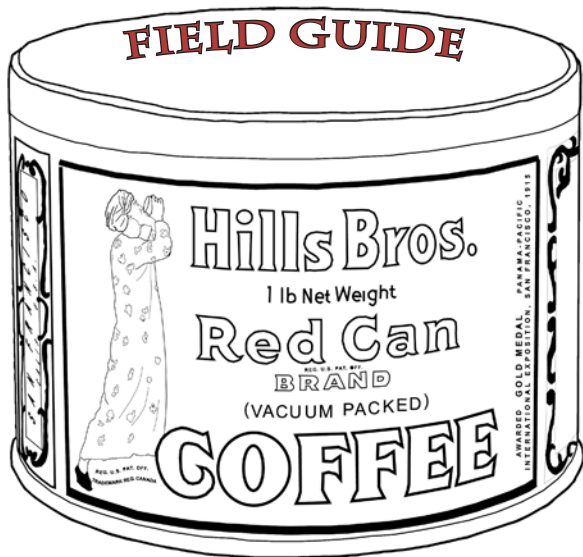


HILLS BROS.

COFFEE CAN CHRONOLOGY



BY STEVE LANFORD AND ROBIN MILLS

BLM

Alaska



Illustrations

All illustrations were created by Steve Lanford and Chuck Adkins.

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HILLS BROS. Coffee Can Chronology

FIELD GUIDE

By Steve Lanford and Robin Mills

BLM - Alaska Open File Report 109
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Fairbanks, Alaska

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HILLS BROS. Coffee Can Chronology

FIELD GUIDE

INTRODUCTION

Archaeologists use various relative and absolute dating techniques to refine the chronology of the sites they research. One artifact that is especially helpful on many 20th century western United States historic sites is the Hills Bros. coffee can. Hills Bros., established in San Francisco, California in 1878, produced the first vacuum-packed coffee available on the market. Through time, the lithographic images and information on Hills Bros. cans changed in subtle yet distinctive ways, which were first discussed and illustrated in T. Carroll Wilson's *A Background Story of Hills Bros. Coffee* (1967). This field guide further refines the chronological attributes identified in these cans' lithographic panels. We decided the easiest way to provide this data was to produce images of the entire lithography of each unique can type produced between 1900 and 1963. This time period spans from the first year that a Hills Bros. coffee tin can was produced to an arbitrarily selected end date associated with numerous technological changes in the cans' manufacture. The images in this field guide are meant to be compared to cans found at sites in the field in order to help date a site's occupation history. What is gained is immediate information that can be used by the field archaeologist. Also, cans may then be left in the field rather than brought back to a lab and expensively curated and stored.

SOURCES OF THE IMAGES AND HOW THEY WERE CREATED

The lithographic images were taken from both archaeological specimens and cans bought on the Internet. Field experience has demonstrated that due to differential weathering, colors are unreliable for recognizing images. Accordingly, the break between yellow and white colors within some cans' vertical information panels has been denoted using a "hairline." This needs to be understood when reading attribute descriptions and comparing them to the black-and-white images, which were chosen over color images to provide clearer understanding of the image shapes.

The images were created using a flatbed scanner. Multiple "slices" of the lithographic label were scanned through a one-inch-wide slot in a mask on the scanner as the can was rotated sequentially from the body seam around the can back to the body seam. Those slices were then merged using image editing software. Once the scanned color image was pieced together, a graphics drawing program was used to create the black and white image, with the scanned image serving as a template. Certain choices that we made to ease production do not change an attribute's chronology: (1) the Arab figure is one of two generic figures that do not include subtle changes made over time to the flowers on his robe; (2) some fonts are approximations in correct locations, not exact tracings; (3) fractions may be printed $\frac{2}{3}$ rather than 2 over 3; and (4) an originally underlined word in the side panel may not be underlined.

It is important to note that the images presented are *not* the same size as the can. Our research suggests to us that American Can Company manufactured standard one-pound cans, to which the customer's lithography was applied. In other words, the lithographic image was placed on a "field" consisting of the can body. As a consequence, portions of the can may have no lithography on them. Cans larger than the standard one-pound size depicted in this guide (i.e., 2 lb, 2 ½ lb, 4 lb or 5 lb cans) provided larger fields for the image, allowing for alterations in the lithography. In some cases the Arab figure will be below rather than between the words "Hills Bros." In other cases, copyright and patent lines may vary in placement but remain within the same can panel. To date, the images presented here have been successfully used on 2, 2 ½, 4 and 5 lb cans after allowance for the larger panels on the larger cans.

WHAT'S NOT IN THIS GUIDE

Hills Bros. produced Blue Can Brand coffee (Rock, 1994) that was not vacuum-packed. To date we do not feel confident that we have enough information about this series of cans to add it to this field guide.

There is a gap in the chronology for the years 1942–1945. During this period Hills Bros. coffee was packed in glass jars. These screw-top jars are unique, with a particular texture pattern and a smooth band where the paper label was applied around the jar's midsection. At the bottom of the jar, a small, smooth panel contains the word "Duraglas" in raised, cursive lettering. An illustration of the jar and paper label is not included in this guide.

A word of caution—there are replica Hills Bros. cans in existence. These cans have a lithography style from the 1900–1906 period, yet they have straight sides with body rings (post-1963 for Hills Bros. cans) and a cut-out top style. These replica cans are not included in this guide.

HOW TO USE THE BOOKLET

Each image in the booklet has arrows and numbers pointing to attributes on the can. These attributes are identifiable “fragments” of the image with their own date ranges. Attributes combine in such a way as to form a chronologically discrete lithographic image. Users may find that certain attributes become key triggers for identification. Some users may discover that an “attribute checklist” approach works best for them, while others may prefer matching the images with the can and then cross-checking against the attribute.

The images in the booklet are arranged chronologically from the original vacuum-packed can in 1900 to the selected cut-off date of 1963. The images are arranged on the page as if the can were held in the hand at eye level, with the can seam in the center, and then rotated so that the image is revealed from the right. This allows consistency in the numbering of the panels. Panels are “blocks” of the figure and are sequentially numbered from the seam, going to the right, around the can, and back to the seam (e.g., can seam \ Panel 1 \ Panel 2 \ Panel 3 \ etc. back to the can seam).

We have supplied two logic trees (pp. 7–9) that have worked well for us. The first asks a series of questions about key attributes. As you answer the questions, the logic tree directs you to your can's page in this booklet. The second logic tree focuses on the type of border around information panels 1, 3, and 5. Match the border....and find your can! Remember the goal: a date for the site record and the can remaining in the field.

Two tables are provided at the end of this booklet. Table 1 provides the attribute description, panel number (following the convention just described) and date range for that attribute. The second table provides sources for each image as well as other known can sizes for each can type. See Acknowledgements for sources of cans found in this table.

