



BHC-MSS 0062

Guide to the Records of Bullard Machine Tool Company

By Meg Rinn

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Descriptive Summary

Creator: Bullard Machine Tool Company

Title: Records of Bullard Machine Tool Company

Dates: 1906-1982 [Bulk 1920s-1960s]

Quantity: 66 manuscript boxes, 27.5 linear feet

Abstract: Founded in 1894 by Edward Payson Bullard Senior, the Bullard Machine Tool Company was a massive industrial player in Bridgeport, Connecticut. Creating large tools to fabricate metal parts, the company was a powerhouse for much of the early to mid 20th century. Within the collection are photographs of their major products, guides, and corporate material.

Language: English

Repository: Bridgeport History Center

Administrative History

Founded in 1894 by Edward Payson Bullard Senior, the Bullard Machine Tool Company was a massive industrial player in Bridgeport, Connecticut. The company's primary product of machine tools are understood as machines made to work on rigid material, such as metal, in order to create parts. Mechanical objects such as cars and aeroplanes usually have constituent parts that are made on machine tools. In addition, machine tools create the same part over and over again, allowing for consistency in the part itself.

During Bullard Sr.'s tenure in charge of the company, refined boring machines (meant to drill holes in metal to exacting accuracy) so that they could be used on a wider scale. This spirit of innovation continued when Edward Payson Bullard Jr. took over the company after his father's passing in 1906. Under his tenure, the company invented the vertical turret lathe (an upright machine meant to rotate a piece on a specific rotation axis for various operations such as sanding, drilling, etc.) and the Mult-au-matic (a spindle machine with an automatic cutting process.) The Mult-au-matic in particular became very popular among automotive makers, and this is reflected in series 4 of the collection which highlights who was using Bullard machines and what they were making with them.

Bullard remained an incredibly popular brand through the mid-20th century. It's major products included the Mult-au-matic, boring machines, the Maxi-mill, vertical turret lathes, hobbers, the Dynatrol, grinders, and others.

Sometime in the late 1960s, White Consolidated took over control of the Bullard Machine Tool Company. The Bridgeport plant closed in the 1980s. However, Bullard machines continue to be used and sold second hand, with Bourn & Koch providing service and parts for Bullard machines. Their website likewise [suggests that they have a large amount of records](#) relating to Bullard machines themselves.

Scope and Content note

The vast majority of the collection features photographs of Bullard company tools from the 1920s-1930s being used by major industrial manufacturers such as Buick, Ford, and Westinghouse. News releases and corporate documents are not extensive, and focus primarily on the 1950s-1960s. Within the advertising section is a sub-series concerning Bullard's presence at various trade shows. Those seeking exacting information about specific Bullard machines including instruction manuals and the like should consider contacting Bourn & Koch (see above.)

Arrangement note:

Series 1 contains corporate oriented material, such as annual reports, financial reports, and letters stock holders, providing insight into the company's mid-century workings. The second series, Bullard history, contains three books written from 1953-1955 about Bullard's history.

Series 3, product information, reflects some original order based on existing file tabs that were kept in the collection. Sub-series A, "General Company," contain overall company information and ephemera including foundry tour brochures, analysis, and some ads. There are also two copies of the company's engineering standard practices manuals from 1964. Sub-series B relates to grinders, sub-series C collects hobbors, sub-series D focuses on lathes, sub-series E focuses on vertical chucking machines, sub-series F collates verticale machines, and sub-series G serves to mark the unidentified material.

Series 4, Product photographs, is the largest series in the collection. This is because these photographs were treated at an item level, and reproduce the codes used to organize the photographs by what was likely the advertising department, as per provenance notes. The photographs focus primarily on machines from the 1920s-1930s, although most images are not assigned dates. These photographs identify the Bullard machine used, the client (such as Buick, Ford, Westinghouse etc.), and the part that was made. Some show machines in action, some show set-ups, and others show only the product. The description on many of these images are long, and when needed "[...]" has been used to indicate that there is additional information.

The codes used by the department seem to indicate the following:

- A indicates an image of the Mult-au-matic or like machine
- D indicates an image of a boring machine
- M indicates an image of a Maxi-mill or like milling machine
- V indicates an image of a vertical turret lathe
- W and X do not indicate specific machines. Many W and X photographs do not have any descriptive information with them, in sharp contrast to A, D, M and V images.

The fifth series reflects extremely specific advertising department files. Sub-series A focuses on news releases, sub-series B contains advertising manager letter files, clippings comprise sub-series C, and sub-series D contains subject files. Sub-series E focuses on Bullard's presence at trade shows, and sub-series F contains different plaques and emblems. The final sub-series, G, contains material that was otherwise not organized at the time the rest of the collection was processed.

Series 6 contains duplicate annual reports.

Administrative information

Provenance: Acquired by David Palmquist in 1985. Through discussions with David Bullard, the last family member involved with the company, Palmquist was granted access to the Bullard plant. It had been closed, and material was taken from the lower level of the office building. According to Mr. Palmquist's best guess, the material came mostly from the advertising department. There was

no original order to the material. Selection occurred on-site. Material was lightly processed and re-folded at some point in time.

Preferred Citation:

Records of Bullard Machine Tool Company. (BHC-MSS 0062), Bridgeport History Center, Bridgeport Public Library.

See also

Bullard Company Records (Ms B41), Fairfield Museum and History Center Library.

Names and Subject Tracings

Personal names

Bullard, Edward P. Senior, 1841-1906

Bullard, Edward P. Junior, 1872-1953

Corporate names

Buick Motor Company

Bullard Machine Tool Company

Ford Motor Company

General Electric Company.

General Motors Corporation. Chevrolet Motor Division

Westinghouse Electric & Manufacturing Company.

Wright Aeronautical Corporation

Subject tracings

Lathes

Machine-tools

Machine-tool industry

Machine-tool industry--United States

Spindles (Machine-tools)

Detailed box/folder listing

Series 1, Corporate

Box 1

1. Annual meeting notice, 1956-1957
2. Annual meeting notice, 1959
3. Annual meeting notice, 1961
4. Annual meeting notice, 1963
5. Annual meeting notice, 1964
6. Annual meeting notice, 1965
7. Annual meeting notice, 1966
8. Annual meeting notice, 1967
9. Annual report, 1953
10. Annual report, 1954
11. Annual report, 1955
12. Annual report, 1956
13. Annual report, 1957
14. Annual report, 1958
15. Annual report, 1959
16. Annual report, 1960

17. Annual report, 1961
18. Annual report, 1962
19. Annual report, 1964
20. Annual report, 1965
21. Annual report, 1966
22. Annual reports, White Consolidated Industries, 1968
23. Annual reports, White Consolidated Industries, 1970
24. Annual reports, White Consolidated Industries, 1973
25. Annual reports, White Consolidated Industries, 1974
26. Annual reports, White Consolidated Industries, 1975
27. Dividend notices, 1956-1957
28. Dividend payments, 1956
29. Financial report quarters, 1956-1957
30. Financial report quarters, 1958-1959
31. Financial report, third quarter 1964
32. Financial report, intrim, 1, 2, 4 quarters, 1966
33. Financial report, interim, 2-4th quarters, 1967
34. Letter to employees, 4th quarter report, Januay 19, 1961
35. Letters to stockholders, January 31, 1956-June 14, 1957
36. Letters to stockholders, 1960 results, January 19, 1961
37. Letters to stockholders, 1961 results, January 23, 1962
38. Letters to stockholders, regarding resumption of payment of dividends, June 25, 1964
39. Letter to stockholders, February 3, 1965
40. Prospectus of 121,400 consumer shares, July 7, 1954
41. Proxy, 1959
42. Sales, earnings, dividends by year chart, 1952-1957

Series 2 – Bullard history

Box 2

1. The Bullard Story by John Sargent, 1953
2. Yankee toolmaker, 1955 [pamphlet of company history plus 1 edition bound copy]
3. 75th anniversary events, April 1955

Series 3, Product information

Sub-series A, General company

4. Buy Bullard reply card, undated
5. Sound problem borchure, May 1974
6. Introduction to equipment analysis booklet, May 1956
7. History, “Capsule of Bullard Histpry” 1880-1963
8. Death announcement of Wilfred Thompson, December 2, 1961
9. Bullard Company Foundry brochure, 1956
10. “Good Tooling” reprint, April 1953
11. Replacement parts brochure, undated
12. Tape control, numerical brochure, undated
13. Machine tools brochures 1980-1982
14. “Technology America” contains Bullard ad, 1981
15. Welcom to Bullard brochures, 1961
16. This is the Bullard Co. brochures, undated

Box 3

1. Engineering standard practices revised edition, April 1964

2. Engineering standard practices revised edition, April 1964

Box 4

1. Manufacturing shells the Bullard way, 1940s
2. Standard materials specifications, 1959
3. Oil cooler unit, operator's manuals, 1956-1958
4. Award certificates, blank, undated
5. Horizontal boring machine photographs, undated
6. Horizontal boring machine photographs, undated
7. Horizontal boring machine photographs, undated

Box 5

1. Contour Turning report, December 10, 1951
2. Conveyor brochure, undated
3. Conveyor - competitor's brochures, undated
4. Dynatrol variable speed feed bracket, undated
5. Horizontal boring, milling, and drilling machine operations manual, undated
6. "Iron Age" report NC Systems, Marc 2, 1981
7. Man-automated spacers brochures, 1947
8. Reamer, 1948
9. Service parts brochure, May 1977
10. Speed drives, variable, 1960
11. Spindle continuous-matic photographs, undated
12. Spindle continuous-matic photographs, undated
13. Templa-turn system brochure and envelope, undated
14. Three jaw chuck insert page, 1954
15. Trans-automated loading and unloading system brochure, 1974
16. "Truck and Off Highway" reprint, Templa-Turn template system, 1979
17. Vertical boring and turning mill 180 degrees, undated
18. Control and data systems LM and MM Swinc operators manual, 1982

Box 6

1. Control and data systems LM and MM Swinc maintenance manual, 1982
2. Control and data systems brochure, 1982

Sub-series B, Grinders

3. Grinders Frauenthal division, 1960
4. Grinder brochures, 1970s
5. Grinders, operator's manual, November 1973
6. Grinders, photographs, undated
7. Grinders, vertical chucking spec-sheet, undated
8. Grinders, misc, 1960

Sub-series C, Hobber

9. Hobber photos, undated
10. Hobber circulars, 1982-1983

Box 7

Sub-series D, Lathes

1. Hydra-feed lathe instruction book, undated
2. Hydra-feed tracer lathe photographs, undated
3. Hydra-feed tracer lathe photographs, undated

4. Sub-series - Tool block changer

5. American Machinist reprint, tool block changer, October 1977
6. Dyn-au-tape specifications and comparisons to competitors, 1979
7. Dyna-au-tape IV tool block changer for vertical lathe brochures, 1978
8. Rock bit arm brochure - draft, layout, and photos, 1975
9. Rock bit port photo negative

Sub-series E, Vertical chucking machine

10. Mult-au-matic set-up and parts list, undated
11. Mult-au-matic parts book, undated
12. Mult-au-matic Spindle, Type L photographs, undated
13. Mult-au-matic Spindle, Type L photographs, undated
14. Mult-au-matic vertical chucking machine manual, 1957

Box 8

1. "Production" reprint, NC vertical chucker, 1977
2. Mult-au-matic vertical chucking machine, type I, brochure, 1973
3. Aku-Turn spindle for vertical chucking machine brochure, undated
4. Mult-au-matic technical sales guide, undated
5. Mult-au-matic brochures, 1978
6. Mult-au-matic vertical chucking machine operator's manual, undated
7. Templa-turn vertical chucking machine service manual, undated
8. Templa-turn vertical chucking machine brochures, undated
9. Aku-tape vertical chucking machine, undated
10. Vertical chucking machine brochures, 1974-1979

Box 9

Sub-series F, Vertical machine

1. Dyna-au-turn vertical machine technical manual, 1st edition
2. Sub-series- Vertical turret lathe
3. Vertical turret lathe, Dyn-Au-Tape IV tool block changer, undated
4. Dynatrol vertical turret lathe misc. Undated
5. Palletizer vertical turret lathe brochure, 1979
6. Vertical turret lathes, spiral drive type, brochure, undated
7. Dynatrol vertical turret lathe preventive maintenance manual, preliminary copy, 1972
8. Cut master vertical turret lathe service manual, undated
9. Cut master vertical turret lathe operator's manual, undated
10. Vertical turret lathe (cut master) photographs, undated

Box 10

1. Vertical turret lathe (Man-au-trol) photographs, undated
2. Vertical turret lathe spiral drive type operator's manual, 1962
3. "Railroad Shop Practice" with the cut master vertical turret lathe and brochure, 1952
4. "Tooling and production" reprint, Vertical turret lathes, November 1977
5. "American Machinist" reprint, NC vertical turret lathe, April 1977
6. "Tooling and production" reprint, Vertical turret lathes, November 1977
7. Carb-o-lock tool holders for vertical lathes, undated
8. Sub-series -Vertical machine
9. Dyna-au-turn vertical machine technical manual, 1st edition
10. Dynatrol vertical turret lathe brochures, 1974-1979
11. NC Vertical lathe brochures, 1979

12. Dyn-au-turn vertical lathe brochure, 1980
13. Cut master Vertical Turret Lathe model 75 service and operator's manuals, c. 1959?
14. Cut master vertical turret lathe preventive service manual, 1959
15. Sub-series - Unidentified
16. Cards not matched to pictures, undated

Box 11

1. Machinery- various proof sheets and negatives
2. Spindle drive photograph
3. Unidentified photographs
4. Unidentified photographs
5. Unidentified photographs

Series 4, - Product photographs

6. Empty folders, A series
7. AW 1001, third station morse chain company sprocket blank showing special tool holder block
8. AW 1002, Continental flywheel 14.2 inch OD first setting, general view
9. AW 1003, Continental flywheel 14.2 inch OD first setting, loading station fixture down
10. AW 1004, Continental flywheel 14.2 inch OD first setting, loading station without piece, fixture up
11. AW 1005, Continental flywheel 14.2 inch OD first chucking loading station, fixture down without piece
12. AW 1006, Continental flywheel 14.2 inch OD first chucking loading station, with piece in chuck, fixture up
13. AW 1007, Continental flywheel 14.2 inch OD second chucking, general view
14. AW 1008, Continental flywheel 14.2 inch OD second chucking, special 3 point holding fixture close up
15. AW 1009, Continental flywheel 14.2 inch OD first chucking loading station, double exposure, two positions of load showing
16. AW 1010, Ford piston turning and grooving, typical station picture showing special tool block
17. AW 1011, Mult-au-matic product, General Electric, Schenectady, motor bearing
18. AW 1012, Mult-au-matic product, Dodge Brothers, break spider
19. AW 1013, Mult-au-matic product, Morse Chain Company, sprocket blanks
20. AM 1014, 12 inch Mult-au-matic, Wash drawing copy
21. AU 1015, Lock pin setting operation indicators on buttons, old 14 inch Mult-au-matic carrier
22. AU 1016, Lock pin setting operation wrench on lock pin clamp, old 14 inch Mult-au-matic carrier
23. AW 1017, Adam's axle pinion housing, stations 1 and 2
24. AW 1018, Adam's axle pinion housing, stations 3 and 4
25. AW 1019, Adam's axle pinion housing, stations 4 and 5
26. AW 1020, Adam's axle pinion housing, station 6
27. AW 1021, Tinker roller bearing ring 454
28. AW 1022, Ford rear hub
29. AW 1023, Houde shock absorber body
30. AW 1024, Mult-au-matic product, Westinghouse Air Break Company, 9 5/8 inch diameter steam piston
31. AW 1025, Mult-au-matic product, Westinghouse Air Break Company, 9 1/4 inch diameter steam piston

32. AW 1026, Mult-au-matic product, Westinghouse Electric Company, 6 3/32 inch and 4 9/16 inch diameter generator frame
33. AW 1027, Station picture, Dodge rear hub #1, second chucking
34. AW 1028, Station picture, Dodge rear hub #2, second chucking
35. AW 1029, Station picture, Dodge rear hub #3, second chucking
36. AW 1030, Station picture, Dodge rear hub #4, second chucking
37. AW 1031, Station picture, Dodge rear hub #5, second chucking

Box 12

1. AW 1032, Station picture, Dodge rear hub #6, second chucking
2. AW 1033, Station picture, Dodge rear hub #1, first chucking
3. AW 1034, Station picture, Dodge rear hub #2, first chucking
4. AW 1035, Station picture, Dodge rear hub #3, first chucking
5. AW 1036, Station picture, Dodge rear hub #4, first chucking
6. AW 1037, Station picture, Dodge rear hub #5, first chucking
7. AW 1038, Station picture, Dodge rear hub #6, first chucking
8. AW 1039, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #1
9. AW 1040, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #2
10. AW 1041, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #3
11. AW 1042, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #4
12. AW 1043, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #5
13. AW 1044, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #6
14. AW 1045, Station picture, Willye-Morrow Transmission sliding gear, first and reverse 3 15/16 inch diameter, part number 304873 #1
15. AW 1046, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #2
16. AW 1047, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #3
17. AW 1048, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #4
18. AW 1049, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #5
19. AW 1050, Station picture, Willye-Morrow Transmission sliding gear, direct and second pt. No. 304872 - 3 5/64 in diameter #6
20. AW 1051, Willye-Morrow transmission gears loading and stripping device at station 1
21. AW 1052, Willye-Morrow transmission gears arrangement of parting tools
22. AW 1053, Station picture, Ford Motor Company, spherical turning head
23. AW 1054, 12 inch Mult-au-matic at Clark Equipment Company set up, first chucking, rear hub job
24. AW 1055, 12 inch Mult-au-matic at Clark Equipment Company set up, first chucking, rear hub job, cutting compound running
25. AW 1056 Two 12 inch Mult-au-matic at Clark Equipment Company
26. AW 1057 Rear hub forging and hub bearing made on 12 inch Mult-au-matic at Clark Equipment Company

27. AW 1058, Mult-au-matic product, miscellaneous group
28. AW 1059, Station picture, Chevrolet Axle Gear Housing #1
29. AU and AW 1060, Station picture, Chevrolet Axle Gear Housing #2
30. AW 1061, Station picture, Chevrolet Axle Gear Housing #3
31. AW 1062, Station picture, Chevrolet Axle Gear Housing #4
32. AW 1063, Station picture, Chevrolet Axle Gear Housing #5
33. AW 1064, Station picture, Chevrolet Axle Gear Housing #6
34. AW 1065, Gray and Davis American Bosch Short Body, station 1
35. AW 1066, Gray and Davis American Bosch Short Body, station 2
36. AW 1067, Gray and Davis American Bosch Short Body, station 3
37. AW 1068, Gray and Davis American Bosch Short Body, station 4
38. AW 1069, Gray and Davis American Bosch Short Body, station 5
39. AW 1070, Gray and Davis American Bosch Short Body, station 6
40. AW 1071, Willye-Morrow universal ball joint socket, first chucking, loading stations
41. AW 1072, Willye-Morrow universal ball joint socket, first chucking, general view of loading stations
42. AW 1073, Willye-Morrow universal ball joint socket, first chucking, typical third and fourth stations
43. AW 1074, Willye-Morrow universal ball joint socket, first chucking, typical fifth and sixth stations
44. AW 1075, Willye-Morrow universal ball joint socket, second chucking, general view of loading stations
45. AW 1076, Willye-Morrow universal ball joint socket, second chucking, typical third and fourth stations
46. AW 1077, Willye-Morrow universal ball joint socket, second chucking, typical fifth and sixth stations
47. AW 1078, Westinghouse air break 3-way valve body, first chucking, station 1
48. AW 1079, Westinghouse air break 3-way valve body, first chucking, station 2
49. AW 1080, Westinghouse air break 3-way valve body, first chucking, station 3
50. AW 1081, Westinghouse air break 3-way valve body, first chucking, station 4
51. AW 1082, Westinghouse air break 3-way valve body, first chucking, station 5
52. AW 1083, Westinghouse air break 3-way valve body, first chucking, station 6
53. AW 1084, Westinghouse air break 3-way valve body, second chucking, station 1
54. AW 1085, Westinghouse air break 3-way valve body, second chucking, station 2
55. AW 1086, Westinghouse air break 3-way valve body, second chucking, station 3
56. AW 1087, Westinghouse air break 3-way valve body, second chucking, station 4
57. AW 1088, Westinghouse air break 3-way valve body, second chucking, station 5
58. AW 1089, Westinghouse air break 3-way valve body, second chucking, station 6
59. AW 1090, Westinghouse air break 3-way valve body, third chucking, station 1

Box 13

1. AW 1091, Westinghouse air break 3-way valve body, third chucking, station 2
2. AW 1092, Westinghouse air break 3-way valve body, third chucking, station 3
3. AW 1093, Westinghouse air break 3-way valve body, third chucking, station 4
4. AW 1094, Westinghouse air break 3-way valve body, third chucking, station 5
5. AW 1095, Westinghouse air break 3-way valve body, third chucking, station 6
6. AW 1096, Standard 8 inch spindle unit assembled
7. AW 1097, Chevrolet gear housing rough and finished
8. AW 1098, Copy of General Electric, Schenectady, 8 inch Mult-au-matic on motor rings
9. AW 1099, typical Mult-au-matic station

