FILE 856

SALARIES: STAFF

1919 -1936

DOCKET STARTS:

187

17th Sept., 1920.

SUMMARY.

		Salaries.	Incr.	Wages.	Incr.	Appn.	Incr.	Total
Medicine	'20-21	122,385		16,765		40,825		
	'19-20	88,667	33,818	10,481	6,284	21,387	19,438	59,540
Arts	'20-21	138,950		10		9,500		
	'19-20	99,849	39,101	541	31	9,476	24	39,094
Science	'20-21	116,300		25,580		24,455		
	'19-20	82,262	34,038	18,535	7,045	18,812	5,643	46,726
University Depts.	'20-21	114,533		15,726		43,440		
	'19-20	80,852	33,681	12,848	2,878	32,712	10,728	47,287
R.V.C.	'20-21	10,720		8,700		32,521		
	'19-20	10,764	44	7,964	736	29,197	3,324	4,016
Administration	'20-21	54,700				32,000		
	'19-20	42,326	12,374			19,440	12,560	24,934
L. H. & P.Stn.	'20-21							
	'19-20				4,000		16,000	20,000
Grounds & Workshops	'20-21							
	'19-20				5,000		4,000	9,000
Mtce. Blgs.	'20-21			20,800	~~29,899~~	13,560		
	'19-20			17,701	3,099	12,962	598	3,697
			152,968		29,011		72,415	£254,294

17th Sept., 1920.

FACULTY OF APPLIED SCIENCE.

	1919-20.				1920-1921.			
	Salaries	Wages	Appn.	Total	Salaries	Wages	Appn.	Total
Architec.	7,910		875	8,785	10,650		1,250	11,900
Civil Eng.	17,100	3,191	187	20,478	23,325	4,400	375	28,100
Elec.Eng.	10,775	2,697	718	14,190	13,200	3,080	800	17,080
Geom.,Desc. & Free.Dwg.	5,133		20	5,153	7,300		50	7,350
General	5,550		2,535	8,085	10,200		2,675	12,875
Mathem.	8,659			8,659	12,225			12,225
Mech.Eng.	9,907	8,700	2,780	21,387	16,150	12,500	10,650	39,300
Metallurgy	5,508	847	1,396	7,751	7,250	1,400	2,080	10,730
Mining Eng.	7,711	2,600	2,770	13,081	9,900	3,000	2,850	15,750
Surveying	5,009	500	7,531	13,040	6,100	1,200	3,725	11,025
	$82,262	$18,535	$18,812	$120,609	$116,300	$25,580	$24,455	$166,335
Dentistry Fac. of	$9,200	166	1,128	10,494	$12,685	1,700	1,665	16,050
Law, Fac. of								
Conservatorium of music	$23,342	1,086	7,543	31,971	$28,370	1,500	8,415	38,285

17th Sept., 1920.

FACULTY OF ARTS

	1919-1920.				1920-1921.			
	Salaries	Wages	Appn	Total	Salaries	Wages	Appn.	Total
Botany	6,165	261	790	7,216	6,800	250	800	7,850
Classics	7,633			7,633	11,250			11,250
Commerce	12,489		2,167	14,656	17,100		2,500	19,600
Economics & Pol. Econ.	7,375			7,375	9,500			9,500
Education	4,000			4,000	2,000			2,000
English	9,900			9,900	13,250			13,250
French	5,216			5,216	7,000			7,000
General	5,915		3,973	9,888	9,200		4,000	13,200
Geology & Mineralogy	5,248		543	5,791	11,150		500	11,650
Hebrew & Sem.Lang.	2,750			2,750	3,750			3,750
History	2,750			2,750	4,200			4,200
Logic & Metaphysics	2,458			2,458	3,000			3,000
Mathematics	7,100			7,100	12,000			12,000
Modern Lang.	9,166			9,166	11,250			11,250
Moral Philos.	3,667			3,667	4,750			4,750
Psychology	2,500			2,500	3,000			3,000
Zoology	5,517	280	2,003	7,800	9,750	260	1,700	11,710
	$99,849	541	9,476	109,866	$138,950	510	9,500	148,960

17th Sept., 1920.

FACULTY OF MEDICINE.

	1919-1920.				1920-1921.			
	Salaries.	Wages	Appn.	Total	Salaries	Wages	Appn.	Total
Anatomy	12,288	2,208	4,388	18,884	13,000	2,964	2,800	18,764
Bio-Chemistry	3,000	900	4,434	8,334	9,500	1,000	4,500	15,000
Biology	1,691			1,691	5,100		600	5,700
Dermatology								
Experimental Med.		962	417	1,379		1,800	550	2,350
English	1,800			1,800	2,000			2,000
General	2,800	348	3,635	6,783	7,180	500	3,100	10,780
Gynaecology & Obstetr.	4,250			4,250	3,800			3,800
Histology & Embry.	3,542	407	193	4,142	6,750	810	450	8,010
Hygiene	4,750	717	760	6,227	8,500	780	700	9,980
Medicine & Clin. Med.	10,650		567	11,217	11,800		1,000	12,800
Medical Juris.								
Medical Library	2,829		2,341	5,170	3,785	415	2,375	6,575
Medical Museum	2,625	853	1,067	4,544	3,020	1,200	1,925	6,145
Mental Diseases								
Opthal.	1,200			1,200	1,200		200	1,400
Orthodont.								
Oto-Laryn.	1,200			1,200	1,200		200	1,400
Parasitology	1,000		81	1,081	1,000		250	1,250
Pathology & Bacteriol.	10,374	1,621	845	12,840	13,150	2,016	1,775	16,941
Pharmacology	3,108	832	143	4,083	6,000	1,040	335	7,375
Pharmacy	2,368	130	187	2,685	2,500	130	415	3,045
Physiology	10,667	1,504	2,022	14,193	13,500	4,110	19,150	36,760
Surgery & Clin.Surg.	8,425		307	8,732	9,400		500	9,900
	$88,567	10,481	21,387	120,435	$128,385	16,765	40,825	179,975

17th Sept., 1920.

UNIVERSITY DEPARTMENTS.

	1919-1920				1920-1921.			
	Salaries	Wages	Appn.	Total	Salaries	Wages	Appn.	Total.
Chemistry	$21,958	2,890	6,640	31,488	$26,424	2,706	6,700	35,830.
~~Conservatorium~~	~~25,542~~	~~1,086~~	~~7,543~~	~~33,971~~	~~27,270~~	~~1,500~~	~~8,416~~	~~37,186~~
Graduate School			29	29			200	200.
Library	10,752	2,501	9,294	22,547	14,244	2,950	10,645	27,839.
McCord Museum	900	458	1,171	2,529	1,200	900	1,685	3,785
Observy.	2,350	71	715	3,136	2,460	100	1,000	3,560.
Phys. Ed.	12,540	284	4,856	17,680	26,455	280	8,565	35,300.
Physics	25,135	5,360	7,319	37,814	34,000	7,240	11,495	52,735.
Redpath Museum	1,800	1,283	1,609	4,692	2,000	1,550	2,100	5,650.
Social Service	5,417	1	1,079	6,497	7,750		1,050	8,800.
	$80,852	12,848	32,712	128,412	$114,533	15,726	43,440	173,699.
Animal House		660	725	1,385		800	700	1,500.
Arts Bldg. Mtce.		3,640	2,935	6,575		4,000	2,935	6,935.
C. & M. Bldg.Mtce.		2,180	1,632	3,812		2,600	1,700	4,300.
Engineering Bldg.Mtce.		4,639	3,793	8,432		5,600	3,900	9,500.
New Medical Bldg. Mtce.		5,398	3,100	8,498		5,900	3,330	9,230.
Old Medical Bldg. Mtce.		1,184	777	1,961		1,900	995	2,895
		$17,701	12,962	30,663		$20,800	13,560	34,360.

DOCKET ENDS:

(4½

FAMILY BUDGET. Husband, wife, three children. One servant and occasional help.

(1) Clothing of all kinds, cleaning and repairs.....	$700.00
(2) House renewals and repairs	155.00
(3) Sundries (cars, stamps, incidental odd expenses).....	240.00
(4) Subscriptions (including technical societies).....	105.00
(5) Amusements, concerts, flowers, books, tobacco, candy.....	85.00
(6) Presents, family and personal, Xmas and birthdays etc.	110.00
(7) School and music. (~~$20~~ two children)	155.00
(8) Service	360.00
(9) Medecines.....	30.00
(10) Light, gas, coal and wood.....	230.00
(11) Doctor, dentist, oculist.....	330.00
(12) Telephone	42.00
(13) Food and ice.....	1360.00
(14) Travelling (summer and incidental journeys).....	140.00
(15) Laundry.....	180.00
(16) Rent (country and city) and taxes.....	805.00
(17) Insurances and personal obligations.	250.00
(18) Income tax on $4000.00 less exemption (children).....	36.00
$	5343.00

NOTE. Certain increases not operative throughout 1919 will affect rent and laundry charges in 1920. The general increase in the prices of commodities will also affect other items of necessary expenditure.

DOCKET STARTS:

...tendance.

McGILL SALARY CUT RECALLS OLD TIMES

Report of 1865 Shows How Economies Were Also Necessary Then

Reduction of salaries was the most common topic of conversation at McGill University yesterday, and in most cases the attitude of those affected was philosophical. One observant official pointed out that it was not a new thing for McGill to have financial troubles, and brought to hand as proof a copy of a "Memorial of the governors, principal and fellows of McGill College and University, presented to His Excellency the Governor-General and the Legislature, February, 1865."

This old pamphlet showed that the student registration which was 97 in 1854 had grown in ten years to 307 in 1863, with 177 enrolled in medicine, 82 in Arts and 48 in Law. Annual grants to the university over these years were shown as being in the neighborhood of $5,000.

The report said: "Taking into account all these sources of revenue (these being three in number) an annual deficiency remained in 1863 of $10,141, not provided for by the income, and this deficiency appeared so alarming that the governors were in the necessity of withdrawing the aids formerly given to the high school and of discontinuing the courses in English in the faculty of arts. They were also obliged further to postpone the just claims of several professors for increase of their salaries and to abstain from all additions to the library, museum, and apparatus."

In 1932, the this official points out, the university was not only forced to postpone just claims but also to decree a general and temporary reduction in salaries on a scale that spread all the way down from the principal to the lowest groundsman.

THE CIVIL COUR...

Principal's Office,
McGill University.

April fourth,
1 9 3 2 .

To the Members of the Professorial, the Administrative and the Maintenance Staffs of McGill University:-

The Board of Governors of McGill University very much regrets to have to announce that it is obliged to take a step which, in the opinion of some people, has been too long deferred.

Effective June first, 1932, all salaries and wages are to be reduced, on a sliding scale.

For the year June 1, 1929, to May 31, 1930, the difference between Income and Expenditure was $316,000. For the year June 1, 1930, to May 31, 1931, this deficit was $338,000, while for the year which will end on May 31st next the deficit will be approximately $400,000.

The revenue of the University is derived chiefly from

(a) Income from investments

(b) Fees

(c) Government grants

(d) Gifts and bequests

Like all those institutions and individuals whose income is dependent on investments, we have suffered a severe loss in revenue from that source.

Fees have been steadily increased and are now, and always have been, higher than those paid in any other Canadian university. In some cases the disproportion has been as marked as two and a half to one. It was my hope that certain deficiencies in staff and facilities could have been met before fees were again raised, but I am afraid they must be materially increased at once.

Government grants have remained practically stationary during recent years.

Gifts and bequests, over a ten year period, have averaged $300,000 a year.

Our Expenditures are, mainly:-

(a) Salaries and wages

(b) Maintenance and Supplies

(c) Books and periodicals

(d) Capital expenditure

Regarding Capital Expenditure, there has been practically none for some years, with the exception of the amount spent on building the addition to the Royal Victoria College. In this connection, it is well to point out that the Royal Victoria College has an endowment entirely separate from that of McGill University, and the funds used to provide this new wing came from annual surpluses accumulating during the past thirty-two years because of the generous grants for maintenance provided by the late Lord Strathcona, former Chancellor of the University.

The amount spent on Maintenance and Supplies has steadily decreased, while that on Books, Periodicals and Wages has remained practically stationary.

The Salary Appropriation is the only one which has steadily increased. The justification for this increase arises from an appreciation that no single factor contributes as much to making a university a real seat of learning, a creditable, worth while institution of distinction and merit, as the staff.

