

D-6-3 62-5 and 63-5, 34"x22", c. 40 drawings on linen, good condition, c. 1950's. Covers pilot and piping.

Cave # 2

VALUE ASSIGNED: \$10.00

D-6-9 64-5-4210 to 64-5-5130, 34"x22", c. 90 drawings on linen, fair condition, c. 1945-55. Covers piping arrangements, steam heat and toilets.

VALUE ASSIGNED: \$18.00

D-6-8 67-5-10 to 67-5-2500, 34"x22", c. 130 drawings on linen, fair to poor condition, c. 1950's. Covers radiators [water and oil], shutters, blowers, and air ducts.

VALUE ASSIGNED: \$26.00

D-6-7 67-5-2510 to 73, 34"x22", c. 190 drawings on linen, good to fair condition, c. 1941-60. Covers radiators, running boards, sand boxes, etc.

VALUE ASSIGNED: \$48.00

D-6-6 77-5 to 93-5, 34"x22", c. 75 drawings on linen, fair condition, c. 1944-55. Covers spring rigging, tanks, and tools.

VALUE ASSIGNED: \$15.00

D-6-12 95-5, 34"x22", c. 120 drawings on linen, fair to poor condition, c. 1940-60. Covers wheels, tires, axles.

VALUE ASSIGNED: \$24.00

D-6-11 97-5 to 99-5, 34"x22", c. 40 drawings on linen, fair to poor condition, c. 1945-60. Covers internal combustion engine, preliminary locomotive design and miscellaneous.

VALUE ASSIGNED: \$108.00

M-1-11 54-5 and 54-6 in 25 rolls used for B-H Co. business and not refiled in the flat drawing drawers listed above and below, 34"x22" and 32"x11", c. 60 tracings and drawings on linen, good condition, c. 1940-60. Covers lamps, wiring and number plates.

Cave # 12

VALUE ASSIGNED: \$15.00

M-1-15 43-5 and various, 34"x22", c. 50 tracings and drawings on
Cave # 12 linen, good condition, c. 1940-60. This group of unfiled
drawings includes six erecting elevations for mining
locomotive.

VALUE ASSIGNED: \$101.00

6 SIZE

B-5-15 3-6[F] to 98-6[F], 32"x11", c. 220 tracings and drawings on
Cave # 8 linen in two horizontal sections, fair to poor condition with
darkened pressure sensitive tape (PST), c. 1942 to 1950.
Covers electrical material lists, bumper deck plates, cabs,
tools, etc. This drawer covers many groups including those
devoted to steam locomotives.

VALUE ASSIGNED: \$55.00

7 SIZE

E-6-5to8 14-7 to 64-7 inclusive, 41 rolls 34" to 36" high and at
Cave # 17 various lengths in excess of 36". These rolls average three
drawings per roll and are in good condition despite some
brittleness in the linen. The drawings date from the 1950's.
The areas of concentration are: groups 20 to 23, brakes,
bumpers, cabs and cab details; groups 46 & 47, engine frames
and frame details; and group 64, piping arrangements, steam
heat and toilets.

VALUE ASSIGNED: \$90.00

E-5-2 48-7, 20 rolls 34" high and at various lengths in excess of
Cave # 19 36", one tracing per roll in good condition, c. 1950's. Covers
transmission, axle drive, auxiliaries, transmission main gear
case, etc.

VALUE ASSIGNED: \$10.00

M-1-12-14 Various groups, 74 rolls used by the B-H Co. and not filed,
Cave # 12 c. 90 drawings, good condition, c. 1940-60.

VALUE ASSIGNED: \$45.00

M-1-17-19 Various groups [mostly 19, 20, 40, and 54], 72 rolls used by
the B-H Co. and not filed, c. 90 drawings, good condition,
1940-1960. Drawer 18 contains a roll, 13"x35.5", good
" condition, with the layout of a 1600 HP diesel electric
locomotive.

VALUE ASSIGNED: \$50.00

*Bill's
boxes are
labeled
Serial # 5-16
= 6 skids*

NOTE: Most of the 7 size [and 6 size] tracings and drawings are stored in cardboard tubes 33 inches long and 1.75 inches in diameter [c. 3 to 5 per cent are 2 inches in diameter]. There are about 1760 tubes in the five skids sent to the Pennsylvania Historical and Museum Commission; the original count of tubes on the shelves E-1-1 to 8, E-1-1 to 7, and E-1-1 to 7 was c. 1780 but 20 empty tubes were discovered during packing.