10. AW 1100, Motor drive for Mult-au-matic
11. Aw 1101, Group of timing gear blanks, Mult-au-matic work
12. AM 1102, Standard Ford type Mult-au-matic
13. AU 1103, Indexing mechanism, suspended by AC 1892
14. AU 1104, Mult-au-matic shipping instructions, superseded by AC-1891
15. AW 1105, Willys-Morrow transmission gear, latest method, station 1
16. AW 1106, Willys-Morrow transmission gear, latest method, station 2
17. AW 1107, Willys-Morrow transmission gear, latest method, station 3
18. AW 1108, Willys-Morrow transmission gear, latest method, station 4
19. AW 1109, Willys-Morrow transmission gear, latest method, station 5
20. AW 1110, Willys-Morrow transmission gear, latest method, station 6
21. AW 1111, Westinghouse air break 14 $\frac{3}{4}$ inch piston, Full view, 16 inch Mult-au-matic, first chucking
22. AW 1112, Westinghouse air break 14 $\frac{3}{4}$ inch piston, first chucking, station 1
23. AW 1113, Westinghouse air break 14 $\frac{3}{4}$ inch piston, first chucking, station 2
24. AW 1114, Westinghouse air break 14 $\frac{3}{4}$ inch piston, first chucking, station 3
25. AW 1115, Westinghouse air break 14 $\frac{3}{4}$ inch piston, first chucking, station 4
26. AW 1116, Westinghouse air break 14 $\frac{3}{4}$ inch piston, first chucking, station 5
27. AW 1117, Westinghouse air break 14 $\frac{3}{4}$ inch piston, first chucking, station 6
28. AW 1118, 12 inch Mult-au-matic, Sullivan Machinery Company, ratchet sprocket blank, second chucking
29. AW 1119, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39665, first chucking, station 1
30. AW 1120, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39665, first chucking, station 2
31. AW 1121, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39665, first chucking, station 3
32. AW 1122, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39665, first chucking, station 4
33. AW 1123, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39665, first chucking, station 5
34. AW 1124, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39665, first chucking, station 6
35. AW 1125, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39667, second chucking, station 1
36. AW 1126, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39667, second chucking, station 2
37. AW 1127, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39667, second chucking, station 3
38. AW 1128, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39667, second chucking, station 4
39. AW 1129, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39667, second chucking, station 5
40. AW 1130, Westinghouse air break 16 inch Mult-au-matic 14 $\frac{1}{4}$ inch piston #39667, second chucking, station 6
41. AW 1131, Series of small station pictures of Chevrolet gear housing, 8 inch Mult-au-matic
42. AW 1132, Sullivan Machinery Company 12 inch Mult-au-matic drive sprocket, second chucking
43. AW 1133, Budd wheel hub, first chucking, station 1
44. AW 1134, Budd wheel hub, first chucking, stations 2 and 3

45. AW 1135, Budd wheel hub, first chucking, stations 4 and 5
46. AW 1136, Budd wheel hub, first chucking, station 6
47. AW 1137, Budd wheel hub, second chucking, station 1
48. AW 1138, Budd wheel hub, second chucking, stations 2 and 3
49. AW 1139, Budd wheel hub, second chucking, station 4
50. AW 1140, Budd wheel hub, second chucking, station 5
51. AW 1141, Budd wheel hub, second chucking, station 6
52. AW 1142, Group of Willye-Morrow transmission gear forgings, rough and finish
53. AW 1143, Mult-au-matic installation continental 14 ¼ inch flywheels
54. AW 1144, Mult-au-matic installation continental 14 ¼ inch flywheels

Box 14

1. AW 1145, Mult-au-matic installation continental 14 ¼ inch flywheels
2. AW 1146, Mult-au-matic installation continental 14 ¼ inch flywheels
3. AW 1147, Mult-au-matic installation continental 14 ¼ inch flywheels
4. AW 1148, Dodge ring gear, Mult-au-matic double index, two chuckings from loading station
5. AW 1149, Dodge ring gear, Mult-au-matic double index, two chuckings, stations 3 and 4
6. AW 1150, Dodge ring gear, Mult-au-matic double index, two chuckings, stations 5 and 6
7. AW 1151, Buick differential housing, 16 inch high bed Mult-au-matic, first chucking, stations, 2, 3, and 4
8. AW 1152, Buick differential housing, 16 inch high bed Mult-au-matic, first chucking, stations 5 and 6
9. AW 1153, Spherical turning station close-up of Buick universal ball joint machine
10. AW 1154, Buick universal ball joint housing and retainer spherical boring machine, stations 4 and 5
11. AW 1155, General Electric, Bridgeport, Mult-au-matic on motor end shields sent in print
12. AW 1156, Westinghouse air break 16 inch Mult-au-matic duplex for front cylinder head, flat and back cylinder head extended type
13. AW 1157, Wiley-Morrow transmission gears, two sizes, rough and finish
14. AW 1158, Westinghouse air break 16 inch Mult-au-matic duplex station 6 for plain head
15. AW 1159, Westinghouse air break 16 inch Mult-au-matic duplex station 5 for extended head
16. AW 1160, Westinghouse air break 16 inch Mult-au-matic duplex station 4 for plain head
17. AW 1161, Westinghouse air break 16 inch Mult-au-matic duplex station 6 for extended head
18. AW 1162, Willye-Morrow transmission case, first chucking, station 1
19. AW 1163, Willye-Morrow transmission case, first chucking, station 2
20. AW 1164, Willye-Morrow transmission case, first chucking, station 3
21. AW 1165, Willye-Morrow transmission case, first chucking, station 4
22. AW 1166, Willye-Morrow transmission case, first chucking, station 5
23. AW 1167, Willye-Morrow transmission case, first chucking, station 6
24. AW 1168, Willye-Morrow transmission case, second chucking, station 1
25. AW 1169, Willye-Morrow transmission case, second chucking, station 2
26. AW 1170, Willye-Morrow transmission case, second chucking, station 3
27. AW 1171, Willye-Morrow transmission case, second chucking, station 4
28. AW 1172, Willye-Morrow transmission case, second chucking, station 5
29. AW 1173, Willye-Morrow transmission case, second chucking, station 6
30. AW 1174, Dodge ring gear, rough and finished
31. AW 1175, Sullivan Machinery triple gear blank, first and second operation parts
32. AW 1176, Buick ball joint
33. AW 1177, Buick ball socket
34. AM 1178, First portrait of 4 spindle Mult-au-matic

35. AU 1179, 4 spindle Mult-au-matic, close up of main head and auxiliary head
36. AW 1180, Willye-Morrow large transmission case #31109
37. AW 1181, Willye-Morrow small transmission case #300120
38. AW 1182, Buick differential carrier
39. AM 1183, Mult-au-matic cross section mechanical drawing #308334
40. AM 1184, Mult-au-matic oiling system, sectional view
41. AM 1185 or AU 1185, Mult-au-matic tool slide, detail line drawing, directions and amount of feeds
42. AU 1186, Mult-au-matic spindle bearing line drawing
43. AU 1187, 8 and 12 inch Mult-au-matic installation diagrams
44. AW 1188, Van Dorn and Dutton transmission gear blanks
45. AW 1189, Van Dorn and Dutton transmission gear blank parts picture
46. AW 1190, Differential ring gear and slide gear bevel
47. AW 1191, Wagner Electric Mult-au-matic products, cross section view
48. AW 1192, Robbins and Meyer large motor shell and cover
49. AW 1193, Willye-Morrow 16 inch Mult-au-matic case #33059, First chucking, station 1
50. AW 1194, Willye-Morrow 16 inch Mult-au-matic case #33059, First chucking, station 2
51. AW 1195, Willye-Morrow 16 inch Mult-au-matic case #33059, First chucking, station 3
52. AW 1196, Willye-Morrow 16 inch Mult-au-matic case #33059, First chucking, station 4
53. AW 1197, Willye-Morrow 16 inch Mult-au-matic case #33059, First chucking, station 5
54. AW 1198, Willye-Morrow 16 inch Mult-au-matic case #33059, First chucking, station 6
55. AW 1199, Willye-Morrow transmission case #330059, second chucking, full view at loading station
56. AW 1200, Willye-Morrow transmission case #330059, second chucking, station 2

Box 15

1. AW 1201, Willye-Morrow transmission case #330059, second chucking, station 3
2. AW 1202, Willye-Morrow transmission case #330059, second chucking, station 4
3. AW 1203, Willye-Morrow transmission case #330059, second chucking, station 5
4. AW 1204, Willye-Morrow transmission case #330059, second chucking, station 6
5. AW 1206, Special 12 inch Mult-au-matic Ford rear axle housing, full view, station 1
6. AW 1207, Special 12 inch Mult-au-matic Ford rear axle housing, station 2
7. AW 1208, Special 12 inch Mult-au-matic Ford rear axle housing, station 2 below
8. AW 1209, Special 12 inch Mult-au-matic Ford rear axle housing, station 3
9. AW 1210, Special 12 inch Mult-au-matic Ford rear axle housing, station 4
10. AW 1211, Special 12 inch Mult-au-matic Ford rear axle housing, station 5
11. AW 1212, Special 12 inch Mult-au-matic Ford rear axle housing, station 6
12. AW 1213, Special 12 inch Mult-au-matic Ford rear axle housing, station 6 below
13. AW 1214, Chevrolet clutch pressure plate, Mult-au-matic, second chucking showing special chuck
14. AM 1215, Un-au-matic, direct front with guards, machine complete, 1924
15. AM 1216, Un-au-matic, direct front without guards or side head beveled slide, 1924
16. AM 1217, Un-au-matic, direct front without guards or side head, Feed works exposed, 1924
17. AM 1218, Un-au-matic, direct front without guards or side head, straight universal slide, 1924
18. AM 1219, Un-au-matic, direct front without guards, full equipped, 1924
19. AM 1220, Un-au-matic, Quarter left rear without guards, full equipped showing motor, 1924
20. AM 1221, Un-au-matic, quarter right rear, full equipped without guards, 1924
21. AM 1222, Un-au-matic, full equipped, phantom portrait, 1924
22. AU 1223, Un-au-matic, close up, full equipment, 1924
23. AU 1224, Un-au-matic, close up, full equipment, side head beveled, 1924

24. AU 1225, Un-au-matic, full equipped without drill head, 1924
25. AU 1226, Un-au-matic, close up, full equipped without drill head and cross arm. 1924
26. AU 1227, Un-au-matic, close up without side head, 1924
27. AU 1228, Un-au-matic, close up direct front head with drill head without side head, 1924
28. AU 1229, Un-au-matic, close up, full equipped with guards, 1924
29. AW 1230, Mult-au-matic 4 spindle, set up on friction hub
30. AW 1231, Rough and finished friction hub, 4 spindle mult-au-matic job
31. AW 1232, 4 spindle Mult-au-matic friction hub job, station 4
32. AW 1233, 4 spindle Mult-au-matic friction hub job, station 2
33. AW 1234, Westinghouse air break 8 inch Mult-au-matic double index centrifugal direct collector body and chamber loading station
34. AW 1235, Westinghouse air break 8 inch Mult-au-matic double index centrifugal direct collector body and chamber, first chucking, station 3
35. AW 1236, Westinghouse air break 8 inch Mult-au-matic double index centrifugal direct collector body and chamber, first chucking, station 4
36. AW 1237, Westinghouse air break 8 inch Mult-au-matic double index centrifugal direct collector body and chamber, second chucking, station 5
37. AW 1238, Westinghouse air break 8 inch Mult-au-matic double index centrifugal direct collector body and chamber, second chucking, station 6
38. AW 1239, Vert-au-matic set up cast iron sample of Westinghouse motor bearing
39. AW 1240, Vert-au-matic lubrication flood on feedworks
40. AW 1241, Mult-au-matic, general view for machining Buick clutch driver hub
41. AW 1242, Mult-au-matic, Buick clutch driven hub, loading station
42. AW 1243, Single pictures, Buick clutch driver hub
43. AW 1244, Finished group Buick clutch driver hubs
44. AW 1245, Mult-au-matic with operator and parts made at International Motor Company
45. AW 1246, Hudson ring gear double index, loading stations
46. AW 1247, Hudson ring gear double index, stations 3 and 4
47. AW 1248, Hudson ring gear double index, stations 5 and 6

Box 16

1. AW 1249, Hudson demonstration, 4 spindle Mult-au-matics without operators
2. AW 1250, Hudson demonstration, 4 spindle Mult-au-matics with operators
3. AW 1251, Hudson differential case left #60530, 4 spindle mult-au-matic first chucking, loading station
4. AW 1252, Hudson differential case left #60530, 4 spindle mult-au-matic first chucking, station 2
5. AW 1253, Hudson differential case left #60530, 4 spindle mult-au-matic first chucking, station 3
6. AW 1254, Hudson differential case left #60530, 4 spindle mult-au-matic first chucking, station 4
7. AW 1255, Hudson differential case left #60531, 4 spindle mult-au-matic first chucking, loading station
8. AW 1256, Hudson differential case left, finished parts
9. AW 1257, Hudson differential case right, finished parts
10. AW 1258, Ford flywheel, Mult-au-matic, first setting for Canada plant, general view
11. AW 1259, Ford flywheel, 12 inch mult-au-matic, first chucking, station 1
12. AW 1260, Ford flywheel, 12 inch mult-au-matic, first chucking, station 2
13. AW 1261, Ford flywheel, 12 inch mult-au-matic, first chucking, station 3
14. AW 1262, Ford flywheel, 12 inch mult-au-matic, first chucking, station 4

15. AW 1263, Ford flywheel, 12 inch mult-au-matic, first chucking, station 5
16. AW 1264, Ford flywheel, 12 inch mult-au-matic, first chucking, station 6
17. AW 1265, Ford flywheel, Canada, 12 inch mult-au-matic, second chucking, station 1
18. AW 1266, Ford flywheel, Canada, 12 inch mult-au-matic, second chucking, station 2
19. AW 1267, Ford flywheel, Canada, 12 inch mult-au-matic, second chucking, station 3
20. AW 1268, Ford flywheel, Canada, 12 inch mult-au-matic, second chucking, station 4
21. AW 1269, Ford flywheel, Canada, 12 inch mult-au-matic, second chucking, station 5
22. AW 1270, Ford flywheel, Canada, 12 inch mult-au-matic, second chucking, station 6
23. AW 1271, Ford flywheel, Canda, rough and finished
24. AW 1272, Budd Mult-au-matic tooled for Packard hub #15903 and 4, general hub
25. AW 1273, Chevrolet 12 inch high column Mult-au-matic differential carrier, full view, see AW 1488
26. AW 1274, Chevrolet 12 inch high column Mult-au-matic differential carrier, loading station
27. AW 1275, Chevrolet 12 inch high column Mult-au-matic differential carrier, station 2
28. AW 1276, Chevrolet 12 inch high column Mult-au-matic differential carrier, station 3
29. AW 1277, Chevrolet 12 inch high column Mult-au-matic differential carrier, station 4
30. AW 1278, Chevrolet 12 inch high column Mult-au-matic differential carrier, station 5
31. AW 1279, Chevrolet 12 inch high column Mult-au-matic differential carrier, station 6, multiple drill head, see AW-1489
32. AW 1280, 8 inch Mult-au-matic portrait, all guards removed
33. AW 1281, 8 inch Mult-au-matic portrait, all guards removed less one main counterweight and two sides beveled
34. AW 1282, Budd-Packard hub, Mult-au-matic general view, first and second chucking, 1925
35. AW 1283, Budd-Packard hub, Mult-au-matic, first chucking, station 1, 1925
36. AW 1284, Budd-Packard hub, Mult-au-matic, first chucking, station 2, 1925
37. AW 1285, Budd-Packard hub, Mult-au-matic, first chucking, station 3, 1925
38. AW 1286, Budd-Packard hub, Mult-au-matic, first chucking, station 4, 1925
39. AW 1287, Budd-Packard hub, Mult-au-matic, first chucking, station 5, 1925
40. AW 1288, Budd-Packard hub, Mult-au-matic, first chucking, station 6, 1925
41. AW 1289, Budd-Packard hub, Mult-au-matic, second chucking, station 1, 1925
42. AW 1290, Budd-Packard hub, Mult-au-matic, second chucking, station 2, 1925
43. AW 1291, Budd-Packard hub, Mult-au-matic, second chucking, station 3, 1925
44. AW 1292, Budd-Packard hub, Mult-au-matic, second chucking, station 4, 1925
45. AW 1293, Budd-Packard hub, Mult-au-matic, second chucking, station 5, 1925

Box 17

1. AW 1294, Budd-Packard hub, Mult-au-matic, second chucking, station, 1925
2. AW 1295, Mult-au-matic equipped to machine and dust guard for strom ball bearing
3. AW 1296, Strom retained and dust guard, station 1
4. AW 1297, Strom retained and dust guard, station 2
5. AW 1298, Strom retained and dust guard, station 3
6. AW 1299, Strom retained and dust guard, station 4
7. AW 1300, Strom retained and dust guard, station 5
8. AW 1301, Strom retained and dust guard, station 6
9. AW 1302, TW Warner sliding steel forging, first chucking
10. AW 1303, Harley-Davidson flywheel
11. AW 1304, Ford transmission disc drum
12. AW 1395, Perkins Appliance Company washing machine gear blank
13. AW 1306, Bevel drive gear
14. AW 1307, National Tube Company coupling

15. AW 1398, Bud wheel Studebaker hub
16. AW 1309, Clark Equipment Company
17. AW 1310, Ford rear hub
18. AW 1311, Budd Wheel-Dodge Hub steel forging
19. AW 1312, Budd Wheel-Studebaker hub
20. AW 1313, Budd Wheel-Packard hub
21. AW 1314, Budd Wheel-Packard hub
22. AW 1315, Chevrolet clutch pressure plate, cast iron
23. AW 1316, Harley Davidson sprocket blank
24. AW 1317, Harley Davidson steel stamping sprocket
25. AW 1318, Ford transmission drive plate
26. AW 1319, Brown-Lipe-Chapin differential case
27. AW 1320, Jones Gear Company differential case 60 inch
28. AW 1321, Jones Gear Company differential case
29. AW 1322, Jones Gear Company differential case 1-21 inch
30. AW 1323, Ford differential case
31. AW 1324, Brown-Lipe-Chapin differential bevel ring half 1-25 inch
32. AW 1325, Hudson differential case
33. AW 1326, Adams axle pinion housing malleable iron, 48 inch
34. AW 1327, Westinghouse air break dust collection chamber
35. AW 1328, Westinghouse air break front and back heads double index
36. AW 1329, Westinghouse air break front and back heads 1-36 inch
37. AW 1330, International Motor Company, 3 feet 18inch
38. AW 1331, Harley-Davidson connecting rod
39. AW 1332, Chevrolet steering arm steel forging 13 inch
40. AW 1333, Muncie Products Company 5 inch ball joint double index
41. AW 1334, Ford universal joint housing malleable iron
42. AW 1335, Sullivan machinery company drive sprocket
43. AW 1336, Willys-Morrow universal joint socket malleable iron 51 inch
44. AW 1337, Wagner Electric Company motor frame cast iron 2 feet 5 inches
45. AW 1338, Wagner Electric Company, motor frame cast iron 1 foot 53 inch3s
46. AW 1339, General Electric motor frame
47. AW 1340, Wagner Electric motor frame
48. AW 1341, Wagner Electric motor frame
49. AW 1342, Wagner Electric motor frame
50. AW 1343, Robbins and Myer's cast iron body frame, 1 foot 20 inches
51. AW 1344, Robbins and Myer's Hoover motor body cast iron
52. AW 1345, Wagner electric company, short end plate cast iron

Box 18

1. AW 1346, General Electric Company end frame
2. AW 1347, General Electric Company flanged end frame
3. AW 1348, General Electric end shield cast iron 36 inch
4. AW 1349, Robbins and Myers' end frame cast
5. Aw 1350, Wagner Electric long end plate cast iron 1 foot 18 inches
6. AW 1351, General Electric cast iron end shield, 1 foot 23 inches
7. AW 1352, Robbins and Myers' cast iron frame
8. AW 1353, General Electric end shield cast iron, 1 foot, 21 inches
9. AW 1354. Westinghouse air brake triple valve body

10. AW 1355, Willys-Morrow cast iron cylinder head
11. AW 1356, Westinghouse air break dust collector body
12. AW 1357, Dodge ring gear
13. AW 1359 View through lower compartment of mult-au-matic wash drawing, AU 1551
14. AW 1360, Ford flywheel demonstrated for Canada machine
15. AW 1361, Ford flywheel, second view
16. AW 1362, Adam Opel, Germany, flywheel
17. AW 1363, Adam Opel, Germany, flywheel, second view
18. AW 1364, Delco clutch shell, 8 inch Mult-au-matic, station 1
19. AW 1365, Delco clutch shell, 8 inch Mult-au-matic, station 2
20. AW 1366, Delco clutch shell, 8 inch Mult-au-matic, station 3
21. AW 1367, Delco clutch shell, 8 inch Mult-au-matic, station 4
22. AW 1368, Delco clutch shell, 8 inch Mult-au-matic, station 5
23. AW 1369 Delco clutch shell, 8 inch Mult-au-matic, station 6
24. AW 1370, Hudson transmission gear, side view of tool head mounted on column
25. AW 1371, Hudson transmission gear, details of tool head mounted on column
26. AM 1372, Proposed small size Mult-au-matic, 1925
27. AW 1373, Adam Opel Mult-au-matic battery, wash drawing AW 5081
28. AW 1374, Chevrolet Mult-au-matic battery on clutch pressure plate
29. AW 1375, Close up of Mult-au-matic feedworks erected
30. AW 1376, 16 inch Mult-au-matic, rack type. Works for transmission cases, for Willys-Morrow
31. AW 1377, Dodge brake spider Mult-au-matic, latest type
32. AW 1378, Hudson-Essex break spider, 4 spindle Mult-au-matic, extra high column, station 1
33. AW 1379, Hudson-Essex break spider, 4 spindle Mult-au-matic, extra high column, station 2
34. AW 1380, Hudson-Essex break spider, 4 spindle Mult-au-matic, extra high column, station 3
35. AW 1381, Hudson-Essex break spider, 4 spindle Mult-au-matic, extra high column, station 4
36. AW 1382, Hudson differential carrier, 12 inch Mult-au-matic high column, double index, stations 3 and 4
37. AW 1283, Hudson differential carrier, 12 inch Mult-au-matic high column, double index, stations 5 and 6
38. AW 1384, Hudson camshaft gear, 8 inch Mult-au-matic general view of high column, stations 5 and 6
39. AW 1385, Wagner long end frame
40. AW 1386, Wagner short end frame
41. AW 1387, Standard ball ring
42. AW 1388, Sullivan Machinery sprocket hub side up
43. AW 1389, Sullivan Machinery sprocket side up
44. AW 1390, Ford tube and housing assembly
45. AW 1391, 8 inch Mult-au-matic, double index, two jobs, Hudson differential cases, second chucking, loading stations, 1 and 2
46. AW 1392, 8 inch Mult-au-matic, double index, two jobs, Hudson differential cases, second chucking, stations, 3 and 4
47. AW 1393, 8 inch Mult-au-matic, double index, two jobs, Hudson differential cases, second chucking, stations 5 and 6
48. AW 1394, Hudson 8 inch Mult-au-matic ring gear, station 1
49. AW 1395, Hudson 8 inch Mult-au-matic ring gear, station 2
50. AW 1396, Hudson 8 inch Mult-au-matic ring gear, station 3
51. AW 1397, Hudson 8 inch Mult-au-matic ring gear, station 4