It has been the constant aim of the Board of Governors to create a staff chosen for scholarship, character, teaching ability, and the capacity to do research work - men and women whose personality and example of hard work and devotion to duty, and sincere interest in the welfare of their fellow men, will leave a profound impression

on the minds of the students entrusted to their care. The Board has also at all times aimed to provide suitable class rooms, a well chosen Library and proper laboratory facilities, and has striven to maintain the high reputation of McGill and to surround the staff with congenial colleagues. It has always tried to take into consideration the cost of living in Montreal.

Salaries, etc. were decreased some time ago in the Universities of British Columbia, Alberta, Saskatchewan, Manitoba and Toronto, and some of those mentioned are facing the prospect of additional reductions, while the budget for next year for all expenditure in every Canadian university, including our own, will show substantial reductions.

The rate of reduction decided upon is as follows:-

		Married	Unmarried
On salaries of	$1,000 and less	per annum..... .3%	4%
" " "	$2,000 to $1,001	" " 4%	5%
" " "	$3,000 to $2,001	" " 5%	6%
" " "	$3,600 to $3,001	" " 6%	7%
" " "	$4,250 to $3,601	" " 7%	8%
" " "	$5,000 to $4,251	" " 8%	9%
" " "	$6,000 to $5,001	" " 9%	10%
" " "	$6,001 and over	" " 10%	11%

The Board of Governors hopes that the period of time during which these reductions must be in force will be brief, but at present it would be foolish to attempt to prophecy or give any indication of the duration of the reductions.

In this trying time, the Board relies with confidence on the loyalty and co-operation of egery member of the staff and all concerned in the welfare of McGill, feeling sure that they will support with good will this step which it has now reluctantly been obliged to take.

Principal.

DOCKET ENDS:

Memorandum on Salaries.

After the last war there was a continent-wide demand for increased salaries for the teaching profession. McGill had to follow step. It was even urged as a necessity by the Carnegie Corporation.

Attached is the annual report for 1920-21. At page 141 you will find salaries and increases, but to get a breakdown in salaries paid to professors and others down through the ranks and faculties Mr. Bentley would have to make the same kind of summary as is attached for t e year 1935-36.

The next happening of note is to be found at page 11 of the Annual Report for the year 1931-32. The salary cut. I also attach Sir Arthur's letter to the staff.

Some of this cut has been restored, about 50% in general. In many cases it has not been 100% restored before here we are in the middle of another war, with the university paying no cost of living bonus in the higher brackets to recompense against the 20-25% increase in cost of living.

I refer you also to page 11 of the 1932-33 report (in those days I practically wrote the report, as you know, and this table I got from Mr. Bentley who I should hope would have similar figures back to 1920. If he has it is easy to compare numbers of professors and other ranks on our staff then and salaries paid with numbers now and salaries paid. That job would not take long, only a matter of counting, which any clerk could do.

At page 11 of the report for 1933-34 you will find the statement that of $6,320,000 collected in the 1920-21 campaign for funds $4,475,000 went into an endowment fund for salaries.

By reference to the minute books of governors we can probably get conclusive statements.

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DOCKET STARTS:

17th Sept., 1920.

SUMMARY.

		Salaries.	Incr.	Wages.	Incr.	Appn.	Incr.	Total
Medicine	'20-21	122,385		16,765		40,825		
	'19-20	88,567	33,818	10,481	6,284	21,387	19,438	59,540
Arts	'20-21	138,950		10		9,500		
	'19-20	99,849	39,101	541	31	9,476	24	39,094
Science	'20-21	116,300		25,580		24,455		
	'19-20	82,262	34,038	18,535	7,045	18,812	5,643	46,726
University Depts.	'20-21	114,533		15,726		43,440		
	'19-20	80,852	33,681	12,848	2,878	32,712	10,728	47,287
R.V.C.	'20-21	10,720		8,700		32,521		
	'19-20	10,764	44	7,964	736	29,197	3,324	4,016
Administration	'20-21	54,700				32,000		
	'19-20	42,386	12,374			19,440	12,560	24,934
L. H. & P.Stn.	'20-21							
	'19-20			4,000		16,000		20,000
Grounds & Workshops	'20-21							
	'19-20			5,000		4,000		9,000
Mtce. Blgs.	'20-21			20,800	~~29,899~~	13,560		
	'19-20			17,701	3,099	12,962	598	3,697
		152,968			29,011		72,415	$254,294

Scarce

164000 @ 6 = 2,750,000

17th Sept., 1920.

FACULTY OF APPLIED SCIENCE.

	1919-20.				1920-1921.			
	Salaries	Wages	Appn.	Total	Salaries	Wages	Appn.	Total
Architec.	7,910		875	8,785	10,650		1,250	11,900
Civil Eng.	17,100	3,191	187	20,478	23,325	4,400	375	28,100
Elec.Eng.	10,775	2,697	718	14,190	13,200	3,080	800	17,080
Geom.,Desc. & Free.Dwg.	5,133		20	5,153	7,300		50	7,350
General	5,550		2,535	8,085	10,200		2,675	12,875
Mathem.	8,659			8,659	12,225			12,225
Mech.Eng.	9,907	8,700	2,780	21,387	16,150	12,500	10,650	39,300
Metallurgy	5,508	847	1,396	7,751	7,250	1,400	2,080	10,730
Mining Eng.	7,711	2,600	2,770	13,081	9,900	3,000	2,850	15,750
Surveying	5,009	500	7,531	13,040	6,100	1,200	3,725	11,025
	$82,262	$18,535	$18,812	$120,609	$116,300	$25,580	$24,455	$166,335
Dentistry Fac. of	$9,200	166	1,128	10,494	$12,685	1,700	1,665	16,050
Law, Fac. of								
Conservatorium of music	$23,342	1,086	7,543	31,971	$28,370	1,500	8,415	38,285

17th Sept., 1920.

FACULTY OF ARTS

	1919-1920.				1920-1921.			
	Salaries	Wages	Appn	Total	Salaries	Wages	Appn.	Total
Botany	6,165 3750 2500	261	790	7,216	6,800 2750 4050	250	800	7,850
Classics	7,633			7,633	11,250			11,250
Commerce	12,489		2,167	14,656	17,100		2,500	19,600
Economics & Pol. Econ.	7,375			7,375	9,500			9,500
Education	4,000			4,000	2,000			2,000
English	9,900			9,900	13,250			13,250
French	5,216			5,216	7,000			7,000
General	5,915		3,973	9,888	9,200		4,000	13,200
Geology & Mineralogy	5,248		543	5,791	11,150		500	11,650
Hebrew & Sem.Lang.	2,750			2,750	3,750			3,750
History	2,750			2,750	4,200			4,200
Logic & Metaphysics	2,458			2,458	3,000			3,000
Mathematics	7,100			7,100	12,000			12,000
Modern Lang.	9,166			9,166	11,250			11,250
Moral Philos.	3,667			3,667	4,750			4,750
Psychology	2,500			2,500	3,000			3,000
Zoology	5,517	280	2,003	7,800	9,750	260	1,700	11,710
	$99,849	541	9,476	109,866	$138,950	510	9,500	148,960

17th Sept., 1920.

FACULTY OF MEDICINE.

	1919-1920.				1920-1921.			
	Salaries.	Wages	Appn.	Total	Salaries	Wages	Appn.	Total
Anatomy	12,288	2,208	4,388	18,884	13,000	2,964	2,800	18,764
Bio-Chemistry	3,000	900	4,434	8,334	9,500	1,000	4,500	15,000
Biology	1,691			1,691	5,100		600	5,700
Dermatology								
Experimental Med.		962	417	1,379		1,800	550	2,350
English	1,800			1,800	2,000			2,000
General	2,800 ✓	348	3,635	6,783	7,180 6,680	500	3,100	10,780
Gynaecology & Obstetr.	4,250			4,250	3,800			3,800
Histology & Embry.	3,642	407	193	4,142	6,750 ✓	810	450	8,010
Hygiene	4,750	717	760	6,227	8,500 7000	780	700	9,980
Medicine & Clin. Med.	10,650		567	11,217	11,800		1,000	12,800
Medical Juris.								
Medical Library	2,829		2,341	5,170	3,785	415	2,375	6,575
Medical Museum	2,625	852	1,067	4,544	3,020	1,200	1,925	6,145
Mental Diseases								
Opthal.	1,200			1,200	1,200		200	1,40
Orthodont.								
Oto-Laryn.	1,200			1,200	1,200		200	1,400
Parasitology	1,000		81	1,081	1,000		250	1,250
Pathology & Bacteriol.	10,374	1,621	845	12,840	13,150	2,016	1,775	16,941
Pharmacology	3,108	832	143	4,083	6,000	1,040	335	7,375
Pharmacy	2,368	130	187	2,685	2,500	130	415	3,045
Physiology	10,667	1,504	2,022	14,193	13,500	4,110	19,150	36,760
Surgery & Clin.Surg.	8,425		307	8,732	9,400		500	9,900
	$88,567	10,481	21,387	120,435	$122,385	16,765	40,825	179,975

Chemistry	5,000	6,600
Physics	7,300	11,800
Botany	400	—
Zoology	2100	4,000
L.H.P.	18,500	23,100
	153735	225,475

17th Sept., 1920.

UNIVERSITY DEPARTMENTS.

	1919-1920				1920-1921.			
	Salaries	Wages	Appn.	Total	Salaries	Wages	Appn.	Total.
Chemistry	$21,958	2,890	6,640	31,488	$26,424	2,706	6,700	35,830.
Conservatorium	25,242	1,086	7,543	33,871	47,270	1,500	8,415	57,185.
Graduate School			29	29			200	200.
Library	10,752	2,501	9,294	22,547	14,244	2,950	10,645	27,839.
McCord Museum	900	458	1,171	2,529	1,200	900	1,685	3,785
Observ.	2,350	71	715	3,136	2,460	100	1,000	3,560.
Phys. Ed.	12,540	284	4,856	17,680	26,455	280	8,565	35,300.
Physics	25,135	5,360	7,319	37,814	34,000	7,240	11,495	52,735.
Redpath Museum	1,800	1,283	1,609	4,692	2,000	1,550	2,100	5,650.
Social Service	5,417	1	1,079	6,497	7,750		1,050	8,800.
	$80,852	12,848	32,712	126,412	$114,533	15,726	43,440	173,699.
Animal House		660	725	1,385		800	700	1,500.
Arts Bldg. Mtce.		3,640	2,935	6,575		4,000	2,935	6,935.
C. & M. Bldg.Mtce.		2,180	1,632	3,812		2,600	1,700	4,300.
Engineering Bldg.Mtce.		4,639	3,793	8,432		5,600	3,900	9,500.
New Medical Bldg. Mtce.		5,398	3,100	8,498		5,900	3,330	9,230.
Old Medical Bldg. Mtce.		1,184	777	1,961		1,900	995	2,895
		$17,701	12,962	30,663		$20,800	13,560	34,360.

DOCKET ENDS:

DOCKET STARTS:

April 10, 1920.

To the Dean,

Faculty of Medicine.

Dear Sir:-

Department of Physics

1. The estimates for Salary for the whole staff of this Department have been forwarded to the Bursar.

2. The estimate for supplies and equipment are in preparation for the whole Department, including Medicine, Arts, Applied Science, Dentistry and Pharmacy.

3. The lectures to Medical students 1920-21 will probably be given by Asst. Prof. H.E. Reilley.
The Laboratory work will be under Asst. Prof. M.E. Wheeler.
The Staff will therefore be
Prof. A.S. Eve Director
Asst. Prof. H.E. Reilley
Asst. Prof. M.E. Wheeler
and 6 demonstrators
V. Henry;
R.J. Clark,
L.A. Smith;
L.H. Nichols,
and two others not yet available.

4. Should the new scheme be adopted we can carry on the work under the Arts Faculty for the first year.
When the second year also comes for instruction an extension of the Physics Building, involving a new large theatre and a new large elementary laboratory will be required.

Yours sincerely
A S Eve

Copy for Acting Principal

Salaries

" The school teachers' agitation for increased salaries has been having the desired effect of late in many centres. The Toronto Board of Education, for example, recommends salaries of from $3,375 to $4,375 for high school principals, and $3,125 to $3,375 for assistants of the first class, with a minimum of $1,875 for any assistant. Taken in conjunction with pension privileges and the holidays such as no other class of workers enjoys, the Toronto teachers' remuneration may be regarded as above the average. "

DOCKET STARTS:

Corrected Copy

Macdonald College, Que.

January 22nd, 1920.