The final count of the estimated number of 6 size and 7 size tracings and drawings stored in these tubes was arrived at in two ways. The first was through spot checks of the tubes themselves and counts were made (as well as condition noted). This informal examination resulted in an estimate of 3.5 tracings and/or drawings in each tube. The result: an estimated 6,160 drawings/tracings.

The second method was to count the drawings listed for 6 size and 7 size in the three "Drawing Directory" volumes described at the start of this section. In the fall of 1975 the appraiser, Robert Johnson, removed most of the contents of 64 groups mainly dealing with steam locomotives; he left untouched the remaining 29 groups -- mainly dealing with electric and diesel electric locomotives. [NOTE: two groups, 16 and 19, are shared; several groups, the balance of the 99 overall groups have no 6 and 7 sizes]. Johnson and his staff recorded in the "Drawing Directory" volumes exactly how many of the items described actually existed at the time of their removal. In this way it is possible to say that at least 90 per cent of the drawings listed -- less the unfiled rolls described immediately above -- were stored in the

*Is this
the stuff
Bill boxed
in brown
boxes
on
slats
245 to
1005 ?*

tubes. Thus, to get an approximate count of drawings available to be stored in the cardboard tubes, I have counted all the 6 size and 7 size drawings and or tracings listed, reduced this number by ten per cent, and subtracted those removed by the B-H Co. The result, an estimated 7,475 drawings/tracings.

The drawing/tracings in the tubes covered all 29 groups under consideration. The main areas of concentration are cabs (22), cab details (23), lamps, wiring & name plates (54), electrical control equipment (59), internal combustion engine (97) and preliminary locomotive design (98).

The reproduction costs of rolls must be given some consideration in establishing the value of this large body of data about the evolution of the diesel electric locomotive from WWII into the early 1960's. Normally each drawing was 34 to 36 inches "wide" and well over 34" "long." During the spot checks which revealed several over ten feet long an approximate average appeared to be between five and six feet.

Although the linen on which the drawings/tracings seemed brittle in many cases and ready to tear along the long axis, the condition overall was good. Any damage that did appear was along the edges with no loss of information.

VALUE ASSIGNED FOR THE DRAWINGS/TRACINGS STORED IN ROLLS IN THE CARDBOARD TUBES: \$6,452.00

Diesel Engine Drawings and Tracings

Running parallel to the two sets of locomotive drawings

described and appraised above were the drawings for the development of diesel engines for stationary power and for application to locomotives. From the mid-1920's to the mid-1930's the Baldwin Locomotive Works' first ventures into diesel and oil engine electric locomotives required that the engines be purchased outside the firm. The first locomotive in 1925 used a Knudsen Motor Corporation 1000 HP 12 cylinder diesel engine to power the Westinghouse generator and four electric motors. The second diesel, operational in 1929, used a Krupp 1000 HP 6 cylinder engine.

In 1931 the Baldwin Locomotive Works added the De La Vergne Engine [formerly Machine] Company to its corporate mix and thus had available the experience of America's oldest diesel engine company. This new subsidiary brought a full line of horizontal and vertical stationary engines of varying sizes and continued their development. The De La Vergne engineers started almost immediately to adapt some of their smaller diesel engines for locomotives -- first a hydraulic industrial vehicle for yard work but later for diesel electric use. The power to weight ratio was crucial because of the limited space under a locomotive hood to place the engine and the generator. The result of development was the series 60, VO engine in 1935. This unit either with six or eight cylinders continued to power Baldwin locomotives until 1945 when an improved version, the 600 series was introduced. Three years later an improved version of stationary engine, the 700 series, was put into production. In 1949, under new management the Baldwin engineering

department abandoned its traditional research and made an abortive attempt to develop an opposed piston, diesel engine based on WWII German aircraft technology. This project was also abandoned when the Baldwin-Lima-Hamilton Corporation decided to get out of the diesel electric locomotive business in the mid-1950's.

Addenda "Baldwin Diesel Engine Serial No.", c. 250 pages, post binder, (blue, Allen-Sherman-Hoff), 8.5"x11", spirit process. Starts with serial number 1473, 10-16-1930 and ends with ser.# 7113, 6-1964. Data given includes: serial no., sales order number, model, bore & stroke, B.H.P, R.P.M., date shipped, and customer. This book deals both with stationary and locomotive engines.