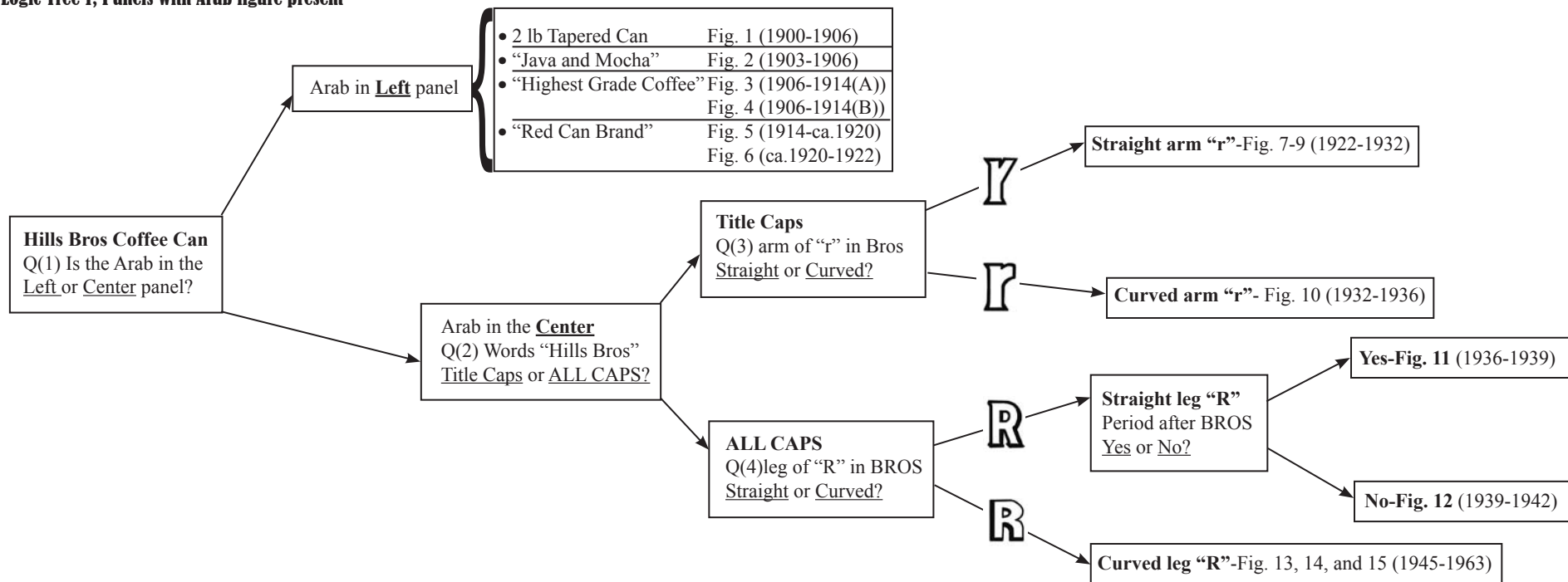
ACKNOWLEDGEMENTS

This project would have taken much longer and resulted in much poorer images had it not been for the following assistance of: Charles “Chuck” Adkins, BLM, for guidance and use of the scanner and digital editing software; Stacie McIntosh, BLM, for her knowledge and assistance with the graphics drawing software; and Diane Hunt and Craig McCaa, BLM, for editing and layout. Daniel Odess and Archaeology Collections Manager James Whitney, both of the University of Alaska Museum of the North, and Pete Bowers, of Northern Land Use Research, Inc., loaned archaeological can specimens.

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- T. Carroll Wilson, 1976, The Origin and Development of Vacuum-Packed Coffee. Tea and Coffee Trade Journal, Sept. pp. 22–24, 46–47, 66.
- James T. Rock, 1994, Coffee: Common Shapes. Unpublished manuscript in possession of the authors.

Logic Tree 1, Panels with Arab figure present



Logic Tree 2, Information Panel Borders



(1) **“Banner and Harp”** see:

Fig. 2, panels 1 and 3

Fig. 3, panels 1 and 3

Fig. 4, panels 1 and 3

Fig. 5, panel 1



(2) **“Coarse Filigree”** see:

Fig. 4, panel 3

Fig. 6, panels 1, 3, and 5

Fig. 7, panels 1, 3, and 5

Fig. 8, panels 1, 3, and 5

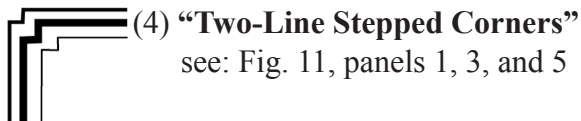
Fig. 9, panels 1, 3, and 5



(3) **“Fine Filigree”** see:

Fig. 10, panels 1, 3, and 5

Logic Tree 2, Information Panel Borders (continued)



(4) **“Two-Line Stepped Corners”**

see: Fig. 11, panels 1, 3, and 5



(5) **“One-Line Stepped Corners”**

see: Fig. 12, panels 1, 3, 5



(6) **“One-Line Square Corners”**

see: Fig. 13, panels 1, 3, and 5

Fig. 14, panels 1, 3, and 5

Fig. 15, panels 1, 3, and 5

Figure 1: 1900 - 1906

(Attribute descriptions for all figures are found in Table 1)