Box 19

1. AW 1398, Hudson 8 inch Mult-au-matic ring gear, station 5
2. AW 1399, Hudson 8 inch Mult-au-matic ring gear, station 6
3. AW 1400, Willys-Morrow big 16 inch Mult-au-matic, station 1
4. AW 1401, Willys-Morrow big 16 inch Mult-au-matic, station 2
5. AW 1402, Willys-Morrow big 16 inch Mult-au-matic, station 3
6. AW 1403, Willys-Morrow big 16 inch Mult-au-matic, station 4
7. AW 1404, Willys-Morrow big 16 inch Mult-au-matic, station 5
8. AW 1405, Willys-Morrow big 16 inch Mult-au-matic, station 6
9. AW 1406, Zerk Oiler for Mult-au-matic slides
10. AW 1407 Chevrolet clutch pressure plate, close up of loading
11. AW 1408, Willys-Overland water pump body, two chuckings, general view
12. AW 1409, Willys-Overland water pump, 8 inch Mult-au-matic, first chucking, general view
13. AW 1410, Willys-Overland pump body, 8 inch Mult-au-matic, first chucking, station 2
14. AW 1411, Willys-Overland pump body, 8 inch Mult-au-matic, first chucking, station 3
15. AW 1412, Willys-Overland pump body, 8 inch Mult-au-matic, first chucking, station 4
16. AW 1413, Willys-Overland pump body, 8 inch Mult-au-matic, first chucking, station 5
17. AW 1414, Willys-Overland pump body, 8 inch Mult-au-matic, first chucking, station 6
18. AW 1415, Willys-Overland pump body, 8 inch Mult-au-matic, second chucking, general view
19. AW 1416, Willys-Overland pump body, 8 inch Mult-au-matic, second chucking, station 2
20. AW 1417, Willys-Overland pump body, 8 inch Mult-au-matic, second chucking, station 3
21. AW 1418, Willys-Overland pump body, 8 inch Mult-au-matic, second chucking, station 4
22. AW 1419, Willys-Overland pump body, 8 inch Mult-au-matic, second chucking, station 5
23. AW 1420, Willys-Overland pump body, 8 inch Mult-au-matic, second chucking, station 6
24. AW 1421, Clark Equipment installation of 12 inch Mult-au-matic hubs
25. AW 1422, Chevrolet installation for timing gears, 1925
26. AW 1423, Chevrolet installation, close up of timing gears on Mult-au-matic, 1925
27. AW 1424, Chevrolet generator pulley, typical stations 3 and 4
28. AW 1425, Chevrolet generator pulley, typical stations 5 and 6
29. AW 1426, Chevrolet generator pulley, double index showing both stations
30. AW 1427, Buick clutch hub, loadint stations, supersedes AW 1241
31. AW 1428, Syracuse washing machine intermediate clutch gear blank
32. AW 1429, Chevrolet generator pulley
33. AW 1430, Delco clutch shell
34. AW 1431, Willys-Overland water pump body
35. AW 1432, Nash Motors 8 inch Mult-au-matic double index dual purpose
36. AW 1433, Nash hub and flange, loading station
37. AW 1434, Nash hub and flange, station 3 or 4
38. AW 1435, Nash flange, station 5
39. AW 1436, Nash hub, station 6 with column tool
40. AW 1437, Nash hub and flange, finished parts
41. AW 1438, Hudson brake spider, station 2
42. AW 1439, Hudson brake spider, station 3
43. AW 1440, Hudson brake spider, station 4
44. AW 1441, Hudson brake spider, station 5
45. AW 1442, Hudson brake spider, station 6
46. AW 1443, Hudson brake spider, rough and finished
47. AW 1444, Delco clutch shell, rough and finished
48. AW 1445, Miscellaneous gear blank layout
49. AW 1446, Buick ball socket and cover finish facing samples

50. AW 1447, Buick ball socket facing, two mult-au-matics
51. AW 1448, Buick ball socket and cover facing, double index, stations 3 and 4
52. AW 1449, Buick ball socket and cover facing, double index, stations 5 and 6
53. AW 1450, Buick transmission case, standard six

Box 20

1. AW 1451, ENV motors, England, differential case, 8 inch Mult-au-matic, first chucking, station 1
2. AW 1452, ENV motors, England, differential case, 8 inch Mult-au-matic, first chucking, station 2
3. AW 1453, ENV motors, England, differential case, 8 inch Mult-au-matic, first chucking, station 3
4. AW 1454, ENV motors, England, differential case, 8 inch Mult-au-matic, first chucking, station 4
5. AW 1455, ENV motors, England, differential case, 8 inch Mult-au-matic, first chucking, station 5
6. AW 1456, ENV motors, England, differential case, 8 inch Mult-au-matic, first chucking, station 6
7. AW 1457, ENV motors, England, differential case, 8 inch Mult-au-matic, second chucking, station 2
8. AW 1458, ENV motors, England, differential case, 8 inch Mult-au-matic, second chucking, station 3
9. AW 1459, ENV motors, England, differential case, 8 inch Mult-au-matic, second chucking, station 4
10. AW 1460, ENV motors, England, differential case, 8 inch Mult-au-matic, second chucking, station 5
11. AW 1461, ENV motors, England, differential case, 8 inch Mult-au-matic, second chucking, station 6
12. AW 1462, Miscellaneous Mult-au-matic, samples A
13. AW 1463, Miscellaneous Mult-au-matic, samples B
14. AW 1464, Portrait of new 6 inch 4 spindle Mult-au-matic, 1926
15. AW 1465, Syracuse Washing Machine clutch over, 8 inch Mult-au-matic, station 1
16. AW 1466, Syracuse Washing Machine clutch over, 8 inch Mult-au-matic, station 2
17. AW 1467, Syracuse Washing Machine clutch over, 8 inch Mult-au-matic, station 3
18. AW 1468, Syracuse Washing Machine clutch over, 8 inch Mult-au-matic, station 4
19. AW 1469, Syracuse Washing Machine clutch over, 8 inch Mult-au-matic, station 5
20. AW 1470, Syracuse Washing Machine clutch over, 8 inch Mult-au-matic, station 6
21. AW 1471, Ford timing gear, Mult-au-matic battery, 1924
22. AW 1472, 6 inch Mult-au-matic exhibition job
23. AW 1473, Chevrolet clutch pressure plate, 8 inch Mult-au-matic double index, first chucking, stations 3 and 4
24. AW 1474, Chevrolet clutch pressure plate, 8 inch Mult-au-matic, double index, first chucking, stations 5 and 6
25. AW 1475, North East Electric outboard bearing, 8 inch Mult-au-matic, double index, stations 1 and 2
26. AW 1476, North East Electric outboard bearing, 8 inch Mult-au-matic, double index, stations 3 and 4
27. AW 1477, North East Electric outboard bearing, 8 inch Mult-au-matic, double index, stations 5 and 6
28. AW 1478, Chevrolet truck differential carrier, 16 inch Mult-au-matic, station 1

29. AW 1479, Chevrolet truck differential carrier, 16 inch Mult-au-matic, station 2
30. AW 1480, Chevrolet truck differential carrier, 16 inch Mult-au-matic, station 3
31. AW 1481, Chevrolet truck differential carrier, 16 inch Mult-au-matic, station 4
32. AW 1482, Chevrolet truck differential carrier, 16 inch Mult-au-matic, station 5
33. AW 1483, Chevrolet truck differential carrier, 16 inch Mult-au-matic, station 6
34. AW 1484, Chevrolet fan hub, 8 inch Mult-au-matic, double index, stations 1 and 2
35. AW 1485, Chevrolet fan hub, 8 inch Mult-au-matic, double index, stations 3 and 4
36. AW 1486, Chevrolet fan hub, 8 inch Mult-au-matic, double index, stations 5 and 6
37. AW 1487, Close-up of cutting lubricant flow on Mult-au-matic work
38. AW 1488, Chevrolet gear differential carrier, Mult-au-matic, general view, 1926
39. AW 1489, Chevrolet differential carrier, latest type Mult-au-matic, station 6
40. AW 1490, Hudson flywheel, 12 inch Mult-au-matic, first chucking, loading station
41. AW 1491, Hudson flywheel, 12 inch Mult-au-matic, first chucking, station 2
42. AW 1492, Hudson flywheel, 12 inch Mult-au-matic, first chucking, station 3
43. AW 1493, Hudson flywheel, 12 inch Mult-au-matic, first chucking, station 4
44. AW 1494, Hudson flywheel, 12 inch Mult-au-matic, first chucking, station 5
45. AW 1495, Hudson flywheel, 12 inch Mult-au-matic, first chucking, station 6
46. AW 1496, Hudson flywheel, 12 inch Mult-au-matic, second chucking, loading station
47. AW 1497, Hudson flywheel, 12 inch Mult-au-matic, second chucking, station 2
48. AW 1498, Hudson flywheel, 12 inch Mult-au-matic, second chucking, station 3
49. AW 1499, Hudson flywheel, 12 inch Mult-au-matic, second chucking, station 4
50. AW 1500, Hudson flywheel, 12 inch Mult-au-matic, second chucking, station 5
51. AW 1501, Hudson flywheel, 12 inch Mult-au-matic, second chucking, station 6

Box 21

1. AW 1502, Mult-au-matic work samples, 1927
2. AW 1503, Six inch Mult-au-matic motor mounting
3. AW 1504, Bullard Mult-au-matic battery from floor level
4. AW 1505, Bullard Mult-au-matic battery
5. AW 1506, Bullard bronze worm gear
6. AW 1507, Bullard bronze worm gear, stations 2 and 3
7. AW 1508, Bullard bronze worm gear, stations 4, 5 and 6
8. AW 1509, Dodge pump body, 8 inch Mult-au-matic, double index stations 1 and 2
9. AW 1510, Dodge pump body, 8 inch Mult-au-matic, double index, station 4
10. AW 1511, Dodge pump body, 8 inch Mult-au-matic, double index, station 6
11. AW 1512, Willys-Overland, Toledo, break support
12. AW 1513, Willys-Overland, Toledo, break support, station 3
13. AW 1514, Willys-Overland, Toledo, break support, station 4
14. AW 1515, Willys-Overland, Toledo, break support, stations 4 and 5
15. AW 1516, Willys-Overland, Toledo, break support, station 5
16. AW 1517, Willys-Overland, Toledo, break support, station 6
17. AW 1518, 6 inch Mult-au-matic, typical station, universal head
18. AW 1519, 6 inch Mult-au-matic, typical double purpose head
19. AW 1520, General Electric refrigerator body frame, 12 inch Mult-au-matic, station 1
20. AW 1521, General Electric refrigerator body frame, 12 inch Mult-au-matic, station 2
21. AW 1522, General Electric refrigerator body frame, 12 inch Mult-au-matic, station 3
22. AW 1523, General Electric refrigerator body frame, 12 inch Mult-au-matic, station 4
23. AW 1524, General Electric refrigerator body frame, 12 inch Mult-au-matic, station 5
24. AW 1525, General Electric refrigerator body frame, 12 inch Mult-au-matic, station 6
25. AW 1527, Willys-Overland, Toledo, differential carrier, Mult-au-matic, station 1

26. AW 1528, Willys-Overland, Toledo, differential carrier, Mult-au-matic, station 2
27. AW 1529, Willys-Overland, Toledo, differential carrier, Mult-au-matic, station 3
28. AW 1530, Willys-Overland, Toledo, differential carrier, Mult-au-matic, station 4
29. AW 1531, Willys-Overland, Toledo, differential carrier, Mult-au-matic, station 5
30. AW 1532, Willys-Overland, Toledo, differential carrier, Mult-au-matic, station 6
31. AW 1533, 6 inch Mult-au-matic installed here
32. AW 1534, Bullard Mult-au-matic battery from North End
33. AW 1535, Dodge fan pulley, Mult-au-matic, station 1
34. AW 1536, Dodge fan pulley, Mult-au-matic, station 2
35. AW 1537, Dodge fan pulley, Mult-au-matic, station 3
36. AW 1538, Dodge fan pulley, Mult-au-matic, station 4
37. AW 1539, Dodge fan pulley, Mult-au-matic, station 5
38. AW 1540, Dodge fan pulley, Mult-au-matic, station 6
39. AW 1541, 6 inch Mult-au-matic work Bullard parts
40. AW 1542, Dodge sprocket carrier, 8 inch Mult-au-matic double index, loading stations
41. AW 1543, Dodge sprocket carrier, 8 inch Mult-au-matic double index, stations 3 and 4 set up
42. AW 1544, Dodge sprocket carrier, 8 inch Mult-au-matic double index, stations and 6 set up
43. AW 1545, General Electric refrigerator body frame, 8 inch Mult-au-matic, second chucking, station 1
44. AW 1546, General Electric refrigerator body frame, 8 inch Mult-au-matic, second chucking, station 2
45. AW 1547, General Electric refrigerator body frame, 8 inch Mult-au-matic, second chucking, station 3
46. AW 1548, General Electric refrigerator body frame, 8 inch Mult-au-matic, second chucking, station 5
47. AW 1549, General Electric refrigerator body frame, 8 inch Mult-au-matic, second chucking, station 6
48. AW 1550, View through head works of 8 inch Mult-au-matic showing oil flow, was drawing copy. For original, AU 1358
49. AW 1551, View through head works of 8 inch Mult-au-matic showing oil flow, was drawing copy. For original, AU 1359
50. AM 1552, Portrait of 6 inch 4 spindle Mult-au-matic, direct motor drive
51. AW 1553, Second group of miscellaneous Mult-au-matic jobs
52. AW 1554, 20 inch Mult-au-matic portrait
53. AU 1555, 20 inch Mult-au-matic station
54. AW 1556, Small Mult-au-matic miscellaneous parts
55. AW 1557, 20 inch Mult-au-matic machining cam blank
56. AW 1558, 12 inch Mult-au-matic machining forged cam blanks

Box 22

1. AW 1559, Adelerwerke flywheel, second chucking, station 6
2. AW 1560, Adelerwerke flywheel, second chucking, station 5
3. AW 1561, Adelerwerke flywheel, second chucking, station 4
4. AW 1562, Adelerwerke flywheel, second chucking, station 3
5. AW 1563, Adelerwerke flywheel, second chucking, station 2
6. AW 1564, Adelerwerke flywheel, first chucking, station 6
7. AW 1565, Adelerwerke flywheel, first chucking, station 5
8. AW 1566, Adelerwerke flywheel, first chucking, station 4
9. AW 1567, Adelerwerke flywheel, first chucking, station 3

10. AW 1568, Adelerwerke flywheel, first chucking, station 2
11. AW 1569, Buick front hub, second chucking, station 6
12. AW 1570, Buick front hub, second chucking, station 5
13. AW 1571, Buick front hub, second chucking, station 4
14. AW 1572, Buick front hub, second chucking, station 3
15. AW 1573, Buick front hub, second chucking, station 2
16. AW 1574, Buick front hub, second chucking, station 1
17. AW 1576, Buick front hub, first chucking, station 5
18. AW 1577, Buick front hub, first chucking, station 4
19. AW 1578, Buick front hub, first chucking, station 3
20. AW 1579, Buick front hub, first chucking, station 2
21. AW 1580, Buick front hub, first chucking, station 1
22. AW 1581, Buick front hub, first chucking, stations 2, 3, and 4
23. AW 1582, Buick front hub, first chucking, stations 5, 6, and 1
24. AW 1583, Typical Mult-au-matic short run gear blank job
25. AW 1584, Stations 2 and 3 typical short run gear blank job
26. AW 1585, Stations 3, 4, and 5 typical short run gear blank job
27. AW 1586, Willys-Morrow transmission gear job
28. AW 1587, Willys-Morrow transmission gear job close up
29. AW 1588, Willys-Morrow universal joint housing
30. AW 1589, Willys-Morrow universal joint ball
31. AW 1590, Willys-Morrow universal joint ball close up
32. AW 1591, Willys-Morrow stem pinion
33. AW 1592, Willys-Morrow stem pinion close up
34. AW 1593, Willys-Morrow, four of the transmission case battery
35. AW 1594, Willys-Morrow, close up of the transmission case job
36. AW 1595, Willys-Morrow battery of six transmission case Mult-au-matics
37. AW 1597, Willys-Morrow, two transmission case machines
38. AW 1598, 12 inch Mult-au-matic, second operation, clutch case
39. AW 1599, Ford flywheel housing, Mult-au-matic, double index, loading station
40. AW 1600, Ford flywheel housing, Mult-au-matic, double index, stations 3 and 4
41. AW 1602, John Waldron-Franke couplings, rough and finished, 1927
42. AW 1603, Hudson transmission gears, rough and finished, 1928
43. AW 1604, Syracuse Washing Machine clutch cover
44. AW 1605, Willys-Morrow installation gear shaft cover
45. AW 1606, Foreign parts made on Mult-au-matics
46. AW 1609, Old Warner gear station pictures
47. AW 1610, Old Robbins and Meyer Hoover motor body station photos
48. AW 1611, Old Chevrolet timing gear station pictures
49. AW 1612, Old Brown-Lipe-Chapin differential case, male, station pictures
50. AW 1613, Old Brown-Lipe-Chapin differential case, female, station pictures
51. AW 1615, Mult-au-matics on demonstration with and without operators
52. AW 1616, Ford rear axle differential gear housing, station 1
53. AW 1617, Ford rear axle differential gear housing, station 2

Box 23

1. AW 1618, Ford rear axle differential gear housing, station 3
2. AW 1619, Ford rear axle differential gear housing, station 4
3. AW 1620, Ford rear axle differential gear housing, station 5
4. AW 1621, Ford rear axle differential gear housing, station 6

5. AW 1622, Ford rear hub, first chucking station 1
6. AW 1623, Ford rear hub, first chucking station 2
7. AW 1624, Ford rear hub, first chucking station 3
8. AW 1625, Ford rear hub, first chucking station 4
9. AW 1626, Ford rear hub, first chucking station 5
10. AW 1627, Ford rear hub, first chucking station 6
11. AW1628, Ford rear hub, second chucking, general view
12. AW 1629, Ford rear hub, second chucking, station 1
13. AW 1630, Ford rear hub, second chucking, station 2
14. AW 1631, Ford rear hub, second chucking, station 3
15. AW 1632, Ford rear hub, second chucking, station 4
16. AW 1633, Ford rear hub, second chucking, station 5
17. AW 1634, Ford rear hub, second chucking, station 6
18. AW 1635, Ford tractor ring gear, double index, Duplex Mult-au-matic, loading stations
19. AW 1636, Ford tractor ring gear, station 3
20. AW 1637, Ford tractor ring gear, station 4
21. AW 1638, Ford tractor ring gear, station 5
22. AW 1639, Ford tractor ring gear, station 6
23. AW 1640, Buick clutch hub general views, with and without operator
24. AW 1641, 8 inch Mult-au-matic, Ford front hub, general view
25. AW 1642, 8 inch Mult-au-matic, Ford front hub, first chucking, station 1
26. AW 1643, 8 inch Mult-au-matic, Ford front hub, first chucking, station 2
27. AW 1644, 8 inch Mult-au-matic, Ford front hub, first chucking, station 3
28. AW 1645, 8 inch Mult-au-matic, Ford front hub, first chucking, station 4
29. AW 1646, 8 inch Mult-au-matic, Ford front hub, first chucking, station 5
30. AW 1647, 8 inch Mult-au-matic, Ford front hub, first chucking, station 6
31. AW 1648, 8 inch Mult-au-matic, Ford front hub, second chucking, station 1
32. AW 1649, 8 inch Mult-au-matic, Ford front hub, second chucking, station 2
33. AW 1650, 8 inch Mult-au-matic, Ford front hub, second chucking, station 3
34. AW 1651, 8 inch Mult-au-matic, Ford front hub, second chucking, station 4
35. AW 1652, 8 inch Mult-au-matic, Ford front hub, second chucking, station 5
36. AW 1653, 8 inch Mult-au-matic, Ford front hub, second chucking, station 6
37. AW 1654, 6 inch Mult-au-matic, Dodge rear axle pinion flange, first chucking, general view
38. AW 1655, 6 inch Mult-au-matic, Dodge rear axle pinion flange, second chucking, general view
39. AW 1656, Seven differential cases
40. AW 1657, Six station layout of Willys-Morrow transmission gear
41. AW 1658, Willys-Morrow Mult-au-matic composite view on universal joint ball
42. AW 1659, 8 inch Mult-Au0matic ENV Motor Olympia exhibit, differential cover, general view with operator
43. AW 1660, 8 inch Mult-Au0matic ENV Motor Olympia exhibit, differential cover, general view without operator
44. AM 1661, 8 inch 6-spindle Mult-au-matic portrait
45. AM 1662, 8 inch 8-spindle Mult-au-matic without guards
46. AW 1663, 8 inch 6 spindle Mult-au-matic for Olmypia ENV motors, differential cover, station 1
47. AW 1664, 8 inch 6 spindle Mult-au-matic for Olmypia ENV motors, differential cover, station 2
48. AW 1665, 8 inch 6 spindle Mult-au-matic for Olmypia ENV motors, differential cover, station 2

49. AW 1666, 8 inch 6 spindle Mult-au-matic for Olmypia ENV motors, differential cover, station 4
50. AW 1667, 8 inch 6 spindle Mult-au-matic for Olmypia ENV motors, differential cover, station
51. AW 1668, 8 inch 6 spindle Mult-au-matic for Olmypia ENV motors, differential cover, station 6
52. AW 1669, Wright aeronautical first Mult-au-matic, finishing cylinder
53. AW 1670. Wright aeronautical first Mult-au-matic, cylinder heads
54. AM 1671, 12 inch Mult-au-matic portrait without guards
55. AM 1672, First portrait of 8 inch Mult-au-matic center lathe,
56. AM 1673, 20 inch Mult-au-matic, wash drawing copy

