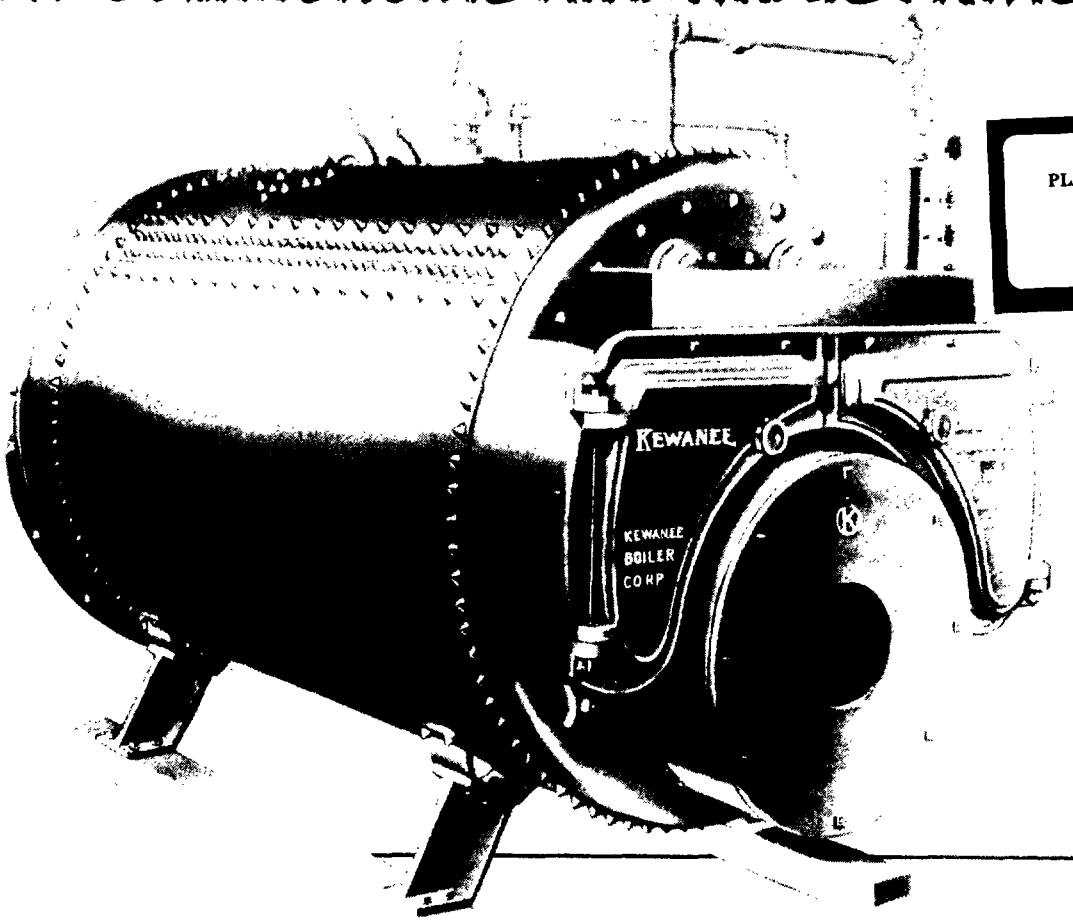
A. I. A. FILE NO. 34-B-1
(Sept 1951)

HIGH PRESSURE STEAM
FOR COMMERCIAL AND INDUSTRIAL USE



PLAINTIFF'S EXHIBIT

ASI-1220

KEWANEE

SCOTCH MARINE

SCOTTIE JUNIOR

REG. U. S. PAT. OFF.

for Oil or Gas

7 to 36 h. p. . . . . 125 lbs. w. p.

KEWANEE BOILER CORPORATION

Watertube Firetube & Standard Scotchmarine

KEWANEE, ILLINOIS

A. I. A. FILE NO. 34-B-1
(Sept 1951)

KEWANEE
SCOTTIE JUNIOR

Originally designed for ships . . . where limited head-room and space control the choice of the boiler . . . the Scotch Marine type has been adapted as the best source of high pressure steam for power and industrial process purposes.

Of the various industrial Scotch Marine Boilers the Kewanee Scottie Junior is an outstanding favorite.