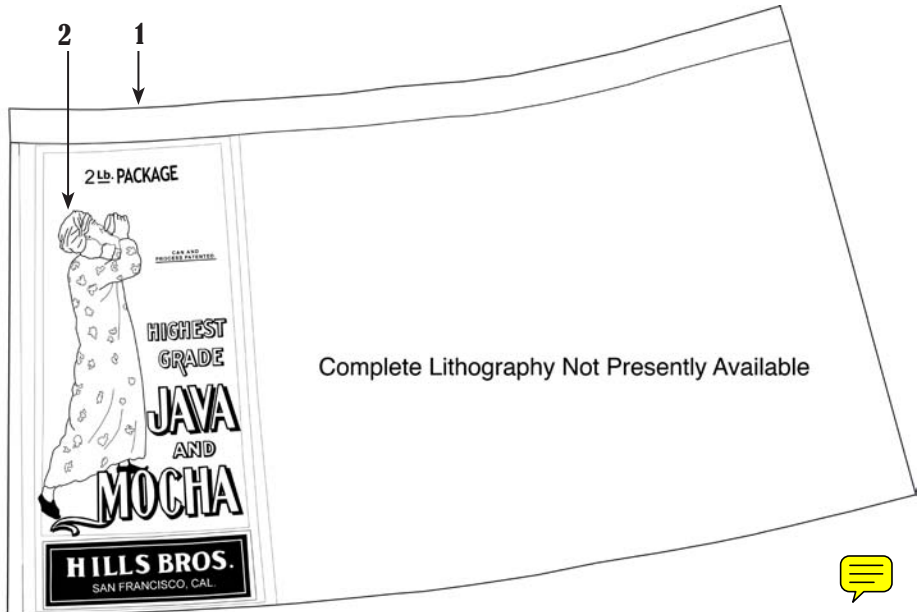


Figure 2: 1903 - 1906

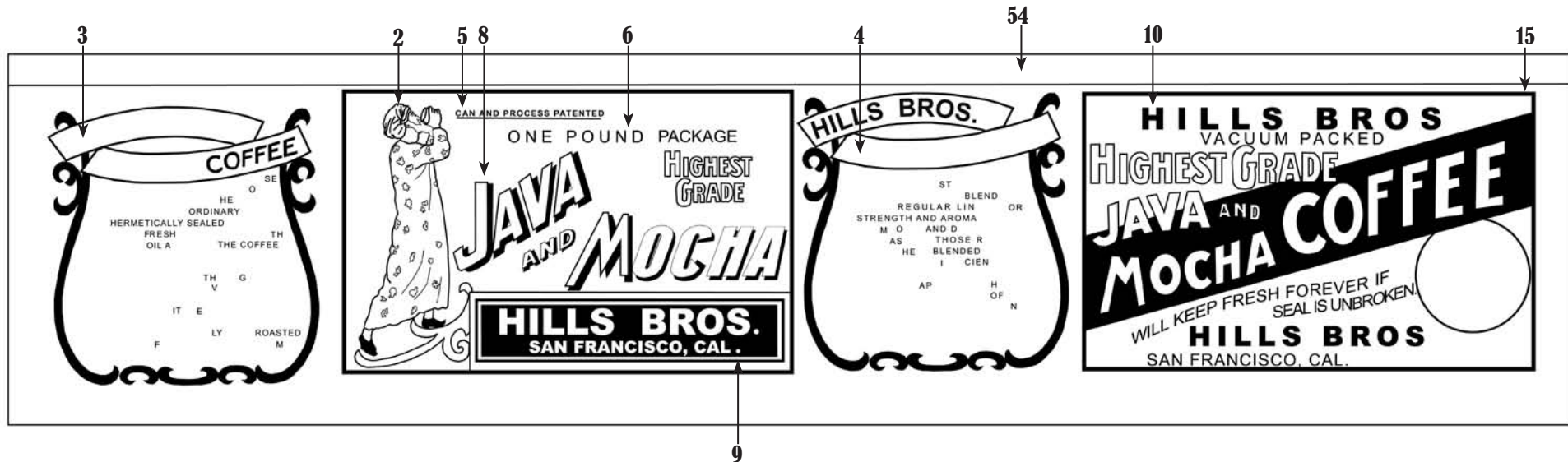


Figure 3: 1906 - 1914 (A)

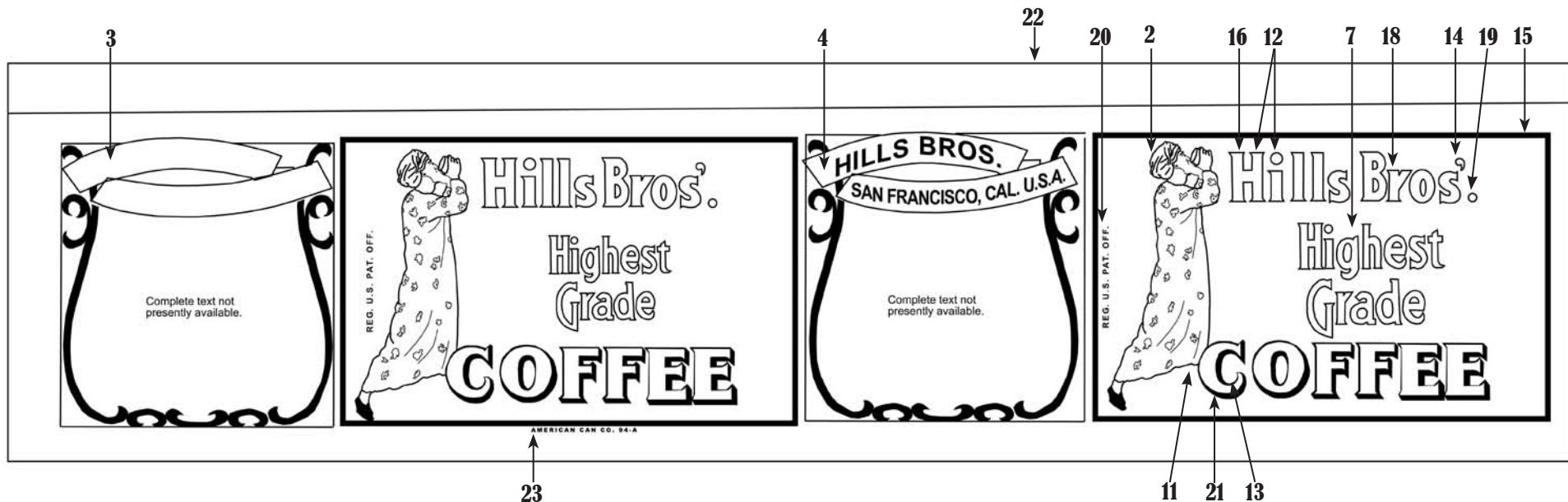


Figure 4: 1906 - 1914 (B)

