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No B/D's

PML-339

A.T.

4/19/79

THE RAYBESTOS DIVISION OF RAYBESTOS-MANHATTAN, INC.Bridgeport, Conn.

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The following report is a study of the dust conditions in the Bridgeport and Stratford, Conn. plants of the Raybestos-Manhattan, Inc. and was conducted in June, 1935. This survey is supplementary to the survey made in February and March, 1930.

1 copy to Jucker 10/3/25

Exhibit D

The Bridgeport Plant

The Bridgeport plant engages in the weaving of brake-band lining and clutch facing and the treatment and processing of the same. The buildings and processes are the same as at the time of the first survey, but the majority of the looms have been changed from their previous locations.

The methods used in the collecting of dust samples and counting are identical with those given in reports of other plants of this company and as outlined in the United States Public Health Service Bulletin No. 144, Treasury Department, Washington, D.C.

Looms and Stock Run at Time of this Survey - 3rd Floor

Loom #54

4 space Fletcher
2 5/16 x 1/8 ring stock
2 7/16 x 133 " "
2 5/16 - 1032 mule
2 7/16) 1030 - 1 cotton
) 1033 - 1 cotton
wet filling

Loom #60

12 space C & K
2 x 1/4
2 1/4 x 1/4 Raybestos
2 1/2 x 1/4
1032 mule yarn
wet filling

Loom #69

20 space C & K
1 3/4 x 3/16 - 05
820 - 30% cotton yarn
1022 zinc yarn

wet filling

Loom #71

20 space C & K
1 1/2 x 5/32 - 05
820 - 30% cotton yarn
1022 zinc yarn wet filling dry binder

Loom #55

12 space C & K
2 9/16 x 5/32 ring stock
1030 - 1 cotton
1033 - 1 cotton

wet filling

Loom #61

12 space Fletcher
2 x 3/16 Raybestos
1032 mule yarn

wet filling

Loom #70

20 space C & K
1 1/2 x 3/16 - 05
1 3/4 x 3/16
820 - 30% cotton yarn
1022 zinc yarn

wet filling
dry binder

2nd floor

Loom #9

12 space C & K
2 9/16 x 5/32 ring stock
1030 - 1 cotton yarn
1033 - 1 " "
wet filling
dry binder

Loom #10

12 space C & K
1 3/4 x 1/4 - 05
2 1/2 x 1/4 - 05
820 - 30% cotton yarn
1022 zinc yarn
wet filling
dry binder

Loom #24

12 space C & K
2 3/8 x 245 - 05
820 - 30% cotton yarn
1022 - zinc yarn
wet filling
wet binder

Loom #25

12 space C & K
2 x 3/16 - 05
820 - 30% cotton yarn
1022 - zinc yarn
wet filling
dry binder

Loom #27

16 space Fletcher
2 x 3/16 Raybestos
1032 mule yarn
wet filling
dry binder

Loom #30

16 space Fletcher
2 x 3/16 Raybestos
1032 mule yarn
wet filling
dry binder

Loom #44

6 space C & K
3 x 5/16
4 x 5/16 Free wheeling
4 1/2 x 5/16
1030-2 cotton yarn,
1033 - 1 cotton yarn
1032 - 1 cotton zinc yarn
1030 - 1 cotton yarn
wet filling
partially wet binder

Loom #46

10 space C & K
3 x 3/8
3 1/2 x 3/8 Raybestos
4 x 3/8
1033 mule yarn
wet filling
dry binder

Loom #50

20 space C & K
1 1/2 x 5/32 - 05
820 - 30% cotton yarn
1022 zinc yarn
wet filling
dry binder

1st floor

Loom #82

4 space Fletcher
5 x 5/16 Raybestos
1033 mule yarn
wet filling
partially wet binder

Loom #83

2 space Fletcher
9 x 1 no wire
9 3/4 x 1
1030 - 2 cotton yarn
dry weaving

Loom #36 - warp room

3 space Fletcher
12 x 3/8 industrial automotive
1032 - 1 cotton zinc yarn
1033 - 1 cotton yarn
1030 - 1 " "
1030 - 2 " "
wet filling
wet binder

Air Velocities - Taken with Anemometer at Exhaust
Intake

Bridgeport Plant

Pratt & Whitney Grinder - 925 feet per minute

Automatic drillers - 1028 feet per minute

2nd floor - inspection table

machine on north side - 270 feet per minute

" " south side - 58 feet per minute

The following table shows the results of analysis of air samples
taken at representative positions:

THE ROYALTY DIVISION OF POLYMER CORPORATION, INC.