One look at this underslung, steel-riveted steam maker . . . designed and engineered for automatic oil or gas firing . . . tells the story of power a-plenty plus the ability to "take it" which can't be matched.

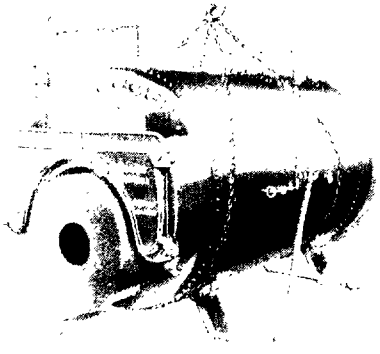
In six sizes rated at 7 to 36 hp . . . every size *capable of carrying large overloads* without loss of efficiency. Here's a grand boiler with a Scotch name and a Scotch ability to generate steam economically.

COMES ON THE JOB READY TO HOOK UP

Trimmings are furnished as listed on page 4 and piping for these connections is *cut and threaded at the factory* for quicker assembly.

Legs are reversible or removable to suit any setting and the water column and injector can be changed from left to right to suit the boiler room conditions.

Scottie Jr. comes on the job mounted on substantial wood skids . . . *no foundation is needed*. Steel skids can be furnished at small additional cost.



EASY ACCESS FOR CLEANING

An outstanding feature of the Scottie Jr. is the ease with which it can be cleaned of soot and scale. Heavy cast-iron flue doors swing wide open on extra substantial hinges to provide full access to the flues without interference with the firing equipment.

All sizes are equipped with adequate handholes for cleaning and removal of scale. 30 and 36 hp sizes are provided with manholes.

At the rear, a cleanout door opens the way to the rear combustion chamber. And the fusible plug can be easily reached without removing entire dry back plate.

TOPS WHERE HEADROOM IS IMPORTANT

Scottie Jr. packs a lot of power into a small parcel. Even the biggest size is no taller than the average man . . . 67½ inches. It is less than 5 feet in width and is 12 feet in length.

Truly, a compact boiler in which quality has been the foremost factor. Fire chamber, tube diameter and length, water content, steam chamber are all generous in size and so properly proportioned to each other that the Scottie Jr. easily produces the full amount of steam shown by the rated capacity . . . *plus overloads as much as 50%* . . . without loss of efficiency.

QUALITY FEATURES
ALL 'ROUND THE CLOCK
WITH THE SCOTTIE JUNIOR

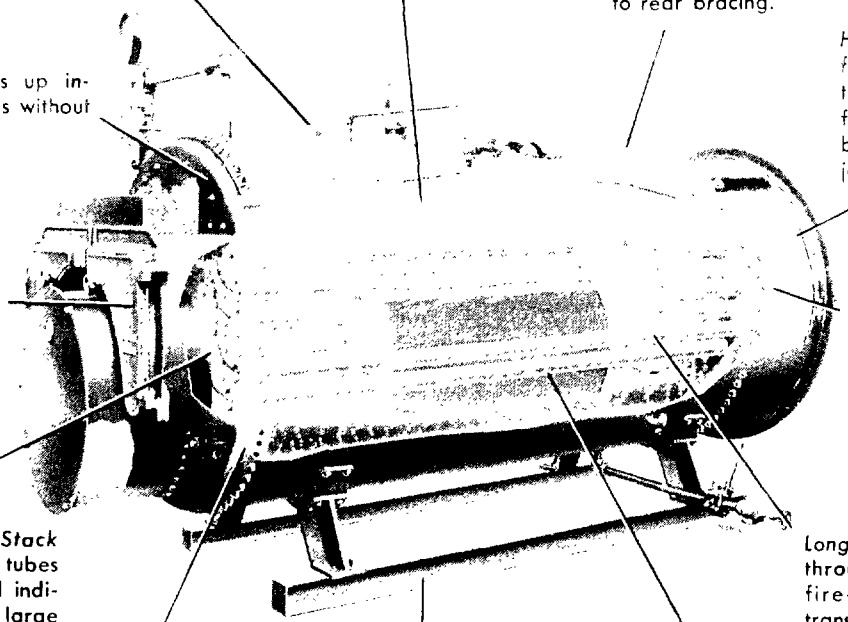
Large Steam Space . . . for ample reserve of dry quality steam and unbroken release area at water line insures against priming.