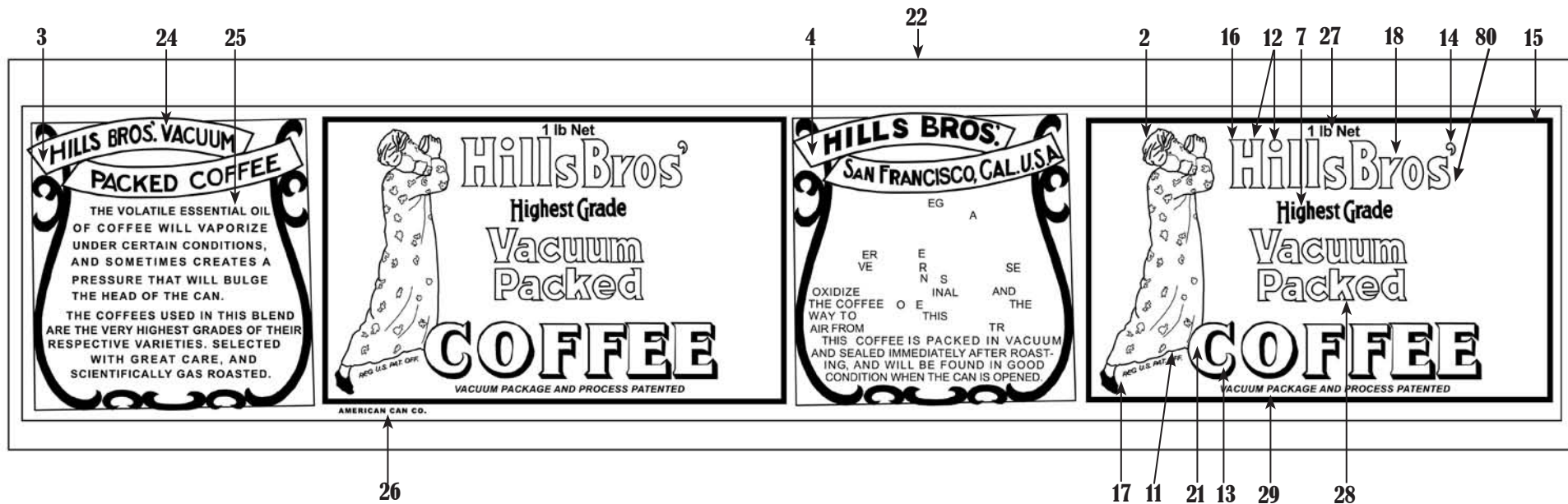


Figure 5: 1914 - ca1920

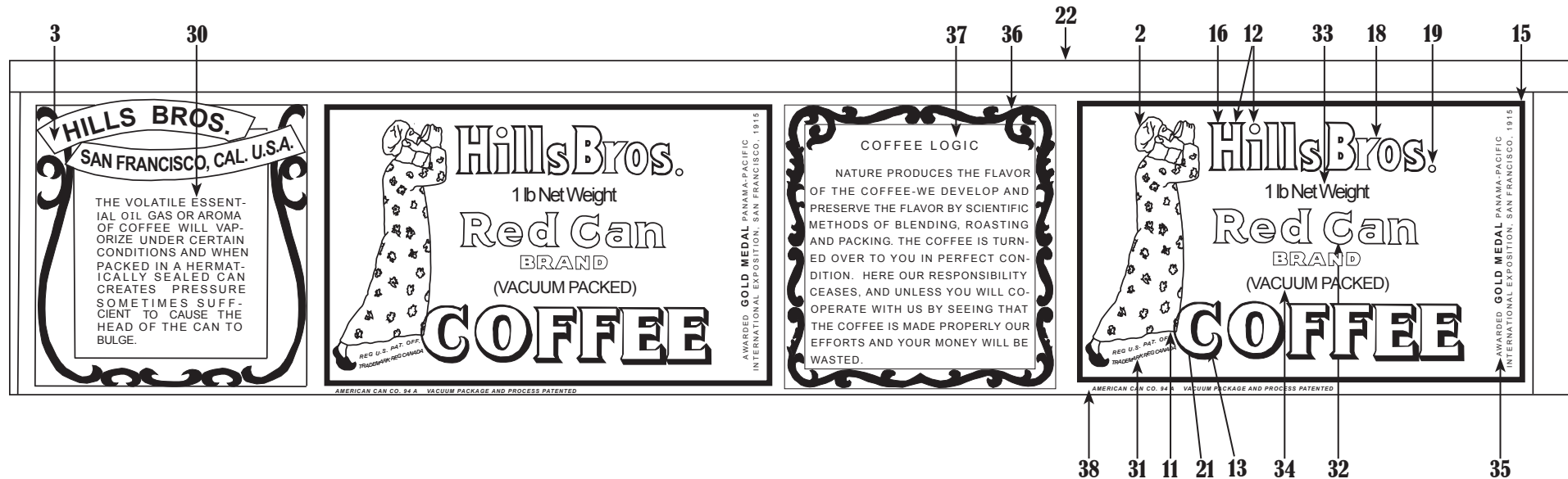


Figure 6: ca1920 - 1922

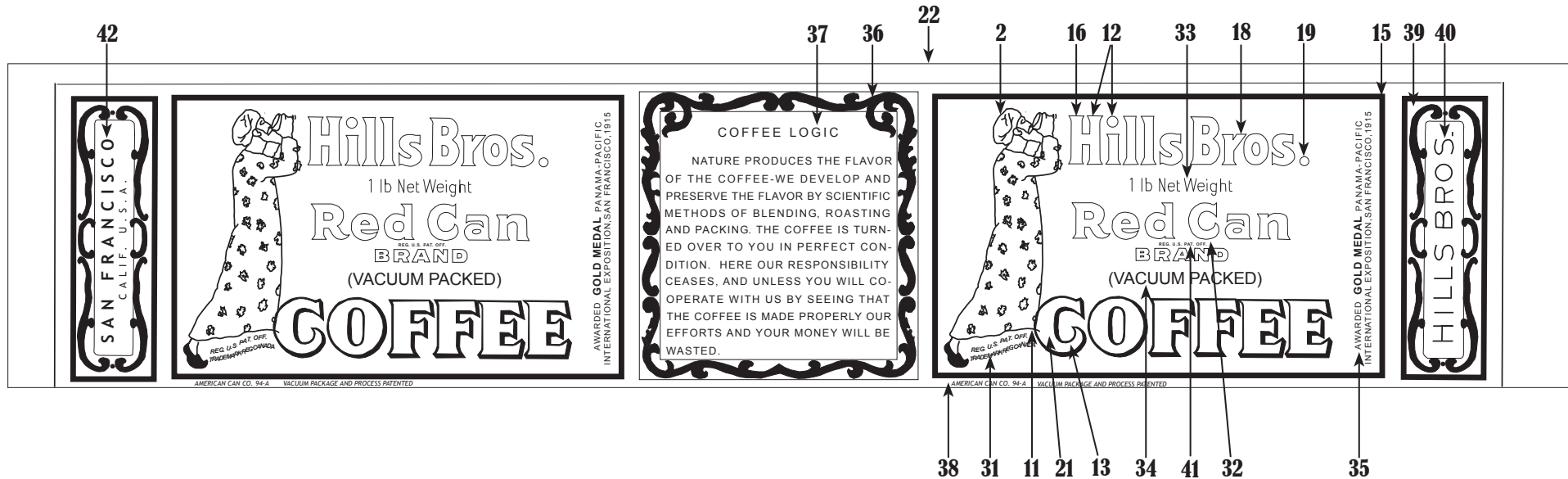


Figure 7: 1922 - 1926