Bridgeport, Conn.

Sample No.	Station	Date of Sampling	Cu. Ft. Air Sampled	Millions of Particles per cu. ft. air sampled	Millions of Particles, less than 10 microns in greatest diameter, per cu. ft. air sampled	Type of Dust	Remarks
<u>3rd Floor</u>							
1	Between looms #60 and 61	6/19/35	44.7	6.1	5.3	3✓	Asbestos
2	Between looms #70 and 71	"	49.5	5.5	4.7	✓	"
4	At loom #69	"	58.9	6.1	5.3	3✓	"
5	Between looms #54 and 55	"	53.8	5.2	4.5	✓	"
8	General air, center of room near loom #75	"	38.1	5.4	4.6	✓	"
33	Same as #4	6/24/35	30.4	6.0	5.2	3✓	"
							Monday morning after starting up; looms blown off on Friday
<u>2nd Floor</u>							
3	At loom #50	6/19/35	46.2	5.5	4.6	✓	"
6	At loom #41	"	61.6	3.1	2.6	15	"
7	At loom #30	"	43.3	3.6	3.0	18	"
9	At loom #27	"	39.6	7.5	6.3	38	"
10	At loom #24	"	57.3	3.0	2.5	15	"
11	At loom #25	"	77.8	3.5	2.9	17	"
12	Between looms #9 and 10	"	42.2	9.9	8.3	50	"
14	At loom #46	6/20/35	40.3	4.4	4.0	20	"
15	At inspection table for woven stock	"	34.1	9.6	8.1	51	"
21	Winding and measuring woven stock	"	28.7	8.1	6.8	46	"
32	Loom #9	6/24/35	32.9	5.5	4.6	✓	"
							Monday morning after starting up; looms blown off Friday
34	At loom #73 Mule's staffs and lining	6/27/35	29.3	4.4	3.8	✓	Asbestos floss
<u>1st Floor</u>							
19	At loom #39; all wall brack lining	6/19/35	38.4	3.6	3.3	✓	Asbestos
							4 looms in room; all only one running

16	Between looms #22 and 23	6/20/35	39.7	2.5	2.3		2 looms running on motor of #23 with stop by hand
17	At loom #24; unwinding room	"	31.2	1.7	1.6	"	12 looms running
19	At pump machines #1 and 2	"	56.6	3.3	3.1	"	500 stock
22	At pump machine #7	"	55.6	5.8	5.4	37	Mule 1911-2 cotton
25	General air - cop. miners	"	80.3	2.6	2.4	17	1927 line; 1930-1 cotton; 1937 or over air
BRKLN DEPT. - 1st L2DR							
18	General air inspecting and packing brake lining	"	36.6	1.3	1.1	"	3 men
20	General air, near small press for clutch facing	"	36.8	1.7	1.5	9	3 men rolling lining; 1 man cutting lining
23	Between two large knuckle presses; woven clutch facing	"	64.6	2.0	1.8	"	Clutch facing
26	Between two drill presses - drilling rivet holes	"	25.5	3.1	2.7	16	Brake lining; Exhaust system; air hose used to clean machine
28	Same as #26	6/21/35	29.6	2.2	1.9	11	"
29	At Pratt & Whitney grinder; woven brake lining	"	27.6	2.2	1.9	11	Exhaust system
31	General air, machine shop	"	38.5	2.3	1.9	11	Clutch facing; brake lining
24	General air, saturation room	6/20/35	97.6	0.95	0.86	5	"
27	General air, shipping bldg.	6/21/35	43.9	1.0	0.92	5	"
30	Normal outside air	"	48.0	0.5	0.45	3	"