Box 24

1. AM 1674, 8 inch Mult-au-matic center lathe ortrait
2. AW 1675, 12 inch Mult-au-matic on J-6 engine case for Wright Aeronautical, general view with operator
3. AW 1676, 12 inch Mult-au-matic, General Electric refrigerator body, first chucking, station 1
4. AW 1677, 12 inch Mult-au-matic, General Electric refrigerator body, first chucking, station 2
5. AW 1678. 12 inch Mult-au-matic, General Electric refrigerator body, first chucking, station 3
6. AW 1679, 12 inch Mult-au-matic, General Electric refrigerator body, first chucking, station 4
7. AW 1680, 12 inch Mult-au-matic, General Electric refrigerator body, first chucking, station 5
8. AW 1681, 12 inch Mult-au-matic, General Electric refrigerator body, first chucking, station 6
9. AW 1682, 8 inch Mult-au-matic, General Electric refrigerator body, second chucking, station 1
10. AW 1683, 8 inch Mult-au-matic, General Electric refrigerator body, second chucking, station 2
11. AW 1684, 8 inch Mult-au-matic, General Electric refrigerator body, second chucking, station 3
12. AW 1685, 8 inch Mult-au-matic, General Electric refrigerator body, second chucking, station 4
13. AW 1686, 8 inch Mult-au-matic, General Electric refrigerator body, second chucking, station
14. AW 1687, 8 inch Mult-au-matic, General Electric refrigerator body, second chucking, station 6
15. AW 1688, 8 inch 4-spindle Mult-au-matic, General Electric refrigerator body, third chucking, station 1
16. AW 1689, 8 inch 4-spindle Mult-au-matic, General Electric refrigerator body, third chucking, station 2
17. AW 1690, 8 inch 4-spindle Mult-au-matic, General Electric refrigerator body, third chucking, station 3
18. AW 1691, 8 inch 4-spindle Mult-au-matic, General Electric refrigerator body, third chucking, station 4
19. AW 1692, 8 inch Mult-au-matic, Whitney Manufacturing Company, timing gear, station 1
20. AW 1693, 8 inch Mult-au-matic, Whitney Manufacturing Company, timing gear, station 2
21. AW 1694, 8 inch Mult-au-matic, Whitney Manufacturing Company, timing gear, station 3
22. AW 1695, 8 inch Mult-au-matic, Whitney Manufacturing Company, timing gear, station 4
23. AW 1696, 8 inch Mult-au-matic, Whitney Manufacturing Company, timing gear, station 5
24. AW 1697, 8 inch Mult-au-matic, Whitney Manufacturing Company, timing gear, station 6
25. AU 1698, 6 inch 6-spindle Mult-au-matic, close up with lower base guards removed showing power chucking mechanism
26. AW 1699, 8 inch Double index Mult-au-matic for Ford Motor Company, Canada. Coupling shaft on dual high rear support, dual chucking stations 1 and 2

27. AW 1700, 8 inch Double index Mult-au-matic for Ford Motor Company, Canada. Coupling shaft on dual high rear support, dual chucking station 3
28. AW 1701, 8 inch Double index Mult-au-matic for Ford Motor Company, Canada. Coupling shaft on dual high rear support, dual chucking station 4
29. AW 1702, 8 inch Double index Mult-au-matic for Ford Motor Company, Canada. Coupling shaft on dual high rear support, dual chucking station 5
30. AW 1703, 8 inch Double index Mult-au-matic for Ford Motor Company, Canada. Coupling shaft on dual high rear support, dual chucking station 6
31. AW 1704, Group of endshields and motor frames
32. AW 1705, Mult-au-matic at Wright Company machining barrel cylinder, full view with operator
33. AW 1706, Mult-au-matic at Wright Company machining barrel cylinder, loading station
34. AW 1707, Mult-au-matic at Wright Company machining barrel cylinder, station 2
35. AW 1708, Mult-au-matic at Wright Company machining barrel cylinder, station 3
36. AW 1709, Mult-au-matic at Wright Company machining barrel cylinder, station 4
37. AW 1710, Mult-au-matic at Wright Company machining barrel cylinder, station 5
38. AW 1711, Mult-au-matic at Wright Company machining barrel cylinder, station 6
39. AW 1712, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first operation
40. AW 1713, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first and second operations
41. AW 1714, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, loading station
42. AW 1715, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 2
43. AW 1716, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 3
44. AW 1717, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 4
45. AW 1718, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 5
46. AW 1719, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 6
47. AW 1720, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, second chucking, loading station

Box 25

1. AW 1721, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 2
2. AW 1722, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 3
3. AW 1723, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 4
4. AW 1724, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station 5
5. AW 1725, 8 inch Mult-au-matic Spicer Manufacturing Company, companion flange, first chucking, station
6. AW 1726, Spicer companion flange, first chucking, loading station
7. AW 1727, Mult-au-matic motor drive close up showing motor coupling and drive bracket

8. AW 1728, 8 inch Mult-au-matic for Spider Manufacturer Company companion flange, machine on right, first chucking; machine on left, second chucking
9. AW 1729, 12 inch Mult-au-matic for General Electric, Schenectady, first chucking, station 3
10. AW 1730, 12 inch Mult-au-matic for General Electric, Schenectady, first chucking, station 4
11. AW 1731, 12 inch Mult-au-matic for General Electric, Schenectady, first chucking, station 6
12. AW 1732, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, first chucking, loading station
13. AW 1733, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, first chucking, station 2
14. AW 1734, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, first chucking, station 3
15. AW 1735, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, first chucking, station 4
16. AW 1736, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, first chucking, station 5
17. AW 1737, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, first chucking, station 6
18. AW 1738, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, second chucking, loading station
19. AW 1739, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, second chucking, station 2
20. AW 1740, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, second chucking, station 3
21. AW 1741, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, second chucking, station 4
22. AW 1742, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, second chucking, station 5
23. AW 1743, 16 inch Mult-au-matic for Cincinnati Grinder Cop. Wheel collet. 5026, second chucking, station 6
24. AW 1744, 16 inch Mult-au-matic for Cincinnati Grinder Cop. General view without operator showing stations 5 and 6
25. AW 1745, 16 inch Mult-au-matic for Cincinnati Grinder Cop. General view with operator showing stations 5 and 6
26. AW 1746, Mult-au-matic center lathe station picture
27. AW 1747, Mult-au-matic center lathe station picture, right side
28. AW 1748, Experimental bearing ring Mult-au-matic, general right hand view, hopper feed
29. AW 1749, Experimental bearing ring Mult-au-matic, left hand view, hopper feed
30. AW 1750, Experimental bearing ring Mult-au-matic, close up, hopper feed
31. AM 1751, Wash drawing portrait of 12 inch Mult-au-matic
32. AW 1752, Two eight inch Mult-au-matic at Easy Washing Machine Company
33. AU 1753, 8 inch Mult-au-matic at Easy Washing Machine Company
34. AU 1754, Gear blank at Easy Washing Machine Company
35. AW 1755, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., general view with operator
36. AW 1756, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., male coupling, station 1
37. AW 1757, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., male coupling, station 2
38. AW 1758, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., male coupling, station 3
39. AW 1759, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., male coupling, station 4
40. AW 1760, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., male coupling, station 5
41. AW 1761, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., male coupling, station 6

42. AW 1762, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., female coupling, station 1
43. AW 1763, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., female coupling, station 2

Box 26

1. AW 1764, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., female coupling, station 3
2. AW 1765, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., female coupling, station 4
3. AW 1766, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., female coupling, station 5
4. AW 1767, 6 inch Mult-au-matic at Youngstown Sheet and Tube Co., female coupling, station 6
5. AW 1768, Nash Engineering Company, 12 inch Mult-au-matic machining pump volute, general view with operator
6. AW 1769, Nash Engineering Company, 12 inch Mult-au-matic machining pump volute, general view with operator
7. AW 1770, Nash Engineering Company, 12 inch Mult-au-matic machining pump volute, general view without operator
8. AW 1771, General Electric 12 inch Mult-au-matic machining motor end frames, general view with operator
9. AW 1772, General Electric 12 inch Mult-au-matic machining motor end, station 1
10. AW 1773, General Electric 12 inch Mult-au-matic machining motor end, station 2
11. AW 1774, General Electric 12 inch Mult-au-matic machining motor end, station 3
12. AW 1775, General Electric 12 inch Mult-au-matic machining motor end, station 4
13. AW 1776, General Electric 12 inch Mult-au-matic machining motor end, station 5
14. AW 1777, General Electric 12 inch Mult-au-matic machining motor end, station 6
15. AW 1778, 6 inch 4 spindle Mult-au-matic with hopper feed on ball cup job
16. AW 1779 A, Battery of Mult-au-matic, dept. 30, looking south, right side
17. AW 1779 B, Battery of Mult-au-matic, dept. 30, looking south, left side
18. AM 1780, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking
19. AW 1780, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking
20. AW 1781, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, general view with operator
21. AW 1782, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, loading station
22. AW 1783, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, station 2
23. AW 1784, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, station 3
24. AW 1785, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, station 4
25. AW 1786, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, station 5
26. AW 1787 A, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, station 6 – tools not in operation
27. AW 1787 B, Chevrolet 8 inch Mult-au-matic center lathe, spiral drive pinion, first chucking, station 6 – tools in operation

28. AW 1788, Chevrolet 8 inch Mult-au-matic center lathe, double index, spiral drive pinion, second chucking, loading station with operator
29. AW 1789, Chevrolet 8 inch Mult-au-matic center lathe, double index, spiral drive pinion, second chucking, loading station with
30. AW 1790, Chevrolet 8 inch Mult-au-matic center lathe, double index, spiral drive pinion, second chucking, stations 3 and 4
31. AW 1791, Chevrolet 8 inch Mult-au-matic center lathe, double index, spiral drive pinion, second chucking, stations 5 and 6
32. AM 1792, First type A 8 inch spindle Mult-au-matic shipped to Ford Motor Company

Box 27

1. AU 1793, Comparison view of Mult-au-matic heads, 12 inch at left and 20 inch at right
2. AU 1794, Comparison views of Mult-au-matic feed works showing feed cam, 12 inch at left and 20 inch at right
3. AU 1795, , Comparison views of Mult-au-matic feed works showing the back of bracket, 12 inch at left and 20 inch at right
4. AU 1796, Comparison views of Mult-au-matic spindle, 20 inch at left and 12 inch at right
5. AW 1797, Mult-au-matic products
6. AW 1798, 8 inch Mult-au-matic high column, Saginaw steering gear division housing
7. AW 1799, 8 inch Mult-au-matic high column, general view showing loading station end automatic chuck operator
8. AU 1800 12 inch feed bracket
9. AU 1801, 20 inch feed bracket
10. AU 1802, Mult-au-matic slides comparison 12 inch and 20 inch
11. AM 1803, 8 inch Mult-au-matic center lathe with heavy tail stock supports
12. AW 1804, 6 inch Mult-au-matic at American Bosch Magnets Corp flywheel housing
13. AW 1805, 6 inch Mult-au-matic at American Bosch Magnets Corp flywheel housing
14. AW 1806, 8 inch Mult-au-matic for Fenwick frères, Bevel Gear at Liege exhibition
15. AW 1807, 8 inch Mult-au-matic for Fenwick frères, Bevel Gear at Liege exhibition with operator
16. AW 1808, 6 inch 6-spindle Mult-au-matic American Bosch Magnets Corp, station 1
17. AW 1809, 6 inch 6-spindle Mult-au-matic American Bosch Magnets Corp, station 2
18. AW 1810, 6 inch 6-spindle Mult-au-matic American Bosch Magnets Corp, station 3
19. AW 1811, 6 inch 6-spindle Mult-au-matic American Bosch Magnets Corp, station 4
20. AW 1812, 6 inch 6-spindle Mult-au-matic American Bosch Magnets Corp, station 5
21. AW 1813, 6 inch 6-spindle Mult-au-matic American Bosch Magnets Corp, station 6
22. AW 1814, 8 inch 6-spindle Mult-au-matic for General Electric, Fort Wayne, pulley end of shield
23. AW 1815, 8 inch Mult-au-matic at Wayne Pump machining oil pump top, general view with operator
24. AW 1816, 8 inch Mult-au-matic at Wayne Pump machining oil pump top, loading station showing multiple drill at station 6
25. AW 1817, Mult-au-mat job at Wayne Pump
26. AW 1818, 6 inch 6-spindle double index Mult-au-matic at General Electric on Buick Textile Gear Blank, close up with operator
27. AW 1819, 6 inch 6-spindle double index Mult-au-matic at General Electric on Buick Textile Gear Blank, close up of station 6 with operator
28. AW 1820, 6 inch 6-spindle double index Mult-au-matic at General Electric on Buick Textile Gear Blank, close up of stations 1 and 6 with operator

29. AW 1821, 6 inch 6-spindle double index Mult-au-matic at General Electric on Buick Textile Gear Blank, close up of stations 1 and 6 without operator
30. AW 1822, 6 inch 6-spindle Mult-au-matic for General Electric, bottom plate, station 1
31. AW 1823, 6 inch 6-spindle Mult-au-matic machining General Electric refrigerator bottom plate
32. AW 1824, Rough and finished castings, General Electric refrigerator bottom plate as machined on 6 inch 6-spindle Mult-au-matic
33. AW 1825, 6 inch 6-spindle Mult-au-matic General Electric refrigerator bottom plate, station 6
34. AW 1826, 6 inch 6-spindle Mult-au-matic General Electric refrigerator bottom plate, station 3
35. AW 1827, 6 inch 6-spindle Mult-au-matic General Electric refrigerator bottom plate, station 2
36. AW 1828, 6 inch 6-spindle Mult-au-matic General Electric refrigerator bottom plate, station 5
37. AW 1829, 6 inch 6-spindle Mult-au-matic General Electric refrigerator bottom plate, station 4
38. AW 1830, Two 8 inch 8-spindle Mult-au-matic general view, Kelsey-Hayes hub
39. AW 1831, Close up of roughing stations, 8 inch 8-spindle Mult-au-matic general view, Kelsey-Hayes hub
40. AW 1832, Close up of finishing stations, 8 inch 8-spindle Mult-au-matic general view, Kelsey-Hayes hub
41. AM 1833, Type C Mult-au-matic view of loading station
42. AM 1834, Type C Mult-au-matic without upper and lower splash guards, view at loading station
43. AM 1835, Type C Mult-au-matic without upper and lower splash guards, view at 45 degrees left of loading
44. AM 1836, Type C Mult-au-matic without upper and lower splash guards, direct front view
45. AU 1838, Mult-au-matic direct connected motor drive
46. AU 1839, Mult-au-matic with motor belt and pulley drive
47. AU 1840, 8 inch 6-spindle Mult-au-matic showing feed works
48. AM 1842, First 8 inch 8 spindle Type A mult-au-matic
49. AU 1843, 8 inch 8 spindle type D Mult-au-matic spindle with upper and lower bearing gear
50. AM 1844, 8 inch 8 spindle D Mult-au-matic for Ford general view with guards
51. AM 1845, General view of first 16 inch Type D 8 spindle Mult-au-matic for Ford Canada
52. AW 1846, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, loading station
53. AW 1847, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, loading station
54. AW 1848, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, station 2
55. AW 1849, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, station 3
56. AW 1850, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, station 4
57. AW 1851, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, station 4
58. AW 1852, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, station 5

59. AW 1853, 12 inch Mult-au-matic for Ford Motor Company, England. Transmission case, first chucking, station 6
60. AW 1854, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, general view
61. AW 1855, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, stations 1 and 2
62. AW 1856, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, loading station
63. AW 1857, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, station 2
64. AW 1858, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, station 3 – inside spherical turning head
65. AW 1859, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, station 4 – outside spherical turning
66. AW 1860, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, station 5

Box 28

1. AW 1861, 8 inch Mult-au-matic for Ford Motor Company, England. Universal joint housing, first chucking, station 6
2. AW 1862, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, loading station – right hand view
3. AW 1863, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, loading station – right hand view
4. AW 1864, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 2 – right hand view
5. AW 1865, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 3 – right hand view
6. AW 1866, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 4 – right hand view
7. AW 1867, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 5 – right hand view
8. AW 1868, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 6 – right hand view
9. AW 1869, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, general view – left hand view
10. AW 1870, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking – left hand view
11. AW 1871, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, loading station – left hand view
12. AW 1872, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 2 – left hand view
13. AW 1873, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 3 – left hand view
14. AW 1874, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 4 – left hand view
15. AW 1875, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 5 – left hand view
16. AW 1876, 16 inch Mult-au-matic for Ford Motor Company, England, Rear axle housing, first chucking, station 6 – left hand view

17. Aw 1877, 8 INCH 8- SPINDLE Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, loading station
18. AW 1878, 8 inch s8- pindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, station 2
19. AW 1879, 8 inch 8- spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, station 3
20. AW 1880, 8 inch 8- spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, station 4
21. AW 1881, 8 inch 8- spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, station 5
22. AW 1882, 8 inch 8- spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, station 6
23. AW 1883, 8 inch 8- spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, station 7
24. AW 1884, 8 inch 8- spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, first chucking, station 8
25. AW 1885, 6 inch 4-spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, second chucking, general view
26. AW 1886, , 6 inch 4-spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, second chucking, loading station
27. AW 1887,, 6 inch 4-spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, second chucking, station 2
28. AW 1888, 6 inch 4-spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, second chucking, station 3
29. AW 1889, , 6 inch 4-spindle Type A Mult-au-matic for Kelsey-Hayes Wheel, front hub, second chucking, station 4
30. AC 1890, Mult-au-matic spindle bearing line drawing -- Mult-au-matic operator's handbook
31. AC 1891, Gear diagram driving mechanism upper case -- Mult-au-matic operator's handbook
32. AC 1892, Indexing mechanism -- Mult-au-matic operator's handbook
33. AC 1893, Mult-au-matic for shipping instructions -- Mult-au-matic operator's handbook
34. AC 1894, Motor drive bracket, sectional view -- Mult-au-matic operator's handbook
35. AC 1895, Method of slinging Mult-au-matic -- Mult-au-matic operator's handbook
36. AC 1896, Mult-au-matic drive clutch, sectional view -- Mult-au-matic operator's handbook
37. AC 1897, Mult-au-matic timing disc -- Mult-au-matic operator's handbook
38. AC 1898, Mult-au-matic standard universal slide set for angular turning -- Mult-au-matic operator's handbook
39. AC 1899, Mult-a-matic standard universal slide set up for horizontal facing inward -- Mult-au-matic operator's handbook
40. AC 1900, Mult-au-matic portrait purely drive -- Mult-au-matic operator's handbook
41. AC 1901, 12 inch Mult-au-matic direct motor drive -- Mult-au-matic operator's handbook
42. AC 1902, Standard universal slide set for horizontal facing outward -- Mult-au-matic operator's handbook
43. AC 1903, Standard universal slide set for straight turning and boring -- Mult-au-matic operator's handbook
44. AC 1904, Standard universal slide and saddle showing automatic oil system -- Mult-au-matic operator's handbook
45. AC 1905, Standard double purpose slide -- Mult-au-matic operator's handbook
46. AC 1906, Column section showing index safety lock handle -- Mult-au-matic operator's handbook

47. AC 1907, Mult-au-matic oiling system sectional view -- Mult-au-matic operator's handbook
48. AC 1908, 8 inch Mult-au-matic installation diagram -- Mult-au-matic operator's handbook
49. AC 1909, 12 inch Mult-au-matic installation diagram -- Mult-au-matic operator's handbook
50. AC 1910, Diagram double purpose slide showing slide movements -- Mult-au-matic operator's handbook
51. AC 1911, Installation diagram of 12 inch 8-spindle Mult-au-matic -- Mult-au-matic operator's handbook
52. AC 1912, Installation diagram of 8 inch 8-spindle Mult-au-matic -- Mult-au-matic operator's handbook
53. AM 1913, Battery of seven Ford Mult-au-matics on erecting floor, right view looking towards demonstration department
54. AM 1914, Battery of seven Ford Mult-au-matics on erecting floor, right view looking , demonstration department
55. AW 1915, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, loading station
56. AW 1916, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, loading station
57. AW 1917, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 2 – left hand view
58. AW 1918, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 3 – left hand view
59. AW 1919, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 4 – left hand view
60. AW 1920, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 5 – left hand view

Box 29

1. AW 1921, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 6 – left hand view
2. AW 1922, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking – right and left hand view
3. AW 1923, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, loading station – right hand view
4. AW 1924, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, loading station – right hand view
5. AW 1925, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 2 – right hand view
6. AW 1926, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 3 – right hand view
7. AW 1927, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 4 – right hand view
8. AW 1928, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 5 – right hand view
9. AW 1929, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, differential gear case, first chucking, station 6 – right hand view
10. AW 1930, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, universal joint housing cap outer, first chucking, loading station
11. AW 1931, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, universal joint housing cap outer, first chucking, loading station

12. AW 1932, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, universal joint housing cap outer, first chucking, station 2
13. AW 1933, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, universal joint housing cap outer, first chucking, station 3
14. AW 1934, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, universal joint housing cap outer, first chucking, station 4
15. AW 1935, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, universal joint housing cap outer, first chucking, station 5
16. AW 1936, 8 inch 6-spindle Mult-au-matic Ford Motor Company, England, universal joint housing cap outer, first chucking, station 6
17. AW 1937, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first and second chucking, general view
18. AW 1938, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, loading station with operation showing stations 2, 3 and 4
19. AW 1839, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, loading station with operation showing stations 5, 6, 7 and 8
20. AW 1940, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, loading station with operation showing stations 2, 3 and 4
21. AW 1941, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, loading station with operation showing stations 5, 6, 7 and 8
22. AW 1942, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, loading station
23. AW 1943, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, loading station with operator
24. AW 1944, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, station 2
25. AW 1945, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, station 3
26. AW 1946, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, station 4
27. AW 1947, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, station 5
28. AW 1948, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, station 6
29. AW 1949, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, station 7
30. AW 1950, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, first chucking, station 8
31. AW 1951, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, loading station
32. AW 1952, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, station 2
33. AW 1953, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, station 3
34. AW 1954, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, station 4

35. AW 1955, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, station 5
36. AW 1956, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, station 6
37. AW 1957, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, station 7
38. AW 1958, 8 inch Type D Mult-au-matic for Ford Motor Company, England, transmission countershaft gear, second chucking, station 8
39. AW 1959, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, loading station
40. AW 1960, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, loading station with operator
41. AW 1961, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, loading station
42. AW 1962, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, loading station
43. AW 1963, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, third loading station
44. AW 1964, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, fourth loading station
45. AW 1965, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, fifth loading station
46. AW 1966, 16 inch Mult-au-matic for Ford Motor Company, rear axle housing bill, second chucking, sixth loading station
47. AW 1967, Type C Mult-au-matic Bullard experiental set up, first chucking, loading station with operator
48. AW 1968, Type C Mult-au-matic Bullard experiental set up, first chucking, loading station
49. AW 1969, Type C Mult-au-matic Bullard experiental set up, first chucking, loading station
50. AW 1970, Type C Mult-au-matic Bullard experiental set up, first chucking, second loading station
51. AW 1971, Type C Mult-au-matic Bullard experiental set up, first chucking, third loading station
52. AW 1972, Type C Mult-au-matic Bullard experiental set up, first chucking, fourth loading station

