The National Pipe Bending Co.

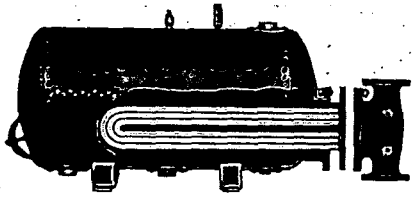
104 River Street, **New Haven, Conn.**

Offices in the Following Cities:

Atlanta, Ga.	Butte, Mont.	Cleveland, Ohio	Los Angeles, Calif.	New York, N. Y.
Baltimore, Md.	Chicago, Ill.	Denver, Colo.	Memphis, Tenn.	Philadelphia, Pa.
Boston, Mass.	Cincinnati, Ohio	Duluth, Minn.	Minneapolis, Minn.	Pittsburgh, Pa.

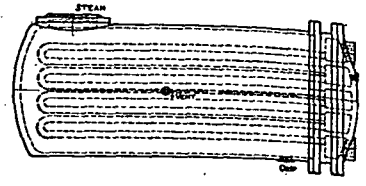
PRODUCTS—Water Storage Heaters, Instantaneous Water Heaters, Swimming Pool Heaters, Feed Water Heaters, Coal Burning Tank Heaters, Oil Burning Tank Heaters, Special Heaters, Coolers for all purposes, Coils and Bends of Pipe and Tubing.

National Red Head Storage Heaters



A line of well built heaters stocked in sizes and capacities most generally used. Equipped with U-Bend heating element of Anaconda Copper. Steel Tank. Improved flanged T cover gives unrestricted flow area for entering steam. Tested to 100 lbs. working pressure, 150 lbs. hydrostatic pressure. For installations requiring heaters other than listed below use regular National individually engineered heaters described in Bulletins No. 55, 57, 65. Our engineering service is at your command.

National Instantaneous Heaters



Furnished in Water or Steam Tube types for gravity or pressure circulation.

Heats water as it flows either continuously or intermittently. Built for steam pressures up to 75 lb. per sq. in. U-Bend copper tubes through which the water passes are fitted into a cast iron or steel shell through which the steam for heating is passed. Made in sizes from 210 to 12,000 gal. of hot water per hour at temperatures from 40° to 180° F.

DATA to be used with RED HEAD Heaters

SHELLS (Horizontal) Manhole 11" x 15" in all sizes above 18".						HEATING ELEMENTS Temperature range based on heating water from 50 degrees to 180 degrees F. at steam pressure 0 to 5 lbs.			
No.	Gallons One Filling	Size of Shell	Thickness of Shell	Thickness of Head	Weight of Shell	No.	Gallons per Hour	Smallest Shell into which element goes Inches	Weight of Element Lbs.
A	80	18x 72	5/16	3/8	380	NS-1	80	18x 72	85
B	141	24x 72	5/16	3/8	530	NS-2	100	18x 72	88
C	220	30x 72	1/4	7/16	870	NS-3	150	18x 72	96
D	310	36x 72	1/4	7/16	1020	NS-4	200	18x 72	117
E	365	36x 84	1/4	7/16	1130	NS-5	250	18x 72	122
F	475	36x108	1/4	7/16	1350	NS-6	300	18x 72	185
G	575	42x 96	5/16	1/2	1750	NS-7	350	36x 84	189
H	645	42x108	5/16	1/2	1900	NS-8	400	36x 84	195
I	720	42x120	5/16	1/2	2050	NS-9	450	42x 96	205
J	860	42x144	5/16	1/2	2350	NS-10	500	42x 96	210
K	940	48x120	5/16	1/2	2410	NS-11	600	42x 96	260
L	1130	48x144	5/16	1/2	2770	NS-12	700	42x108	270
M	1300	48x168	5/16	1/2	3100	NS-13	800	42x108	285
N	1425	54x144	5/8	9/16	3750	NS-14	900	42x108	343
O	1665	54x168	5/8	9/16	4300	NS-15	1000	42x108	357
P	2000	60x168	5/8	9/16	5200	NS-16	1250	42x108	440
Q	2460	72x144	1/2	5/8	6500	NS-17	1500	42x108	468
R	2875	72x168	1/2	5/8	7600	NS-18	1750	42x108	575
						NS-19	2000	42x108	620
						NS-20	2500	42x108	755

How to Specify NATIONAL RED HEAD STORAGE HEATERS. Combine the number of the required storage and heating elements. To heat 1000 gallons per hour with a storage capacity of approximately 500 gallons, refer to tables above and specify one National Red-Head Heater NS-15-F.