REPORT TEST ANALYSIS

Brake Department 1.545 Pb
At looms #28 and 29 38.165 Pb 14.7% SiO₂ (total) (no free silica)

RELATIVE HUMIDITY

3rd floor - 6/19/35 - 64%
2nd floor - " - 57%
outside - " - 78%
1st floor - 6/20/35 - 47% - room with four looms
1st floor - " - 64% - shipping room
1st floor - " - 88% - brake department
outside - " - 89%

All yarn used at this time averages 75% asbestos and 25% cotton.

RAYBESTOS DIVISION OF RAYBESTOS-MANHATTAN, INC.

Bridgeport, Conn.

LEAD ANALYSES

Sample No.	Station	Date of Sampling	Cu. Ft. Air Sampled	Milligrams of Lead per cu. ft. air sampled	Milligrams of Lead per cubic meter of air	Lead Intake in Milligrams on basis of workmen breathing 10 cubic meters air in 10-hr. day	Type of Dust
24	At loom #29; Bulck stuffed .04 lining	6/27/35	29.3	0.00065	0.023	0.23	Asbestos lead
20	General air near small press for clutch facing	6/25/35	36.8	0.000	0.000	0.00	Brake lining
23	Between two large knuckle presses; woven clutch facing	"	64.6	0.000	0.000	0.00	Clutch facing
26	Between two drill presses drilling rivet holes	"	25.5	0.000	0.000	0.00	Brake lining
28	Same as #26	6/21/35	29.6	0.000	0.000	0.00	"
29	At Pratt & Whitney grinder woven brake lining	"	27.6	0.00069	0.0244	0.244	"
31	General air machine shop	"	38.5	0.000	0.000	0.000	Brake lining clutch facing
24	General air - saturation room	6/20/35	97.6	0.000	0.000	0.000	"