Box 30

1. AW 1973, Type C Mult-au-matic Bullard experiental set up, first chucking, fifth loading station
2. AU 1974, 8 inch type D Mult-au-matic, close up without guards, double purpose head
3. AU 1976, 8 inch type D Mult-au-matic, close up without guards, plain compound head
4. AU 1977, 8 inch type D Mult-au-matic, close up without guards, plain vertical head
5. AW 1978, Nash Pump volute in foreground with Mult-au-matic draped in background
6. AW 1979, Mult-au-matic job, Chevrolet differential carrier, 1926 job
7. AM 1980, Portrait of type D 8-spindle Mult-au-matic, 1931
8. Au 1981, Phantom view of type D Mult-au-matic spindle
9. AW 1982 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, loading station
10. AW 1983, 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, loading station

11. AW 1984, 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, loading station
12. AW 1985, 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, second loading station
13. AW 1986, 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, third loading station
14. AW 1987, 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, fourth loading station
15. AW 1988, 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, fifth loading station
16. AW 1989, 12 inch 6-spindle Mult-au-matic for Ford Motor Company, England, flywheel, first chucking, sixth loading station
17. AW 1990, 12 inch 6-spindle Mult-au-matic for Amtarg, differential case, male, general view with operator
18. AW 1991, 12 inch 6-spindle Mult-au-matic for Amtarg, differential case, male, loading station
19. AW 1992, 12 inch 6-spindle Mult-au-matic for Amtarg, differential case, male, station 2
20. AW 1993, 12 inch 6-spindle Mult-au-matic for Amtarg, differential case, male, station 3
21. AW 1994, 12 inch 6-spindle Mult-au-matic for Amtarg, differential case, male, station 4
22. AW 1995, 12 inch 6-spindle Mult-au-matic for Amtarg, differential case, male, station 5
23. AW 1996, 12 inch 6-spindle Mult-au-matic for Amtarg, differential case, male, station 6
24. AW 1999, Mult-au-matic Wright Aero Machining conqueror cylinder sleeve
25. AW 2000, Mult-au-matic battery at Wright Aeronautical – first machine on whirlwind cylinder head and second machine on cyclone cylinder head
26. AW 2001, Mult-au-matic battery at Wright Aeronautical – first machine on whirlwind cylinder sleeve, second machine on J-5 cylinder sleeve
27. AM 2002, Portrait of Type D 8-spindle Mult-au-matic center lathe
28. AM 2003, Portrait of Type C 6-spindle Mult-au-matic
29. AW 2004, Kelvinator Corporation, 6 inch 6-spindle Mult-au-matic compressor crank case, general view with operator – first and second chucking, double index
30. AW 2005, Kelvinator Corporation, 6 inch 6-spindle Mult-au-matic compressor crank case, loading stations 1 and 2
31. AW 2006, Kelvinator Corporation, 6 inch 6-spindle Mult-au-matic compressor crank case, loading station 3
32. AW 2007, Kelvinator Corporation, 6 inch 6-spindle Mult-au-matic compressor crank case, loading station 4
33. AW 2008, Kelvinator Corporation, 6 inch 6-spindle Mult-au-matic compressor crank case, station 5
34. AW 2009, Kelvinator Corporation, 6 inch 6-spindle Mult-au-matic compressor crank case, station 6
35. AW 2010, Kelvinator Corporation, compressor crank case cover, sample work
36. AW 2011, Type C Mult-au-matic for Ford Motor Company, Canada, General view with operators on driving pinion, first and second chucking
37. AW 2012, Type C Mult-au-matic for Ford Motor Company, Canada, first chucking, loading station 1
38. AW 2013, Type C Mult-au-matic for Ford Motor Company, Canada, first chucking, loading station 2
39. AW 2014, Type C Mult-au-matic for Ford Motor Company, Canada, first chucking, loading station 3

40. AW 2015 Type C Mult-au-matic for Ford Motor Company, Canada, first chucking, loading station 4
41. AW 2016, Type C Mult-au-matic for Ford Motor Company, Canada, first chucking, loading station 5
42. AW 2017, Type C Mult-au-matic for Ford Motor Company, Canada, first chucking, loading stations 1 and 6

Box 31

1. AW 2018, Type C Mult-au-matic for Ford Motor Company, Canada, second chucking, general view with operator
2. AW 2019, Type C Mult-au-matic for Ford Motor Company, Canada, second chucking, loading station 1
3. AW 2020, Type C Mult-au-matic for Ford Motor Company, Canada, second chucking, loading station 2
4. AW 2021, Type C Mult-au-matic for Ford Motor Company, Canada, second chucking, loading station 3
5. AW 2022, Type C Mult-au-matic for Ford Motor Company, Canada, second chucking, loading station 4
6. AW 2023, Type C Mult-au-matic for Ford Motor Company, Canada, second chucking, loading station 5
7. AW 2024, 16 inch 6-spindle Mult-au-matic, first chucking, autostroy clutch housing, general view with operator
8. AW 2025, 16 inch 6-spindle Mult-au-matic, high column, autostroy clutch housing, first chucking, station 1
9. AW 2026, 16 inch 6-spindle Mult-au-matic, high column, autostroy clutch housing, first chucking, station 2
10. AW 2027, 16 inch 6-spindle Mult-au-matic, high column, autostroy clutch housing, first chucking, station 3
11. AW 2028, 16 inch 6-spindle Mult-au-matic, high column, autostroy clutch housing, first chucking, station 4
12. AW 2029, 16 inch 6-spindle Mult-au-matic, high column, autostroy clutch housing, first chucking, station 5
13. AW 2030, 16 inch 6-spindle Mult-au-matic, high column, autostroy clutch housing, first chucking, station 6
14. AW 2031, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, stations 2, 3, and 4
15. AW 2032, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, loading station
16. AW 2033, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, station 2
17. AW 2034, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, station 3
18. AW 2035, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, station 4
19. AW 2036, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, station 5
20. AW 2037, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, station 6
21. AW 2038, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, station 7

22. AW 2039, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, first chucking, station 8
23. AW 2040, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, general view
24. AW 2041, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, loading station
25. AW 2042, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, station 2
26. AW 2043, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, station 3
27. AW 2044, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, station 4
28. AW 2045, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, station 5
29. AW 2046, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, station 6
30. AW 2047, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, station 7
31. AW 2048, 8 inch 8-spindle Type A Mult-au-matic for Kelsey-Hayes Wheeler Co. rear wheel hub, second chucking, station 8
32. AW 2049, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, general view with operator
33. AW 2050, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, loading station
34. AW 2051, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, loading station 2
35. AW 2052, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, loading station 3
36. AW 2053, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, loading station 4
37. AW 2054, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, loading station 5
38. AW 2055, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, loading station 6
39. AW 2056, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, work samples, group 1
40. AW 2057, 12 inch 6-inch Type A Mult-au-matic for Amtorg, differential case, male, work samples, group 2
41. AW 2058, Mult-au-matic battery, ENV Engineering Co., London #1
42. AW 2059, Mult-au-matic general view, differential housings, ENV Engineering Co., London #2
43. AW 2060, 16 inch Mult-au-matic bed, ENV Engineering Co., London #3
44. AW 2061, A and B Mult-au-matic work, ENV Engineering Co., London #
45. AW 2062, Mult-au-matic work, ENV Engineering Co, #5

Box 32

1. AW 2063, Mult-au-matic work, ENV Engineering Co, #6
2. AW 2064, Type C, Mult-au-matic for General Electric, Bushing with air automatic chucking device, general view

3. AW 2065, Type C, Mult-au-matic for General Electric, Bushing with air automatic chucking device, right view
4. AW 2066, Type C, Mult-au-matic for General Electric, Bushing with air automatic chucking device, left view
5. AM 2067, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, view with operator
6. AM 2068, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, view without operator
7. AW 2069, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, loading stations 1 and 2
8. AW 2070, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, loading station 3
9. AW 2071, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, loading station 4
10. AW 2072, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, loading station 5 and 6
11. AW 2073, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, loading station 7
12. AW 2074, 8 inch 8-spindle Type D Mult-au-matic double index for new departure, loading station 8
13. AM 2080, portrait of Type F Mult-au-matic
14. AM 2081, First type F Mult-au-matic, spindles from loading station
15. AW 2083, Type D 8 inch 8-spindle Mult-au-matic general view with tools as ready to ship Citroen
16. AW 2084, Buick double index type D 8 inch 8-spindle fan pulley Mult-au-matic
17. AW 2085, Buick double index type D 8 inch 8-spindle fan pulley Mult-au-matic, stations 3, 4, and 5
18. AW 2086, Buick double index type D 8 inch 8-spindle fan pulley Mult-au-matic, stations 5 and 6
19. AW 2087, Buick double index type D 8 inch 8-spindle fan pulley Mult-au-matic, front view
20. AW 2088, Buick 12 inch 8-spindle type D Mult-au-matic pump body, general front view
21. AW 2089, Buick 12 inch 8-spindle type D Mult-au-matic pump body, stations 2, 3, and 4
22. AW 2090, Buick 12 inch 8-spindle type D Mult-au-matic pump body, stations 5, 6, 7 and 8
23. AW 2091, Buick 12 inch 8-spindle type D Mult-au-matic pump body, stations 7 and 8
24. AW 2092, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions
25. AW 2093. Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions with operator and cutting lubricant
26. AW 2094, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 1
27. AW 2095, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 2
28. AW 2096, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 3
29. AW 2097. Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 4
30. AW 2098, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 5
31. AW 2099, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 6
32. AW 2100, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 7
33. AM 2101, Buick Type D 8 inch 8 spindle Mult-au-matic stem pinions, station 8
34. AM 2102, Mult-au-matic drilling machine with plates in place of spindles
35. AM 2103, Mult-au-matic drilling machine with plates and drill head in place of spindle
36. AM 2104, Copy of pencil drawing of type J Mult-au-matic
37. AM 2105, Copy of wash drawing of type J Mult-au-matic

Box 33

1. AW 2136, General view with operator of Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder barrel machine
2. AW 2137, General view with operator of Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder barrel machine
3. AW 2138, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder barrel machine, station 2
4. AW 2139, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder barrel machine, station 3
5. AW 3140, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder barrel machine, station 4
6. AW 2141, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder barrel machine, station 5
7. AW 2142, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder barrel machine, station 6
8. AW 2143, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder machine, view with operator
9. AW 2144, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder machine, station 2
10. AW 2145, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder machine, station 3
11. AW 2146, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder machine, station 4
12. AW 2147, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder machine, station 5
13. AW 2148, Amtorg 16 inch 6-spindle Mult-au-matic, Airplane engine cylinder machine, station 6
14. AU 2149, Type C Mult-au-matic showing detail of cam slide function, 1930
15. AU 2150, Type C Mult-au-matic showing cam feed of head at station 6, 1930
16. AM 2151, Type C Mult-au-matic general view showing iron man in construction, 1930
17. AM 2152, Comparative view of 2 Mult-au-matics for trade paper editorial
18. AW 2153, General front view of type J Mult-au-matic for Buick Motor Company, 1935
19. AM 21654, General right side view of type J Mult-au-matic for Buick Motor Co. showing cutting lubricant unit with its pump and motor
20. AM 2155, Buick type J Mult-au-matic looking down from above at station 2 to show chucking features
21. AM 2156, Wash drawing of type J Mult-au-matic
22. AM 2157, Type D Mult-au-matic surrounded by Mult-au-matic jobs
23. AW 2158, Comparative view of Buick Type J Mult-au-matic and 8 inch 8-spindle Type D Mult-au-matic
24. AW 2159, Comparative view of Buick Type J Mult-au-matic and 8 inch 8-spindle Type D Mult-au-matic with operators in position
25. AW 2160, Comparative view of Buick Type J Mult-au-matic and 8 inch 8-spindle Type D Mult-au-matic
26. AW 2161, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 1
27. AW 2162, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 2
28. AW 2163, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 3

29. AW 2164, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 4
30. AW 2165, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 5

Box 34

1. AW 2166, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 6
2. AW 2167, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 7
3. AW 2168, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, first chucking, station 8
4. AW 2169, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 1
5. AW 2170, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 2
6. AW 2171, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 3
7. AW 2172, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 4
8. AW 2173, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 5
9. AW 2174, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 6
10. AW 2175, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 7
11. AW 2176, 8 inch 8-spindle type D Mult-au-matic for Ford Dagenham rear axle driving gears, second chucking, station 8
12. AW 2177, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, general view with operator
13. AW 2178, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive, close up at loading station showing chucking work of first and second operations
14. AW 2179, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, station 3
15. AW 2180, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, station 5
16. AW 2181, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, station 5
17. AW 2182, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, station 7
18. AW 2183, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, station 4
19. AW 2184, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, station 6
20. AW 2185, Buick 8 inch 8-spindle type D Mult-au-matic, double index, machining fan drive pulley, station 8
21. AW 2186, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, general view with operator
22. AW 2187, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, loading station
23. AW 2188, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, station 2

24. AW 2190, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, station 4
25. AW 2191, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, station 5

Box 35

1. AW 2192, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, station 6
2. AW 2193, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, station 7
3. AW 2194, Buick 8 inch 8-spindle type D Mult-au-matic, clutch gear, station 8
4. AW 2195, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, loading station
5. AW 2196, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, loading station
6. AW 2197, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, stations 3 and 4
7. AW 2198, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, station 5
8. AW 2199, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, station 5
9. AW 2200, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, stations 5, 6, and 7
10. AW 2201, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, station 8
11. AW 2202, Amtorg 8 inch 8-spindle type D Mult-au-matic double index, piston job, stations 7 and 8
12. AM 2293, 8 inch 8-spindle type D Mult-au-matic at National Machine Tool Builders' Cleveland show, 1935
13. AW 2204, Wash drawing copy of Buick type J Mult-au-matic with tooling
14. AM 2205, Pencil sketch of type J Mult-au-matic, artist conception
15. AW 2206, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, first chucking, general view
16. AW 2207, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, first chucking, stations 2, 3, and 4
17. AW 2208, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, first chucking, stations 5 and 6
18. AW 2209, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, first chucking, stations 7 and 8
19. AW 2210, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, second chucking, general view
20. AW 2211, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, second chucking, stations 3 and 4
21. AW 2212, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, second chucking, stations 5 and 6
22. AW 2213, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, front hub, second chucking, stations 7 and 8
23. AW 2214, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, rear hub, first chucking, general view
24. AW 2215, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, rear hub, first chucking, stations 2 and 3
25. AW 2216, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, rear hub, first chucking, stations 4 and 5
26. AW 2217, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, rear hub, first chucking, 6, 7, and 8
27. AW 2218, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, rear hub, second chucking, general view

28. AW 2219, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, rear hub, second chucking, stations 3, 4, and 5
29. AW 2220, Motor Wheel 8 inch 8-spindle type D Mult-au-matic, single index, rear hub, second chucking, stations 6, 7, and 8
30. AW 2221, Chevrolet-Flint 12 inch 8-spindle type D Mult-au-matic flywheel, first chucking, general view
31. AW 2222, Chevrolet-Flint 12 inch 8-spindle type D Mult-au-matic flywheel, first chucking, stations 2 and 8
32. AW 2223, Chevrolet-Flint 12 inch 8-spindle type D Mult-au-matic flywheel, first chucking, stations 2 and 3
33. AW 2224, Chevrolet-Flint 12 inch 8-spindle type D Mult-au-matic flywheel, first chucking, stations 4 and 5
34. AW 2225, Chevrolet-Flint 12 inch 8-spindle type D Mult-au-matic flywheel, first chucking, stations 6 and 7
35. AW 2226, Station pictures and illustration of Buick 8 inch 8-spindle Mult-au-matic on pinion gear, 1934
36. AW 2227, Chevrolet-Flint 12 inch 6-spindle type D double index Mult-au-matic clutch pressure plate, loading station
37. AW 2228, Chevrolet-Flint 12 inch 6-spindle type D double index Mult-au-matic clutch pressure plate, stations 1 and 2
38. AW 2229, Chevrolet-Flint 12 inch 6-spindle type D double index Mult-au-matic clutch pressure plate, stations 3 and 4
39. AW 2230, Chevrolet-Flint 12 inch 6-spindle type D double index Mult-au-matic clutch pressure plate, stations 5 and 6
40. AM 2231, Chevrolet gear and Axle plant type J 7 inch 8-spindle Mult-au-matic single index, direct motor drive, general view
41. AW 2232, Chevrolet gear and Axle plant type J 7 inch 8-spindle Mult-au-matic single index, direct motor drive, general view
42. AW 2233, Chevrolet gear and Axle plant type J 7 inch 8-spindle Mult-au-matic single index, direct motor drive, loading station

Box 36

1. AW 2234, International Harvester 8 inch 8-spindle type D Mult-au-matic, differential gear cases, general view
2. AW 2234-A, International Harvester 8 inch 8-spindle type D Mult-au-matic, differential gear cases, rough and finished
3. AW 2235, International Harvester 8 inch 8-spindle type D Mult-au-matic, differential gear cases, loading station and station 2
4. AW 2236, International Harvester 8 inch 8-spindle type D Mult-au-matic, differential gear cases, stations 3 and 4
5. AW 2237, International Harvester 8 inch 8-spindle type D Mult-au-matic, differential gear cases, stations 5 and 6
6. AW 2238, International Harvester 8 inch 8-spindle type D Mult-au-matic, differential gear cases, stations 7 and 8
7. AW 2239, International Harvester 8 inch 8-spindle type D Mult-au-matic, machine on right for countershaft break drum hub, machine on left for differential gear cases
8. AW 2240, International Harvester 8 inch 8-spindle type D Mult-au-matic, double index for countershaft break drum hub, loading station
9. AW 2241, International Harvester 8 inch 8-spindle type D Mult-au-matic, double index for countershaft break drum hub, stations 3 and 4

10. AW 2242, International Harvester 8 inch 8-spindle type D Mult-au-matic, double index for countershaft break drum hub, stations 5-8
11. AW 2243, Chevrolet type F 12-spindle Mult-au-matic, rear bearing cases, loading station
12. AW 2244, Chevrolet type F 12-spindle Mult-au-matic, rear bearing cases, station 6
13. AW 2245, Pittsburgh Pipe and Pipe Coupling type D 8 inch 8-spindle Mult-au-matic, general view
14. AU 2246, Type J Mult-au-matic, looking in on top of feedworks showing speed change gears and dual range change gears
15. AU 2247, Type J Mult-au-matic, looking in on top of machine showing electrical switches and feedworks timing discs
16. AU 2248, Type J Mult-au-matic, looking into feedworks from loading station
17. AU 2249, Type J Mult-au-matic, looking up under feedworks
18. AU 2250, Type J Mult-au-matic, view of column at loading station
19. AU 2551, Type J Mult-au-matic, view into lower base mechanism
20. AU 2252, Rough and finished pieces of rear bearing cases done on Chevrolet type F 12-spindle Mult-au-matic
21. AU 2253, Rough and finished of countershaft brake drum done on International Harvester 8 inch 8-spindle type D Mult-au-matic
22. AW 2254, Two Amtorg 12 inch 6-spindle Type A Mult-au-matics, differential cases, general view
23. AW 2255, Amtorg 12 inch 6-spindle Type A Mult-au-matics, differential cases, stations 2 and 3
24. AW 2256, Amtorg 12 inch 6-spindle Type A Mult-au-matics, differential cases, stations 2 and 3
25. AW 2257, Amtorg 12 inch 6-spindle Type A Mult-au-matics, differential cases, stations 4 and 5
26. AW 2258, Amtorg 12 inch 6-spindle Type A Mult-au-matics, differential cases, stations 4 and 5
27. AW 2259, Amtorg 12 inch 6-spindle Type A Mult-au-matics, differential cases, stations 6 and 1
28. AW 2260, Amtorg 12 inch 6-spindle Type A Mult-au-matics, differential cases, stations 6 and 1
29. AW 2261, Buick type J Mult-au-matic, clutch bearing retainers, loading station
30. AW 2262, Buick type J Mult-au-matic, clutch bearing retainers, loading station
31. AW 2263, Motor Wheel 12 inch 8-spindle type D Mult-au-matic, front wheel hub, first chucking, general view
32. AW 2264, Motor Wheel 12 inch 8-spindle type D Mult-au-matic, front wheel hub, first chucking, stations 1 and 2

Box 37

1. AW 2265, Motor Wheel 12 inch 8-spindle type D Mult-au-matic, front wheel hub, first chucking, stations 3 and 4
2. AW 2266, Motor Wheel 12 inch 8-spindle type D Mult-au-matic, front wheel hub, first chucking, stations 5 and 6
3. AW 2267, Motor Wheel 12 inch 8-spindle type D Mult-au-matic, front wheel hub, first chucking, stations 7 and 8
4. AW 2268, Pontiac Motors 8 inch 8-spindle Type D Mult-au-matic double index ring gear, general view
5. AW 2269, Pontiac Motors 8 inch 8-spindle Type D Mult-au-matic double index ring gear, general view

