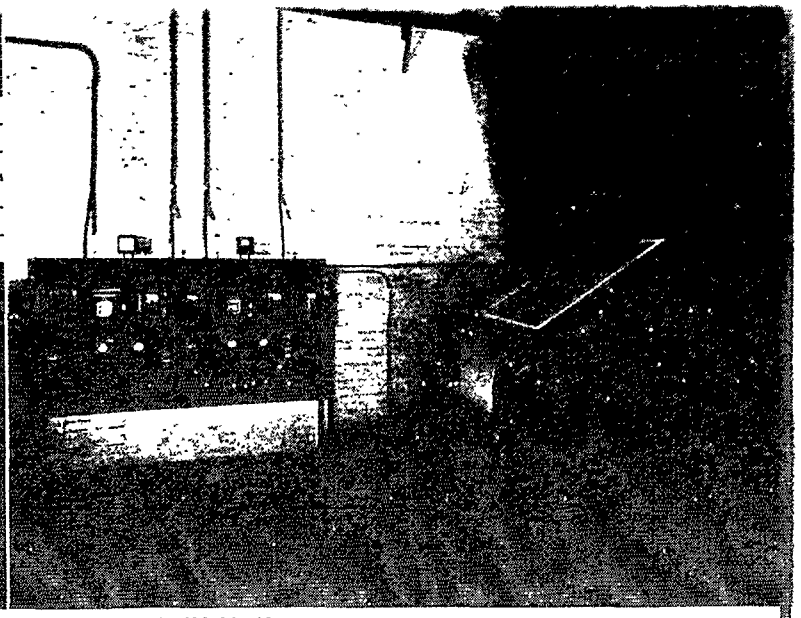
Underfeed Stoker firing Erie City Water Wall Boiler

Erie City Underfeed Stoker firing Erie City Standard Economic

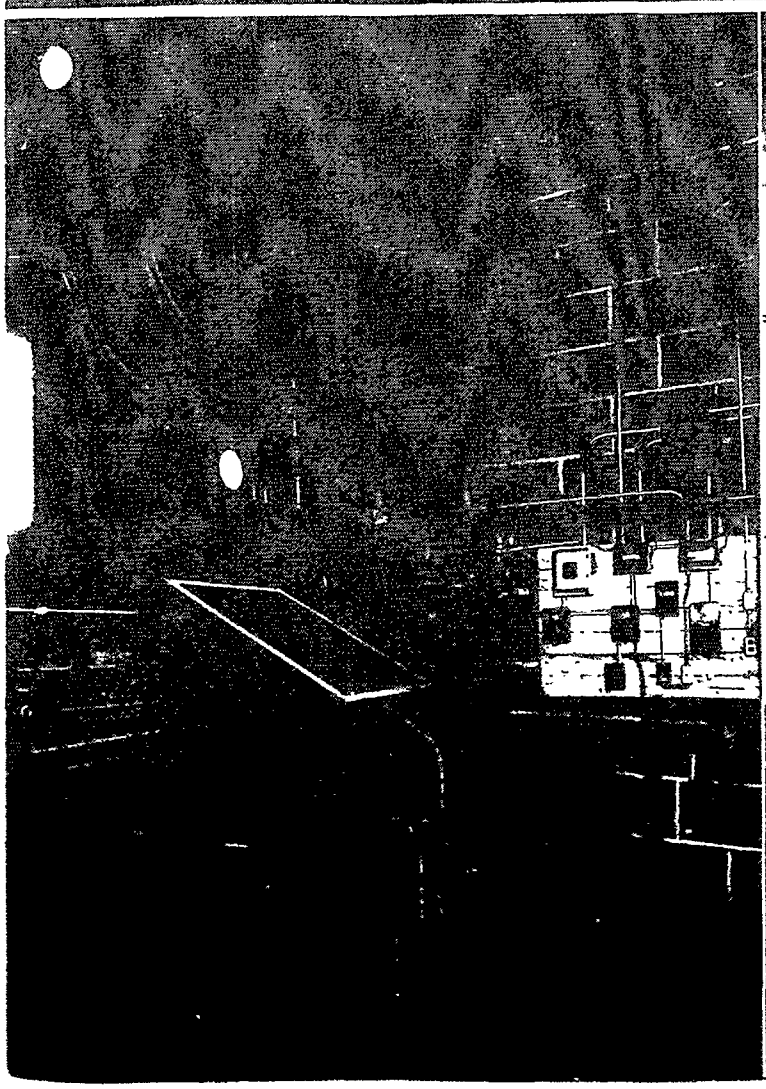
Underfeed Stoker firing Erie City Heating Boiler