Shell of Flange Steel with a tensile strength of 55,000 to 65,000 pounds per square inch. The longitudinal joint is riveted with double butt strap construction; the girth seams riveted and caulked tight around the shell edges and at each end of the welded steel furnace. Solid thru stays complete the front to rear bracing.

Threaded Flange Steam Outlet assures tight fitting, trouble-proof connection with the steam mains.

Cylindrical Shell takes up internal pressure stresses without excess weight.

Hi-Temperature Refractory Blocks are fitted in place at the factory eliminating brick-up-work on the job.



Heavy Cast-Iron Doors, precision ground for gas-tight fit and heavily insulated to prevent warping.

Rear Combustion Chamber where the intense heat catches any unburned gases and completes the combustion process.

Low Temperature of Stack Gases as they leave the tubes to enter the smokehood indicates that an unusually large percentage of the heat has been utilized.

Long Travel of Gases through the 3-inch fire-tubes rapidly transfers all usable heat to the boiler.

Heads Hot Flanged of genuine firebox-quality steel and tube holes trepanned from solid plate, accommodating the heavy 12-gage seamless tubes.

Mounted on Skids . . . No foundation is needed because Scottie Jr. arrives mounted on substantial wooden skids. Steel skids (shown in cut-away illustration) available at small extra cost.

Longer furnace and high combustion chamber create ideal flame conditions for automatic firing with any standard Gun-Type Burner.

REFRACTORY LINED REAR COMBUSTION CHAMBER

Refractory lined rear combustion chamber provides passage of hot gases to return tubes and converts all unburned gases to usable heat before entering flues. This is one of the features which makes Scottie Jr. so economical in its use of fuel.

Pre-cast refractory hi-temperature insulation blocks are installed at the factory. No brick-up-work is needed on the job.

EASILY CONVERTED TO ANY FUEL

In the event it should ever become necessary to change from oil or gas firing to solid fuels, the Kewanee Scottie Junior can be easily converted from mechanical to hand-firing and back again without costly structural changes. Your nearest Kewanee Sales Office will be glad to provide further information on this feature.

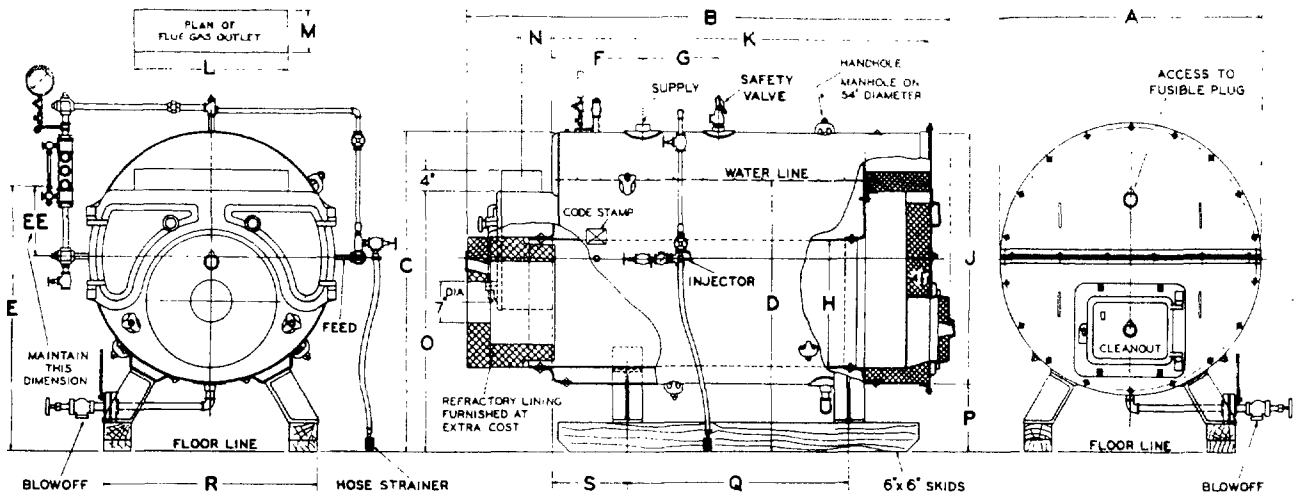
Reg U S Pat Off.
MEMBER

All Kewanee Steel Boilers—including the Kewanee Scottie Junior Series comply with every requirement of the Steel Boiler Institute Code as well as that of the American Society of Mechanical Engineers.