6. AW 2270, Pontiac Motors 8 inch 8-spindle Type D Mult-au-matic double index ring gear, stations 6 and 7
7. AU 2271, Pontiac Motors 8 inch 8-spindle Type D Mult-au-matic double index ring gear, rough and finished pieces
8. AU 2772, Type J Mult-au-matic parts taken in demonstration display room, 1936
9. AW 2273, Pontiac Motor 12 inch 6-spindle type D Mult-au-matic rearer axle shaft, general view
10. AW 2274, Pontiac Motor 12 inch 6-spindle type D Mult-au-matic rearer axle shaft, general view
11. AW 2275, Pontiac Motor 12 inch 6-spindle type D Mult-au-matic rearer axle shaft, general view, stations 2 and 3
12. AW 2276, Pontiac Motor 12 inch 6-spindle type D Mult-au-matic rearer axle shaft, general view, stations 4 and 5
13. AW 2277, Pontiac Motor 12 inch 6-spindle type D Mult-au-matic rearer axle shaft, general view, station 6 and loading
14. AU 2278, Pontiac Motor 12 inch 6-spindle type D Mult-au-matic rearer axle shaft, general view, rough and finished
15. AW 2279, Amtorg type J Mult-au-matic finishing and grooving Ford aluminum pistons, general view
16. AW 2281, Wagner Electric Co., type J Mult-au-matic, front and back end plates, general view
17. AU 2282, Wagner Electric Co., type J Mult-au-matic, front and back end plates, rough and finished pieces
18. AW 2283, Wagner Electric Co., type J Mult-au-matic, front and back end plates, loading station
19. AW 2284, Wagner Electric Co., type J Mult-au-matic, front and back end plates, stations 2-4
20. AW 2285, Wagner Electric Co., type J Mult-au-matic, front and back end plates, stations 5-7
21. AW 2286, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, general view
22. AU 2287, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, rough and finished pieces
23. AW 2288, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, first chucking, loading station, stations 2 and 8
24. AW 2289, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, stations 2-4
25. AW 2290, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, stations 5-7
26. AW 2291, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, second chucking, general view
27. AW 2292, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, second chucking, general view
28. AU 2293, Kelsey-Hayes Wheel Co. 12 inch 8-spindle type D Mult-au-matic Ford truck hub, second chucking, rough and finished pieces
29. AW 2294, Walworth Co. 8 inch 6-spindle type A single index Mult-au-matic, station 6
30. AW 2295, Walworth Co. 8 inch 6-spindle type A single index Mult-au-matic, rough and finished pieces
31. AW 2297, Buick single index 8 inch 6-spindle type D Mult-au-matic on gear rear internal, stations 2 and 3
32. AW 2298, Buick single index 8 inch 6-spindle type D Mult-au-matic on gear rear internal, stations 4 and 5

33. AW 2999, Buick single index 8 inch 6-spindle type D Mult-au-matic on gear rear internal, stations 6 and 1
34. AW 2300, Buick 8 inch 8-spindle double index type D Mult-au-matic, gear front detail, general view
35. AW 3200, Bullard 8 inch 8-spindle type D Mult-au-matic machining piston, stations 3 and 4
36. AW 2301, Buick 8 inch 8-spindle double index type D Mult-au-matic, gear front detail, rough and finished pieces
37. AU 2301, Two views of #4 type D Mult-au-matic feedworks
38. AW 2304, Twin disc clutch co., 12 inch 6 spindle type D Mult-au-matic for hub and back plates, loading station
39. AW 2305, Twin disc clutch co., 12 inch 6 spindle type D Mult-au-matic for hub and back plates, station 2
40. AW 2306, Twin disc clutch co., 12 inch 6 spindle type D Mult-au-matic for hub and back plates, station 3
41. AW 2307, Twin disc clutch co., 12 inch 6 spindle type D Mult-au-matic for hub and back plates, station 4

Box 38

1. AW 2308, Twin disc clutch co., 12 inch 6 spindle type D Mult-au-matic for hub and back plates, station, stations 5 and 6
2. AU 3209, Twin disc clutch co., 12 inch 6 spindle type D Mult-au-matic for hub and back plates, rough and finished pieces
3. AU 2310, Wash drawing portrait of new 12 inch 6-spindle tube DA Mult-au-matic
4. AU 2311, Close up of type J Mult-au-matic plain and compound head
5. AU 2312, Close up view looking up at type J Mult-au-matic tool head mechanism
6. AU 2313, Close up of type J Mult-au-matic plain drill head and handle crank, 1936
7. AU 2314, Close up of type J Mult-au-matic drill head mechanism, 1936
8. AU 2315, Close up of type J Mult-au-matic shear pin
9. AU 2316, Close up of type J Mult-au-matic mechanism for chuck operation and lock pin, 1936
10. AU 2317, Close up of type J Mult-au-matic control box, 1936
11. AU 2138, Close up of type J Mult-au-matic automatic timing bracket, 1936
12. Close up of type J Mult-au-matic timer, 1936
13. AU 2320, Close up of type J Mult-au-matic, timing discs, 1936
14. AU 2321, Close up of type J Mult-au-matic, close up on right side of timing disc
15. AU 2322, Close up of type J Mult-au-matic pressure switch
16. AU 2323, Close up of type J Mult-au-matic synchronizing unit
17. AW 2324, Crosley Radio Corp tube J-7 8-spindle single index Mult-au-matic, first chucking, general view
18. AW 2325, Crosley Radio Corp tube J-7 8-spindle single index Mult-au-matic, first chucking, stations 1 and 2
19. AW 2326, Crosley Radio Corp tube J-7 8-spindle single index Mult-au-matic, first chucking, stations 3 and 4
20. AW 2327, Crosley Radio Corp tube J-7 8-spindle single index Mult-au-matic, first chucking, stations 5 and 6
21. AW 2328, Crosley Radio Corp tube J-7 8-spindle single index Mult-au-matic, first chucking, stations 7 and 8
22. AW 2329, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, general view
23. AW 2330, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, loading station

24. AW 2331, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, stations 3 and 4
25. AW 2332, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, stations 5 and 6
26. Aw 2333, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, stations 7 AND 8
27. Aw 2334, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, second gear setting, front view
28. AW 2335, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, second gear setting, loading station
29. AW 2336, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, second gear setting, stations 3 and 4
30. AW 2337, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, second gear setting, stations 5 and 6
31. AW 2338, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, second gear setting, stations 7 and 8
32. AW 2339, A.B. Dick Co., type J-7 8-spindle Mult-au-matic for pulley and gears, second gear setting, stations 7 and 8
33. AU 2340, Close up of type J Mult-au-matic control panel, 1927
34. AU 2341, Close up of type J Mult-au-matic column stop, 1937
35. AU 2343, Close up of type J Mult-au-matic Purolator unit, 1937
36. AU 2343, Close up of type J Mult-au-matic lock pin and index ring, 1937

Box 39

1. AU 2344, Close up of type J Mult-au-matic motor speed and index gears, 1937
2. AM 2345, Wash drawing portrait of latest type J Mult-au-matic, 1937
3. AM 2346, Wash portrait of first type FH Mult-au-matic, 1937
4. AM 2347, Latest wash drawing portrait of type D 12 inch 8-spindle Mult-au-matic 1937
5. AU 2348, Wash drawing portrait of typical Mult-au-matic anti-friction spindle for type D and DA Mult-au-matics, 1937
6. AU 2349, Rough and finished pieces of six set upts done on A.B. Dick Co. Tube J-7 Mult-au-matic double index
7. AU 2350, Emerson electric manufacturing 8-spindle single index Mult-au-matic, end shields, general view
8. AW 2351, Emerson electric manufacturing 8-spindle single index Mult-au-matic, end shields, loading station and station 2
9. AW 2352, Emerson electric manufacturing 8-spindle single index Mult-au-matic, end shields, stations 3 and 4
10. AW 2353, Emerson electric manufacturing 8-spindle single index Mult-au-matic, end shields, stations 5 and 6
11. AW 2354, Emerson electric manufacturing 8-spindle single index Mult-au-matic, end shields, stations 7 and 8
12. AU 2355, Type J Mult-au-matic automatic index safety lock lever, 1937
13. AW 2356, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, first chucking, general view
14. AW 2358, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, first chucking, station 2
15. AW 2359, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, first chucking, station 3

16. AW 2360, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, first chucking, station 4
 17. AW 2361, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, first chucking, station 5
 18. AW 2362, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, first chucking, station 6
 19. AW 2363, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, second chucking, station 2
 20. AW 2364, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, second chucking, station 3
 21. AW 2365, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, second chucking, station 4
 22. AW 2366, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, second chucking, station 5
 23. AW 2367, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, second chucking, station 5
 24. AW 2368, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, second chucking, station 6
 25. AW 2369, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, adaptor, general view
 26. AW 2369 and 2370, Bullard 8 inch 6-spindle type D Mult-au-matic, sell nose and close up of loading station
 27. AW 2370, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, machining
 28. AW 2371, Trojan Limited, 8 inch 6-spindle type D Mult-au-matic, machining
 29. AW 2371 and AW 2262, Bullard 8 inch 8-spindle type D Mult-au-matic machining of shell noses, stations 2 and 3
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Box 40

1. Empty folders, D series
2. DG 1003, Coupling boring machine, end view showing index cam
3. DG 1004, Coupling boring machine, rear view, left quarter
4. DG 1005, Coupling boring machine, rear view, right quarter
5. DG 1006, Coupling boring machine, rear end showing driving gears
6. DG 1007, Coupling boring machine, first machine erected, left rear view
7. DO 1008, Brown clutch driving sectors showing wear
8. DO 1010, White bus with Bullard double face bumper from direct front
9. DO 1013, Copy of wash drawing, Bullard carburetor
10. DO 1014, Copy of wash drawing, Bullard carburetor
11. DO 1015, Copy of wash drawing, Bullard carburetor for installation diagram
12. DO 1016, Copy of assembly drawing, Bullard carburetor
13. DO 1022, Bullard carburetor, first sample with manual control needle front valve
14. DO 1023, Bullard carburetor, first sample from manifold end
15. DO 1024, Bullard carburetor, first sample from float chamber end
16. DO 1025, Shock absorber, copy of assembly drawing
17. DO 1026, Clutch, copy of assembly drawing without flywheel, pin tube
18. DO 1027, Clutch, copy of assembly drawing, pin type
19. DO 1028, Clutch, copy of assembly drawing, gear type
20. DO 1029, Clutch, copy of assembly drawing, gear type, Bullard flywheel
21. DO 1030, Clutch, copy of assembly drawing, pin type, Bullard flywheel
22. DO 1031, Clutch, worn clutch tooth section

23. DO 1032, Clutch, worn clutch ring and sectors
24. DO 1033, Bumper, SF assembly drawing
25. DO 1034, Bumper bracket, SF model
26. DO 1035, Bumper bracket, SF model
27. DO 1036, Bumper bracket, SF model
28. DO 1037, Bumper DF assembly drawing
29. DO 1038, Bumper DF assembly drawing
30. DO 1039, Bumper bracket, DF model
31. DO 1040, Bumper bracket, DF model
32. DO 1041, Bumper bracket, DF model
33. DO 1043, Bumper bracket, DF universal showing assembly from rear
34. DO 1044, DF Universal showing assembly from front
35. DO 1045, Bumper SF mounted on Dodge front
36. DO 1048, Bumper DF mounted on Durant front
37. DO 1049, Bumper DF mounted on Durant front
38. DO 1050, Bumper DF mounted on Durant front

Box 41

1. DO 1053, Bumper, test picture
2. DO 1054, Bumper, test picture
3. DO 1055, Bumper, test picture
4. DO 1056, Bumper single face, front, star car
5. DO 1060, Bumper single face, front, Durant sedan
6. DO 1062, Bumper single face, front, flat type, close up of Durant sedan with special star bracket
7. DO 1063, Bumper single face, front, Durant sedan
8. DO 1064, Bumper single face, front, Durant sedan close up
9. DO 1065, Bumper double face, front, Durant sedan
10. DO 1071, Bumper double face, front, Oakland sedan
11. DO 1072, Bumper double face, front, Buick sedan
12. DO 1074, Bumper double face, front oblique, Nash roadster
13. DO 1081, Bumper double face, front, Barley touring car
14. DO 1082, Bumper picture of standard cast bracket for single face bumper
15. DO 1083, Bumper picture of standard cast bracket for single face bumper from inside
16. DO 1084, Bumper picture of standard cast bracket for double face bumper from outside
17. DO 1085, Bumper picture of standard cast bracket for double face bumper from inside
18. DO 1086, Bumper picture of standard pressed bracket rear for single face bumper from outside
19. DO 1087, Standard pressed bracket rear for single face bumper from inside
- DO 1088, Standard pressed bracket rear for double face bumper from outside
20. DO 1089, Bumper picture of standard pressed bracket rear for double face bumper from inside
21. DO 1093, Standard bracket chart to July 1923 plate
22. DG 1095, Coupling boring machine, left oblique front
23. DG 1096, Coupling boring machine, right oblique front
24. DG 1099, Coupling boring machine, right oblique rear
25. DG 1100, Coupling boring machine, close up of hopper feed
26. DG 1101, Coupling boring machine, close up of chain drive
27. DO 1103, Bumper single face, front Durant 4 sedan

28. DO 1104, Bumper single face, rear Durant 4 sedan
29. DO 1105, Bumper double face, front, Durant 4 sedan
30. DO 1106, Bumper double face, rear, Durant 4 sedan
31. DO 1110, Pipe coupling tapping machine, front view
32. DO 1111, Pipe coupling tapping machine, left front view
33. DO 1112, Pipe coupling tapping machine, right front view
34. Do 1113, Pipe coupling tapping machine, rear view
35. DO 1117, Ford 1924 model Bullard light double face, rear view
36. DO 1122, Special Dodge bumper, double face, front side view
37. DO 1123, Special Dodge bumper, double face front, rear view
38. DO 1124, Special Dodge bumper, double face front, top view
39. DO 1126, Special Dodge bumper, double face front, rear side view
40. DO 1127, Special Dodge bumper, double face rear, rear view
41. DO 1128, Special Dodge bumper, double face rear, top view
42. DO 1129, Special Studebaker front brackets, close up of side view
43. DO 1130, Special Studebaker front brackets, close up from front
44. DO 1131, Special Studebaker front brackets, close up from rear of bar
45. DO 1133, Bridgeport automobile show, Willys-Knight with Bullard standard DF bumper
46. DO 1134, Standard equipment bumper to be used with special brackets, Model F
47. DO 1135, Standard equipment bumper to be used with special brackets, Model D
48. DO 1138, Buick standard six with Model D bumper
49. DO 1156, Parts Model T bumper
50. DO 1157, Bracket shaping, punching and heat treating from cut off to finish bracket and complete process
51. DO 1158, Bracket shaping, punching and heat treating from cut off to finish bracket and complete process
52. DO 1159, Secondary bar, shaping, punching, and heat treating
53. DO 1160, Secondary bar, cut off, forming end, automatic end heating and forming machine
54. DO 1161, Primary bar, cut off, heating, and bending hooks...

Box 42

1. DO 1163, Heat treating primary bars
2. DO 1164, Press work, forge shop
3. DO 1165, Bumper parts entering cleaning department
4. DO 1166, Cleaning department
5. DO 1167, Rust proofing
6. DO 1169, Polishing small parts
7. DO 1170, Plating department looking south
8. DO 1171, Plating department looking northeast
9. DO 1172, Loading Japan oven
10. DO 1173, Japanning oven
11. DO 1174, Buffing primary bars
12. DO 1175, Bar assembly
13. DO 1176, Rear bumper assembly
14. DO 1177, Bagging nuts and bolts
15. DO 1178, Conveyor system looking north
16. DO 1179, Conveyor system looking southeast
17. DO 1180, Loading freight car from conveyor system
18. Empty folders, M series
19. MU 985, Right hand head for tire mold machines

20. MU 986, Left hand head for tire mold machines
21. MU 990, Ratchet handles for tire mold machine and Maxi-mill
22. MW 991, Close up of Maxi-mill with operator 1920
23. MW 993, 61 inch Maxi-mill at work with tire mold forming attachment
24. MW 994, Ratche handles amd water pan on 44 inch Maxi-mill, 1920
25. MU 995, 61 inch Maxi-mill with forming attachment for tire molds
26. M 996, Truck wheels being machined on Maxi-mills at White Manufacturing Co., 1915
27. Empty folders, M series
28. M5, 5879
29. M6, 5890
30. M9, P891
31. M 10, P892
32. M 12 P893
33. M 13, P894
34. M 14, P895
35. M 15, P896
36. M 16, P897
37. M 18, P898
38. M 23, P899
39. M 29, P905
40. M 30, S883
41. M 31, S884
42. M 32, S 885
43. M 33, S 886
44. M 39, P 908
45. M 44, P 966
46. M 45, S 888
47. M 48, S 891
48. M 49, S 892
49. M 50, S 893
50. M 51, S 894
51. M 53, S 896
52. M 54, S 897
53. M 55, S 898
54. M 56, S 899
55. M 61, S 904

Box 43

1. M 62, S 905
2. M 63, S 906
3. M 64, S 907
4. M 65 S 908
5. M 68, S 910, Side head for Peatt and Whitney, June 1914
6. M 71, S 911, Peatt and Whitney cut copy
7. M 72 S 912, Peatt and Whitney, 1914
8. M 103, S 926
9. M 115, P 925
10. M 116, S 931|M 117, S 932
11. M 124, S 938
12. M 125, S 939

13. M 134, S 943
14. M 135, AM 997
15. M 136, S944
16. M 137, S945
17. M 138, S 946
18. M 141, S 948, Lasseration of the arm on employee
19. M 165, AM 998
20. M 180, S 951
21. M 192, P 965
22. M 195, S 962
23. M 203, AM 999
24. M 210, S 969
25. M 211
26. M 213, s 972
27. M 216, S 973
28. M 219, P 975
29. M 271
30. M 272, P 806
31. M 275, S 999
32. M series, S 998, cylinder
33. VW 1001, Multi-bar in use, finishing reamer
34. VW 1002, Multi-bar in use, truing cutter
35. VW 1003, Multi-bar in use, finishing reamer from direct front
36. W 1004, 24 inch Vertical turret lathe at sun ship building and Dry Rock Co. sent in print
37. VM 1005, 42 inch Vertical turret lathe driving box boring, Baltimore and Ohio Railroad
38. Vw 1006, Multi-bar in use, extra long bar and chamfering cutter
39. VW 1007, Multi-bar in use, inserting cutter in extra long bar
40. VW 1008, Head gear blank for coupling boring machine
41. VW 1009, Table ring gear 31 5/16 inch chrome nickel steel
42. VW 1010, Table ring gear, 31 5/16 inch OD roughing cuts with cutting compound flow
43. VW 1011, Table ring gear, 31 5/16 inch OD bevel cut with cutting compound
44. VW 1012, Table ring gear, 31 5/16 inch OD bevel cut with cutting compound
45. VW 1013, Table ring gear, 31 5/16 inch OD bevel cut without cutting compound
46. VM 1014, 54 inch Vertical turret lathe special high bed machine with heavy boring bar, Illinois Central Railroad
47. VM 1015, 54 inch Vertical turret lathe special high bed showing method of shipping
48. VW 1016, 24 inch Vertical turret lathing turning and drilling yoke collar
49. VW 1017, Turning and boring feed cam drum 8 inch Mult-au-matic on 36 inch Vertical turret lathe
50. VW 1018, Turning and boring feed cam drum, 8 inch Mult-au-matic
51. VW 1020, Roughing cuts on back of saddle
52. VW 1021, Cam drum, 22 inch diameter
53. VW 1022, Cam drum, 22 inch diameter
54. VU 1023, Angular turning attachment, neutral position, DeLaval Seperator Machines
55. VU 1024, Angular turning attachment, engaged position, DeLaval Seperator Machines
56. VU 0125, Secondary unit, wash drawing copy
57. VU 1026, Primary unit, wash drawing copy
58. VU 1027, Spindle and table unit, wash drawing copy
59. VW 1028, 24 inch vertical turret lathe machining Mult-au-matic indexing clutch gear blank
60. VW 1029, 24 inch vertical turret lathe machining fixture for Mult-au-matic chucking

61. VW 1030, 24 inch vertical turret lathe finishing small change gear blank
62. VW 1031, Close up of work on 42 inch vertical turret lathe at Sun Ship Building Dry Dock Co, 1925
63. VW 1031, Triple tooling in machine head

Box 44

1. VW 1032, 24 inch vertical turret lathe machining sliding gear blank
2. VW 1033, 24 inch vertical turret lathe machining sliding gear blank
3. VW 1034, 24 inch vertical turret lathe on head gear
4. VW 1035, 24 inch vertical turret lathe facing and turning small disc
5. VM 1036, 42 vertical turret lathe equipped for driving box boring
6. VW 1037, Boring and turning 10 inch Contin-u-matic cam on 42 vertical turret lathe
7. VW 1038, Boring and turning 10 inch Contin-u-matic cam roll guard on 42 vertical turret lathe
8. VW 1039, Copy vertical turret lathe battery at DeLaval
9. VW 1041, 24 inch vertical turret lathe, first operation on table pinion
10. VW 1042, 36 inch vertical turret lathe, finish bore and turn pinion driving gear
11. VW 1043, 36 inch vertical turret lathe, finish bore and turn pinion driving gear showing tooling part drawing
12. VW 1044, Hunt-Spiller roughing packing ring pot
13. VW 1045, Hunt-Spiller parting packing rings
14. VW 1046, Hunt-Spiller dunbar ring ready for insertin
15. VW 1047, Hunt-Spiller cutting off completed dunbar ring
16. VW 1048, Hunt-Spiller finishing Z rings
17. VW 1049, Hunter-Spiller machining valve bushing
18. VW 1050, Hunt-Spiller finished valve bushing
19. VW 1051, Hunt-Spiller finishing valve bull rings
20. VW 1052, Hunt-Spiller finished valvet buill rings
21. VW 1053, Hunt-Spiller finished piston bull ring
22. VW 1056, Wash drawing copy of rear view of 42 inch vertical turret lathe
23. VW 1057, 42 inch vertical turret lathe rear view
24. VW 1058, Close up of Bullard side head
25. VW 1059, Roughing 25.5 inch pulley, 36 inch vertical turret lathe crown forming
26. VW 1060, Finishing 25.5 inch pulley, 36 inch vertical turret lathe crown forming
27. VU 1061, Micrometer, dials on crossrails
28. VW 1063, Hunt-Spiller packing rings in stock room
29. VW 1064, Hunt-Spiller packing rings in stock room
30. OVM 1065, 24 inch vertical turret lathe portrait
31. VM 1066, 24 inch vertical turret lathe wash drawing copy
32. VM 1067, 24 inch vertical turret lathe wash drawing, rear view
33. VU 1068, 24 inch vertical turret lathe primary and secondary unit wash drawings
34. VM 1070, 36 inch vertical turret lathe portrait
35. VM 1071, 42 inch vertical turret lathe portrait, wash drawing copy
36. VW 1072, 24 inch vertical turret lathe on a forged alley steel billet
37. VW 1073, Second operation, cast iron drive Pulley-Boring, facing and turning smaller diameter
38. VW 1074, Vertical turret lathe rigged for special boring with index head on table
39. VW 1075, Drive bevel gear on 24 inch vertical turret lathe, first chucking
40. VW 1076, Drive bevel gear on 24 inch vertical turret lathe, second chucking