Comparative Data of 1930 Survey and 1935 Survey

Bridgeport Plant

Millions of Particles per cu. ft.
of Air Sampled

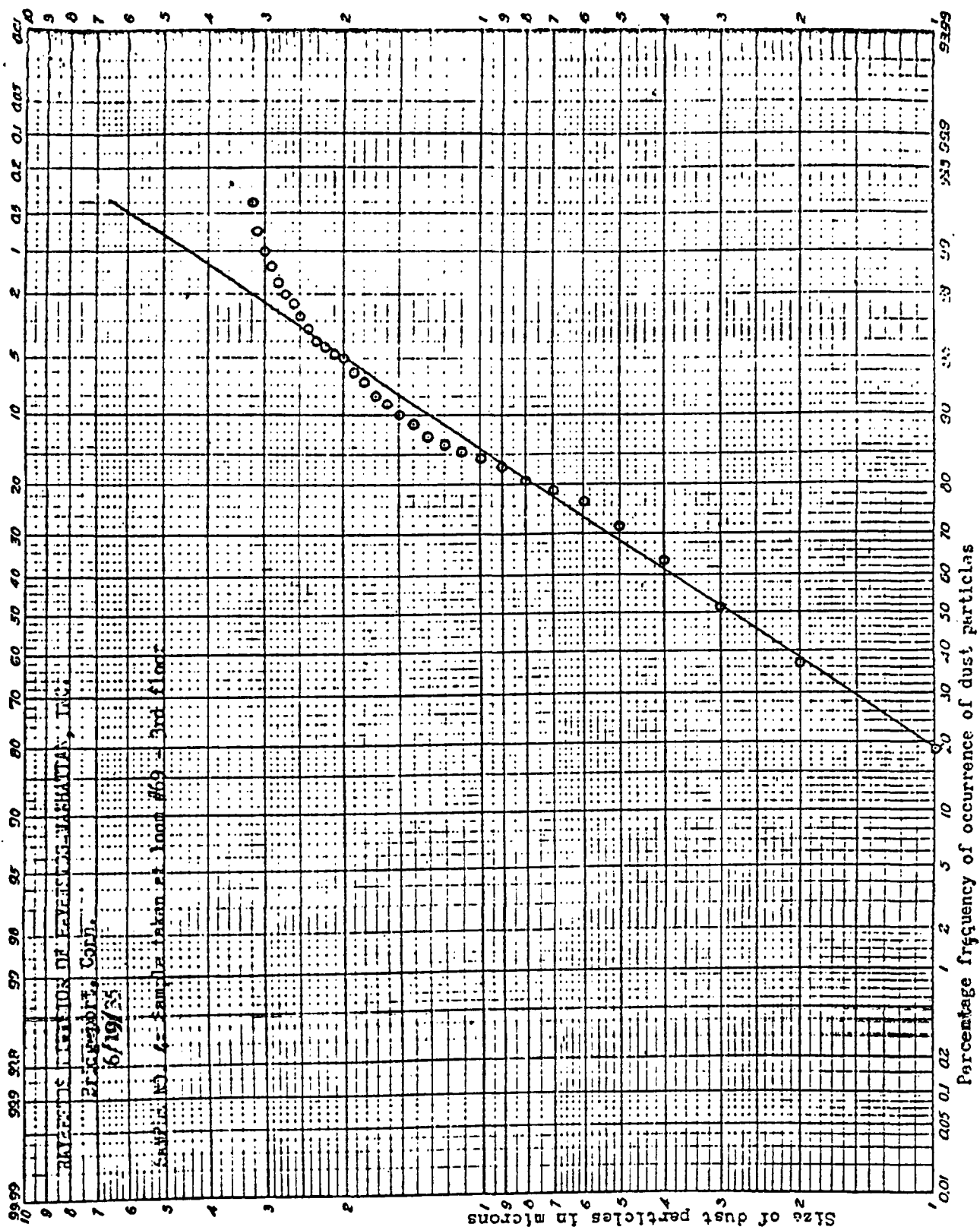
<u>3rd floor</u>	<u>1930</u>		<u>1935</u>	
Between looms #60 and 61	1,380,000	8	6,100,000	41
" " #70 and 71	1,000,000	6	5,500,000	33
Average of 3rd floor counts	1,950,000	17	5,700,000	35
 <u>2nd floor</u>				
Average of 2nd floor counts	2,970,000	18	5,700,000	35
 <u>1st floor - warp room</u>				
Average of counts	4,685,000	28	3,100,000	18