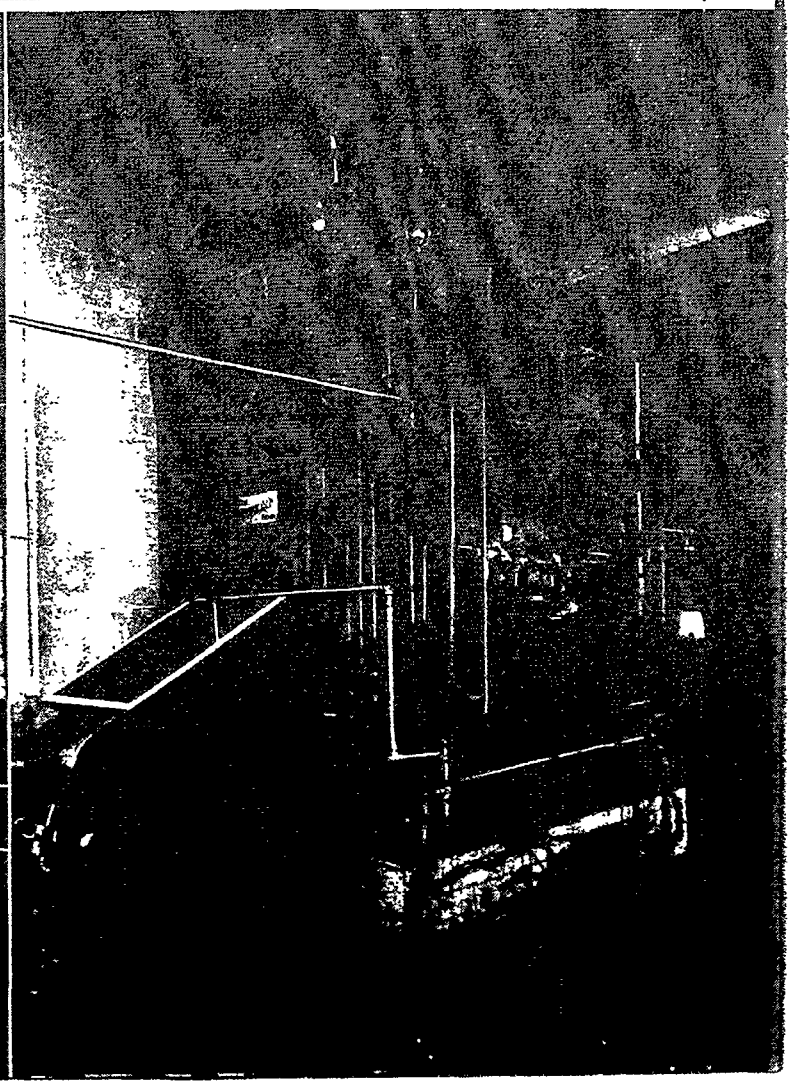


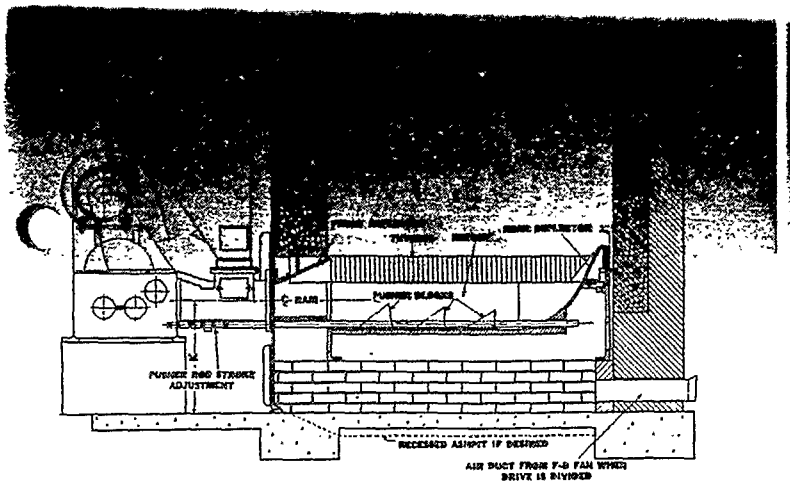
Two (size 69C-79) Erie City Underfeed Stokers firing two Erie City 150 hp. Water Wall Economic Boilers.