To the Board of Governors,
McGill University,
Montreal, Q.

Gentlemen,-

We, the undersigned Committee representing the staff of the School of Agriculture of Macdonald College, respectfully bringto your attention our serious position in the matter of salaries.

Since 1914 the cost of living has increased 100 per cent and during that time our salaries on the whole have remained practically stationary.

We say practically stationary because:

1. Certain members of the staff have received some increase in salary;
2. Those members who receive board and room as part of their salaries have received indirectly small increases because the cost to the College of providing them with room and board has increased.

Principal Harrison will assure you that each of us is a specialist in his line; that we do our work faithfully and enthusiastically and that we turn out graduates equal or superior to those turned out by other Canadian Agricultural Colleges.

We have spent our lives in training for this work and we enjoy it, but our present salaries limit our usefulness in every way.

During the war we felt it to be a necessary part of our patriotic duty not to press for increases in salary, but in the year since the armistice we have looked confidently for increases which would help us meet the higher cost of living.

We believe you will agree that we cannot do our best work while we are harassed by money matters.

We believe you will agree also that it is only a question of time when salaries must be increased here, otherwise when the present members drop out their places will be taken by men with inferior training.

We understand that you have recently granted to the members of the Arts and Science Faculties of McGill University liberal bonuses and substantial increases in salaries; also that you have established schedules of salaries for the different grades of the Faculties.

We respectfully request that you accord us similar treatment:

1. That you grant us increases in salaries substantially in proportion to the increase in the cost of living;

2. That you establish a schedule of salaries for the different grades in the Faculty of Agriculture;

3. That in making out this schedule you put us on a par with the other faculties of McGill University, as a just recognition of the training we bring to the work and of the importance of agricultural education to the country.

Respectfully yours,

W. Lochhead
J. A. Starrak
H. Barlow

Committee representing the Staff.

DOCKET ENDS:

TABLE SHOWING SALARIES PAID TO VARIOUS RANKS
ON THE ACADEMIC STAFFS OF TYPICAL UNIVERSITIES IN CANADA.

	TORONTO	QUEEN'S	SASKATCHEWAN	McGILL
Professors	After recent increase of 25% on all salaries. $4000 going to $5000 in special cases. (Murray says $4000 to $4500.) (Usually with an increase of $100 per year.)	$3000 to $3500	$3400 to $4000	If further proposed increases can be made. $3800 to $4500 (rising to $5000 in special cases) (except Profs. Brodie-Brockwell, Lloyd, Slack, Lafleur
Associate Professors	$2600 to $4000 (Murray says $3100 to $4000)	$2500	$2700 to $3200	$3000 to $3500 (except Profs. [redacted], Derick, Hickson.)
Assistant Professors	$2400 to $3100 (Murray says $2500 to $3000)	$2000	$2000 to $2500	$2000 to $3000 (all included)
Lecturers	Up to about $2500	$1500	-	$1500 to $2200 (except A.R.M. McLean)

Salaries

August 11, 1919.

DOCKET STARTS:

Salaries

ENGINEERING COUNCIL

29 W. 39th Street, New York

COMMITTEE ON CLASSIFICATION AND COMPENSATION OF ENGINEERS

PRELIMINARY REPORT OF FEDERAL GOVERNMENT SECTION

NOVEMBER, 1919

ENGINEERING COUNCIL

29 WEST 39th STREET, NEW YORK
Telephone, Vanderbilt 4600

An organization of National Technical Societies of America, created to provide for consideration of matters of common concern to Engineers, as well as those of public welfare in which the Profession is interested, in order that united action may be made possible.

THE ENGINEERING PROFESSION UNITED TO SERVE AMERICA

CHAIRMAN.....J. PARKE CHANNING
1st VICE-CHAIRMAN.....D. S. JACOBUS
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Comfort A. Adams
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United Engineering Society

Clemens Herschel
Irving E. Moultrop
Benjamin B. Thayer
Calvert Townley

American Society for Testing Materials

Albert Ladd Colby

WASHINGTON OFFICE, M. O. LEIGHTON in Charge,
McLachlen Building, 10th and G Streets
Telephone, Franklin 3416

ENGINEERING COUNCIL

ENGINEERING SOCIETIES BUILDING
29 WEST THIRTY-NINTH STREET
NEW YORK

Employed professional Engineers have found themselves unprepared to meet the changes in economic conditions which have occurred during the last few years. They are now endeavoring to bring about increases of compensation so as to sustain themselves according to previous standards of living and to adjust the hitherto inadequate salaries of positions to their responsibilities. They have been placed at a greater disadvantage than men following vocations having well established betterment organizations.

With the purpose of helping to correct these unfavorable conditions, Engineering Council organized, in April last, a Committee on Classification and Compensation of Engineers, having the following members:

Major Committee

Arthur S. Tuttle, Deputy Chief Engineer, Board of Estimate, New York City, Chairman, and Chairman of State and Municipal Engineers Section.
Francis Lee Stuart, Consulting Engineer, New York City, Chairman Railroad Engineers Section.
John C. Hoyt, Hydraulic Engineer, U. S. Geological Survey, Washington, D. C., Chairman, Federal Government Engineers Section.
Charles Whiting Baker, Consulting Engineer, New York City. Chairman, Public Affairs Committee, Engineering Council.
M. O. Leighton, Consulting Engineer, Washington, D. C., Chairman, National Service Committee, Engineering Council.

State and Municipal Section

Arthur S. Tuttle, Chairman.
M. M. O'Shaughnessy, City Engineer, San Francisco.
F. W. Cappelen, City Engineer, Minneapolis.

Railroad Section

Francis Lee Stuart, Chairman.
Frank H. Clark, Consulting Engineer, New York City.
Bion J. Arnold, Consulting Engineer, Chicago.

Federal Government Section

John C. Hoyt, Chairman.
John S. Conway, Deputy Commissioner of Lighthouses, Washington.
O. C. Merrill, Chief Engineer, Forest Service, Washington.

The Federal Section has submitted a preliminary report which is presented herewith to the engineering public for criticism and suggestions.

Careful consideration of all phases of the question from the standpoint of both employer and employee is invited to the end that the final report may serve as a basis for a rational system of classification and the establishment of proper employment policies, with adequate compensation, applying, so far as practicable, to all branches of the engineering profession and all lines of engineering work.

It is highly important that members of the Profession interest themselves actively in this subject, because the right solution of the problem is essential to the welfare of individual members of the Profession and necessary in keeping its standards on a high plane. Special comment on the tentative grades and salary schedules will be appreciated. Please use the inclosed blank, in order that suggestions may be made on a uniform basis, and send your comments before December 15.

November 11, 1919.

ALFRED D. FLINN,
Secretary.

On account of the particular interest in the subject of classification of salaries among scientific and technical men other than engineers, The Washington Academy of Sciences has undertaken to publish and distribute this Report to the members of the societies affiliated with the Academy. The Committee believes that the classification and salary schedule herewith presented may with slight modification be made applicable to all scientific and technical positions in the Government service.

PRELIMINARY REPORT
ENGINEERING COUNCIL COMMITTEE
ON
CLASSIFICATION AND COMPENSATION OF ENGINEERS IN THE SERVICE OF THE FEDERAL GOVERNMENT
NOVEMBER, 1919.

John C. Hoyt, Hydraulic Engineer, Geological Survey.
John S. Conway, Deputy Commissioner of Lighthouses.
O. C. Merrill, Chief Engineer, Forest Service.

INTRODUCTION

The executive branch of the Federal Government comprises over 50 independent establishments. These include, besides the ten departments, numerous commissions, boards and other organizations. For administrative purposes and for the accomplishment of specific work these establishments are divided into organization units. The work of the professional engineer enters in large measure either directly or indirectly into the activities of all these establishments.

In the gradual development of the executive branch of the Federal Government, which has extended over the entire period of the history of the country, units of organization have been created one by one to meet growing needs. To carry on the work of these new units and to provide for the growth of older ones a great expansion in personnel has been required. In this expansion too little consideration has been given to the special requirements of the several positions; to the relation of these positions to one another, either in the same or in different organization units; or to the relation between the units themselves. As a result there have grown up many inequalities and injustices which affect adversely both the employee and the organization. Although these inequalities and injustices exist in all lines of government work, they are especially noticeable in organization units which comprise engineering and other professional positions. It is to the end that these inequalities and injustices may be pointed out and that methods may be suggested for their correction that this report has been prepared.

COLLECTION OF DATA

Th collection of data for a study of this kind may be made in the following ways:

1. By questionnaires for individuals.
2. By questionnaires for groups.
3. By study of existing reports.
4. By interviews.

Each of these methods was used except the individual questionnaire. The psychological effect of a questionnaire giving each employee an opportunity to state his personal views was fully recognized, but it was believed that such statements, involving a large amount of clerical work in tabulation and study, with every possibility of a lack of uniformity in preparation, would not yield concise and systematic information for the solution of the problem before this committee.

In making the study the group questionnaire of the form indicated in Table 1, page 9, was sent to the heads of the departments and other independent establishments with the request that one be filled out for each organization unit composed primarily of engineers. Favorable responses were received from all except the War Department, which stated that it would be impracticable to furnish the information desired.

As a result of the inquiry questionnaires were returned by twenty organization units, sixteen in civil establishments and four in the Navy Department, employing an aggregate of about 4,600 engineers. In the analysis of these questionnaires it was necessary to interview officials and to consult existing reports. The study was conducted along two lines, as follows:

1. A classification, which consists in naming, defining, and grouping the positions under a system of vocations and grades which will permit the making of adequate comparisons.

2. An outline of an employment policy and a recommendation of a salary scale which will provide equitable compensation for services rendered and will make it possible to secure and retain a competent personnel for the conduct of Government business.

The committee is continuing its study of the subject and will present a final report as soon as the analysis is completed.

PRELIMINARY STATEMENT OF FINDINGS AND CONCLUSIONS.

The preliminary analysis of the questionnaires has shown the lack of any adequate or consistent employment policy with respect to engineers and other technical employees in the Government service. This is shown by the following conditions, which are believed to be largely responsible for the unsatisfactory status of this class of Government employees:

1. Absence of any system of grading of positions.
2. Lack of uniformity in classes of positions and in their titles and duties.
3. Inequalities in compensation for positions of the same grade in different organization units.
4. Generally inadequate compensation for services rendered.

To the end that these conditions may be corrected and proper and equitable conditions of employment established for engineers, as well as for other Government employees, the following practices and principles are recommended:

1. Positions should be classified in accordance with the character of the duties to be performed and with the training and experience necessary for their performance, as indicated by a system of grading.

2. Within the salary limits fixed for each grade, there should be a system of advancement through the grade based upon experience gained in the position and upon proof of increase in the proficiency of the employee in performing the duties of the grade.

3. Promotions from grade to grade should depend upon the existence of a vacancy in the higher grade and proof that the employee is qualified to fill the vacancy.

4. The determination of adequate salary schedules should take into account and properly weigh the following considerations:

(a) The capital invested, both in money and in time, in obtaining the requisite fundamental training.

(b) The amount and character of experience and the degree of personal ability required.

(c) The relative value of the classes of work to be performed.

(d) The amount paid for similar work in private employment.

(e) The amount necessary to enable the employee to maintain a standard of living commensurate with the general standards of the community for positions of similar dignity and responsibility.

(f) The amount necessary to procure for and retain in the Government service a class of employees capable of conducting the business of the Government with an efficiency and a spirit of initiative equal to that of private business.

5. In the interest of an adequate social policy, no position likely to be occupied by individuals of an age to assume family responsibilities should fail to pay an amount sufficient to permit the maintenance of the average family in reasonable decency and comfort.

6. In the interest of the employees as a whole and of the proper conduct of the work of the Government, a system should be established by which employees who fail to maintain satisfactory standards of service should be removed, transferred, demoted, or retired as may be equitable in the circumstances.