9.

This record shows the first VO model shipped on 7-18-35 to be used by the Baldwin Locomotive Works for locomotive development. Also this volume shows the first commercial use of the VO 8 cylinder model on locomotives in the sale to the New Orleans Public Belt Railroad, 1-18-37. The book is a continuation of the De La Vergne Machine Company developments in diesel engines as absorbed into the Baldwin Locomotive Works.

VALUE ASSIGNED: \$50.00

Series 60 or VO Engine

Addenda Drawing Directory, "60-01 to 60-91-", post binder, (blue, Allen-Sherman-Hoff), 8.5"x11", spirit process, c. 500 pages each, soiled and worn on edges, but overall good condition. Information typed on printed forms which include the following data: drawing no., part no. [normally the same as the latter], size drawing, description, record, and remarks [normally the sales no.].

7.

This volume was essential to finding the drawings for the draftsmen at the Baldwin Locomotive Works. The first two digits gave the model series number 60 which could appear as 66 or 68 to reflect the number of cylinders in the engine. Within the 91 groups (classes) there were two distinct kinds of drawings: assembly and details.

Within these two categories the drawings were identified in absolute numerical order, e.g., assembly, 66-02-001 to 66-02-0161; details, 66-02-101 to 60-02-756. The main point, however, is that the drawing size was given with the number; drawings were stored by size, group, and number. Thus below the drawings are organized by size, and within size by group number.

VALUE ASSIGNED: \$75.00

14 SIZE

Case # 18
E-5-17 60-01-014 to 68-91-001, 14"x8.5", c. 1270 drawings on linen in six sections intermixed with a large amount of b/p material, poor condition, c. 1935 to 1943. Covers details of bed plate, crankshaft, frame, cylinder & liner, piston, cylinder head, exhaust & inlet valves, governor, and the other 83 groups for which assembly and detail drawings were made. During this period of time the drawings' identity goes from Baldwin-Southwark to Baldwin Locomotive Works.

VALUE ASSIGNED: \$120.00

Case # 9
M-4-17 60-01-014 to 60-16-245, 14"x8.5", c. 1095 drawings on linen in four sections, fair condition, c. 1930's to 1950's. Covers details on the following groups among others: bed plate, crankshaft, frame, cylinder & liner, connecting rod, piston, cylinder head, and exhaust & inlet valves.

VALUE ASSIGNED: \$274.00

Case # 8
B-5-10 60-2 to 60-51, 14"x8.5", c. 295 drawings on linen in one of two sections, fair condition, c. 1930's and 1940's. Covers bed plate to overspeed stop, but this group of drawings is mixed up as if waiting to be refiled.

VALUE ASSIGNED: \$59.00

Case # 9
M-4-18 60-17-010 to 60-28-459, 14"x8.5", c. 925 drawings on linen in four sections, fair condition, c. 1930's to 1950's. Covers details on the following groups among others: air starting valve, fuel filter, engine lube piping, lube oil filter, operating platform, and engine driven water pump.

VALUE ASSIGNED: \$185.00

M-4-19 60-29-045 to 60-90-125, 14"x8.5", c.805 drawings on linen in four sections, fair condition, 1930's to 1950's. Covers details in the following groups among others: gauges and gauge board, gas header, generator, exciter, governor, engine water piping, paint, starting motor, radiator, alarm system, cooling tower, mufflers, and barring device.

Case # 9

VALUE ASSIGNED: \$161.00

24 SIZE

M-4-3 60-01 to 60-03, 24"x 18", c. 95 drawings on linen, poor condition, c. 1930's-40's. Covers general assembly, bed plate and crankshaft.

Case # 10

VALUE ASSIGNED: \$24.00

M-4-4 60-04 to 60-06, 24"x18", c. 120 drawings on linen, poor condition, c. 1940's. Covers frame, cylinder & liner, and chain drive.

Case # 11

VALUE ASSIGNED: \$30.00

M-4-5 60-07 to 60-14, 24"x18", c. 90 drawings on linen, poor condition, c. 1940's. Covers connecting rod, piston, chain drive casing, pump shaft, camshaft casing, and cylinder head.

VALUE ASSIGNED: \$24.00

M-4-6&7 60-15 to 60-25, 24"x18", c. 180 drawings on linen, poor condition, c. 1940's. Covers exhaust & inlet valves, cylinder head assembly, fuel injection pump, engine fuel oil piping and engine lubrication piping.