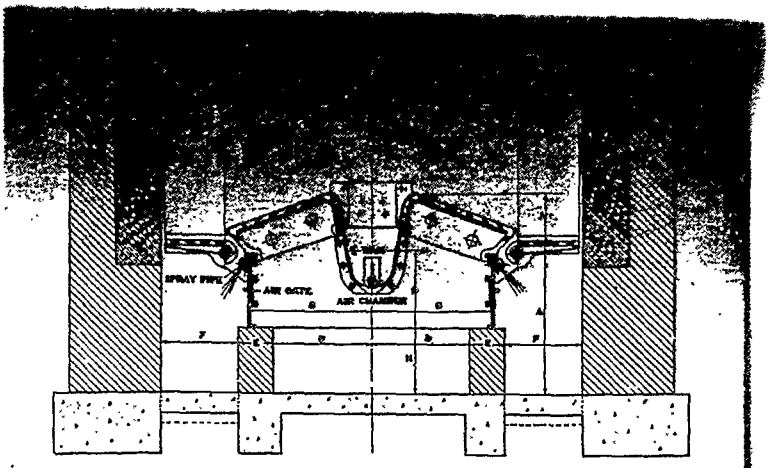


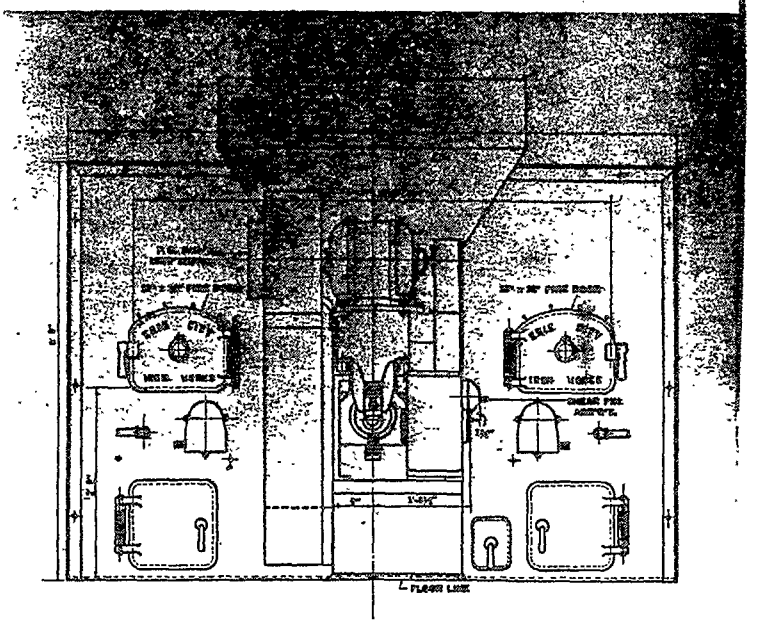
Stop-Start Control Panel for the two Erie City Stokers illustrated at the left.