CLASSIFICATION

The absence of any adequate system of classification in the Government service was brought out clearly by the investigation as evidenced by the numerous titles of positions submitted by the twenty reporting bureaus. Many of these were little more than payroll titles, were neither consistent nor uniform, and gave little indi-

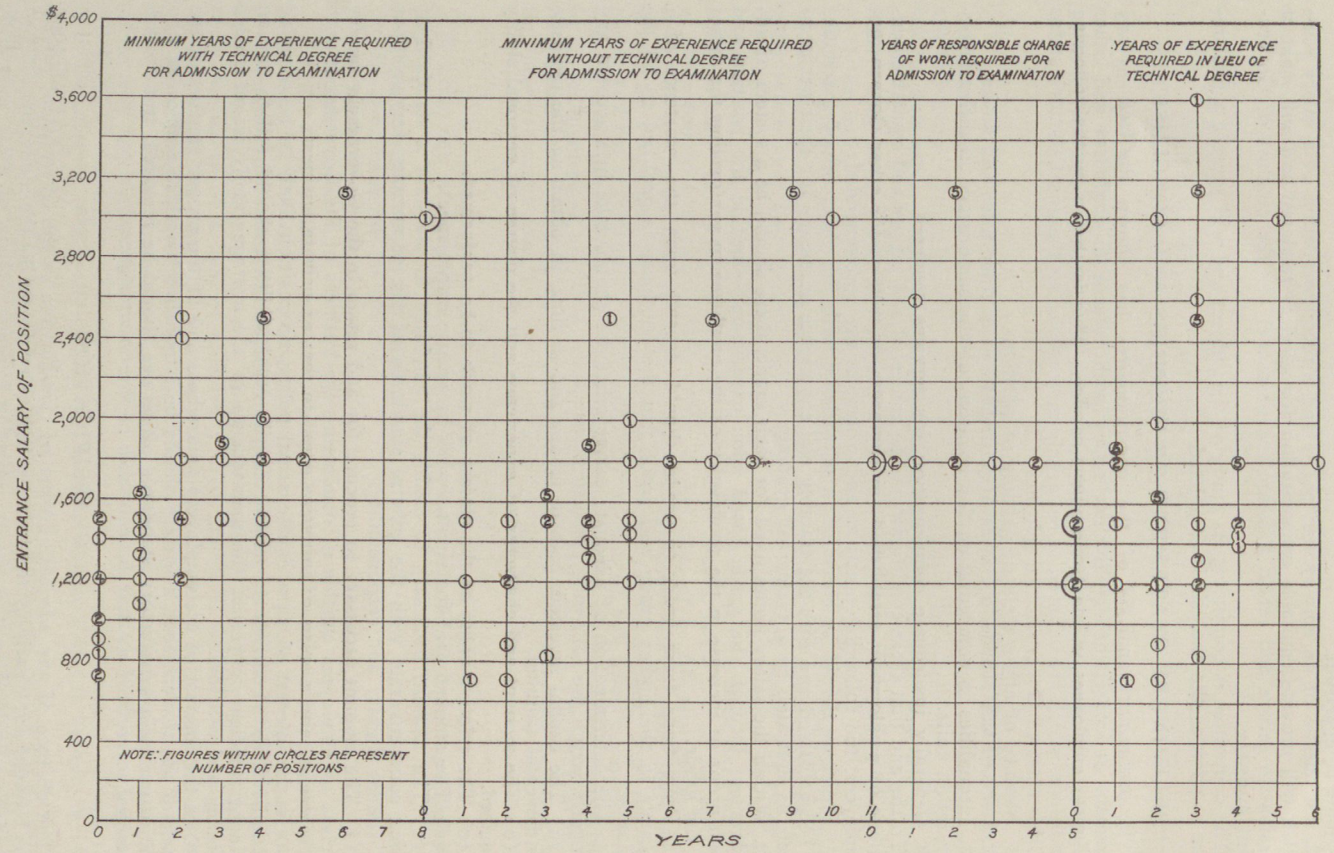

FIGURE 1.—*Years of experience now required for admission to certain positions with and without technical degree.*

cation of the character of the duties required by the positions. Furthermore, there is a surprising lack of uniformity in the entrance requirements for various positions, as illustrated by figure 1. This figure shows, for some 80 current civil service examinations for engineering positions in the Federal Government service, the years of preliminary experience, both with and without a technical degree, which are held as a prerequisite for admission to examination, the number of years in responsible charge of work which are required, and the credit in years of experience which are given for a technical degree.

The fundamental points to be considered in a classification of positions designed for the purpose of determining proper scales of compensation and other conditions pertaining to employment are:

1. The type of work, as indicated by the vocation in which the position falls.
2. The grade of work, as determined by the proficiency and responsibilities involved.

The type of work pertaining to a position, whether it represents a calling, a business, a trade, or other activities, including professional as well as mechanical operations, determines what is commonly termed the vocation or occupation of the individual holding the position. Vocations having similar characteristics may be grouped into services, such as engineering, scientific, clerical, artisan, etc.

In the professional engineering service, as the term is generally understood, the following vocations are found in the activities of the Federal Government:

Aeronautical Engineer
Architect
Chemical Engineer
Civil Engineer
Electrical Engineer
Forestry Engineer
Marine Engineer
Mechanical Engineer
Metallurgical Engineer
Mining Engineer
Naval Architect
Ordnance Engineer

Although positions in a vocation have similar characteristics in respect to the type of work, there are individual differences which depend on the responsibilities and proficiency involved. Such differences may be indicated by a system of grading that will be common to vocations in the same or similar services. In such a system of grading it is important to maintain the following principles:

1. That it shall provide a distinct means of comparing positions within the several vocations.

2. That it shall provide for comparison on an equitable basis of positions involving independent work with those involving administrative duties.

3. That it shall indicate a direct line of promotion from grade to grade and give an opportunity for regular advancement within a grade.

In the questionnaire used for collecting data for this report there were eight grades—four administrative and four nonadministrative. The data collected as summarized in Table 1, page 9 show that this system of grading was unsatisfactory in two respects:

1. It did not give a fair relative consideration of administrative and nonadministrative work.

2. It gave too wide a range of positions in Grade 8.

The study showed that the needs of the engineering services would be better served if the positions in the eighth grade were distributed among the first four and the definitions of the other grades extended to cover both administrative and nonadministrative positions. On this basis the following seven grades are proposed. This system of grading applies equally well to positions in any professional vocation.

PROPOSED GRADES FOR ENGINEERING VOCATIONS.

PROFESSIONAL.

1. CHIEF ENGINEER.

Duties: To act in chief administrative charge of a technical organization, or of a main division thereof; to determine the general policies of the organization under the limitations imposed by law, regulation, or other fixed requirement; to have final responsibility for the preparation of reports, cost estimates, designs, and specifications and for the construction, maintenance, or operation of engineering works or projects; to have full charge of the collection and presentation of data for and the conduct of valuation proceedings; to conduct or direct the most comprehensive lines of engineering research; or to act as a consulting specialist on important engineering works, projects, policies, or valuations.

Qualifications: Training and experience of a character to give substantial evidence of engineering knowledge and ability or of executive capacities of highest order along lines of work similar to those involved in the position to be occupied and of at least twelve years' duration, of which at least four years shall have been in duties of Engineer, or their equivalent, and at least five years in responsible charge of important work or projects. Fundamental training equivalent to that represented by professional degree granted upon the completion of a standard course of engineering instruction in an educational institution of recognized standing or, in absence of such degree, at least four years of additional experience. The completion of each full year of such standard course shall be considered the equivalent of one year of such additional experience.

2. ENGINEER.

Duties: Under general administrative direction and within the limits of the general policies of the organization, to have responsible charge of and to initiate and determine policies for a major subdivision of an organization; to prepare for final executive action reports, cost estimates, designs, specifications, and valuation studies and data; to have immediate charge of the construction, maintenance, or operation of engineering works or projects of major importance; to conduct or direct major lines of engineering research; or to furnish for executive action expert or critical advice on engineering works, projects or policies.

Qualifications: Active professional practice or executive charge of work for at least eight years, of a character to demonstrate a high degree of initiative and of ability in the administration, design, or construction of engineering work or projects of major importance, of which at least three years shall have been spent in duties of Senior Assistant Engineer, or their equivalent, and at least three years in responsible charge of work. Fundamental training equivalent to that represented by professional degree granted upon the completion of a standard course of engineering instruction in an educational institution of recognized standing or, in absence of such degree, at least four years of additional experience. The completion of each full year of such standard course shall be considered the equivalent of one year of such additional experience.

3. SENIOR ASSISTANT ENGINEER

Duties: Under general administrative and technical direction, to be in responsible charge of an intermediate division of an organization; to exercise independent engneering judgment and assume responsibility in studies and computations necessary for the preparation of reports, cost estimates, designs, or valuations; to have immediate charge of the construction, maintenance, or operation of important engineering works or projects; or to conduct or direct important lines of engineering research.

Qualifications: Active professional practice or executive charge of work for at least five years, of which at least three years shall have been spent in duties of Assistant Engineer, or their equivalent, with at least one year in responsible charge of work. Fundamental training equivalent to that represented by professional de-

gree granted upon the completion of a standard course of engineering instruction in an educational institution of recognized standing or, in absence of such degree, at least four years of additional experience. The completion of each full year of such standard course shall be considered the equivalent of one year of such additional experience.

4. ASSISTANT ENGINEER

Duties: Under specific administrative and technical direction, to be responsible for the conduct of the work of a minor subdivision of an organization; to collect and compile data for specific items of engineering studies; to take immediate charge of field survey projects and of the design and construction of minor engineering work; to lay out and develop work from specifications and to supervise the work of a drafting or computing force; or to conduct specific tests or investigations of apparatus, material, or processes.

Qualifications: Experience for at least two years in duties of Junior Assistant Engineer or their equivalent. Fundamental training equivalent to that represented by professional degree granted upon the completion of a standard course of engineering instruction in an educational institution of recognized standing or, in absence of such degree, at least four years of additional experience. The completion of each full year of such standard course shall be considered the equivalent of one year of such additional experience.

5. JUNIOR ASSISTANT ENGINEER

Duties: Under immediate supervision, to perform work involving the use of surveying, measuring, and drafting instruments; to take charge of parties on survey or construction work; to design details from sketches or specifications; to compute and compile data for reports or records; to inspect or investigate minor details of engineering work; or to perform routine tests of apparatus, material, or processes.

Qualifications: No experience required other than that involved in securing a professional degree upon the completion of a standard course of engineering instruction in an educational institution of recognized standing; but in absence of such degree, a high school education or its equivalent is required and at least four years' experience in the use of surveying, measuring or drafting instruments or the computation and compilation of engineering data, together with evidence of a knowledge of the fundamentals of engineering science sufficient, with further experience to qualify for the higher professional grades. The completion of each full year of such standard course of engineering instruction shall be considered as the equivalent of one year of experience.

Sub-Professional.

6. AID.

Duties: To operate, adjust, and care for surveying instruments and take charge of small parties on survey or construction work; to compute or supervise the computation of surveys, estimates, and data for reports or records; to plot or supervise the plotting of notes and maps and direct the work of a drafting squad; to design details; or to prepare general working drawings where design is furnished; or to inspect or investigate minor details of engineering work.

Qualifications: Experience for two years in the use and care of surveying and drafting instruments; or as rodman, chainman, or levelman; or in tracing, lettering, and drafting; or as recorder or computer. Graduation from or attendance at an engineering school not required, but candidate must have had a high-school education, or its equivalent, and be familiar with the construction, operation, and care of surveying instruments and with the use of the slide rule and logarithmic and other simple computation tables.

7. JUNIOR AID

Duties: To perform miscellaneous subordinate duties in the office or field; to act as rodman, chainman, tapeman, levelman, or recorder; to trace or letter maps and drawings; to alter tracings to agree with work or sketches of work; to make simple drawings or details from sketches or data; or to perform minor computations.

Qualifications: Education equivalent to graduation from high school.

Under the plan outlined above, the classification of positions consists in:

1. Determining the vocation, using the list on page 5 as a guide.
2. Determining the grade in accordance with the seven grades proposed. This is the most difficult and important part of the classification.
3. Naming and defining the class.

In the classification special case should be taken to insure that the class names are distinctive and that they indicate as nearly as possible the character of work performed by the occupant of the position. The number of classes should be kept at a minimum, and new classes should not be established unless they are required by a difference in duties sufficiently distinctive to make necessary separate civil service examination. Only one class is suggested for the junior assistant and assistant grades, as these grades are largely of a general preparatory nature from which a man may advance to any one of the specific classes in the higher grades.

Below is a list of typical classes of positions in the civil engineering vocation in the Government service. Similar typical classes may be formed for other engineering vocations.

TYPICAL CLASSES OF POSITIONS IN VARIOUS GRADES IN THE CIVIL ENGINEERING VOCATION

PROFESSIONAL GRADES

1. Chief Engineer
- Director
- Superintendent
- Chief Engineer
- Consulting Engineer
- Commissioner
- Etc.

2. Engineer
- Bridge Engineer
- Civil Engineer
- Drainage Engineer
- Geodetic Engineer
- Highway Engineer
- Hydraulic Engineer
- Irrigation Engineer
- Municipal Engineer
- Railroad Engineer
- Reclamation Engineer
- Sanitary Engineer
- Structural Engineer
- Etc.