In many instances Kewanee specifications go far beyond any code requirement to provide additional durability and extra economy of operation.

KEWANEE
SCOTTIE JUNIOR

Return Tube



ASME CODE	125 lb. WP					Oil or Gas
Boiler Number	HM6	HM9	HM15	HM20	HM25	HM30
SBI Rating						
Horsepower	7	12	18	24	30	36
Btu per Hour ....1000's	234	400	600	800	1020	1200
Pounds of Steam per Hour	242	410	620	830	1050	1240
Certified Output Rating ....Hp.	10.5	18	27	36	45	54
Firing Rate—Oil gph	3.5	5.8	8.7	11.5	14.4	17.3
—Gas Btu/hr. ....1000's	480	810	1200	1620	2030	2430
A—Boiler Width Overall ....Inches	47	53	53	53	59	59
B—Boiler Length Overall ....Inches	82½	84½	105½	126½	127	144
C—Height Overall Shell ....Inches	54½	62	62	62	67½	67½
D—Water Line ....Inches	46½	53	53	53	57½	57½
E—Water Column Height ....Inches	44½	51	51	51	55½	55½
EE—Height from Boiler CL ....Inches	11¼	13¼	13¼	13¼	15	15
F—Steam Supply Location ....Inches	13	14	18	24	18	24
G—Safety Valve Location ....Inches	15	15	15	16½	22½	16¾
H—Furnace Diameter ....Inches	21	24	24	24	28	28
J—Shell—Diameter ....Inches	42	48	48	48	54	54
K— —Length ....Inches	61	63	84	105	105	122
L—Flue Gas Outlet—Length ...Inches	24	30	30	30	38	38
M— —Width ....Inches	7	8	8	8	8	8
N— —Location ..Inches	5½	6	6	6	7½	7½
O— —Height ...Inches	44¼	50	50	50	54½	54½
P--Clearance Beneath Shell ...Inches	12	13¼	13¼	13¼	13	13
Q—Legs Location ....Inches	38½	39½	43	61	60	77
R—Skids Location ....Inches	37½	42	42	42	45	45
S—CL Front Leg to Front Head ..Inches	9	9	15	18	18¼	18¼
Heating Surface ....Sq. Ft.	60	99	150	200	250	300
Furnace Volume ....Cu. Ft.	15.5	24.1	29.4	34.6	47.3	53.1
Steam Supply Size ....Inches	2	2	2	2	2	3
Blow-off Size ....Inches	1¼	1¼	1¼	1¼	1¼	1¼
Safety Valve Boiler Opening Size .Inches	1	1½	2	2½	3	3
Draft Loss Thru Boiler Inches of Water	.04	.04	.07	.10	.10	.14
Combustion Gases at Smoke Outlet CFM at 600° F.	260	430	650	860	1080	1300
Breeching Diameter ....Inches	14	16	17	19	20	22
Steel Smoke Stack—Diameter ..Inches	12	14	15	17	18	20
*—Height ....Ft.	20	20	25	25	25	30
Outside Surface to Cover ....Sq. Ft.	57	67	90	111	125	145
Shipping Weight—On Skids with Regular Fixtures ....Lbs.	3500	4700	5600	6400	7800	9000

*For pressure atomizing oil burner or power gas burner.

EQUIPMENT—All Boilers mounted on skids; equipped with Handholes; Manhole in 30 and 36 hp sizes; Smokebox with Insulated Flue Doors; Refractory lined rear Combustion Chamber; Rear End Plate with cleanout door, ¾" Fusible Plug Socket Wrench; Flue Scraper with handle. Steel Furnace extension with coverplate and peephole.

TRIMMINGS—All Steam Boilers Cast-Iron Water Column with standard Gage Glass Valves, Gage Glass, Guards, three Try-cocks; Steam Gage, Syphon and Cock; Safety Valve, ¾" Penberthy Injector; Blow-off Valves. Piping and Fittings for attaching trimmings to boiler. No trimmings furnished with hot water boilers.

KEWANEE BOILER CORPORATION
Division of American Radiator & Standard Sanitary Corporation
KEWANEE, ILLINOIS

Catalog 99—30 M 9-51 SPC

Printed in U. S. A

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