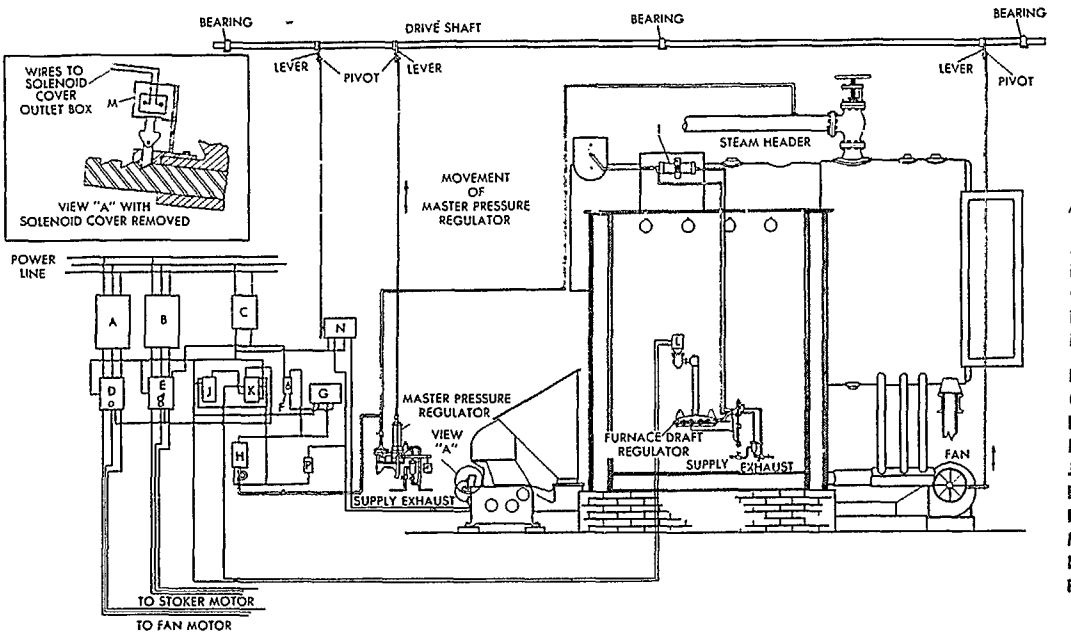






DIMENSIONS OF THE ERIE CITY *Type H Underfeed* STOKER

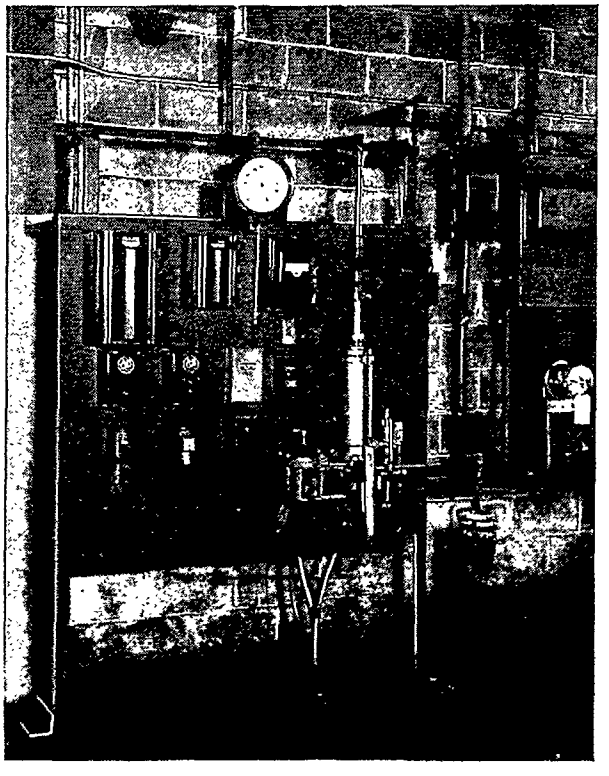
Size No.	Approximate Capacities		Furnace Width—W	A	B	C	D	E	F	G	H	I	J	K	M	N
	Pounds Coal/ft. Stoker Length	Developed hp./ft. Stoker Length														
60 BH	152	40.7	5′ 0″	30″	40½″	9″	9½″	8″	12½″	15½″	13″	12″	6″	25″	5′ 0″	6′ 11″
66 BH	168	43.3	5′ 6″	30″	40½″	12″	9½″	8″	15½″	15½″	13″	12″	6″	25″	5′ 6″	7′ 5″
69 CH	175	45.0	5′ 9″	30″	46½″	10½″	12½″	8″	14″	18½″	13″	13″	7″	26″	5′ 6″	6′ 5″
72 CH	183	47.3	6′ 0″	30″	46½″	12″	12½″	8″	15½″	18½″	13″	13″	7″	26″	6′ 0″	7′ 11″
75 DH	190	49.0	6′ 3″	30″	52½″	10½″	15½″	8″	14″	21½″	13″	14″	8″	27″	6′ 0″	6′ 11″
78 DH	234	60.4	6′ 6″	30″	52½″	12″	15½″	8″	15½″	21½″	13″	14″	8″	27″	6′ 6″	8′ 5″
81 EH	242	62.5	6′ 9″	30″	58½″	10½″	18½″	8″	14″	24½″	13″	15¼″	9¼″	28¼″	6′ 6″	7′ 5″
84 EH	252	65.0	7′ 0″	30″	58½″	12″	18½″	8″	15½″	24½″	13″	15¼″	9¼″	28¼″	7′ 0″	8′ 11″
87 FH	260	67.0	7′ 3″	30″	64½″	10½″	21½″	8″	14″	27½″	13″	16¼″	10¼″	29¼″	7′ 0″	7′ 11″
[illegible]H	270	69.7	7′ 6″	30″	64½″	12″	21½″	8″	15½″	27½″	13″	16¼″	10¼″	29¼″	7′ 6″	9′ 5″
96 GH	288	74.3	8′ 0″	30″	70½″	12″	24½″	8″	15½″	30½″	13″	17½″	11½″	30½″	8′ 0″	9′ 11″
102 HH	306	79.0	8′ 6″	30″	76½″	12″	27½″	8″	15½″	33½″	13″	18½″	12½″	31½″	8′ 6″	10′ 5″