3. Senior Assistant Engineer
- Senior Assistant Bridge Engineer
- Senior Assistant Hydraulic Engineer
- Senior Assistant Sanitary Engineer
- Senior Assistant Structural Engineer
- Etc.

4. Assistant Engineer
- Assistant Engineer
- Etc.

5. Junior Assistant Engineer
- Junior Assistant Engineer
- Etc.

SUB-PROFESSIONAL GRADES

6. Aid
- Draftsman
- Instrumentman
- Computer
- Etc.

7. Junior Aid
- Tracer
- Rodman
- Chainman
- Etc.

INEQUALITIES OF COMPENSATION IN DIFFERENT ORGANIZATION UNITS

The inequality in compensation for positions of the same grade in different organization units is strikingly shown by the questionnaires. These differences are indicated in Tables 1 and 2 and in figure 2.

TABLE 1.—*Summary of present salaries by grades.*

Grade.	General description of duties.	16 Engineering Bureaus in Civil Establishments.					4 Engineering Bureaus in Navy Department.				
		No. of persons.	Present pay per annum.			Per cent increase of the average since July 1, 1915.	No. of persons.	Present pay per annum.			Per cent increase of the average since July 1, 1915.
			Average.	Maximum.	Minimum.			Average.	Maximum.	Minimum.	
1	Chief administrative officer having full charge of organization including determination of policy.	16	$5,867	$10,000	$4,500	3.0	2	$9,450	$9,900*	$9,000*	0.0
2	Chief of major subdivision in responsible charge of large unit.	83	3,801	7,500	1,800	5.0	4	6,381	9,000*	5,200	0.0
3	Chief of intermediate subdivision in responsible charge.	209	3,104	5,000	1,800	9.9	22	4,312	5,634	2,304	57.6
4	Chief of minor subdivision.	846	2,222	4,500	1,020	9.0	54	3,600	4,883	2,304	58.2
5	On general duty under direction but requiring special education and training and the use of initiative and originality.	1,353	1,719	3,000	1,000	13.3	192	2,818	3,756	1,878	52.2
6	On subordinate duty requiring special education or training but not requiring special originality.	1,092	1,293	2,817	600	12.0	218	1,954	4,257	1,500	38.4
7	On subordinate duty not requiring special education, training, or originality.	169	975	1,340	480	19.3	81	1,379	2,254	1,002	37.2
8	On special duty of responsible character requiring special qualifications and initiative.	189	1,812	7,500	1,200	3.9	21	2,717	4,382	1,628	1.3
	Totals.....	3,957					594				

*Naval Officers, all others are civilian.

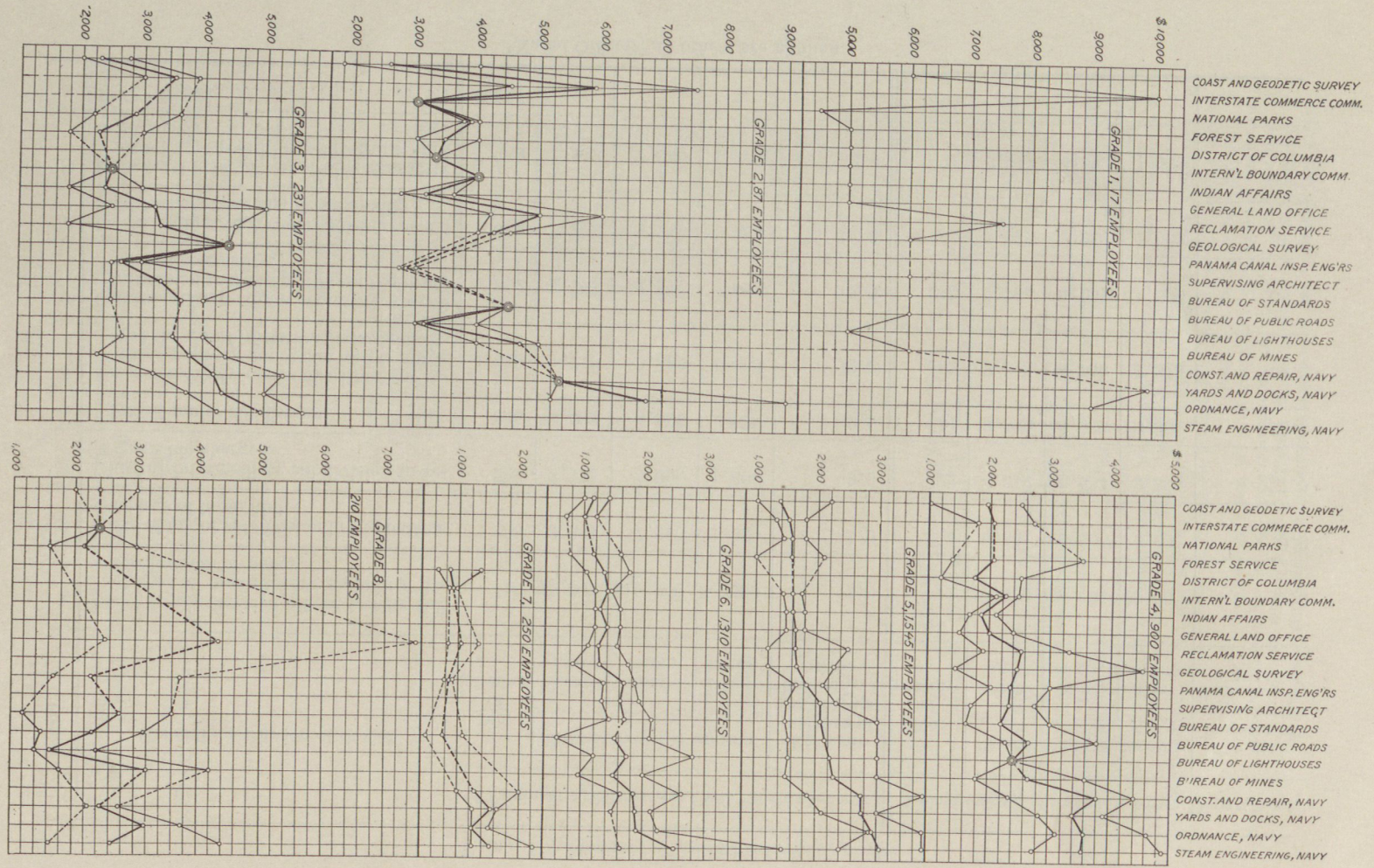

FIGURE 2.—*Comparison of present average maximum and minimum salaries.*

The two principal reasons for these inequalities in compensation are as follows:

1. The absence of any system of graded classification in the Government service.

2. The different methods used by Congress in making appropriations for salaries, one of which is known as the "lump sum" and the other as the "statutory."

The extreme discrepancies shown in Table 1 and on figure 2 would not be possible if there existed even an approximately adequate system of grading of positions.

A considerable number of engineering positions, particularly in the lower grades, are on the "statutory roll"—that is, the salaries for the positions are fixed annually by Congress in the bill which carries the appropriation for the department. With few and unimportant exceptions, these statutory salaries have not been changed since the date they were first fixed by Act of Congress, ten, twenty, or forty years ago. Hundreds of statutory positions are now vacant, and the money appropriated for them is turned back into the Treasury because it is impossible to fill them at the rates which Congress has fixed. The salaries of the greater part of the technical positions, however, are paid from "lump-sum" appropriations and are fixed by the head of the Department, although Congress ordinarily limits the amount which may be paid as salary under a lump sum appropriation—for example, the $4,500 maximum limit in the Department of Agriculture. Notwithstanding these limitations, the general scale of salaries on the "lump sum" roll is less inadequate than that on the "statutory" roll. This explains in part the variation in salaries paid for similar positions in different bureaus. For example, the salaries for engineering positions in the General Land Office and in the Coast and Geodetic Survey, where there are many statutory positions, are less than those in the Bureau of Standards and in the Geological Survey. Furthermore, compensation in the younger bureaus, such as the Bureau of Mines and the Interstate Commerce Commission, is generally higher than in the older bureaus.

The most striking inequality disclosed by the questionnaires is that between the several civilian bureaus and the four bureaus of the Navy Department. With the exception of Grades 1 and 2, the positions reported for the Navy Department are filled by civilian employees. In 1915 the average salaries in the Navy bureaus in Grades 3 to 7, inclusive, exceeded the average in the civilian bureaus by 2 to 20 per cent. The excess in 1919 is from 40 to 64 per cent. The highest average increase in any grade for the civilian bureaus for the four-year period 1915-1919 is $265 in Grade 3, or $66 a year. The highest average increase in the Navy bureaus is in the same grade and amounts to $1,576, or $394 a year. This inequality is due to the fact that the salary schedules fixed by the Labor Adjustment Board in its decision of October 24, 1918, were made applicable to the Navy Department, but to none of the other bureaus covered by this report.

Inequalities of this character can be eliminated only by the establishment of a properly graded classification with definite salary limits and having clear definitions of the duties and responsibilities involved and of the amount and character of training and experience required for the several grades.

INADEQUATE COMPENSATION FOR SERVICES.

One of the principal objects of the work of the committee has been to determine an adequate compensation scale for engineering positions in the Government service. In the determination of such a scale, two principles are controlling:

1. No position should pay less than a reasonable living wage.

2. Every position should pay the amount necessary to secure for and retain in the Government service employees capable of conducting the business of the Government with an efficiency and a spirit of initiative equal to that required in private business.

By a "living wage" is meant the amount which will maintain in decency and comfort both the incumbent of the position and his dependents. There are certain positions which are ordinarily occupied by young men and women who are starting on their life work and who have not yet assumed family responsibilities. In so far as the incumbents of these positions fill them temporarily as a means of advancement to positions of greater compensation—are in effect serving as apprentices—the living wage need not be based on a "family" standard. When, however, any position is likely to be occupied more than temporarily by individuals of an age at which they should naturally assume family responsibilities, the minimum

TABLE No. 2.—*Present Maximum, Minimum, and Average Salaries by Grades, and Average Increase in 4-year Period, 1915–1919, for Sixteen Engineering Bureaus in Civil Establishments and for Four Engineering Bureaus in the Navy Department.*