41. VW 1077, Drive bevel gear on 24 inch vertical turret lathe completing bevel, second chucking
42. VW 1078, Drive bevel gear on 24 inch vertical turret lathe, wet
43. VW 1079, Using the vertical turret lathe for circular slotting through 90 degree arc
44. VW 1080, 42 inch vertical turret lathing machine base flange of inner column of 6-spindle Contin-u-matic
45. VU 1081, 36 inch vertical turret lathe forming attachment support bracket
46. VU 1082, 36 inch vertical turret lathe forming forming attachment support bracket
47. VW 1083, Shepard Electric motor frame, gear end, first chucking set-up
48. VW 1084, Shepard Electric motor frame, gear end, end first chucking
49. VW 1085, Shepard Electric motor frame, gear end, second chucking set-up
50. VW 1086, Shepard Electric frame end, second chucking set up
51. VM 1087, Universal forming attachment, close up of supporting bracket
52. VW 1088, High bed 54 inch vertical turret lathe at Illinois Central Shops

Box 45

1. VW 1089, High bed 54 inch vertical turret lathe for cylinder lining showing special bar and feed mechanism
2. VW 1062, Micrometer dials on side head
3. VM 1090, 24 inch vertical turret lathe, rear view showing motor drive
4. VU 1091, Right end of cross rail showing details of hands and power feed control and power traverse
5. VW 1092, Pump cylinder boring fixture, Illinois Central Railroad
6. VW 1093, 54 inch high bed vertical turret lathe pump cylinder boring at Illinois Central Railroad
7. VM 1094, 54 inch high bed vertical turret lathe with traveling head boring bar
8. VM 1095, 54 inch high bed vertical turret lathe with heavy Illionis Central type boring bar mounting
9. VU 1096, Close up of traveling head boring bar and controls on 54 inch vertical turret lathe
10. VW 1097, Machining Multi-au-matic carrier ball race ring
11. VW 1098, Scandia oil engine installation of vertical turret lathes and Maxi-mill
12. VW 1100, 36 inch vertical turret lathe machining forged fixture blank
13. VW 1101, Contin-u-matic column on 42 inch vertical turret lathe forming bearing
14. VU 1102, Traveling head boring bar for 54 inch vertical turret lathe
15. VM 1103, 42 inch vertical turret lathe with forming attachment bracket, 1925
16. VM 1104, 42 inch vertical turret lathe left rear showing machine and cutting lubricant system
17. VW 1105, Boring and turning the bronze pot for worm gear blanks
18. VW 1106, Bronze worm gear blanks from a pot, 24 inch vertical turret lathe
19. VW 1107, 24 inch vertical turret lathe, Pontiac flywheel, first roughing
20. VW 1108, 24 inch vertical turret lathe, Pontiac flywheel, second roughing
21. VW 1109, 24 inch vertical turret lathe, Pontiac flywheel, first finishing
22. VW 1110, 24 inch vertical turret lathe, Pontiac flywheel, second finishing
23. VW 1111, 24 inch vertical turret lathe battery, Pontiac flywheels in Bullard plant from roughing end
24. VW 1112, 24 inch vertical turret lathe battery, Pontiac flywheels in Bullard plant from finishing end
25. VU 1113, New turret and slide assembled
26. VU 1114, New turret and slide, phantom showing locking rings
27. VU 1115, New turret and slide, inside views showing locking rings

28. VU 1116, New locking ring turret
29. VU 1117, New locking ring turret, half index
30. VU 1118, Vertical turret lathe slide showing new locking ring
31. VU 1119, Vertical turret lathe turret inside showing new locking ring
32. VW 1121, Willys-Morrow 42 inch vertical turret lathe with thread cutting arranged for scroll cutting
33. VM 1122, First copy of driving box borer and facer, 1926
34. VM 1123, 54 inch vertical turret lathe, wash drawing copy, 1926
35. VM 1124, Vertical turret lathes for New Zealand, 1926
36. VW 1125, High bed 54 inch vertical turret lathe ready to start cylinder building
37. VW 1126, High bed 54 inch vertical turret lathe rough boring and turning cylinder bushing
38. VW 1127, High bed 54 inch vertical turret lathe cutting off cylinder bushing
39. VW 1128, High bed 54 inch vertical turret lathe cylinder bushing swing clear
40. VM 1129, High bed 54 inch vertical turret lathe close up
41. VW 1130, High bed 54 inch vertical turret lathe completely bored and turned
42. VM 1131, High bed 54 inch vertical turret lathe disconnected ready to remove bar
43. VM 1132, High bed 54 inch vertical turret lathe full view with bar and jaws
44. VM 1133, High bed 54 inch vertical turret lathe cylinder boring bar
45. VM 1134, Driving box borer and facer with extension bar, 1926
46. VM 1135, 54 inch vertical turret lathe rear view
47. VU 1136, New spindle drive pinion, 1926
48. VU 1137, Clutch unit, 1926
49. VU 1138, Rear of crossrail saddle
50. VM 1139, 42 inch vertical turret lathe from right front cutting
51. VM 1140, 42 inch vertical turret lathe from left front cutting
52. VM 1141, 36 inch vertical turret lathe, close up unfinished
53. VM 1142, 36 inch vertical turret lathe, close up unfinished
54. VU 1143, 24 inch vertical turret lathe secondary unfinished for wash drawing

Box 46

1. VU 1144, Vertical turret lathe spiral bevel table gear and pinion
2. VW 1145, High bed 54 inch vertical turret lathe with oversize table for Baltimore and Ohio Railroad
3. VU 1146, Spiral drive table gear and pinion
4. VM 1147, 36 inch vertical turret lathe portrait, 1927
5. VU 1148, Vertical turret lathe table and spindle unit wash drawing, 1927
6. VU 1149, Crossrail saddle rear view for wash drawing
7. VU 1150, General view lubricating tank vertical turret lathe
8. Vm 1152, 24 inch spiral drive type vertical turret lathe
9. VM 1153, Atlantic coast line driving box borer and facer machine
10. Vm 1154, 64 inch vertical turret lathe portrait, 1927
11. VM 1155, 24 inch vertical turret lathe without side head
12. VW 1156, First chucking, 24 inch chuck body
13. VW 1157, Second chucking, 24 inch chuck body
14. VU 1158, Secondary unit spiral and helical gears, 1927
15. VM 1159, 20 inch automatic vertical turret lathe
16. VW 1160, High bed 54 inch vertical turret lathe with drum scoring, side head
17. VW 1161, High bed 54 inch vertical turret lathe with drum scoring, right side
18. VW 1162, High bed 54 inch vertical turret lathe, left rear showing belting
19. VU 1163, High bed 54 inch vertical turret lathe with drum scoring, side head close up

20. VU 1164, High bed 54 inch vertical turret lathe with drum scoring, close up
21. VW 1165, Portrait of 20 inch automatic vertical turret lathe, 1927
22. VW 1166, Portrait of 20 inch automatic vertical turret lathe with guards, 1927
23. VW 1167, Portrait of 20 inch automatic vertical turret lathe at loading position, 1927
24. VW 1178, First 64 inch vertical turret lathe in the water pan
25. VW 1179, 64 inch vertical turret with cutting lubricant system and upper guards
26. VW 1180, 64 inch vertical turret with cutting lubricant system
27. VW 1181, Automatic first production job in Bullard plant
28. VW 1182, 24 inch vertical turret lathe machining a forging for fixture, first operation
29. VU 1183, 64 inch vertical turret lathe secondary speed change unit
30. VW 1184, De Soto Foundry and Machine Company high bed valve machine
31. VW 1885, R Hoe and Company operator on bevel gear blank
32. VM 1886, Method of shipping 64 inch vertical turret lathe
33. VW 1187, De Soto high bed valve machine without operator

Box 47

1. VW 1888, R. Hoe of battery of vertical turret lathes
2. VW 1189, Pratt and Whitney battery
3. VM 1190, 42 inch vertical turret lathe with extension bar and 4-jaw chuck
4. VW 1191, American Hammered Piston Ring Co, 24 inch special vertical turret lathe, front view, 1928
5. VW 1192, American Hammered Piston Ring Co, 24 inch special vertical turret lathe, right front view, 1928
6. VW 1193, 20 inch automatic vertical turret lathe on spindle drive ring gear, 1928
7. VW 1194, 20 inch automatic vertical turret lathe, second head spindle drive ring gear, 1928
8. VW 1195, 20 inch automatic vertical turret lathe, third head spindle drive ring gear, 1928
9. VW 1196, Wright Aeronautical J-5 case on vertical turret lathe, 1928
10. VW 1197, Wright Aeronautical J-5 case on vertical turret lathe, general view, 1928
11. VW 1198, Wright Aeronautical J-5 engine case, 1928
12. VW 1199, 20 inch automatic vertical turret lathe with drill head, first chucking
13. VW 1200, 20 inch automatic vertical turret lathe with drill head, first chucking
14. VW 1201, 20 inch automatic vertical turret lathe with drill head, first chucking
15. VW 1202, RD Nuttall Company vertical turret lathe installation, 1928
16. VM 1203, Installation diagram of 64 inch vertical turret lathe, 1928
17. VW 1294, Portrait of 20 inch automatic vertical turret lathe, 1928
18. VM 1205, 42 inch spiral drive type vertical turret lathe marked Tung-car Type E.W. Bliss
19. VW 1206, Vertical turret lathe – Peter Clark Company, working on shivers
20. VW 1207, Vertical turret lathe at Otis Fenson, grooving and boring drum, 1929
21. VW 1208, Snow and Petrelli, battery of vertical turret lathes, 1929
22. VW 1209, Snow and Petrelli, close up, 1929
23. VW 1210, Pickwick Corporation, 24 inch vertical turret lathe on clutch sliding hub, 1929
24. VM 1211, Front view cylinder bushing machine, 42 inch vertical turret lathe, 1929
25. VM 1212, 45 degree front view, 42 inch vertical turret lathe cylinder bushing machine, 1929
26. VM 1213, 64 inch vertical turret lathe, 1929
27. VW 1214, Vertical turret lathe at Pickwick Stage Company
28. VW 1215, 54 inch vertical turret lathe extension type bar installed at Farrell Birmingham, 1929
29. VU 1216, 42 inch vertical turret lathe showing helical head stock, 1929
30. VW 1217, Close up of 42 inch vertical turret lathe, CF Brown Company, 1929
31. VW 1218, General view of 42 inch vertical turret lathe, CF Brown Company, 1929
32. VW 1219, General view of 42 inch vertical turret lathe, CF Brown Company, 1929

33. VW 1221. Close up of Bullard vertical turret lathe working on Stutz drop forged flywheel
34. VW 1222, General view of 64 inch vertical turret lathe machining drum at Lidgerwood Company
35. VW 1224, Close up of 42 inch vertical turret lathe at CW Brown Company
36. VW 1225, 24 inch vertical turret lathe at Kinner Airplane Co.
37. VW 1226, Close up front crank case cover, 24 inch vertical turret lathe at Kinner Airplane Co.
38. VW 1227, 36 inch vertical turret lathe on Marine Flywheel
39. VW 1229, 36 inch vertical turret lathe on Marine Flywheel
40. VW 1230, Vertical turret lathe showing multi-bar with single cutter
41. VW 1231, Close up of work on 42 inch vertical turret lathe at Sun Shipbuilding and Dry Dock Co, 1925
42. VW 1232, 36 inch vertical turret lathe at Wright Aeronautical, close up of main crankcase cyclone motor
43. VW 1233, Battery of vertical turret lathes at Wright Aeronautical
44. VW 1234, 64 inch vertical turret lathe, general view and operator, machining sewer base at Lock Joint Pipe Company
45. VW 1235, 64 inch vertical turret lathe close up, Lock Joint Pipe Company
46. VW 1236, 36 inch vertical turret lathe machining...second operation
47. VW 1238, Close up front view of 20 inch automatic vertical turret lathe, station 2
48. VW 1239, General view of 20 inch automatic vertical turret lathe, station 2
49. W 1240, General view of 20 inch automatic vertical turret lathe, station 2

Box 48

1. VW 1241, Birdsborough steel foundry, 4views of 64 inch vertical turret lathe
2. VW 1243, 64 inch vertical turret lathe, Canadian National Railways
3. VW 1244, Driving box borer and Facer, Canadian National Railways, 1930
4. VW 1245, 36 inch vertical turret lathe at Kinner Aeroplane Co.
5. VW 1246, 36 inch vertical turret lathe at Kinner Aeroplane Co.
6. VW 1247, 36 inch and 24 inch vertical turret lathe at Atlantic Coast Line Shops
7. VW 1248, 54 inch vertical turret lathe with special boring tool and machine head
8. VW 1249, 54 inch vertical turret lathe with special boring tool and machine head, close up
9. VW 1250, Battery of vertical turret lathes in Norton Company Shop
10. Vm 1251, Vertical turret lathe operator's reference book illustration
11. VM 1252, Vertical turret lathe operator's reference book illustration, rear view
12. VW 1253, Battery of vertical turret lathes in customer plant
13. VW 1254, Vertical turret lathes for Amtorg on floor ready for crating
14. VW 1255, Vertical turret lathes for Amtorg on floor ready for crating
15. VW 1256, 54 inch vertical turret lathe high bed, McGraw-Hill, 1926
16. VW 1257, 54 inch vertical turret lathe with work and operator, McGraw-Hill, 1926
17. VW 1258, 54 inch vertical turret lathe showing boring ID and under cut on outside diameter
18. VU-1259, 42 inch gearing diagram, vertical turret lathe parts list
19. VM-1260, 54 inch vertical turret lathe, new wash drawing, 1930
20. VW 1261, Old Bullard vertical turret lathe, Neilson Machine Co. in service for 32 years
21. VW 1262, Old Bullard vertical turret lathe, Neilson Machine Co. in service for 32 years, with operators
22. VW 1263, 54 inch vertical turret lathe, Falk Corp
23. VW 1264, 54 inch vertical turret lathe, Falk Corp, close up of reduction drive
24. VW 1265, 54 inch high bed cylinder bushing machine, Delaware and Hudson Railroad Company

25. VW 1267, Wash drawing copy of standard universal forming attachment
26. VM 1268, Copy from wood cut of first 37 inch boring mill
27. VW 1269, close up of 36 inch vertical turret lathe on railroad brass job
28. VW 1271, 54 inch vertical turret lathe for Cooper-Bessemer with 18 inch extra high bed....1930
29. VW 1272, 64 inch vertical turret lathe for Mesta Machine Company, 1931
30. VW 1273, 64 inch vertical turret lathe for Mesta Machine Company, 1931
31. VW 1274, 64 inch vertical turret lathe for Mesta Machine Company, 1931
32. VW 1275, 64 inch vertical turret lathe for Mesta Machine Company, 1931
33. VW 1276, 64 inch vertical turret lathe for Mesta Machine Company, 1931
34. VW 1278, 36 inch vertical turret lathe drum scoring, attachment to side rail
35. VU 1279, 36 inch vertical turret lathe drum scoring attachment
36. VW 1280, 36 inch vertical turret lathe drum scoring at Ingersoll-Rand Co.
37. Vu 1282, Series of negatives, directions for Amtorg machine assembly, 1930
38. VM 1284, 36 inch vertical turret lathe with 2 special bars for La Compania Constructora Nacional Mexicana
39. Vu 1285, Left side or 20 inch automatic vertical turret lathe showing change gears
40. VU 1286, Right side of 20 inch automatic vertical turret lathe showing clutch unit and cutting lubricant pump
41. VU 1287, Left side view of 20 inch automatic vertical turret lathe showing feed cam
42. VU 1288, Close up of timing discs, 20 inch automatic vertical turret
43. VU 1289, Rear view of 20 inch automatic vertical turret lathe nshowing timing dsics, 1931
44. Vu 1290, Wash drawing of latest design of vertical turret lathe clutch unit, 1931
45. VU 1291, Vertical turret lathe thread cutting attachments, front view, 1931
46. VU 1292, Vertical turret lathe thread cutting attachments, rear view, 1931
47. VW 1293, 20 inch vertical turret lathe close up with drill head attachment, 1931
48. VW 1294, 36 inch vertical turret lathe, Cleveland Tractor sprocket
49. VW 1295, 24 inch vertical turret lathe machining control gear type A
50. VW 1296, High speed vertical turret lathe for General Electric

Box 49

1. VM 1297, High speed vertical turret lathe for General Electric, rear showing individual motor drive for cutting lubricant
2. VU 1298, High speed vertical turret lathe for General Electric, right side showing motor drive and filters for pressure lubrication system
3. VW 1299, 36 inch high speed vertical turret lathe, left side with work
4. VM 1300, 36 inch high speed vertical turret lathe, left rear view
5. VM 1301, 42 inch high speed vertical turret lathe, right side view showing lubricating pump and filters for pressure system
6. VM 1302, 36 inch vertical turret lathe, front view with work in process
7. VM 1303, 42 inch high speed vertical turret lathe, front view with cutting lubricant system
8. VM 1304, 54 inch high speed vertical turret lathe, chain drive, Cincinnati Milling Machine Company
9. VM 1305, 54 inch high speed vertical turret lathe, chain drive, Cincinnati Milling Machine Company, rear view
10. VM 1306, 54 inch high speed vertical turret lathe, chain drive, Cincinnati Milling Machine Company, right front view
11. VM 1307, 54 inch high speed vertical turret lathe, chain drive, Cincinnati Milling Machine Company, left side view
12. VM 1308, 64 inch vertical turret lathe, view of side head and micrometer dials

13. VM 1308
14. VM 1309, 36 inch vertical turret lathe machining Amtorg Bell Housing
15. VM 1310, 24 inch vertical turret lathe wash drawing, 1931
16. VM 1311, 36 inch vertical turret lathe wash drawing, 1931
17. VM 1312, 42 inch vertical turret lathe wash drawing, 1931
18. VW 1313, 36 inch vertical turret lathe for Wright Aeronautical machining cyclone main crank case, 1931
19. VW 1314, 36 inch vertical turret lathe for Wright Aeronautical machining cyclone intermediate section, 1931
20. VW 1315, 36 inch vertical turret lathe for Wright Aeronautical machining whirlwind main crankcase, 1931
21. VW 1316, 36 inch vertical turret lathe for Wright Aeronautical, first chucking on whirlwind, diffuser section, 1931
22. VW 1317, 36 inch vertical turret lathe for Wright Aeronautical, second chucking on whirlwind, diffuser section, 1931
23. VW 1318, 36 inch vertical turret lathe for Wright Aeronautical machining cyclone, front section, reduction gear
- VW 1319, 36 inch vertical turret lathe for Wright Aeronautical machining typhoon reverse gear housing, 1931
24. VW 1320, 36 inch vertical turret lathe for Wright Aeronautical machining whirlwind crankcase rear, 1931
25. VW 1321, 36 inch vertical turret lathe for Wright Aeronautical machining whirlwind crankcase rear, 1931
26. VW 1322, 36 inch vertical turret lathe for Wright Aeronautical machining typhoon cylinder sleeve, 1931
27. VW 1323, 36 inch vertical turret lathe for Wright Aeronautical machining cyclone main crankcase, 1931

Box 50

1. VW 1324, Wright Aeronautical Work Samples, 6 pieces grouped, 1931
2. VW 1325, Vertical turret lathe battery at Wright Aeronautical...1931
3. VW 1326, Vertical turret lathe battery at Wright Aeronautical...1931
4. VW 1327, 42 inch vertical turret lathe for Mesta, left front view showing drive power traverse and rail raising motors
5. VW 1328, 42 inch high speed vertical turret lathe for Mesta Machine Company, right front view
6. VU 1329, 42 inch high speed vertical turret lathe for Mesta Machine Company, right side showing motor drive and filters
7. VW 1330, 20 inch automatic vertical turret lathe battery on cams and gear hubs, Bullard plant
8. VW 1331, 20 inch automatic vertical turret lathe for Humber Ltd., loading station, brake drum, 1932
9. VW 1332, 20 inch automatic vertical turret lathe for Humber Ltd., second station...
10. VW 1333, 20 inch automatic vertical turret lathe for Humber Ltd., third station
11. VW 1334, 20 inch automatic vertical turret lathe for Humber Ltd., fourth station
12. VW 1335, 20 inch automatic vertical turret lathe for Humber Lt., finishing station
13. Vw 1336, Norfolk and Western Railroad, turning outside and boring taper hole for piston rod, 1931
14. VW 1337, Norfolk and Western Railroad, boring and turning cross head for pin hole, 1931
15. VW 1338, Norfolk and Western Railroad, showing method of hole work in fixture, 1931

16. VU 1339, Back view of vertical turret lathe showing lubricating pipes to pinion and worm bearings
17. VM 1340, First portrait of 64 inch tung-car type vertical turret lathe, front view, 1930
18. VM 1341, First portrait of 64 inch tung-car type vertical turret lathe, right view, 1930
19. VM 1342, First portrait of 64 inch tung-car type vertical turret lathe, left view, 1930
20. VM 1343, Tung car type 64 inch vertical turret lathe, front view...
21. VM 1344, Tung car experimental...
22. VM 1345, Tung car type 64 inch vertical turret lathe, left view...
23. VM 1346, Tung car experimental, front view...
24. VM 1347, Tung car experimental, right view...
25. VM 1349, 64 inch tung-car type vertical turret lathe, right view
26. VM 1350, Tung car experimental, front view with cross rail...
- VM 1351, Tung car experimental, right view of cross rail...
27. VM 1352, Tung car experimental, front view with cross rail...
28. VM 1353, Tung car experimental, front view with vertical turret head...
29. VW 1354, 64 inch tung-car type vertical turret lathe, full view machining ring gear
30. VW 1355, 64 inch tung-car type vertical turret lathe, close up of machining ring gear
31. VW 1356, Close up of tung-car machining 42 inch chuck, 4 tools operating
32. VM 1357, Comparative view of first tung-car type and 36 inch vertical turret lathes, front, 1930
33. VM 1358, Comparative view of first tung-car type and 36 inch vertical turret lathes, rear, 1930
34. VU 1359, Headstock of tung-ca, right hand side
35. VU 1360, Headstock of tung0car, right hand front view
36. VU 1361, Headstock of tung car, gear sthif meachanism, right side
37. VU 1362, Headstock of tung car, gear shift mechanism, left side
38. VU 1363, Headstock of tung car, rear view and left side
39. VU 1364, Headstock of tung car,close up showing gears and lower shafts from left side
40. VU 1365, Installation of Headstock of tung car, 1930
41. VW 1366, Tung-car in department 126, machining top Malt-au-matic carrier
42. VW 1367, Tung-car in department 126, machining top Malt-au-matic carrier
43. **VW 1368**, Tung-car in department 126, machining top Malt-au-matic carrier
44. VW 1369, Tung-car in department 126, machining top Malt-au-matic carrier
45. VW 1370, 24 inch high speed vertical turret lathe for Owens-Illinois Glass, 1933...