Legend

A—Safety Switch—Fan Motor
B—Safety Switch—Stoker Motor
C—Safety Switch—Control Circuit
D—Magnetic Starter—Fan Motor
E—Magnetic Starter—Stoker Motor
F—Selector Switch
G—Hold Fire Timer
H—Pressure Switch
I—Power Cylinder
J—Time Delay Relay
K—Relay
L—Solenoid Vent Valve
M—Solenoid with Plunger
N—Variable Timer
P—Snap Switch

FULL RANGE AUTOMATIC CONTROL



Full range automatic control equipment is furnished as an addition to that of ordinary Stop-Start and is recommended when the steam demand is a fluctuating one or when the steam pressure must be maintained within close limits. The coal feed and the air for combustion are automatically controlled in the correct ratios by means of the master pressure regulator.

For the coal feed, the regulator positions the lever on the variable timer, and in turn the timer controls the engagement of the solenoid plunger with the connecting rod.

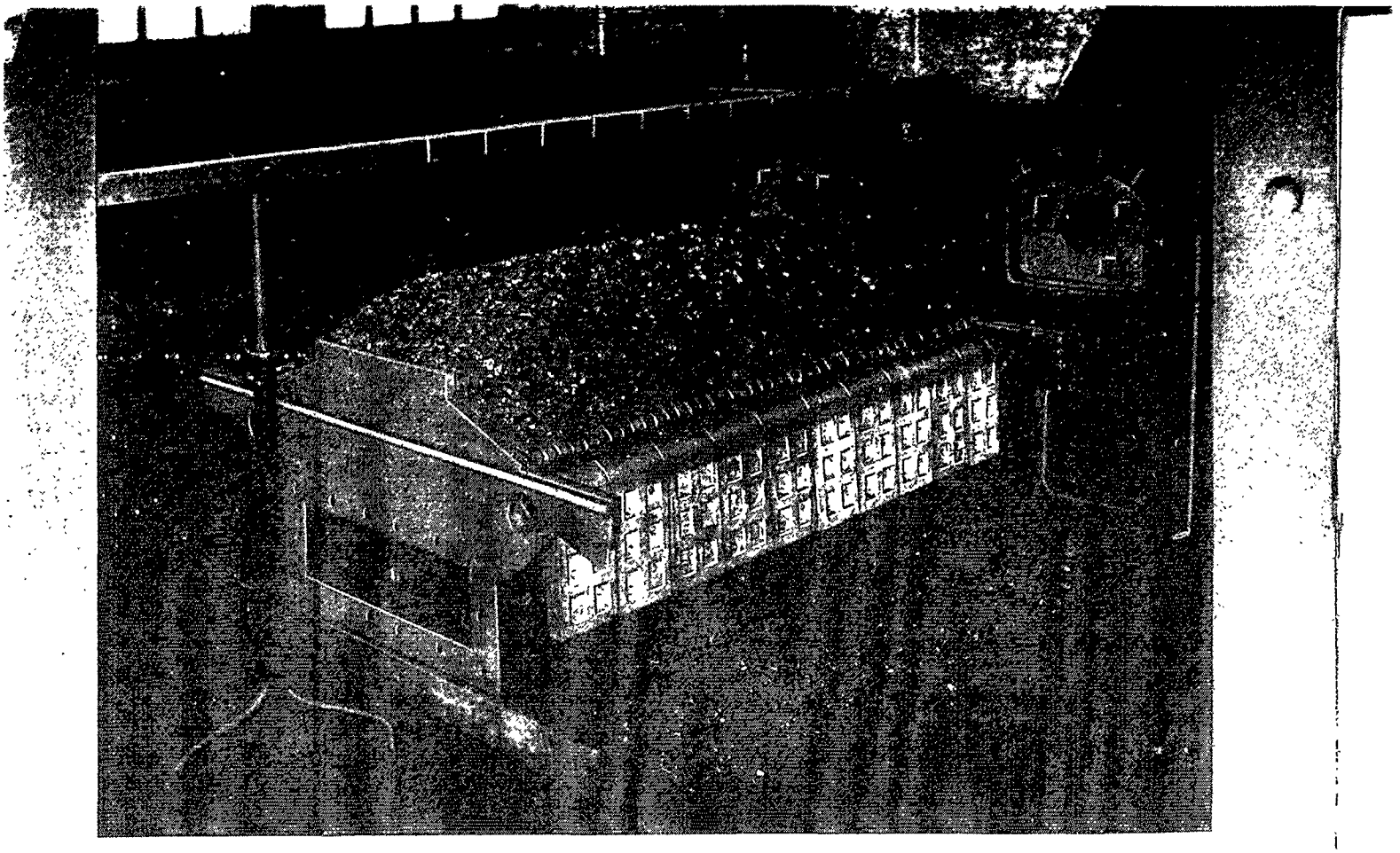
For the air supply, the regulator positions the lever on the inlet vanes or outlet damper of the forced draft fan.