Department and Bureau.	GRADE 1.						GRADE 2.						GRADE 3.						GRADE 4.					
	No. of persons.	Maximum.	Minimum.	Average 1919.	Average 1915.	Aver. increase.*	No. of persons.	Maximum.	Minimum.	Average 1919.	Average 1915.	Aver. increase.*	No. of persons.	Maximum.	Minimum.	Average 1919.	Average 1915.	Aver. increase.	No. of persons.	Maximum.	Minimum.	Average 1919.	Average 1915.	Aver. increase.*
Agriculture:																								
Bureau of Public Roads	1	$6,000	$6,000	$6,000	$4,500	$1,500	1	$4,500	$4,500	$4,500	$4,000	$500	18	$4,000	$2,500	$3,641	$3,250	$391	59	$3,780	$2,280	$2,656	$2,379	$277
Forest Service	1	5,000	5,000	5,000	5,000	0	2	4,000	3,750	3,875	3,375	500	10	3,600	2,200	2,850	2,250	600	45	3,500	1,380	2,055	1,820	235
Commerce:																								
Coast and Geodetic Survey	1	6,000	6,000	6,000	6,000	0	12	4,000	1,800	2,542	2,791	−249	15	2,750	2,000	2,290	2,240	50	41	2,500	1,020	1,957	1,957	0
Bureau of Lighthouses	1	5,000	5,000	5,000	5,000	0	20	4,000	3,000	3,130	2,650	480	.....	.....	.....	.....	.....	.....	1	2,400	2,400	2,400	2,400	0
Bureau of Standards	1	6,000	6,000	6,000	6,000	0	0	.....	.....	.....	.....	.....	8	4,800	2,520	3,305	.....	.....	14	3,000	1,620	2,182	.....	.....
Interior:																								
Bureau of Mines	1	6,000	6,000	6,000	6,000	0	8	5,000	4,000	4,685	.....	.....	20	4,000	2,700	3,510	.....	.....	13	3,600	1,800	2,662	.....	.....
General Land Office	1	5,000	5,000	5,000	5,000	0	3	3,600	2,750	3,150	3,150	0	28	3,000	1,800	2,404	2,404	0	84	2,400	1,500	2,000	1,818	182
Geological Survey	1	6,000	6,000	6,000	6,000	0	5	4,500	4,000	4,244	4,125	119	16	4,500	1,800	3,294	3,246	48	171	4,500	1,440	2,449	2,243	206
National Park Service	1	4,500	4,500	4,500	.....	0	2	3,000	3,000	3,000	.....	.....	0	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....
Office of Indian Affairs	1	5,000	5,000	5,000	5,000	0	1	4,000	4,000	4,000	4,000	0	6	2,500	2,500	2,500	2,291	209	15	2,100	1,680	1,860	1,753	107
Reclamation Service	1	7,500	7,500	7,500	6,500	1,000	3	6,000	4,200	5,000	5,500	−500	33	5,000	2,620	3,220	3,040	180	30	3,300	1,920	2,520	2,420	100
Treasury:																								
Supervising Architect	1	6,000	6,000	6,000	6,000	0	7	3,000	2,620	2,845	2,830	15	9	3,000	2,520	2,675	2,622	53	112	2,750	1,720	2,334	2,181	153
Independent Establishments:																								
Internat'l Boundary Comm.	1	5,000	5,000	5,000	5,000	0	1	3,300	3,300	3,300	2,500	800	0	.....	.....	.....	.....	.....	9	2,460	2,100	2,246	1,818	428
Interstate Commerce Comm.	1	10,000	10,000	10,000	10,000	0	13	7,500	4,500	5,860	.....	.....	33	3,900	3,000	3,500	.....	.....	222	2,700	1,800	2,056	.....	.....
Panama Canal—Insp. Engr.	0	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	1	4,400	4,400	4,400	4,000	400	4	3,000	2,040	2,355	.....	.....
District of Columbia	1	5,000	5,000	5,000	5,000	0	5	4,000	3,000	3,440	3,300	140	12	3,000	1,800	2,283	1,996	287	26	2,500	1,200	1,755	1,614	141
Maxima and minima	15	10,000	4,500	.....	.....	.....	83	7,500	1,800	.....	.....	.....	209	5,000	1,800	.....	.....	.....	846	4,500	1,020	.....	.....	.....
Averages	.....	5,867	5,867	5,867	5,786	178	.....	4,314	3,459	3,801	3,110	154	....	3,726	2,481	3,104	2,685	265	....	2,966	1,727	2,222	2,087	188
	.....	.....	.....	*5,964	.....	.....	.....	.....	.....	*3,264	.....	.....	.....	.....	.....	*2,950	.....	.....	.....	.....	.....	*2,275	.....	.....
Navy Department:																								
Bureau of Construction and Repair	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	4,382	2,304	3,774	3,180	594	17	4,382	2,304	3,774	2,184	1,590
Bureau of Ordnance	1	9,000	9,000	9,000	9,000	0	3	9,000	5,200	6,733	.....	.....	4	5,008	3,736	4,317	2,642	1,675	15	4,632	3,130	3,606	2,211	1,395
Bureau of Steam Engineering	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	5,634	4,257	4,946	2,504	2,442	10	4,883	2,754	3,568	2,611	957
Bureau of Yards and Docks	1	9,900	9,900	9,900	9,900	0	1	5,325	5,325	5,325	5,325	0	8	5,300	3,200	4,185	2,354	1,831	12	3,900	2,829	3,375	2,204	1,171
Maxima and minima	2	9,900	9,000	.....	.....	.....	4	9,000	5,200	.....	.....	.....	22	5,634	2,304	.....	.....	.....	54	4,883	2,304	.....	.....	.....
Averages	.....	9,450	9,450	9,450	9,450	0	.....	7,162	5,262	6,381	.....	.....	....	5,081	3,379	4,312	2,736	1,576	....	4,449	2,754	3,600	2,275	1,325
	.....	.....	.....	*9,450	.....	.....	.....	.....	.....	*6,381	.....	.....	.....	.....	.....	*4,312	.....	.....	.....	.....	.....	*3,600	.....	.....
All Bureaus:																								
Maxima and minima	17	10,000	4,500	.....	.....	.....	87	9,000	1,800	.....	.....	.....	231	5,634	1,800	.....	.....	.....	900	4,883	1,020	.....	.....	.....
Averages	.....	6,288	6,288	6,288	6,244	156	.....	4,670	3,684	3,920	3,147	151	....	4,045	2,693	3,219	2,690	436	....	3,278	1,943	2,305	2,103	282
	.....	.....	.....	*6,400	.....	.....	.....	.....	.....	*3,298	.....	.....	.....	.....	.....	*3,126	.....	.....	.....	.....	.....	*2,385	.....	.....

	GRADE 5.						GRADE 6.						GRADE 7.						GRADE 8.					
Agriculture:																								
Bureau of Public Roads	168	$3,000	$1,560	$2,141	$1,869	$272	138	$2,100	$600	$1,537	$1,235	$302	9	1,080	480	767			7	3,150	1,500	2,341	1,600	741
Forest Service	54	2,100	1,000	1,580	1,230	350	117	1,600	780	1,150	872	278	0						42	3,000	1,600	2,164	2,108	56
Commerce:																								
Coast and Geodetic Survey	87	2,200	1,000	1,385	1,116	269	48	1,400	1,000	1,138	1,249	−111	0						11	3,000	2,000	2,400	2,400	0
Bureau of Lighthouses	22	3,000	1,560	2,227	2,200	27	57	2,817	1,200	1,737	1,636	101	0						14	2,400	1,380	1,637	1,481	156
Bureau of Standards	18	3,000	1,500	2,085			9	2,120	1,440	1,696			0						14	3,600	1,200	2,758		
Interior:																								
Bureau of Mines	38	3,000	1,500	2,293			107	2,000	960	1,506			0						33	4,200	1,800	3,188		
General Land Office	106	1,800	1,500	1,650	1,650	0	102	1,600	1,200	1,400	1,400	0	0						0					
Geological Survey	110	2,280	1,200	1,675	1,344	332	73	1,740	840	1,285	1,180	105	0						55	6,260	1,565			
National Park Service	3	1,800	1,440	1,580			0						0						1	2,400	2,400	2,400		
Office of Indian Affairs	3	1,800	1,500	1,600	1,600	0	5	1,600	1,200	1,280	1,200	80	0						0					
Reclamation Service	375	2,520	1,200	1,650	1,500	150	71	1,560	1,080	1,265	1,200	65	110	1,320	840	1,040	900	140	6	7,500	2,520	4,320	4,800	−480
Treasury:																								
Supervising Architect	65	2,320	1,520	2,074	1,740	334	12	1,920	1,320	1,612	1,530	82	0						0					
Independent Establishments:																								
Internat'l Boundary Comm.	2	1,740	1,440	1,590	1,400	190	12	1,440	1,200	1,400	1,020	380	30	960	840	900	600	300	0					
Interstate Commerce Comm.	293	1,800	1,320	1,517			285	1,200	720	1,006			0						0					
Panama Canal—Insp. Engr.	9	2,100	1,680	1,840			13	1,860	1,350	1,687			3	900	780	860			6	3,720	1,680	2,280		
District of Columbia	0						43	1,740	1,050	1,336	1,200	136	17	1,340	650	838	760	78	0					
Maxima and minima	1,353	3,000	1,000				1,092	2,817	600				169	1,340	480				189	7,500	1,200			
Averages		2,297	1,395	1,719	1,544	206		1,780	1,063	1,293	1,221	146		1,120	718	975	828	160		3,923	1,764	1,812	2,196	86
				*1,750						*1,367						*988						*2,282		
Navy Department:																								
Bureau of Construction and Repair	64	3,756	1,878	2,754	1,810	944	42	2,629	1,628	1,869	1,480	389	13	2,003	1,002	1,287	857	430	0					
Bureau of Ordnance	46	3,756	2,880	2,937	1,662	1,275	83	2,254		1,897	1,327	570	33	1,502		1,250	996	254	5	3,756		3,180	3,005	175
Bureau of Steam Engineering	12	3,756	2,379	3,057	2,195	862	24	4,267	1,628	2,520	1,709	811	16	2,254	1,252	1,518	1,129	389	10	4,382	1,628	2,629		
Bureau of Yards and Docks	70	3,000	2,100	2,757	1,809	948	69	2,128	1,500	1,878	1,290	588	19	1,627	1,250	1,548	1,052	496	6	2,754	2,253	2,468	2,504	−36
Maxima and minima	192	3,756	1,878				218	4,257	1,500				81	2,254	1,002				21	4,382	1,628			
Averages		3,567	2,309	2,818	1,851	967		2,817	1,585	1,954	1,412	542		1,846	1,168	1,379	1,005	374		3,631	1,940	2,717	2,753	−36
				*2,818						*1,954						*1,379						*2,717		
All Bureaus:																								
Maxima and minima	1,545	3,756	1,000				1,310	4,257	600				250	2,254	480				210	7,500	1,200			
Averages		2,656	1,587	1,856	1,585	337		1,998	1,150	1,403	1,262	248		1,443	887	1,106	891	231		3,856	1,794	1,902	2,269	103
				*1,922						*1,510						*1,122						2,372		

*For position for which data available in both 1915 and 1919.

salary for the position should not be less than that necessary to maintain an average family in respectability. It is a serious social condition when a man with wife and children is paid so low a salary that he is unable to maintain himself and family in conditions of reasonable decency and comfort. It is equally serious if young people are prevented from establishing homes of their own because their salaries do not permit it.

The following extract from the Monthly Labor Review (January, 1919, page 9), gives data concerning the cost of living in the City of Washington:

"In 1916 the typical white family, consisting of father, mother, and three children below the age of 15, was not able to make both ends meet with an income of less than $1,150 per annum. This would indicate that a minimum-of-comfort budget, according to the practices and standards of domestic economy prevailing in Washington in 1916, must be about $1,200. Since 1916 the cost of the necessities of decent living, weighed according to importance in the family budget, has advanced approximately 50 per cent. This indicates that an identical standard of decency can not be purchased for less than $1,800 today."

Recent studies of the Bureau of Labor Statistics show that the above amount should be increased to somewhat over $2,200. An examination of Table 1 shows that the average compensation paid in Grade 4 of the questionnaire, comprising 20 per cent of the positions reported, is practically identical with the amount now found by the Bureau of Labor Statistics as the minimum family budget; while for Grades 5, 6 and 7, comprising 65 per cent of the positions reported, the average compensation is far below that amount. The proportion of salaries that are less than a living wage would doubtless be found much greater in non-technical positions than in technical. While the Government is thus paying thousands of its highly trained clerical and technical force less than a living wage and, except for the temporary bonus of $240 a year for positions paying salaries of $2,500 or less, has ignored the constantly diminishing purchasing power of the salaries paid to this class of employees; it has, on the contrary, given full recognition to increased living costs in fixing wages in positions involving the organized labor crafts. A "shipfitter" in the Navy Yard, for example, receives $1,750 a year, more than the average of Grade 5 in the questionnaire, while he is learning how to do his work. After three months of apprenticeship, he gets $2,000. If he is made a "straw boss" in charge of 12 or more men, he gets $2,450, and if a "sub-foreman" in charge of 30 or more men, he gets $2,900, nearly as much as the average of Grade 3. A blacksmith (heavy fire) gets $2,400. A "hammer and machine forger" (heavy) gets $3,700, only $100 less than the average of Grade 2 of the questionnaire.

In general, wages in industry have more than kept step with increases in the cost of living. The National Industrial Conference Board in its report on "War-time Changes in Industry" found that in eight leading industries during the period from September, 1914, to March, 1919, weekly earnings had increased from 62 per cent to 110 per cent, while average hourly earnings had increased from 74 per cent to 112 per cent. During approximately the same period the salaries of engineering positions in the 16 engineering bureaus in civil establishments increased on the average from 3 per cent to 19 per cent. Moreover, the fact should not be overlooked that not only was the percentage increase in industrial employment many times greater than in Federal service, but also that in many instances the amount paid for skilled labor is greater than the amount paid to the trained Government engineer. Over 40 of the labor crafts were awarded a rate of wage of $2,000 and more by the Labor Adjustment Board. This amount is greater than the average paid for Grades 5, 6 and 7 in the questionnaire, comprising 65 per cent of the positions reported, as shown in Table 1. The skilled laborer is not required to know how to read or write, and he may receive full pay after an experience varying from two weeks to six months; the Government engineering employee, on the other hand, to get an equivalent amount, must have had from two to eight years' experience if he is not a technical graduate, and in many instances will not be admitted at all without a technical degree and then only with from two to four years' practical experience. (Fig. 1, page 4.)