Box 51

1. VW 1371, 24 inch high speed vertical turret lathe for Owens-Illinois Glass, 1933...
2. VW 1372, 24 inch high speed vertical turret lathe for Owens-Illinois Glass, 1933...
3. VW 1373, 24 inch high speed vertical turret lathe for Owens-Illinois Glass, 1933...
4. VU 1374, First picture of 56 inch hydro-shift vertical turret lathe bed, 1933
5. VU 1375, Right hand front view of hydro-shift vertical turret lathe, base with cross rail, 1933
6. VU 1376, Right hand front view of hydro-shift vertical turret lathe base with only cross rail, side head in place, 1933
7. VU 1377, Rear view of hydro-shift vertical turret lathe with only crossrail and right side head in place, 1933
8. VU 1378, Rear view of first hydro-shift vertical turret lathe...1933
9. VU 1379, Rear view of hydro-shift vertical turret lathe, 1933
10. VU 1380, Right hand rear view of first hydro-shift vertical turret lathe, headstock showing clutch, 1933

11. VU 1831, Right hand side view of first hydro-shift vertical turret lathe, showing gears in base of head stock, 1933
12. VU 1382, Close up of first hydro-shift vertical turret lathe headstock gearin and palte removed to show shifting levers, 1933
13. VU 1383, Close up view of hydro-shift vertical turret lathe face on shifting place showing oil channels and by-pass, 1933
14. VU 1384, Close up front view of hydro-shift vertical turret lathe left hand ram hand ram head saddle, 1933
15. VU 1385, Close up front view of first hydro-shift vertical turret lathe head saddle, 1933
16. VU 1386, Rear view of first hydro-shift vertical turret lathe head saddle, 1933
17. VU 1387, Left side head ram of first hydro-shift vertical turret lathe showing rack, 1933
18. VU 1388, Right hand front view of first hydro-shift vertical turret lathe with two side heads...1933
19. VU 1389, Close up of first hydro-shift vertical turret lathe slide with turret removes...1933
20. VU 1390, Back of first hydro-shift vertical turret lathe removed showing turret and male registry lock pins, 1933
21. VM 1391, First portrait of hydro-shift vertical turret lathe, 1933
22. VU 1392, Hydro-shift complete except two main slides, 1933
23. VU 1393, Ram slide hydro-shift showing rack and bar hole, 1933
24. VM 1391, Comparison of 56 in hydro-shift and 36 and 42 inch spiral drive vertical turret lathes, wash drawing, 1933
25. VU 1395, Close up of speed selector dial on hydro-shift, wash drawing, 1934
26. VU 1396, Close up of upper right hand feed feed works on hydro-shift, 1934
27. VU 1397, Close up of hydro-shift headstock showing pressure gauges, 1934
28. VW 1398, General left hand view of hydro-shift with test pieces, 1934
29. VW 1399, General right hand view of hydro-shift with test pieces, 1934
30. VW 1400, General closeup hydro-shift...1934
31. VW 1401, 3 views of rough and finished pump bodies as machined on Anderson-Barngrover
32. 20 inch automatic vertical turret lathe, 1934
33. VW 1402, General left view of hydro-shift with test pieces, 1934
34. VW 1403, hydro-shift right hand side head with grooving cutter in work, 1934
35. VW 1404, hydro-shift left hand side head with finish grooving cutter in work, 1934
36. VW 1405, General fron view of hydro-shift with operator...1934
37. VU 1406, Rear view of 20 inch automatic vertical turret lathe showing timing disc...1934
38. VW 1407, 20 inch automatic vertical turret lathe for Anderson-Barngrover, 1934
39. VW 1408, 20 inch automatic vertical turret lathe for Anderson-Barngrover, first station
40. VW 1409, 20 inch automatic vertical turret lathe for Anderson-Barngrover, first station
41. VW 1410, 20 inch automatic vertical turret lathe for Anderson-Barngrover, second station
42. VW 1411, 20 inch automatic vertical turret lathe for Anderson-Barngrover, second station
43. VW 1412, 20 inch automatic vertical turret lathe for Anderson-Barngrover, third station
44. VW 1413, 20 inch automatic vertical turret lathe for Anderson-Barngrover, third station
45. VW 1414, 20 inch automatic vertical turret lathe for Anderson-Barngrover, third station

Box 52

1. VW 1415, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, station 1...1934
2. VW 1416, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, station 1...1934
3. VW 1417, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, station 2...1934

4. VW 1418, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, station 3...1934
5. VW 1419, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, station 4...1934
6. VW 1420, 20 inch automatic vertical turret lathe for Anderson-Barngrover, large pump body,, second chucking, first operation...1934
7. VW 1421, 20 inch automatic vertical turret lathe for Anderson-Barngrover, large pump body,, second chucking, first operation...1934
8. VW 1422, 20 inch automatic vertical turret lathe for Anderson-Barngrover, large pump body,, second chucking, first operation...1934
9. VW 1423, 20 inch automatic vertical turret lathe for Anderson-Barngrover, large pump body,, second chucking, second operation...1934
10. VW 1424, 20 inch automatic vertical turret lathe for Anderson-Barngrover, large pump body, third chucking, third operation...1934
11. VW 1425, 20 inch automatic vertical turret lathe for Anderson-Barngrover, large pump body,, second chucking, third operation...1934
12. VW 1426, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, second chucking, first operation...1934
13. VW 1427, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, second chucking, first operation...1934
14. VW 1428, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, second chucking, second operation...1934
15. VW 1429, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, second chucking, second operation...1934
16. VW 1430, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, second chucking, third operation...1934
17. VW 1431, 20 inch automatic vertical turret lathe for Anderson-Barngrover, small pump body, second chucking, third operation...1934
18. VW 1432, General left hand view of Owens-Illinois Glass Company's special 24 inch vertical turret lathe, 1934
19. VW 1433, General close up view of Owens-Illinois Glass Company's special 24 inch vertical turret lathe...1934
20. VU 1434, Close up view of Owens-Illinois Glass Company's special 24 inch vertical turret lathe...1934
21. VU 1435, Close up view of Owens-Illinois Glass Company's special 24 inch vertical turret lathe...1934
22. VM 1436, Return shipment of wrecked Owens-Illinois Glass Company Special 24 inch turret lathe showing poor condition...1934
23. VM 1436, Rear view of return shipment of wrecked Owens-Illinois Glass Company Special 24 inch turret lathe showing poor condition...1934
24. VM 1438, Front view of return shipment of wrecked Owens-Illinois Glass Company Special 24 inch turret lathe showing poor condition...1934
25. VM 1439, Rear view of 36 inch high speed vertical turret lathe for Amtorg showing electrical equipment, 1934
26. VM 1440, Front view of 36 inch high speed vertical turret lathe for Amtorg showing electrical equipment, 1934
27. Sample of folder organization from Bullard
28. VW 1168, 20 inch automatic vertical turret lathe at second position
29. VW 1169, 20 inch automatic vertical turret lathe at third position
30. VW 1170, 20 inch automatic vertical turret lathe at fourth position

31. VU 1171, Automatic vertical turret lathe, four sections gear hub tooling
32. VM 1172, Driving box machine and crane – New York Central Railroad Company
33. VW 1173, 20 inch automatic vertical turret lathe at work spindle lower bearing
34. VW 1174, 20 inch automatic vertical turret lathe spindle lower bearing chucking bore...
35. VW 1175, 20 inch automatic vertical turret lathe spindle lower bearing, second head
36. VW 1176, 20 inch automatic vertical turret lathe spindle lower bearing, third head
37. VW 1177, 20 inch automatic vertical turret lathe spindle lower bearing, fourth head
38. VM 1441, Right front view of 36 inch high seed vertical Turret Lathe for Armtorg...
39. VM 1442, Right side view of 36 inch high seed vertical Turret Lathe for Armtorg...
40. VU 1442, Comparison view of 42 inch vertical turret lathes
41. VU 1443, Latest design of Hydro-shift vertical turret showing pinion and registry pins
42. VM 1445, Atlantic Coast Lines shipment to Florida, 1926
43. VM 1446, 3 vertical turret lathes in transit to Atlantic Coast Lines, 1926
44. VM 1447, 3 vertical turret lathes in transit to Atlantic Coast Lines, 1926
45. VM 1448, 3 vertical turret lathes in transit to Atlantic Coast Lines, 1926
46. VM 1449, 3 vertical turret lathes in transit to Atlantic Coast Lines, 1926

Box 53

1. W-28, MW 917 – Machining Gear Blank
2. W-29, MW 918 – 37 inch boring mill
3. W-34, MW 923 – Machining eccentric
4. W-41, MW 929 – Machine gear wheel
5. W-42, MW 930 – Boring and facing steel cylinder
6. W-43 and W-44, MW 31, chips, orie negatives
7. W-45, MW 932 – Machine drum gear
8. W-66, MW 933, 42 inch boring mill showing method of boring down slide for perfect alignment
9. W-90, MW 934, Use W306
10. W-120, MW 942 – Supplementary turret
11. W-105, MW 945 – 42 inch machine balance wheel aux tool holder
12. W-108, MW 947 – 42 inch R.P. machining rider Erickson hot air engine cylinders
13. M209, AW 996
14. W-215, Aw 86 – 14 inch multi automatic Ford fly wheels
15. W-2218, AW 889 – Multi-aumatic, 915
16. W-222, AW 892, Mult-Au-Matis, 19
17. W-238, MW 952 – Tire mold on maxi-mill
18. W-239, MW 953 – Tire mold on maxi-mill
19. W-240, MW 954 – Tire mold on maxi-mill
20. W-241, MW 955 – Tire mold on maxi-mill
21. W-246, MW 97 – Maxi-mill at work
22. W-247, MW 958 – 34 x 4 Goodrich core finishing operations on 54 inch maxi-mill
23. W-249, MW 959 – 33x4 Goodrich core finishing operation
24. W-250, MW 60 – 33x Goodrich core, rough forming operation
25. W-251, MW 961 – Base ring 3x PO Mold firestone finishing operations on 61 inch maxi-mill
26. W-252, MW 962 – 34x4 Mold firestone, finishing operation on 61 inch maxi-mill, January 13, 1920
27. W-253, MW 963 - Ring 36x12 PO Mold – Old field finishing operations
28. W-254, MW 964 – 815 – 105 M/M Chinchey firelore, Oldfield Fir Co. 44 inch maxi-mill
29. W-255, MW 965 – 36 x 12 P.O. Mold, Oldfield fire co, 61 inch maxi-mill
30. W-256, MW 966 – 30 x ½ chinchey fire mold – oldfield, 54 inch MM spec. slides

31. W-258, MW 967 – 32 x ½ straight slide mold – Goodrich
32. W-277, MW 969 – 61 inch, maxi-mill turning table, B. Mill dept. May 4, 1921
33. W-278, MW 970 – 1 inch Maxi-mill turning table in B. Mill dept. (close-up), May 4, 1921
34. W-280, MM 972 – Maxi-mill American engineering co.
35. W-302, Copy of maxi-mill in R.R. shops
36. Empty folders X series
37. X-141, TH 971
38. X-153, TH 973 – Bullard tool holder
39. X-154, S 838 – Tierrst test extra
40. X-156, TH 931 – Standard tool equipment for UTLs
41. X-165, AU 901 – Base inch multi-au-matic
42. X-166, AU 902 – Feed works unit, 1 inch mult-au-matic
43. X-168, AU 904 – Table with chuck jaws 14 inch mult-au-matic
44. X-170, AU 906 – Feed works – assembled 14 inch mult-au-matic
45. X-171, AU 907 – Base, carrier, and turrets, 14 inch mult-au-matic
46. X-182, AU 913 – 14 inch mult-au-matic station 1
47. X-183, AU 914 – 1 inch mult-au-matic chucks
48. X-185, AU 916 – 12 spindle mult-au-matic detail of chucks
49. X-188, AU 917 – 12 spindle mult-au-matic
50. X-189, AU 918 – 12 spindle mult-au-matic heads and chucks
51. X-190, AU 91 – 12 spindle mult-au-matic heads and chucks

Box 54

1. X-218, AU 937 – Feed works – mult-au-matic
2. X-220, AU 939 – Motor drive mult-au-matic
3. X-229, AW 945 – Six station picture R&M washing machine motor
4. X-230, AW 95, Six station picture Robbins and Meyers fan motor body
5. X-233, T 976 – Standard tool equipment
6. X-250, AW 949
7. X-252, MM 703
8. X-253, 5554
9. X-254, TH 981
10. X-258, AW 952
11. X-263, AW 953, Differential case
12. X-264, AW 954
13. X-266, T 983, Standard tool equipment, V.T.L.
14. X-269, T 986
15. X-278, TH 988
16. X-283, AW 958
17. X-284, AW 959
18. X-285, AW 852 - Type AX Motor drive 4:1 motor
19. X-288, TH 989
20. X-289, TH 990
21. X-290, TH 991
22. Empty folders W series

Series 5, Advertising department files

Sub-series A, News releases

23. News releases, 1956-1957
24. News releases, 1959
25. News releases, 1960
26. News releases, January-August, 1961
27. News releases, October-December, 1961
28. News releases, 1962 incomplete
29. News releases, January-April 1962
30. News releases, May-December, 1962

Box 55

1. News releases, January-March, 1963
2. News releases, April-December, 1963
3. News releases, January, 1964
4. News releases, February-December, 1964
5. News releases, January-March, 1965
6. News releases, April-December, 1965
7. News releases, 1966
8. News releases, January-April, 1967
9. News releases, June-August, 1967
10. News releases, September-December. 1967

Box 56

1. News releases, 1968
2. News releases, 1969-1972
3. News releases, undated

Sub-series B, Advertising manager letter files

4. Advertising manager - letter file - Index, 1960
5. Advertising manager - letter file - Index January 4-January 29, 1960,
6. Advertising manager - letter file - Index February 1-February 24, 1960
7. Advertising manager - letter file - Index February 29-April 5, 1960
8. Advertising manager - letter file - Index April 5, 1960-May 18, 1960
9. Advertising manager - letter file - Index May 18-June 22 1960
10. Advertising manager - letter file - Index June 28-August 11 1960
11. Advertising manager - letter file - Index August 12-October 17 1960
12. Advertising manager - letter file - Index October 19-November 9 1960
13. Advertising manager - letter file - Index November 9-December 30, 1960
14. Advertising manager - letter file - Index 1961-1962
15. Advertising manager - letter file - January 3-March 9, 1961
16. Advertising manager - letter file - March 10-April 10, 1961
17. Advertising manager - letter file - April 12-June 20, 1961
18. Advertising manager - letter file - June 20-September 21, 1961
19. Advertising manager - letter file - September 22-November 6, 1961

Box 57

1. Advertising manager - letter file - November 6, 1961-January 10, 1962
2. Advertising manager - letter file - January 10-March 27, 1962

3. Advertising manager - letter file - March 27-April 25, 1962
4. Advertising manager - letter file - April 25-June 5, 1962
5. Advertising manager - letter file - June 5-August 7, 1962
6. Advertising manager - letter file - August 7-September 19, 1962
7. Advertising manager - letter file - September 19-November 14, 1962
8. Advertising manager - letter file - November 15-December 30, 1962
9. Assistant advertising manager - letter file - Index, 1954
10. Assistant advertising manager - letter file - January 4-January 13, 1954
11. Assistant advertising manager - letter file - January 13-January 22, 1954
12. Assistant advertising manager - letter file - January 22-February 4, 1954
13. Assistant advertising manager - letter file - February 8-18, 1954
14. Assistant advertising manager - letter file - February 18-March 11, 1954
15. Assistant advertising manager - letter file - March 11-March 17, 1954
16. Assistant advertising manager - letter file - March 17-April 1, 1954
17. Assistant advertising manager - letter file - April 1-April 19, 1954
18. Assistant advertising manager - letter file - April 19-April 22, 1954
19. Assistant advertising manager - letter file - April 22-May 4, 1954
20. Assistant advertising manager - letter file - May 4-May 11, 1954
21. Assistant advertising manager - letter file - May 11-June 2, 1954

Box 58

1. Assistant advertising manager - letter file - June 2- June 8, 1, 1954
2. Assistant advertising manager - letter file - June 8-June 17, 1954
3. Assistant advertising manager - letter file - June 17-July 21, 1954
4. Assistant advertising manager - letter file - July 21-August 10, 1954
5. Assistant advertising manager - letter file - August 10-September 2, 1954
6. Assistant advertising manager - letter file - September 3-December 6, 1954
7. Assistant advertising manager - letter file - December 6-December 29, 1954

Sub-series C, Clippings

8. Advertising clippings, 1980
9. Advertising clippings, 1981
10. News clippings, 1963
11. News clippings, 1980
12. News clippings, 1980
13. News clippings, 1980
14. News clippings, 1980
15. News clippings, 1981
16. News clippings, 1981

Sub-series D, Subject files

Box 59

1. Advertising list, 1957
2. Award, Long Island Advertising Club, 1977
3. Award, National Machine Tool Builders association, 1980
4. Bullard, E.C., Remarks to introduct Dynatrol V.T.L., November 5, 1959
5. Calendar, 1966
6. Calendar, 1972
7. Envelopes, printed
8. Gruman, E.V., talk on quality control, April 30, 1959
9. Invaiton to editors, new products, July 1960

10. Letter on employees' raise, January 24, 1962
11. Letter on frauenthal line of precision vertical grindrs, 1962
12. Letter, Infringment suit against GE, 1960
13. News releases held for approval, 1959 and undated
14. News releases, Purolator pro ?, 1961
15. Phonograph record, "A Personal Message from Ed Neale"
16. Press party, Dynatrol V.T.L., November 5, 1959
17. Revisions to data sheets of tool books, 1963-1965
18. Welcome leaflets
19. Yellow pages advertising

Sub-series E, Trade shows

Box 60

1. Machine tools exposition (National Machine Tool Builders Association), Chicago, 1960
2. NMTBA floor and layout, 1965
3. Correspondence, NMTBA show, 1965
4. Bullard booth photos, NMTBA show, September 20-30, 1965
5. Materials to take to Chicago, 1965
6. NMTBA show publication kit sample, domestic, 1965
7. Letters to foreign publishters for NMTBA, 1965
8. Ties (temple-turn) worn by salesmen and Bullard personnel at show - 1965
9. Misc. photos taken by Mr. W.C. Neu during preparations for NMTBA show, September 1965
10. Materials distributed to each Bullard salesman for Sales Meeting, September 19, 1965 at the Bullard Booth
11. Machine tool show, 1965
12. NMTBA - The machine Tool Show - 1965

Box 61

1. Budget, NMTBA show, 1966
2. Heneale letter for follow up on NMTBA show, 1970
3. NMBTA layouts, 1970
4. NMBTA, 1970
5. NMTBA show budget, 1970
6. NMTBA show photos, 1970
7. NMTBA tool show, September 21-October 2, 1970
8. NMTBA show, 1972
9. NMTBA show, 1974
10. IMTS photos, 1984
11. NMTBA show, 1976
12. NMTBA show, 1976
13. NMTBA show, 1976

Box 62

1. US Metal working and machine tool catalog exhibits, 1976
2. Catalog exhibit, May 3-7, 1976
3. Posidonia international shipping exhibition, Piraeus, Greece, 1976
4. Catalog, Zaire and Zambia, 1976
5. Video catalog/exhibition, October 1976
6. Prague, Czechoslovakia, November 1-6, 1976
7. Catalog exhibit, South Africa, 1976

8. China trade mission, H.E. Neale, 1977
9. Video/catalog exhibition, Brisbane, Australia, June 23-24, 1977
10. Hanover show 2 Emo, September 20-29, 1977
11. Hanover show, September 20-29, 1977
12. Warsaw, Poland, video catalog exhibit, November 7-8, 1977
13. International machine tool show, 1978
14. International machine tool show, Fred Ware Associates, 1978
15. International machine tool show, publicity, 1978
16. SME show, George I. Wingo Machinery Company, March 7-9, 1978
17. Machine tools/USA video/Catalog exhibit, 1978
18. Brussels, Belgium, catalog exhibition, US Industrial Equipment, May 25-June 1, 1978
19. Zagreb. Yugoslavia Fall Fair, September 15-24, 1978
20. Catalog exhibit, Athens, Greece, November 13-19, 1978
21. People's Republic of China catalog show, May 7-17, 1979
22. Brussel's, Belgium, US Metalworking and finishing equipment catalog exhibit, June 6-7, 1979
23. US Metalworking and finishing equipment catalog exhibition, December 3-14, 1979

Sub-series F, Plaques

Box 63

1. Plaque honoring Edward Payson Bullard, undated (RUSTY)
2. Bullard company logo , undated
3. Bullard company logo, undated
4. Plaque for "Outstanding developments of SME's Half Century Man-Au-Trol Control",, 1945
5. Bullard company emblem, undated

Sub-series G, Other material

Box 64

1. Type A motor drive, MA-1
2. Type A motor drive, MA-4-8-1-14
3. Type B motor drive, MB-1
4. Type C Motor Drive, MC-2
5. Type D Motor Drive, MD-1
6. Type E Motor Drive, ME-1
7. Type F Motor Drive, MF-3-12-13-2000
8. Type F Motor Drive, MF-2-9-13-2000
9. Spiral geared scroll chucks
10. Power operated chucks
11. Independent face plate jaws, type XR-2-XR-2-1-2-15
12. Independent face plate jaws, type XP-2 XP-2-1-2-15
13. Independent face plate jaws, type XP-1, XP-1-1-2-15
14. Independent face plate jaws, XAP-2
15. Independent face plate jaws, type XAP-2, XAP-2-4-6-20
16. Company calendar, 1962
17. CL Libby Boring Mill and Bullard boring mills
18. Adjustable speed drive, 1958
19. Grindle, reprint of article in *Machinery* April, 1960
20. Grindle, reprint of article in *Iron Age*, May 1960
21. F.U. Hayes' statement to US Senate, April 1, 1952
22. Bullard patents, foreign, 1906-1962

Series 6, Duplicates

Box 65

1. Annual report, 1953
2. Annual report, 1954
3. Annual report, 1955
4. Annual report, 1956
5. Annual report, 1957
6. Annual report, 1958
7. Annual report, 1959

Box 66

1. Annual report, 1960
2. Annual report, 1964
3. Annual report, 1965
4. Annual report, 1966
5. Annual report, 1967