Case # 12

VALUE ASSIGNED: \$36.00

M-4-8&9 60-26 to 60-42, 24"x18", c. 195 drawings on linen, poor condition, c. 1940's. Covers engine starting air piping, operating platform, water pump, gauge board & gauges, reversing mechanism, mixing valve assembly, generator, exciter, fly wheel, and governor.

VALUE ASSIGNED: \$39.00

M-4-10 60-43 to 60-91, 24"x18", c. 122 drawings on linen, poor condition, c. 1940's. Covers among others: platform, engine water piping, overspeed stop, flexible coupling, air compressor, starting motor supercharger arrangement, alarm system, air tanks, heat exchanger, exhaust and air intake mufflers, and railing.

Case # 13

VALUE ASSIGNED: \$31.00

30 & 41 SIZE

Cave # 18
D-5-2 60-01 to 60-04, 34" high and various lengths, 29 rolls, drawings on linen c. one per roll, good to fair condition, c. 1945 to 1965. Covers general assembly, bed plate, crankshaft, and frame. These drawings are for lefthand and righthand six and eight cylinder marine engines.

VALUE ASSIGNED: \$20.00

D-5-4&5 60-07 "and up," 34" high and varying lengths, 55 rolls with one drawing on linen each, fair to poor condition, c. 1940's to 1960's. Mostly covers piping of all sorts.

VALUE ASSIGNED: \$11.00

D-5-12 68-01 to 60-07, 41"x30", c. 120 drawings on linen, poor to fair condition, c. 1940's. Covers general assembly, bed plate, crankshaft, frame, cylinder & liner, chain drive, and connecting rod.

VALUE ASSIGNED: \$24.00

D-5-14&15 60-01 to 60-51, 41"x30", c. 280 drawings on linen, poor condition, c. 1930's to 1950's. Covers among other groups: general assembly, bed plate, crankshaft, frame, cylinder, cylinder head engine lube piping, gauges, governor, engine water piping, and overspeed stop.

NOTE: stored in drawer 14 are seven printed drawings with part numbers, 29"x17", in good condition though paper brittle with some light soiling, "Four Coupled Tank Locomotive for Contractors' Service," giving front, back, side elevations and top view.

ALSO: 2 eight-wheel tender elevation printed drawings with part numbers in Spanish, 23.5"x14.5", good to fair condition though brittle paper with slight tears on edges; and 2 printed drawings of a six-wheel tender, 23.5"x14", good to fair condition though brittle paper with slight tears on edges, side and end views.

VALUE ASSIGNED: \$226.00

Cave # 5
E-10-3&5 60-01 to 60-91, 30"x24", c. 560 drawings on linen, poor, worn condition, "Record", c. 1930's to 1940's. Emphasis on the lower group numbers.

VALUE ASSIGNED: \$84.00

E-11-5&6 64-01, 41"x34", c. 44 tracings on linen, poor condition, c. 1936. General arrangement for a VO diesel engine, 12.5"x15.5" stationary. Southwark Diesel Division.
Covers 4

VALUE ASSIGNED: \$44.00

E-11-7to 66-01, 44"x34", c. 180 tracings on linen, poor condition, c. 1940 to 1944. Covers general arrangement for both six and eight cylinder VO diesel stationary and marine engines.
10
"

VALUE ASSIGNED: \$135.00

E-11-11 60-28-094 to 60-90-119, c. 90 tracings on linen, poor condition, c. 1941-2. Covers from water pump assembly to miscellaneous items for a VO six cylinder diesel engine.
"

VALUE ASSIGNED: \$68.00

600 Series Diesel Engine

NOTE: The 600 series engine was an improvement on the 60 Series VO model especially in the area of turbocharging for more brake horsepower per pound. The drawings and tracings for this new diesel engine were organized in groups similar to the past but the directory for the drawings reflects two departures from the past. About 38 of the older groups were not used due to consolidation under categories and the fact that the Series 600 was overwhelmingly a locomotive engine. Ten groups in the old system started with the word "plant" to indicate stationary engine status. The second difference from the old system was the greater reliance on outside vendors for fuel injectors, fans, pumps, turbochargers, and other standard parts; they were made better and cheaper than Baldwin's earlier versions. There are two "size" designations for the Series 600 tracings and drawings -- one from the past up to 1951 and one instituted by the B-L-H Corp. after that date.