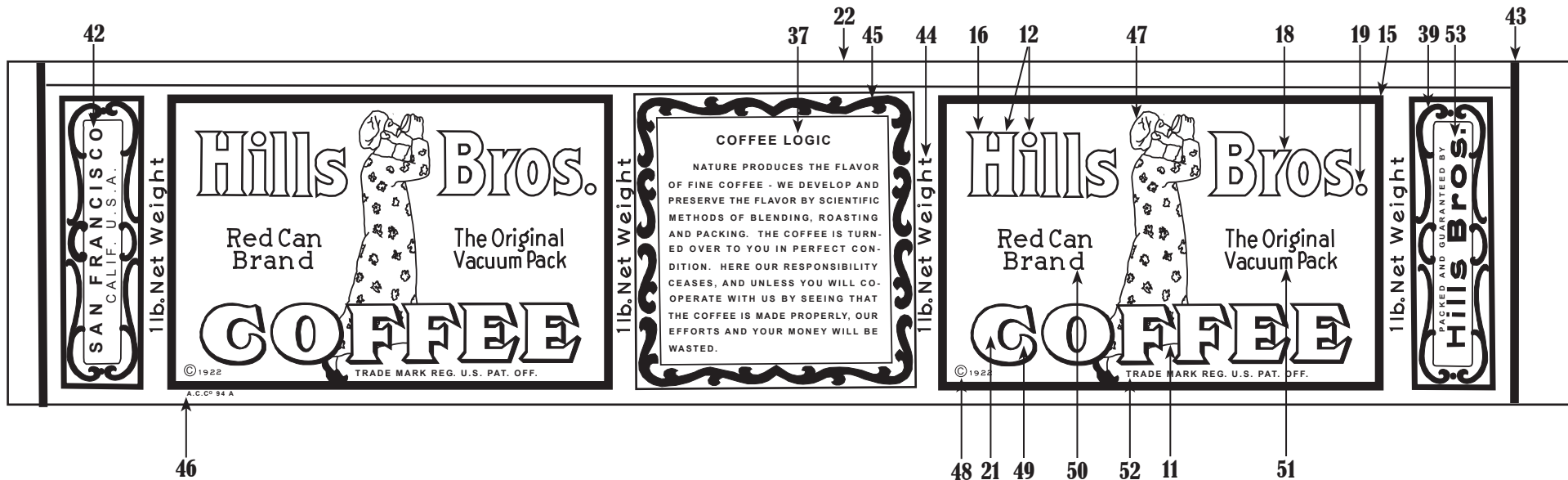


Figure 8: 1926

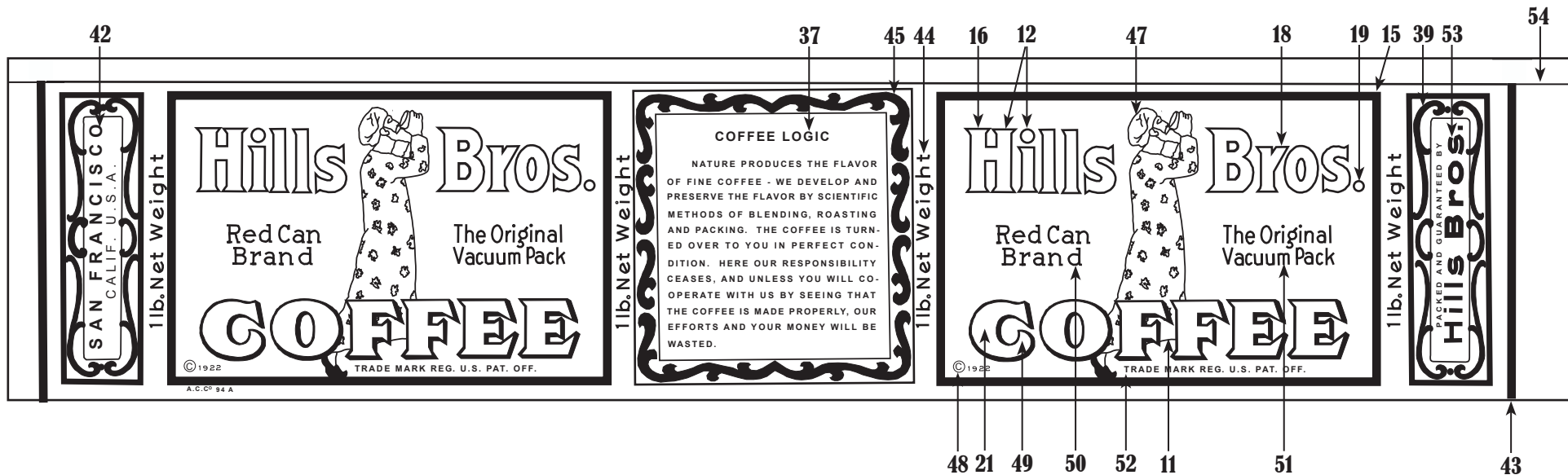


Figure 9: 1927-1932

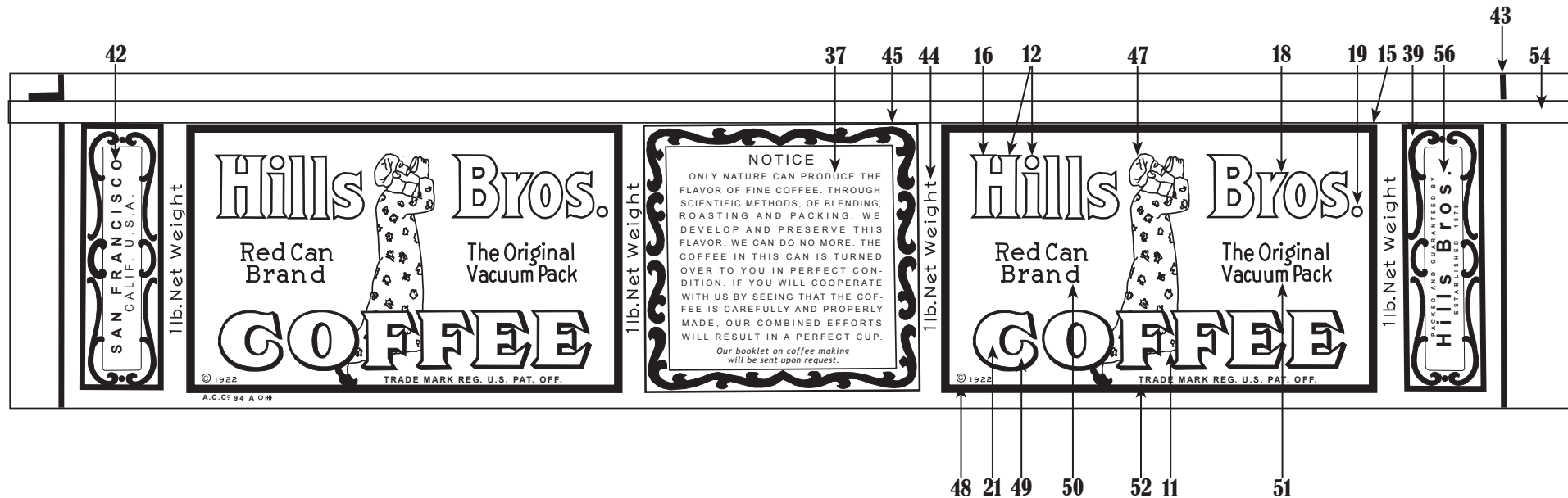


Figure 10: 1932 - 1936

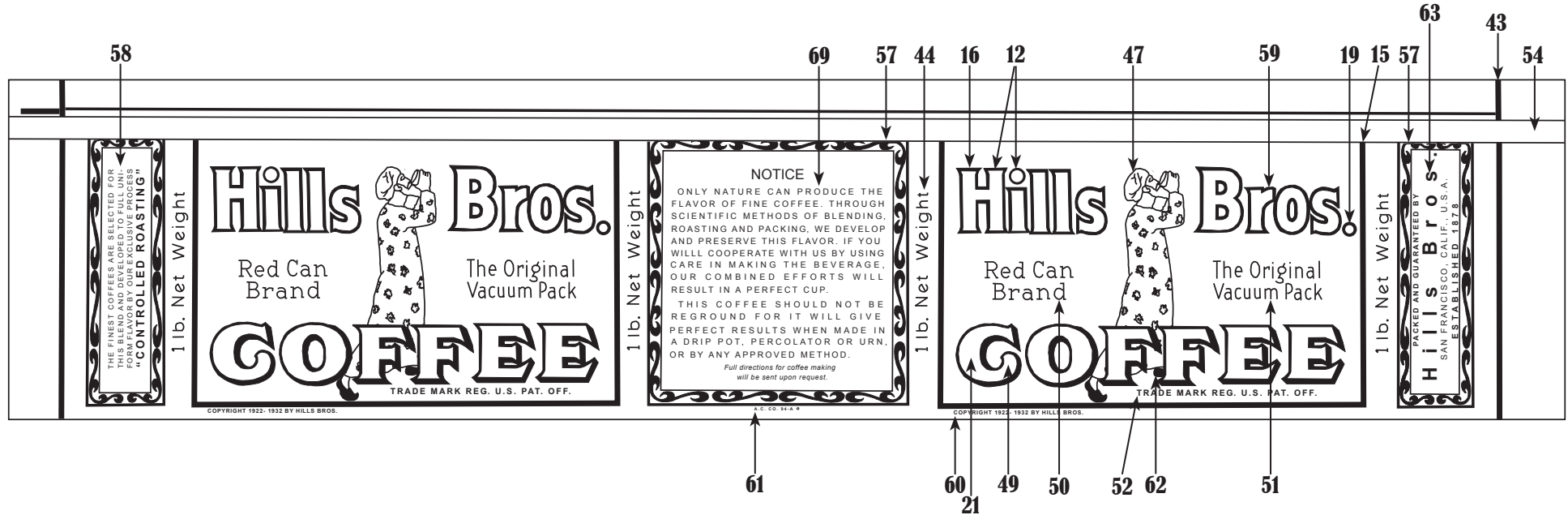