The stoker and fan motor run continuously, thus eliminating frequent stops and starts.

Full range automatic control can at any time be switched to stop-start control through the pressure switch and can be put on "Bank" through the hold fire timer if desired.

If excess air leakage into the furnace is to be kept to a minimum at all times, a furnace draft regulator with a power cylinder is installed in conjunction with a time delay relay, relay and a solenoid vent valve. This combination permits the boiler exit damper to open wide before the stoker fan and motor start, and during operation will maintain a constant furnace draft.

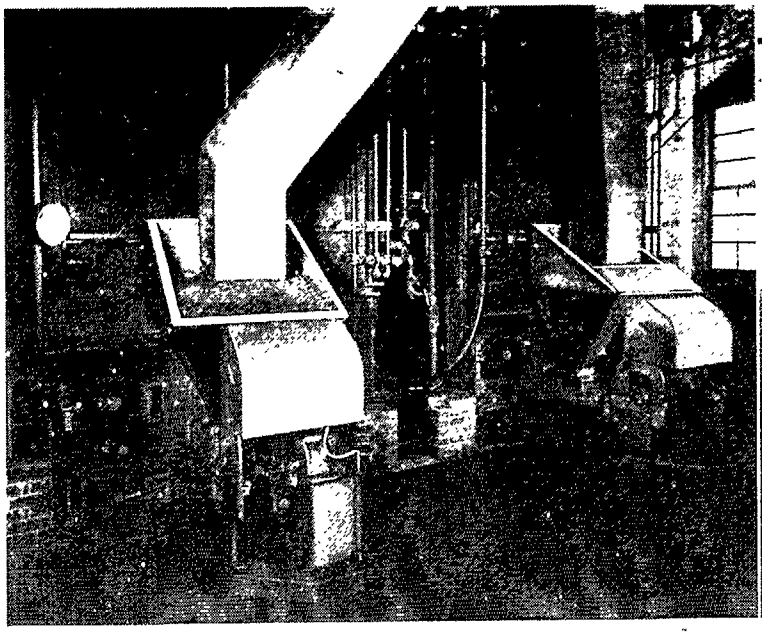
A wiring diagram is furnished with each installation, so that customer's electrician can readily wire the equipment.



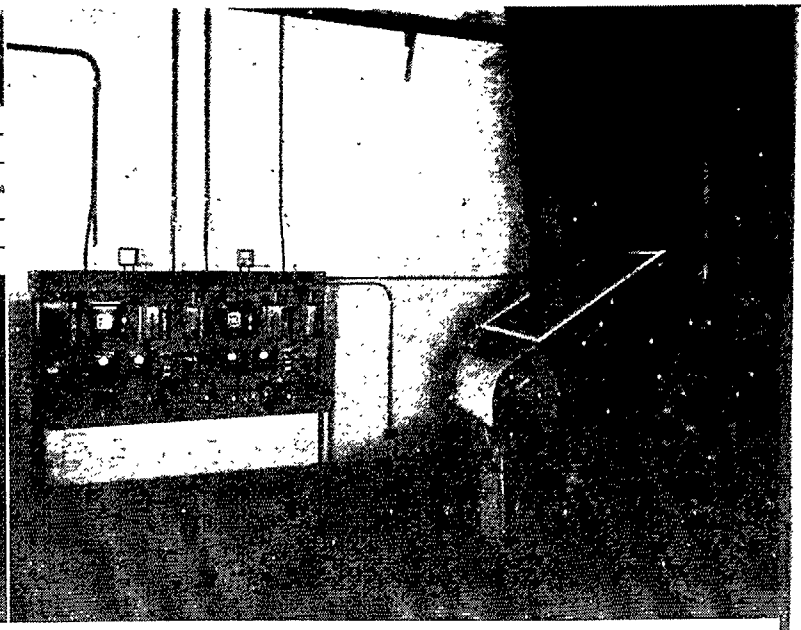
Erie City Underfeed Stoker on the test floor

ERIE CITY DISTRICT SALES AGENTS

located in all parts of the country are well qualified to help you in the correct selection of the right Erie City Stoker for the job, whether in combination with a new Erie City Boiler or with any existing boiler installation. Their wide experience with all types of boiler applications and methods of firing can be of real assistance to you. Consult the back cover of this bulletin for our nearest sales office.