That the salaries now paid are entirely inadequate for the purpose of recruiting for, and retaining in, the Government service the class of employees necessary to maintain the service on an efficient basis is evidenced by the rapidly increasing rate of turnover in the last few years. This is found no less in the higher paid

than in the lower paid positions. Unless this movement is checked in the only way in which it can be checked, namely, by recognizing that the Government service needs as high a quality of talent and experience as private business, and that it can secure this only by paying approximately the market price for such talent and experience, unless, in fact, the Government takes the same attitude towards its clerical and particularly toward technical personnel that it has taken toward skilled and unskilled labor, there will be in the future in still greater degree than in the past a progressive deterioration in personnel, and the Government service will be reduced to a training school for private business.

The committee expects to have for its final report definite data concerning the amount of turnover in technical positions and the variation in salaries paid within and without the Government service, a variation which is the primary cause of the turnover.

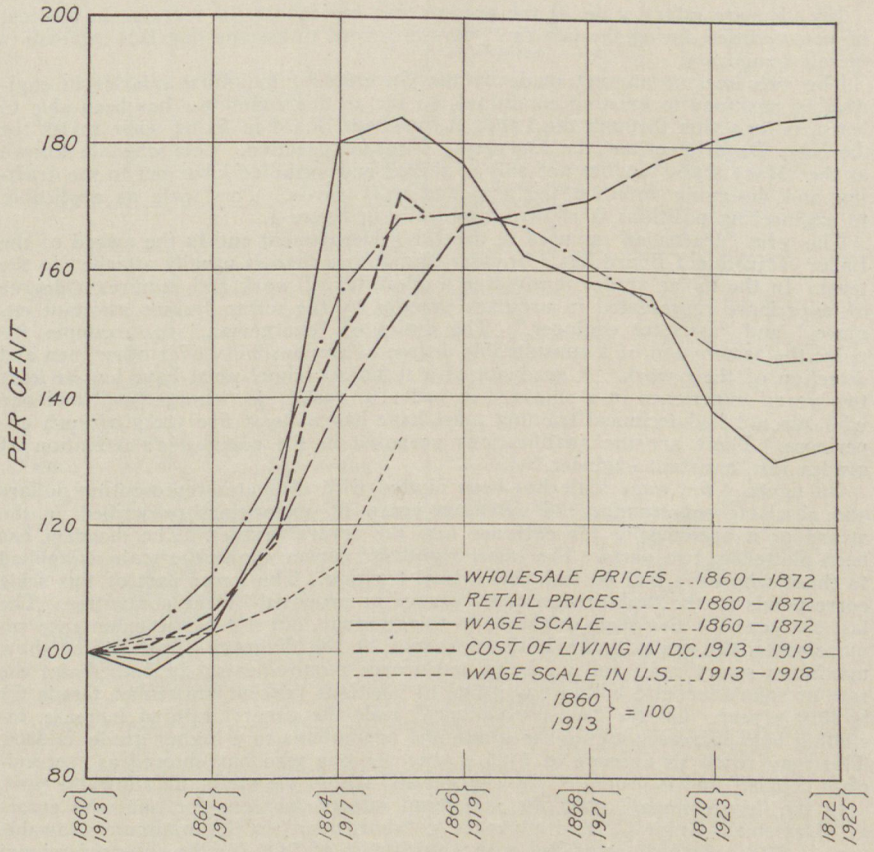

FIGURE 3.—*Comparison of prices on wages 1861-1872 and 1913-1919.*

A study of the change in prices and wages during and after the Civil War is of interest in connection with changes that have taken place from 1913 to 1919. The curves on figure 3, based on reports of the War Industries Board and Department of Labor, show these changes. During the Civil War retail prices rose to 164½ per cent of the prices in 1860 and wholesale prices to 182 per cent. From 1865 to 1872 all prices showed a gradual downward trend, and in 1872 the retail prices had fallen to 143 per cent and the wholesale to 126 per cent. From 1913 to 1919 the cost of living followed closely the trend of wholesale and retail prices from 1860

to 1865. If history repeats itself we can not expect a large reduction in prices during the next 8 or 10 years. It is interesting to note that the rise in wages during the Civil War was almost simultaneous with the rise in the prices of commodities. During the World War the rise in wages has lagged about a year behind the rise in prices. Furthermore, in the period immediately following the Civil War wages continued to rise after prices started to fall. The present price level is not considered merely temporary by such of our Government agencies as the Department of Labor and the Federal Reserve Board or by such economists as Irving Fisher[a] and J. S. Holden[b]. Substantial relief from the high cost of living therefore can not reasonably be expected through a decrease in prices; it must be met by increases in salaries.

PROPOSED SALARY SCALE FOR ENGINEERS.

No adequate salary scale, at the present tme, can ignore the increase in the cost of commodities during the last few years or afford to assume that this increase is merely temporary.

The only serious attempt made by the Government to adjust salaries in engineering positions to existing conditions, so far as this committee has been able to learn, is its action through the Labor Adjustment Board in fixing wage scales for the Navy Department and the Emergency Fleet Corporation. This schedule, known as the "Macy scale," applies not only to skilled and unskilled labor but to the drafting and designing force in the ship and navy yards. This scale as applicable to engineering positions is shown graphically in figure 4.

The term "draftsman" as used in the Navy Department and in the award of the Labor Adjustment Board has a broader significance than is usually attached to the term. In the upper grades it involves a character of work and requires a degree of experience represented in ordinary practice by the terms "junior assistant engineer" and "assistant engineer." The duties of "chargeman," for example, involve the assumption of a considerable degree of responsibility over other men and direction of their work. A graduate of a technical school must have had at least two years' experience in a shipyard in order to qualify as "chargeman," and one who has not had technical training must have had at least five years of such experience. These are the qualifications proposed in the committee's definition of grades for "assistant engineer."

On figure 4 the wage scale has been plotted with ordinates representing dollars and abscissae representing the minimum years of experience prescribed in the award as a prerequisite for entrance into the several grades. The diagram has been plotted in two parts. The lower righthand corner shows the scale as applied to those who have had no technical school training. The lower part of this scale corresponds to the "sub-professional" grades as proposed by the committee. The last six years of this scale duplicate in salary range, but not in the experience requirements, the scale in the lefthand corner of the diagram. Both scales show maximum salary rates and minimum experience requirements. In both scales the rate of salary increase within any grade of positions (except draftsman, Grade C) is $250 a year. On the "sub-professional" scale the general rate of increase, including both increases within the grade and promotions to a higher grade, is $300. This may reach an average of $425 a year for one who has entered as "second-class copyist" and is promoted to "chargeman" within the minimum allowable time.

In the "professional" scale the maximum rate of increase for one who enters as "draftsman, Grade C," and advances to "chargeman" in the minimum allowable time is $750 a year, as compared with a maximum of $425 for the sub-professional scale. If the arc of a circle is drawn through the points representing the entrance salaries for "draftsman, Grade C," "draftsman, Grade A," and "chargeman," the tangent to this curve will represent a maximum rate of increase of $545 a year. A salary scale based on this line as a maximum would give amounts in the higher grades somewhat less than those now being paid in such grades in the Navy Department. The chief difference between the "sub-professional" and the "professional" scale is that in the latter the salary lines of the several grades overlap—

[a] Fisher, Irving. The new price revolution, U. S. Dept. Labor, 1919.

[b] Holden, J. S. Prices during the war and readjustment period, U. S. Dept. Labor, April, 1919.

that is, an individual may pass from grade to grade without having passed through all the salary ranges of each grade.

The several grades proposed by the committee are shown projected on this diagram on the basis of the minimum years of experience as proposed in the definitions adopted by the committee. For the two sub-professional grades of "junior aid" and "aid," and the lowest two professional grades of "junior assistant engineer" and "assistant engineer," the specifications of the committee are identical with those prescribed in the award of the Labor Adjustment Board. It is fair to assume that if the Macy scale had been extended to cover higher grade positions, it

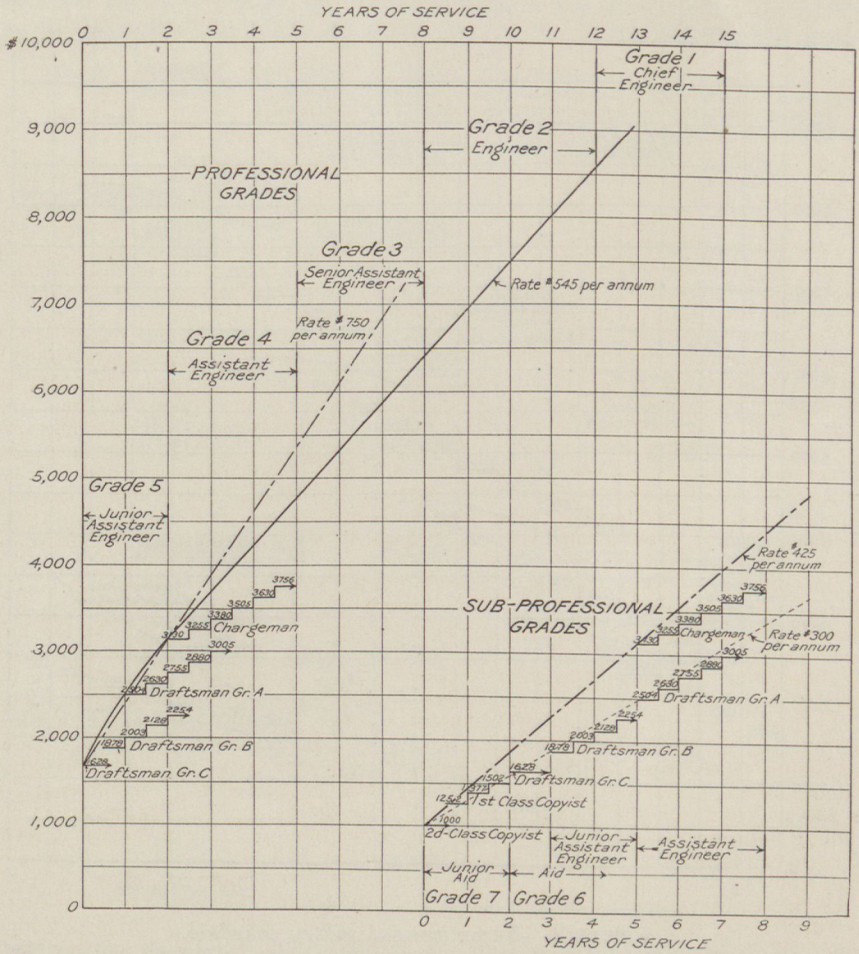

FIGURE 4.—*Relation between recommended engineering grades and the "Macy Scale."*

would not have materially differed in the requirements for these grades from those adopted by the committee. In fact, the Navy Department is now paying a rate of $5,634 per annum in a grade that corresponds to the committee's "Senior Assistant Engineer," and from $9,000 to $10,000 in the grade corresponding to "Chief Engineer," both of which figures are approximately on the projected line of figure 4.

As a tentative proposal for discussion, the committee presents the salary curve of figure 5 built upon the same principles as the Macy scale and practically identical with it for the grades covered by both. As applied to positions in the Government service such a scale has the advantage of being an extension of a scale

already adopted and in use in Government work. It is believed, however, that it will be found equally applicable in State and municipal service and very probably in private employment also.