Figure 11: 1936 - 1939

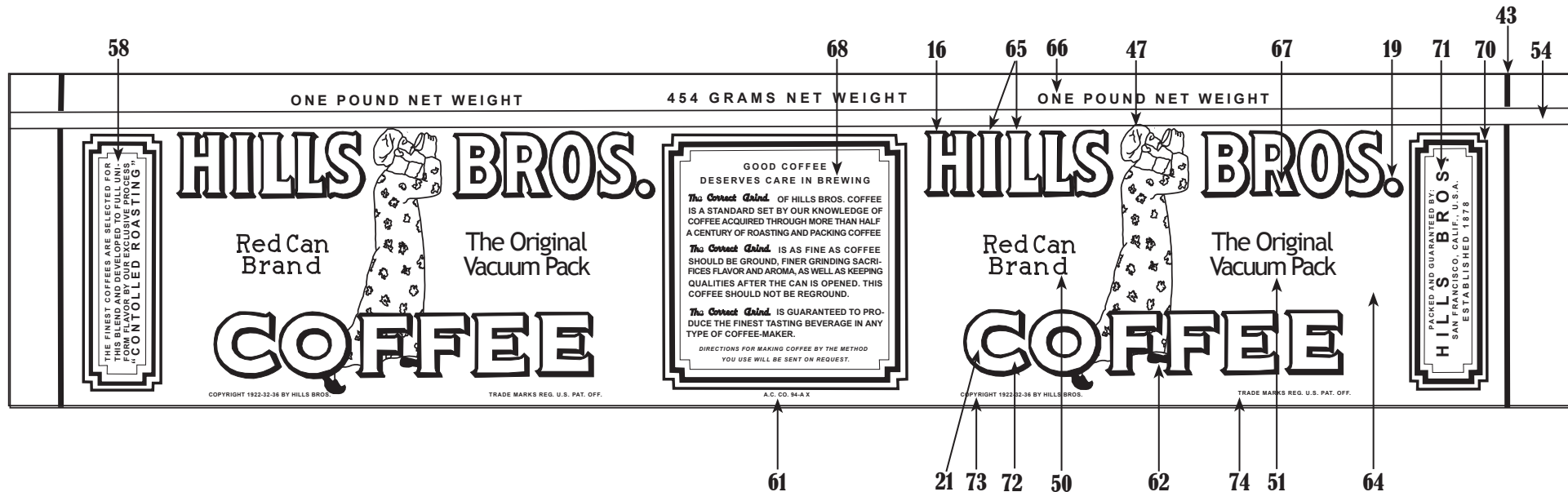


Figure 12: 1939 - 1942

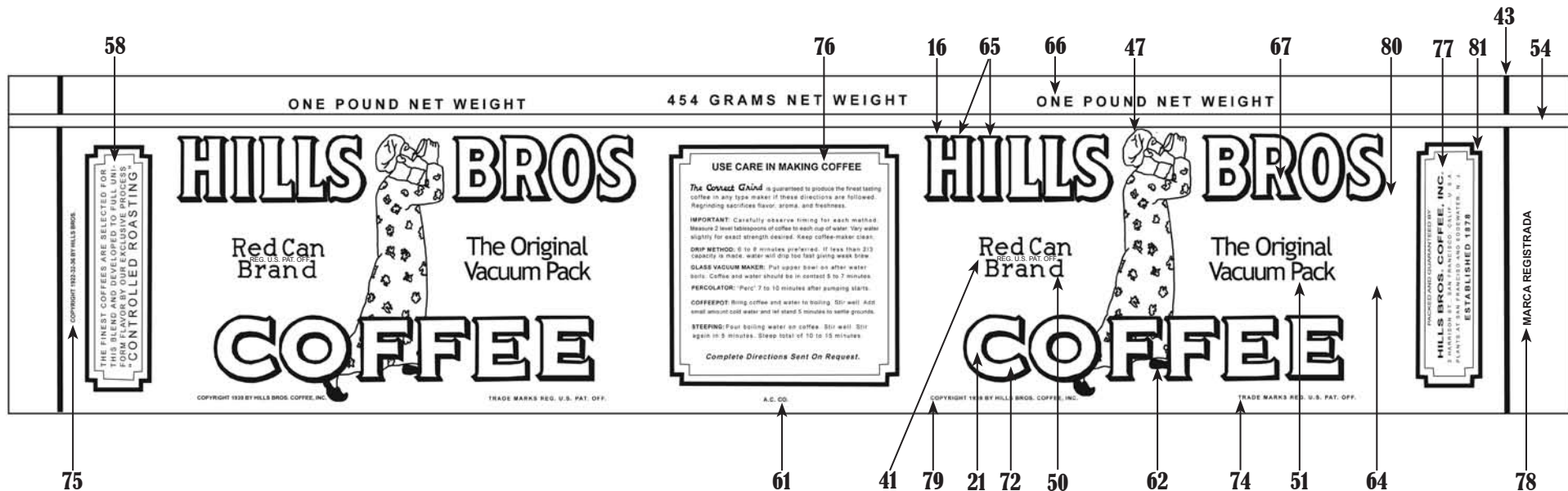
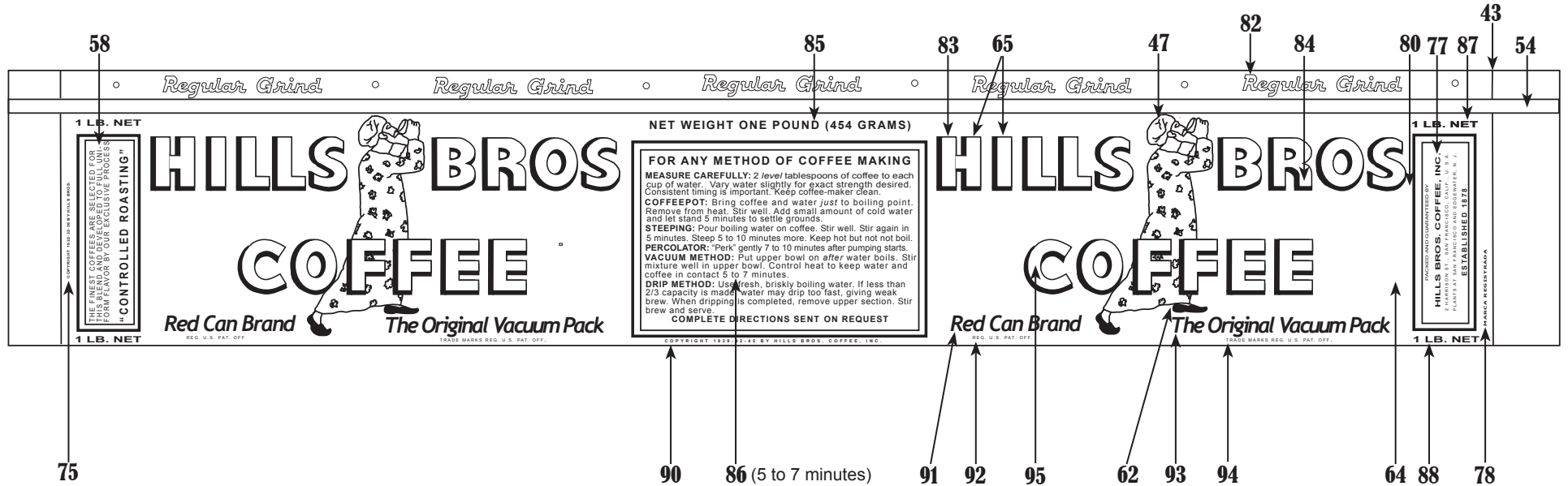


Figure 13: 1945 - 1952



37



Figure 15: 1952 - 1963 (B)