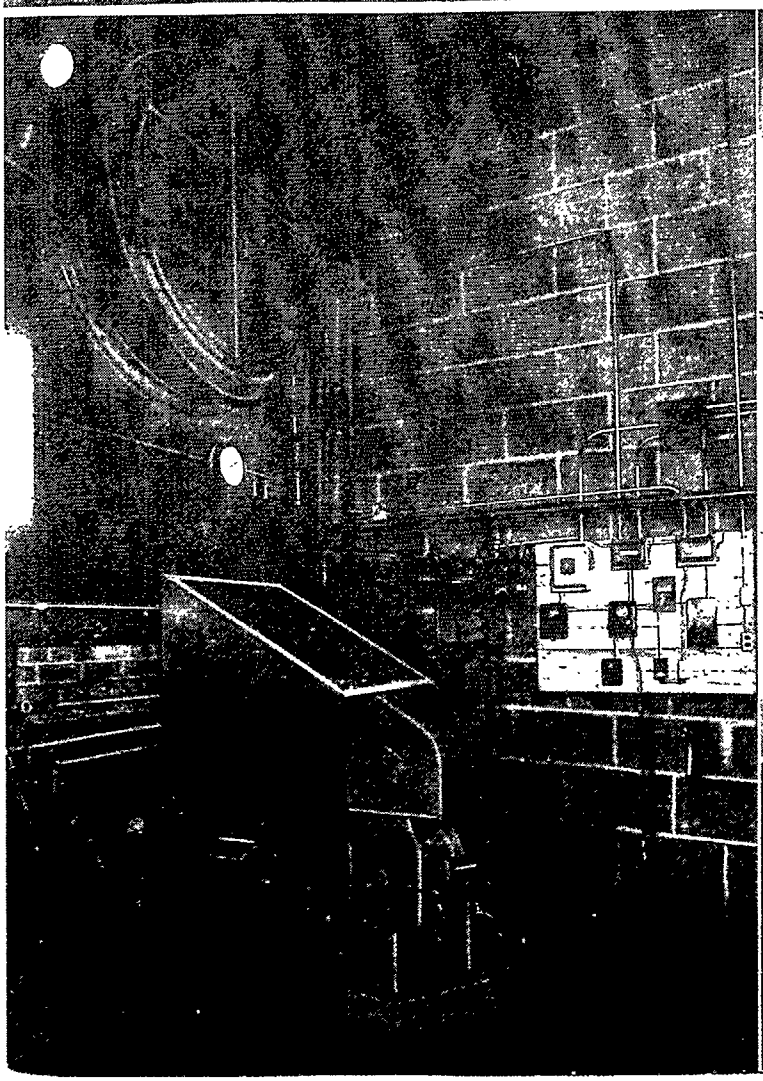


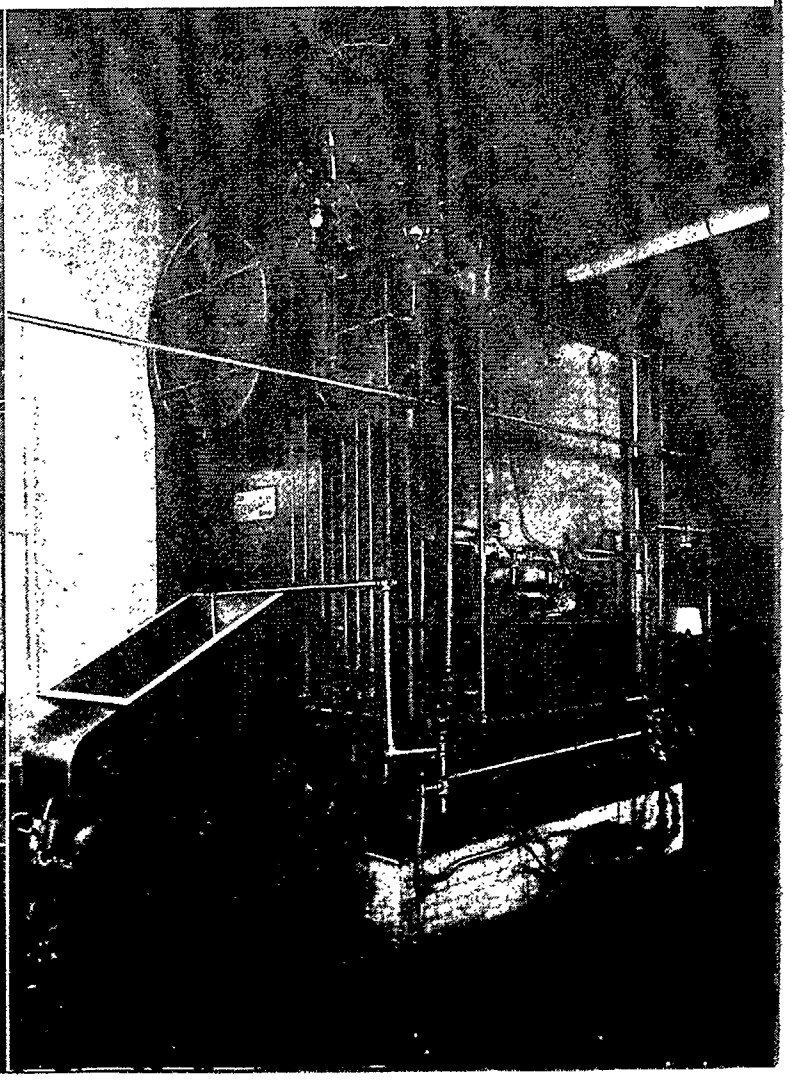
Two (size 69C-79) Erie City Underfeed Stokers firing two Erie City 150 hp. Water Wall Economic Boilers.



Stop-Start Control Panel for the two Erie City Stokers illustrated at the left.

Size 60B-79 Erie City Underfeed Stoker





ERIE CITY PRODUCTS

Erie City Steam Generators, comprising Erie City Boilers, Furnaces, Superheaters, Water Walls, Air Preheaters and Economizers, are engineered to meet specific requirements for central stations and large industrial users of steam at high pressures and temperatures.

Erie City Type C 3-Drum Boilers are thoroughly standardized units from 100 to 1000 hp. for usual steam pressures and temperatures.

Erie City Type L 3-Drum Boilers feature a specially formed front tube bank which provides added radiant exposure and greater unrestricted furnace volume. This design may be built in any commercial size and pressure.

Erie City Conventional 4-Drum Bent Tube Boilers are built in all commercial sizes and pressures.

Erie City Vertical 2-Drum Boilers are especially recommended today for waste heat firing or applications burning wood, bagasse or similar fuels.

Erie City Cross Drum and Longitudinal Drum Water Tube Boilers are old straight tube favorites for moderate steam requirements, each built in a full range of standard sizes and commercial pressures.

Erie City Type VL Water Tube Boilers built as complete Boiler-Furnace units in seven standard sizes up to 300 hp. for shipment completely assembled and larger for assembly in the field.

