of 740 gallons per minute. By using a nozzle with a 1¾" opening, the pressure dropped to 65 pounds, lowering the gallon per minute discharge to 732.

The tests conducted were in no sense intended to be an exhaustive study of the problem under investigation. It is not hard to appreciate the labor involved in stretching and coupling 106 lengths of 3½" hose, handling the gates, nozzles and smaller hose needed for each test, the uncoupling and draining of hose and "taking up." The lateness of the hour prevented further experiment. However, two valid conclusions may be drawn from the data obtained. First, a fireboat can pump water through a mile of hose. Secondly, the pressures resulting from the relay through the five pumping engines are surprisingly unsatisfactory when compared with the readings obtained from the tests of the single pumper at the end of the stretch. Not that a nozzle pressure figure of 123 pounds compares unfavorably with one of 31 pounds, but the energy of five pumpers should produce more margin over the efforts of one engine. In relaying water through five pumping engines the failure of the mechanism of one of the pumpers and the necessity that the operators work in unison are serious difficulties.

RUNS AND WORKERS

WHAT FIREMAN DOESN'T eagerly steal a look at the Fire Record Journal of his company to learn the monthly total of runs and workers. Call it curiosity and food for discussion with brothers assigned to other companies, it still indicates a healthy interest and a personal pride in his work. In order to impart more comprehensive information along these lines we list here the twenty-five engine companies and truck units having the greatest number of runs for the eleven month period ending November 30, 1940.

This is treading on delicate, debatable ground, but notice that the use of the word "busiest" is avoided. The task of listing the busiest units in the Department would be a touchy and a complicated one. To begin with what yardstick would be applied in determining the degree of work done by a company? Would you use runs or workers or the ratio of runs to workers, or the hours of fire duty performed or some figure arived at by a combination of all of these factors? No doubt such a standard of measure could be worked out, but that job is not attempted here. So, understand that these tables do not necessarily list the busiest companies, but only those having the greatest number of runs. Complete data for 1940 will be printed here when tallied.

Runs and Workers—January 1 to November 30, 1940

Engine Co. No.	*Runs*	*Workers*	*H. & L. Co. No.*	*Runs*	*Workers*
91	1058	243	26	1247	485
283	930	345	43	1118	298
58	922	345	120	957	383
35	817	158	123	834	362
53	745	276	108	790	360
59	725	340	40	735	355
69	699	328	103	721	217
231	674	223	110	717	278
36	587	196	148	714	279
82	575	246	146	690	182
26	566	245	18	677	302
73	566	226	147	671	218
247	545	207	111	669	329
22	530	235	47	652	150
227	488	202	30	650	376
37	479	234	102	645	275
8	475	233	124	639	177
54	474	161	131	637	237
17	470	166	157	624	258
234	469	210	28	623	336
1	462	226	14	622	264
76	462	256	13	608	330
44	461	191	156	601	277
65	461	162	105	600	262
94	461	138	153	598	117

While once again doing some fancy footwork to stay clear of the word "busy," we offer, for the purpose of comparison with the 1940 figures and of reminiscences of the Department of the past, the list of engine and truck companies which had the greatest number of runs in 1902. But why go way back to 1902? Doesn't that year belong in a chapter of the history of the Department different from 1940? In fact hasn't New York City undergone a complete face lifting operation in the last 38 years?

Yes, all that is true and is exactly the reason for selecting 1902, because it typifies an era that is distinct from and at the same time explanatory of the present. The great emigration from persecuted and impoverished European countries reached its high point in 1902. Look at the lead-off companies in the list below, locate them and you will get the effect of the Lower East Side tenements, crowded with these emigrants, upon the "running" of the Fire Department. Compare this with 1940. See how the "running" column features the companies of the East Harlem and Brownsville sections. Why? Because it was in 1902 that the slogan "15 minutes from City Hall to Harlem" promoted the first subway that was soon to open. In addition blocks of tenement houses were demolished for the construction of the Williamsburg Bridge. These events started the exodus to the suburbs which meant practically all parts of the city with the exception of downtown Manhattan and the long established sections of Brooklyn. Notice the prominence of Brooklyn companies in the 1940 figures, traceable also to the growth of rapid transit. The building program, resulting from this shift of the residential population was guided by the provisions of the Tenement House Laws of 1901, which eliminated many of the fire hazards inherent in construction prior to that year.

Runs and Workers—1902

Engine Co. No.	*Runs*	*Workers*	*H. & L. Co. No.*	*Runs*	*Workers*
17	859	186	18	825	400
15	563	96	6	633	327
11	494	104	9	581	300
25	489	74	20	471	253
9	469	137	11	437	143
55	465	102	4	418	256
20	407	81	24	408	165
35	404	55	21	394	215
31	360	109	14	388	249
44	332	61	1	384	196
39	331	64	13	345	214
53	329	82	3	329	178
12	329	81	5	329	170
22	324	59	2	319	166
33	324	110	60 (now 110)	312	97
1	322	63	16	302	144
18	309	65	12	296	175
34	301	67	7	289	152
5	292	53	58 (now 108)	287	199
13	289	101	68 (now 118)	256	75
54	289	60	8	245	160
36	279	38	22	236	131
65	277	58	25	234	127
30	274	94	10	219	133
104 (now 204)	272	58	55 (now 105)	168	77

NOTE: Brooklyn Engine Companies, in 1902, began at No. 101. Brooklyn Truck Companies began at No. 51.