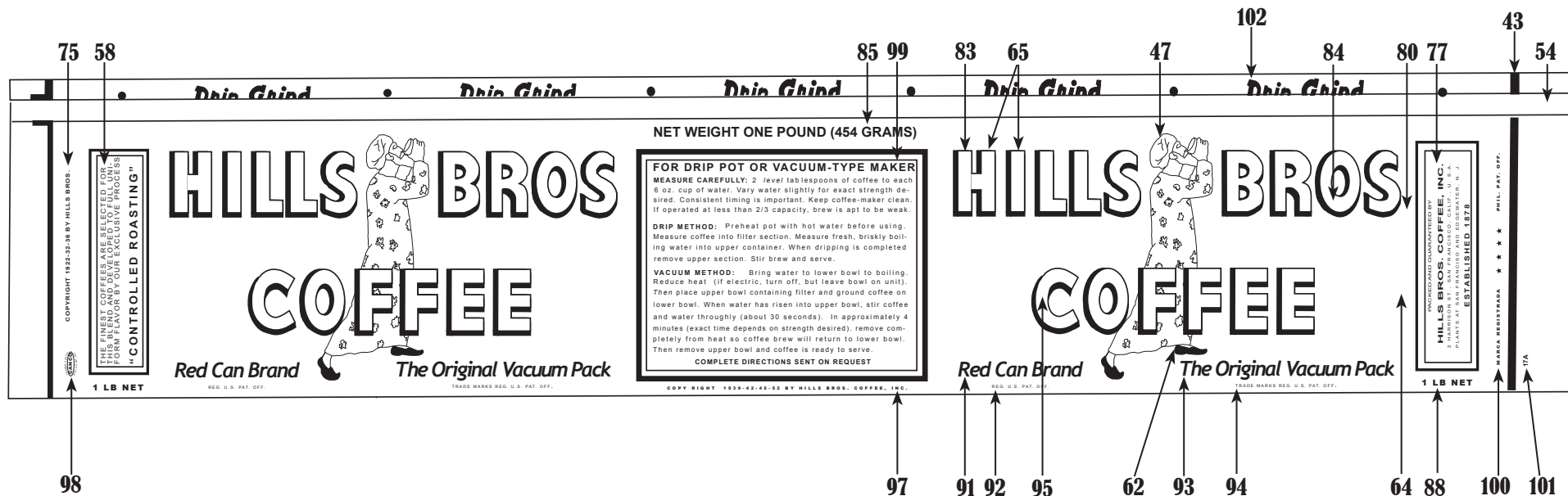


Table 1, Attribute Descriptions

#	Description	Panel # (*)	Date Range
1	Unique tapered can		1900-1903
	“2 LB. PACKAGE” at top of panel		
	“CAN AND PROCESS PATENTED”- right side of Arab		
	“HIGHEST GRADE”-right middle of panel		
	“JAVA AND MOCHA”-lower right side of panel		
	“HILLS BROS. / SAN FRANCISCO, CAL.” /-in black block at bottom of panel		
2	Arab-left of panel	2,4	1900-1922
3	Banner and Harp	1	1903-1914
4	Banner and Harp	3	1903-1914
5	“CAN AND PROCESS PATENTED”- right side of Arab	2	1903-1906
6	“ONE POUND PACKAGE”- right of Arab, near top of can	2	1903-1906
7	“HIGHEST GRADE”-right middle of panel	2,4	1903-1914

*** Panel # for all cans except Unique Tapered Can 1900-1903**

#	Description	Panel # (*)	Date Range
8	“JAVA AND MOCHA”-lower right side of panel	2	1903-1906
9	“HILLS BROS. / SAN FRANCISCO, CAL.” /-in black block at bottom of panel	2	1903-1906
10	Unique panel includes: “HILLS BROS” at top of panel; “VACUUM PACKED”, under HILLS BROS; “HIGHEST GRADE” above “JAVA AND MOCHA COFFEE”; “JAVA AND MOCHA COFFEE”-in black diagonal panel; “WILL KEEP FRESH FOREVER IF/SEAL IS UNBROKEN/”-undulating under diagonal panel; Circular panel-right side of panel, under diagonal panel; “SAN FRANCISCO, CAL.” at bottom left of panel	4	1903-1906
11	ARAB’S left foot -NOT VISIBLE-	2,4	1906-1932
12	“Hills Bros”-Title Caps	2,4	1906-1936
13	Hooked C in “COFFEE”	2,4	1906-1922
14	Apostrophe - after Bros	2,4	1906-1914
15	HEAVY framing line on Panel	2,4	1903-1936
16	Bookman font - “Hills Bros”	2,4	1906-1942
17	“Reg. U.S. Pat. Off.” (only) - curved under Arab	2,4	1906-1914 (B)

#	Description	Panel # (*)	Date Range
18	“Straight” arm on lower case “r” in Bros	2,4	1906-1932
19	PERIOD-after Bros.	2,4	1906(A)-1939
20	Reg. U.S. Pat. Off.- vertically along left inside of panel	2,4	1906-1914(A)
21	Bookman font - “COFFEE”	2,4	1906-1942
22	Cut-out top (rather than key strip open)	n/a	1900-1926
23	“AMERICAN CAN CO. 94-A,” under framing line, centered, under panel	2	1906-1914(A)
24	“HILLS BROS. VACUUM \ PACKED COFFEE”, in banner	1	1906-1914(B)
25	“THE VOLATILE...GAS ROASTED” verbiage in panel	1	1906-1914(B)
26	“AMERICAN CAN CO.”-left-under panel 2 - NOT repeated under panel 4	2	1906-1914(B)
27	“1 lb Net”-above Hills Bros’	2,4	1906-1914(B)
28	“VACUUM PACKED” without brackets - above COFFEE	2,4	1906-1914(B)
29	“VACUUM PACKAGE AND PROCESS PATENTED”- under COFFEE	2,4	1906-1914

#	Description	Panel # (*)	Date Range
30	“THE VOLATILE...TO BULGE.” verbiage in panel	1	1914-ca.1920
31	“REG. U.S. Pat. Off.” And “TRADE MARK REG. CANADA” - curved under Arab	2,4	1914-1922
32	Hooked R and C in “Red Can \ Brand” - center of panel	2,4	1914-1922
33	“1 lb Net Weight”- below Hills Bros. \ above Red Can \ Brand	2,4	1914-1922
34	“(VACUUM PACKED)” above COFFEE	2,4	1914-1922
35	“AWARDED... 1915”-vertically set verbiage on right side of panel	2,4	1914-1922
36	Filigree #1, border on panel	3	1914-1922
37	“COFFEE LOGIC”-panel	3	1914-1926
38	“AMERICAN CAN CO. 94-A VACUUM PACKAGE AND PROCESS PATENTED”- under framing line, lower left under panel	2,4	1914-1922
39	Filigree border panel	5	ca.1920-1932
40	“HILLS BROS.” (only) in panel	5	ca.1920-1922
41	“REG. U.S. PAT. OFF.” -between Red Can and Brand	2,4	ca.1920-1922; 1939-1942

#	Description	Panel # (*)	Date Range
42	Filigree border panel "SAN FRANCISCO \ CALIF. U.S.A."	1	ca.1920-1932
43	Framing line at each end of lithography	n/a	1922-1963
44	"1 lb. Net Weight", vertically between all panels	n/a	1922-1936
45	Filigree #2 Border	3	1922-1932
46	"A.C. Co. 94 A"-lower left under framing line, NO REPEAT under panel 4	2	1922-1932
47	ARAB-center of panel	2,4	1922-1963
48	Circle C [i.e., "©"] copyright 1922, lower left of panel	2,4	1922-1932
49	FAT hooked C in "COFFEE"	2,4	1922-1936
50	"Red Can \ Brand"- left, center of panel	2,4	1922-1942
51	"The Original \ Vacuum Pack"- right, center of panel	2,4	1922-1942
52	"TRADE MARK REG. U.S. PAT. OFF."- under FFEE	2,4	1922-1936
53	"PACKED AND GUARANTEED BY \ Hills Bros."	5	1922-1926
54	KEY STRIP opened	n/a	1903-1906; 1926-1963
55	"NOTICE....PERFECT CUP"	3	1927-1932