Erie City Fusion Welded Horizontal Return Tubular Boilers are built in a wide range of sizes from 40 to 300 hp.—pressures 100, 125 or 150 lbs. W.S.P.—higher pressures on special order.

Erie City Standard Economic Boiler, a leader in self-contained power boilers for over a half century. Complete with boiler, brickwork and steel encased furnace in sizes 20 to 300 hp.—100, 125, 150 or 200 lbs. W.S.P.

Erie City Water Wall Economic Boilers utilize side wall water cooling of the refractory to provide exceptionally low maintenance and maximum operating economy with either oil, gas or stoker firing. Built in nine sizes, 50 to 300 hp. inclusive—100, 125, 150, or 200 lbs. W.S.P.

Erie City Welded Steel Heating Boilers, 3 pass, compact design, for 15 lbs. steam or 30 lbs. water pressure. Available for any specified firing method.

Erie City Unitype Pulverizer, impact type, built in a wide range of sizes for firing boilers, furnaces, lime and cement kilns, etc.

Erie City Underfeed Stokers in two types: "L" for boilers from 100 to 360 developed boiler horsepower and type "H" for loads up to the maximum capacity usually required of a single retort underfeed stoker.

Erie City Lentz Poppet Valve Steam Engine

Erie City High Speed Steam Engines

Erie City Process Equipment. Built to the specifications of process engineers in chemical, rubber, plastics and textile industries.

ERIE CITY IRON WORKS, ERIE, PA. Since 1840

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