The Patterson-Kelley Co.

99 Park Avenue - New York City

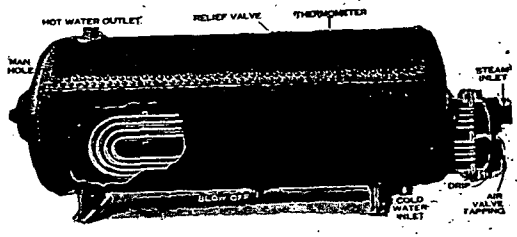
Hot Water Heaters for all purposes. Pool Heaters and Converters. Preheaters, Heat Exchangers, Heaters for Chemicals, Gases, Oils. Coolers for Brine, Chemicals, Gases, Oil and Water. Reclaimers for recovering heat from waste liquids.

The Patterson Combined Hot Water Service and Storage Heater, Type B, is for any service where requirements for hot water are not constant, or where a large volume must be stored for sudden heavy demands.

We *guarantee* to furnish heaters that will deliver the quantity of hot water called for. Without obligation our Engineering Department will be glad to give engineers the benefit of our 50 years' experience.

General Specifications

Constructed like a high grade boiler—of heavy steel plate. Steam inlet and outlet chamber is a heavy, grey iron casting. Tube head is a heavy, steel forging into which both ends of each tube are expanded. Tubes are of pure, cold drawn seamless copper and "∩" shaped to provide against contraction and expansion strains. Heater is for any service and in any required size per tables below. Write us for engineering advice.



HEATING CAPACITIES—

40° F. to 180° F.—Steam at Atmospheric Pressure

No.	Gallons per Hour	Approx. Wt. in Lb.	No.	Gallons per Hour	Approx. Wt. in Lb.
1H	100	200	15H	2000	700
2H	150	215	16H	2500	800
3H	200	235	17H	3000	900
4H	250	255	18H	3500	1050
5H	300	285	19H	4000	1200
6H	400	315	20H	4500	1350
7H	500	350	21H	5000	1500
8H	600	370	22H	6000	1750
9H	700	400	23H	7500	2000
10H	800	425	24H	10000	3200
11H	1000	450	25H	12500	3800
12H	1250	500	26H	15000	4500
13H	1500	550	27H	20000	5100
14H	1750	600	28H	25000	5800

Note.—To specify Type B. Heaters, combine the numbers of the required storage and heating capacities. For example, "One Patterson Type B. Heater with No. 22 S. and No. 17 H." has 1000 gallons storage with 3000 gallons hourly heating capacity.

STORAGE CAPACITIES

No.	Dimensions in Inches	Capacity in Gals.	Approx. Wt. in Lbs.	No.	Dimensions in Inches	Capacity in Gals.	Approx. Wt. in Lbs.
1 S	24 x 48	94	650	21 S	42 x 144	860	2450
2 S	24 x 60	118	750	22 S	42 x 168	1000	2800
3 S	24 x 72	141	850	23 S	42 x 192	1155	3100
4 S	24 x 84	164	950	24 S	48 x 96	750	2600
5 S	30 x 60	180	875	25 S	48 x 120	940	2925
6 S	30 x 72	215	1000	26 S	48 x 144	1125	3350
7 S	30 x 84	255	1150	27 S	48 x 168	1300	3840
8 S	30 x 96	285	1300	28 S	48 x 192	1500	4200
9 S	30 x 120	360	1500	29 S	54 x 120	1190	3500
10 S	36 x 72	310	1250	30 S	54 x 144	1425	3900
11 S	36 x 84	365	1400	31 S	54 x 168	1665	4300
12 S	36 x 96	415	1550	32 S	54 x 192	1900	4700
13 S	36 x 108	475	1700	33 S	60 x 120	1400	4300
14 S	36 x 120	500	1850	34 S	60 x 144	1700	4950
15 S	36 x 144	640	2100	35 S	60 x 168	2000	5600
16 S	42 x 72	430	1500	36 S	60 x 192	2240	6200
17 S	42 x 84	500	1650	37 S	72 x 174	3000	7000
18 S	42 x 96	575	1800	38 S	84 x 168	4000	8700
19 S	42 x 108	650	1950	39 S	96 x 168	5200	10000
20 S	42 x 120	720	2200	40 S	96 x 192	6000	11000