#	Description	Panel # (*)	Date Range
56	“PACKED AND GUARANTEED BY \ Hills Bros. \ ESTABLISHED 1878” note-title caps for Hills Bros.	5	1927-1932
57	Filigree # 3 Border	1,3,5	1932-1936
58	“....CONTROLLED ROASTING” -verbiage in panel	1	1932-1963
59	Curved arm -lower case r in Bros.	2,4	1932-1936
60	“COPYRIGHT 1922-1932 BY HILLS BROS.”, under framing line, lower left of panel	2,4	1932-1936
61	“A.C. CO.” outside border, under panel	3	1932-1942
62	ARAB’S Left Foot -VISIBLE-	2,4	1932-1963
63	“PACKED AND GUARANTEED BY \ Hills Bros. \ SAN FRANCISCO, CALIF., U.S.A. \ESTABLISHED 1878” note -title caps for Hills Bros.	5	1932-1936
64	NO Framing line around main panels	2,4	1936-1963
65	ALL CAPS- “HILLS BROS.”	2,4	1936-1963
66	Lid lip- “ONE POUND NET WEIGHT, 454 GRAMS NET WEIGHT, ONE POUND NET WEIGHT”	n/a	1936-1942
67	Straight leg R in BROS.	2,4	1936-1942
68	“GOOD COFFEE...”-verbiage in panel	3	1936-1939

#	Description	Panel # (*)	Date Range
69	“NOTICE...APPROVED METHOD”	3	1932-1936
70	TWO LINE-stepped corners on information panels	1,3,5	1936-1939
71	“PACKED AND GUARANTEED BY \ HILLS BROS.\ SAN FRANCISCO, CALIF., U.S.A. \ ESTABLISHED 1878”–note-ALL CAPS for HILLS BROS.	5	1936-1939
72	BLOCK C in “COFFEE”	2,4	1936-1942
73	“COPYRIGHT 1922-32-36 BY HILLS BROS.”, lower left under COFFEE	2,4	1936-1939
74	“TRADE MARK REG. U.S. PAT. OFF.”- under EE, lower right of panel	2,4	1936-1942
75	“COPYRIGHT 1922-32-36 BY HILLS BROS.”, vertically on seam side of panel 1	1	1939-1963
76	“USE CARE....” verbiage in panel	3	1939-1942
77	“PACKED AND GUARANTEED BY\ HILLS BROS. COFFEE, INC\ 2 HARRISON ST., SAN FRANCISCO, CALIF., U.S.A.\ PLANTS AT SAN FRANCISCO AND EDGEWATER, N.J.\ ESTABLISHED 1878	5	1939-1963

#	Description	Panel # (*)	Date Range
78	“MARCA REGISTRADA,” vertically on seam side of panel 5	5	1939-1942
79	“COPYRIGHT 1939 BY HILLS BROS. COFFEE, INC.,” left of Arab’s foot, under COFFEE	2,4	1939-1942
80	NO period after Bros	2,4	1906-1914(B); 1939-1963
81	ONE LINE stepped corners for information panels	1,3, 5	1939-1942
82	Lid lip - 5 repetitions of; script, Regular Grind separated by a dot.	n/a	1945-1963(A)
83	IMPACT FONT- for “HILLS BROS”	2,4	1945-1963
84	CURVED leg on R in “BROS”	2,4	1945-1963
85	“NET WEIGHT ONE POUND (454 GRAMS)” above panel 3	3	1945-1963
86	“FOR ANY METHOD OF COFFEE MAKING”- verbiage (A), “VACUUM METHOD...5-7 minutes.”	3	1945-1952
87	“1 LB. NET”, may or may not be present above panels 1, 5	1,5	1945-1963(A)
88	“1 LB. NET”, below panels 1,5	1,5	1945-1963
89	Square corner panels, one framing line	1,3,5	1945-1963

#	Description	Panel # (*)	Date Range
90	"COPYRIGHT 1939-42-45 BY HILLS BROS. COFFEE, INC" - below panel 3	3	1945-1952
91	"Red Can Brand", lower left of panel	2,4	1945-1963
92	"REG. U.S. PAT. OFF.", under Red Can Brand-lower left of panel	2,4	1945-1963
93	"The Original Vacuum Pack"- lower right of panel	2,4	1945-1963
94	"TRADE MARKS REG. U.S. PAT. OFF.", under "The Original Vacuum Pack," lower right	2,4	1945-1963
95	IMPACT FONT- for "COFFEE"	2,4	1945-1963
96	"FOR ANY METHOD OF COFFEE MAKING"- verbiage (B), "VACUUM METHOD...approximately 5 minutes."	3	1952-1963
97	"COPYRIGHT 1939-42-45-52 BY HILLS BROS. COFFEE, INC.", below panel 3	3	1952-1963
98	CANCO oval, vertical to left of panel 1	1	1952-1963
99	"FOR DRIP POT OR VACUUM-TYPE MAKER"- verbiage	3	1952-1963
100	"MARCA REGISTRADA **** PHIL. PAT. OFF.", vertically -seam side of panel 5	5	1945-1963

#	Description	Panel # (*)	Date Range
101	"17-A", vertically seam side of lithography framing line of panel 5	5	1952-1963
102	Lid Lip - 5 repetitions of; script, Drip Grind seperated by a dot.	n/a	1952-1963(B)

Table 2, Figure Origins

FIGURE #	DATE RANGE	SOURCE	CAN SIZE – ILLUSTRATED IN FIGURE	OTHER CANS – WEIGHTS PRESENTLY KNOWN
1	1900-1906	NLUR Specimen	2 lb-unique tapered can, 8 12/16" tall, 4 5/16 dia. Top, 5 3/16" dia. Bottom	N/A, (2 lb can only type used, 1900-1903)
2	1903-1906	UA 95-058-4543	1 lb, 3 13/16" ht X 5" dia.	2 lb tapered can (Wilson, 76:47)
3	1906-1914(A)	Wilson Figure 60	1 lb, 3 12/16" (est.) ht X 5" dia.	2 lb straight sided can (Wilson, 76:47)
4	1906-1914(B)	UA 95-056-0015, UA 95-056-0025, UA 2002-069-0049	1 lb, 3 15/16" ht X 5" dia.	2 lb
5	1914-ca.1920	UA 2002-068-0382	1 lb, 3 5/16" ht X 5" dia.	2 lbs, 2 ½ lbs, 5 lbs
6	ca.1920-1922	UA 97-101-0001	1 lb, 3 6/16" ht X 5" dia.	2 ½ lbs
7	1922-1926	UA 94-102-0672, BLM Purchase #5	1 lb, 3 4/16" ht X 5" dia.	½ lb, 2 lbs, 2 ½ lbs
8	1926	Wilson Figure 63	1 lb, 3 4/16" (est.) X 5" dia	2 lbs
9	1927-1932	BLM Purchase #8	1 lb, 3 6/16" ht X 5" dia.	2 lbs, 4 lbs
10	1932-1936	BLM Purchase #13-1	1 lb, 3 6/16" ht X 5" dia.	2 lbs
11	1936-1939	UA 97-101-0002, BLM Purchase #12-2	1 lb, 3 6/16" ht X 5" dia.	2 lbs
12	1939-1942	UA 95-XX-2389, UAF Can Typology, Type 43	1 lb, 3 6/16" ht X 5" dia.	½ lb, 2 lbs,
13	1945-1952	UA 97-101-0004	1 lb, 3 6/16" ht X 5" dia.	½ lb, 2 lbs, 4 lbs, 20 lbs
14	1952-1963(A)	UA 97-101-0005	1 lb, 3 3/16" ht X 5" dia.	20 lbs
15	1952-1963(B)	BLM Purchase #2	1 lb, 3 3/16" ht X 5" dia.	½ lb