The schedules of figure 5 are constructed on the same principles as those on figure 4. On both, two schedules are given—a "professional," which presupposes an engineering degree or its equivalent, and a "sub-professional," which does not require such a degree. The minimum number of years of experience required for the several grades are as proposed in the committee's definitions of those grades. Of the two lines of maximum salary increase, the one for the sub-professional grades

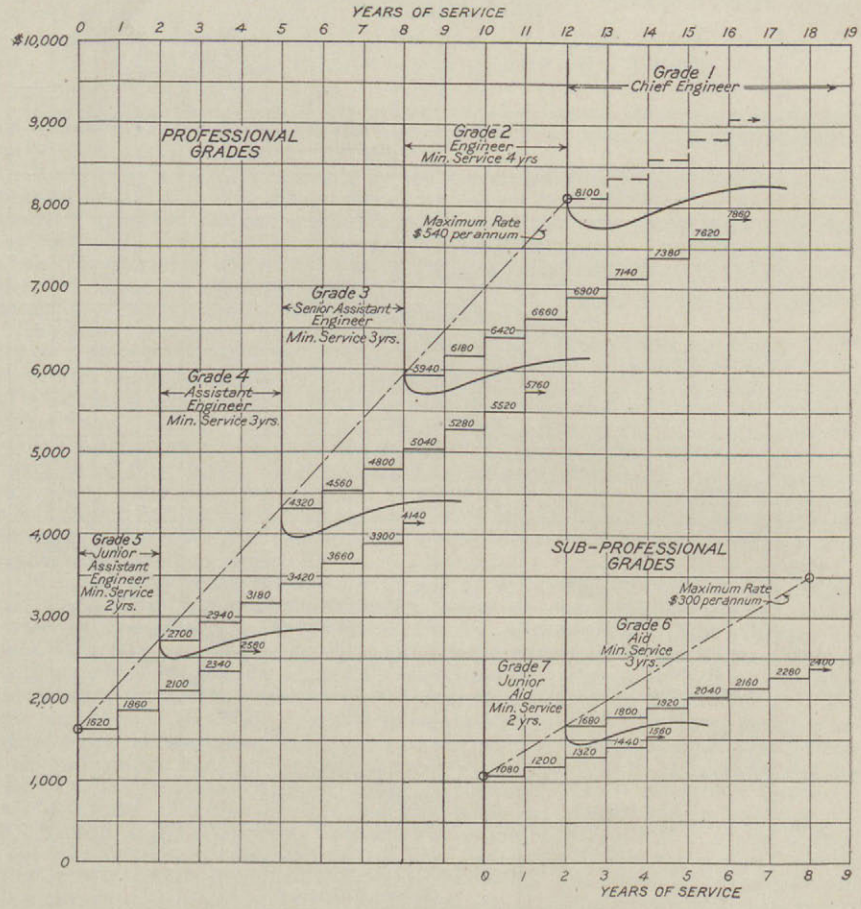

FIGURE 5.—*Recommended salary schedule.*

is identical with the general curve for such grades on the Macy scale, namely, $300 a year. For the professional grades, a maximum rate of $540 a year has been taken. This is slightly less than the lower of the two curves for the corresponding grades on the Macy scale. Furthermore, a straight line is used, which has the effect of dropping the entire line below the corresponding line on the Macy scale in an amount varying from $8 a year at entrance to the junior grade to $480 a year after 12 years of service.

The two dot and dash lines on the diagram represent the maximum rate of advancement through a period of years involving service in more than one grade. The normal rate within any one grade is represented by the solid stepped lines,

which indicate a normal annual advancement within the sub-professional grades of $120 a year and within the professional grades of $240 a year, as compared with $250 a year in the Macy scale. In general, therefore, this schedule is somewhat less than the Macy scale.

The proposed application of the schedule is as follows: An individual entering the service as junior assistant engineer would receive the entrance salary of $1,620. Annually the individuals in the grade of junior assistant engineer would be rated either as a whole or in groups by a method which would determine the relative standing of the individuals in the grade or group. The grade or group would then be divided into three sections on the basis of the relative standing as determined—the upper section to contain, say, the top one-fourth, the second section the middle one-half, and the third section the lowest one-fourth. The middle one-half would

Grade	Titles of Positions	Minimum Years of Service in Grade	Minimum Salary of Grade	Total Promotion in Grade. Number and Amount of Standard Annual Promotions	Maximum Salary of Grade	Total Promotion between Grades
PROFESSIONAL GRADES						
1	Chief Engineer	——	8100 →		and up	
				240		2160
2	Engineer	4	5940	{1920 / 8X240} →	7860	
				180		1620
3	Senior Assistant Engineer	3	4320	{1440 / 6X240} →	5760	
				180		1620
4	Assistant Engineer	3	2700	{1440 / 6X240} →	4140	
				120		1080
5	Junior Assistant Engineer	2	1620	{960 / 4X240} →	2580	
SUB-PROFESSIONAL GRADES						
6	Aid	3	1680	{720 / 6X120} →	2400	
				120		600
7	Junior Aid	2	1080	{480 / 4X120} →	1560	

TABLE 3.—*Tentative recommended salary schedule.*

then be given the normal salary advance of $240 a year, the upper one-fourth twice the normal, or $480, and the lowest one-fourth no advance. The average advance in the entire grade would be the normal of $240. This plan differs from the Macy scale award in that the latter grants an automatic increase of $250 a year to all persons in the grade. It is believed, however, that the plan proposed will provide a desirable spirit of competition, by making it to the pecuniary advantage of every individual to get into or remain in the highest section in his grade.

The normal salary scale for each grade is drawn up on the basis of a period of service in the grade of approximately twice the duration prescribed as a minimum for eligibility to a higher grade. This minimum period of service having expired, a qualified individual would be eligible for advancement into the next higher grade

whenever a vacancy occurs in that grade. Such vacancies should be filled by the promotion of the best man in the upper section of the grade, thus making provision whereby a person of exceptional ability could, through a period of years, advance at a rate greater than is shown by the individual grade scale. The practical application of this schedule will, of course, require an adequate personnel classification and a carefully worked out plan of rating the relative efficiency of individual employees.

Table 3 shows the proposed schedule in tabular form. Table 4 is a summary of the recommendations made in connection with the questionnaires submitted by the several bureaus. This table also shows the ratio of the recommended schedule to the existing schedules in civilian establishments and in the Navy Department.

The committee is collecting and studying additional data, particularly with respect to salaries paid in engineering positions in private employment, and will submit such data with its conclusions in its final report.

TABLE 4.—*Average of salary schedule recommended by bureau chiefs.*

Grade.	No. of persons.	Recommended pay per annum.			Present average 4 Engineering Bureaus in Navy Department.	Present average 16 Engineering Bureaus in Civil Establishments.	Ratio of Column 6 to Column 5.	Ratio of Column 7 to Column 5.
		*Maximum.	*Minimum.	Average.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	15	$9,750	$8,600	$9,175	$9,450	$5,867	103.0	63.9
2	83	6,780	5,610	6,040	6,381	3,801	113.9	67.9
3	209	5,280	3,980	4,600	4,312	3,104	93.7	67.5
4	846	3,820	3,040	3,400	3,600	2,222	105.9	65.4
5	1,353	3,240	2,260	2,720	2,818	1,719	103.6	63.2
6	1,092	2,750	1,620	2,060	1,954	1,293	94.8	62.7
7	169	1,500	900	1,340	1,379	975	102.6	72.5
8	189	7,140	3,000	4,220	2,717	1,812	64.4	42.9

* Average of amounts recommended by individual bureaus.

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No charges for services. Personal attention to applications for men and positions. Engineers not members of a society represented in Engineering Council are required to present introductions from members.

FOUNDER SOCIETIES

By Founder Societies are meant American Society of Civil Engineers, American Institute of Mining and Metallurgical Engineers, American Society of Mechanical Engineers and American Institute of Electrical Engineers, which founded United Engineering Society, Engineering Societies Library, Engineering Foundation and Engineering Council.

ADDRESSES

Addresses of representatives and of chairmen and members of committees can be found in the year-books of the member societies.

ENGINEERING COUNCIL

COMMITTEE ON CLASSIFICATION AND COMPENSATION OF ENGINEERS

Suggestions and criticisms on abstract of Preliminary Report of Federal Engineers Section, proposed by

_____

(Business address) _____

_____

(Dated) _____

(*Please use continuation sheets if necessary, and mail to John C. Hoyt, U. S. Geological Survey, Washington, D. C.*)

Definitions and titles of grades: (*a*) Suitable? _____
(*b*) Changes proposed:

Schedule of salaries: (*a*) Satisfactory? _____
(*b*) Changes proposed:

Application to your local conditions: (*a*) Favorable? _____
(*b*) Changes proposed:

Adoption for general use: (*a*) Desirable? _____
(*b*) Changes proposed:

Give general comment stating whether the above statements are those of an individual or of an organization.

ZETTE, MONTREAL, T

ONTARIO DECIDES BONUS PLAN FOR CIVIL SERVANTS

Graded Scale Applies to All Employees Drawing Less Than $3,000 a Year

FOR SPECIFIED TERM

Is to Be Paid Until Cost of Living Is Substantially Reduced—Heads of Households Favored

Toronto, December 24.—A bonus system for the civil servants of the province of Ontario has been decided upon by the new Government. The bonus is to be known as a "cost-of-living bonus," and is to be paid until there is a substantial reduction in the cost of living.

The scale of the bonus gives to the small-salaried employees the largest amounts. Those getting more than $3,000 a year are to receive nothing, and the scale varies, depending on the present salary, and whether or not the person is the head of a household.

The first group, designated as heads of households, which includes married men, except those whose wives are employed in the service, widowers or married women, the sole support of dependent children under sixteen years of age, will receive the following scale of bonus: Employees receiving twenty-five hundred and over, and less than three thousand dollars, $120; two thousand and over, and less than twenty-five hundred, $180; fifteen hundred and over, and less than two thousand, $240; twelve hundred and over, and less than fifteen hundred, $300; less than twelve hundred, $360.

Any employees eighteen years of age and over, who are not the heads of households, receiving less than $1,800 per annum, comprise Group 2, and will receive for the fiscal year ending October 31 next, the bonus as indicated in the following table: Employees, receiving $1,500 and over, and less than $1,800, $90; $1,200 and over, and less than $1,500, $120; $900 and over, and less than $1,000, $150; less than $900, $180.

Any employee under eighteen years of age receiving less than $900 for full time service will receive a bonus for the year of $75.

DOCKET ENDS:

DOCKET STARTS:

Macdonald Physics Bldg.
3.10.19.

Dear Dr Adams,

I enclose a letter from Dr King, as he requested me to do so. As Head of the Physics Dept. I have no special recommendation to make in his case at present.

Please return his letter.

Yours sincerely
A S Eve

2/10/19

329 North Avenue,
Burlington, Vt., U.S.A.

Dear Dr Eve,

Replying to your note of 29/9/19, I wish to thank you for your trouble in forwarding me my copies of "Nature". I have instructed Butler to send me by registered post all sealed letters.

I am now nearly rid of my bronchitis and expect to be O.K. by the end of the week.

The locality is very enjoyable and during the coming Session I intend to spend week ends at Waterbury Inn, only 20 miles to the North. There is plenty of ice-yachting and winter sports to be had in this neighbourhood and the climate is somewhat less severe than in the Laurentian resorts.

I hope that the Macdonald Chair affair and the original scale (proportional) of salaries will be settled at the forthcoming meeting of the Finance Committee, set for October 9th.

You will be pleased to hear that the British Patent for my tunable diaphragm has just been sealed. I am awaiting news from Washington every day. If the Examiners, &c. cannot mistake to do the correct

thing in the matter of salaries &c. I shall feel inclined to ask for a year's leave of absence, both to attend to our property in the West and to set up the manufacture of microphones, sound generators &c.

I am delighted to hear that things are getting along well in the Department — Bieler will no doubt be able to carry on for a little time yet.

Kindly remember me to Montreal friends.

Sincerely yours,

Louis V. King.

N.B. Please ~~consider~~ forward this letter to the Acting Principal for his consideration and that of Corporation, Faculties, &c.

L.V.K.

Enclosed various letters X which will interest you.

8.1.38

DOCKET ENDS:

FAMILY BUDGET, Husband, wife, three children.
One servant and occasional help.

(1)	Clothing of all kinds, cleaning and repairs	$700.00
(2)	House renewals and repairs	155.00
(3)	Sundries (cars, stamps, incidental odd expenses)	240.00
(4)	Subscriptions (including technical societies)	105.00
(5)	Amusements, concerts, flowers, books, tobacco, candy	85.00
(6)	Presents, family and personal, Xmas and Birthdays, etc.	110.00
(7)	School and music (two children)	155.00
(8)	Service	360.00
(9)	Medicines	30.00
(10)	Light, gas, coal and wood	230.00
(11)	Doctor, dentist, oculist	330.00
(12)	Telephone	42.00
(13)	Food and ice	1360.00
(14)	Travelling (summer and incidental journeys)	140.00
(15)	Laundry	180.00
(16)	Rent (country and city) and taxes	805.00
(17)	Insurances and personal obligations	250.00
(18)	Income tax on $4000.00 less exemption (children)	36.00
		$ 5313.00

NOTE. Certain increases not operative throughout 1919 will affect rent and laundry charges in 1920. The general increase in the prices of commodities will also affect other items of necessary expenditure.