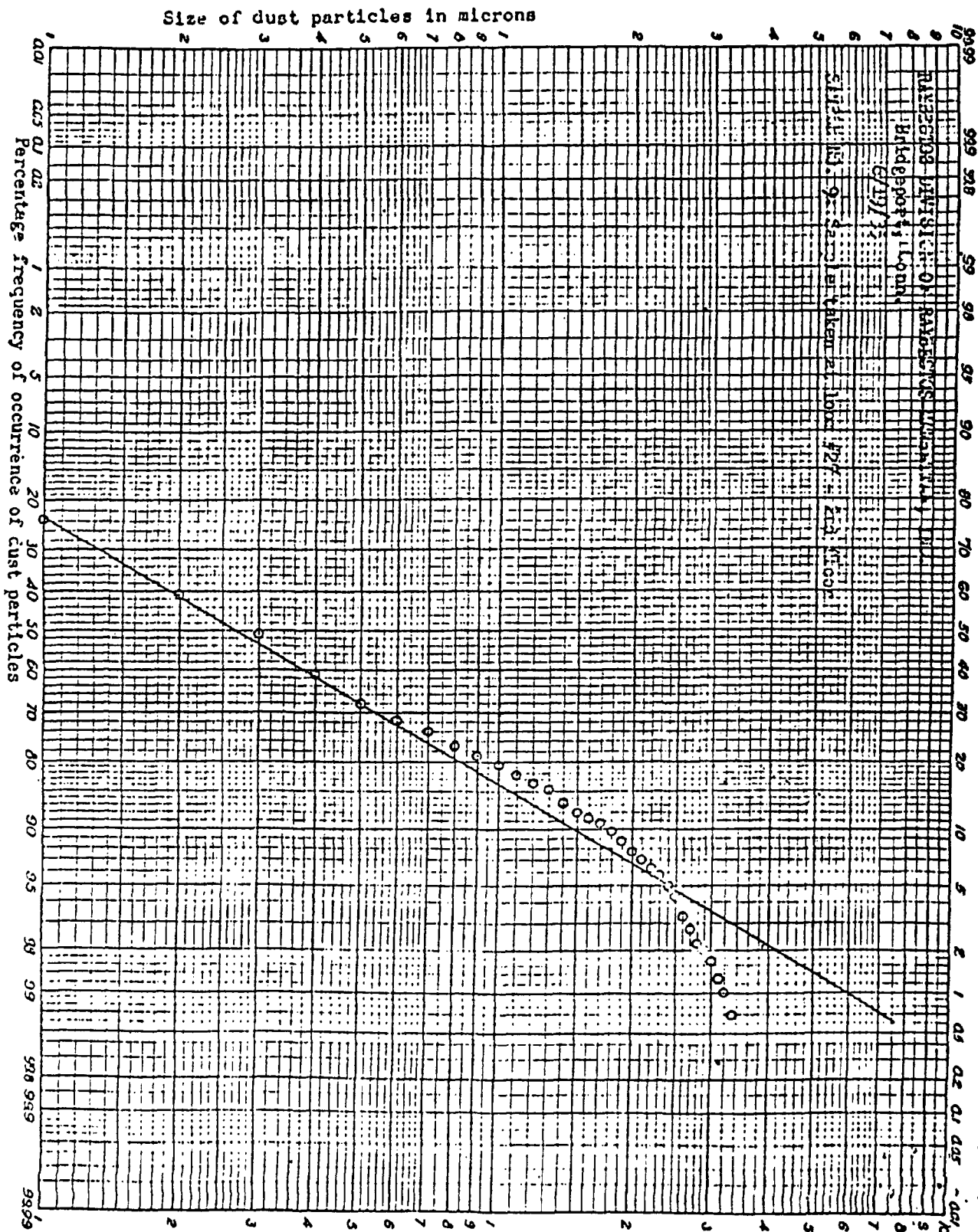
CONCLUSIONS AND RECOMMENDATIONS - Bridgeport Plant

All of the dust counts in this plant show less than ten million particles per cubic foot of air sampled. While these counts are not considered as dangerous concentrations, they are much higher than on the previous survey made in 1930, with the exception of those in the warp room. All but four of the looms have been moved to different locations since the first survey. A check of the records, would show a comparison of the type of yarn used and rate of production at the time of the two surveys.

Sample #15, taken at the inspection table on the second floor shows the highest count. The concentration at this point could be decreased materially by the proper exhaust equipment. The present system is not designed properly to take care of the dust generated.

Sample #34 shows the presence of lead. This amount is not considered dangerous, but it would be advisable to have the workmen at these looms examined periodically for any signs of lead poisoning. The only sample in the Brake Department showing lead was sample #29. This is not considered a dangerous amount, but does indicate that there is a potential hazard present.





CORRESPONDENCE

Since July first, a record has been kept in the ^{Division} mail room of incoming mail, covering all but yellow nursing mail. The outgoing mail record is kept by the Industrial Service Bureau, Bureau of Distribution and Bureau of Social Agencies.

Total incoming mail for last 26 weeks	37,358
Average per week	1,436.9
Outgoing mail from E.S.A., E.D., I.S.B.	26,606
Average per week	1,023.2

The outgoing figure for the three Bureaus is so large in proportion to the total incoming mail, which includes Dr. Frankel's, Dr. Fleisher's and the Nursing mail, that it would seem to indicate that the bulk of the mail was handled by them. Such is not the case, because the outgoing figure includes Call-ups. It does not, however, include any circular letters.