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 Schenectady County Historical Society
 32 Washington Ave., Schenectady, NY 12305
 (518) 374-0263
 librarian@schenectadyhistorical.org

Charles Proteus Steinmetz Collection

Letter Book 3 – July 1909 to Sept 1910

Page	Date	Description
1	1 July 1909	Mrs. K.M. Howze, Librarian, Commonwealth Edison, Chicago to C.P. Steinmetz. Is "Horaz" in article "The Value of the Classics in Engineering Education" really "Horace"? CPS shorthand.
2	2 July 1909	Henry Price Ball, engineer, GE Pittsfield to C.P. Steinmetz, request for list of resistance materials.
3	5 July 1909	C.P. Steinmetz to Chalmers Detroit Motor Co. Requests catalog of 1910 cars. (The Chalmers was an expensive gasoline powered auto).
4	8 July 1909	W.C. Fish to C.P. Steinmetz. Hopes CPS will visit him in Lynn. CPS shorthand.
5	8 July 1909	C.P. Steinmetz to George E. Parsons, Boston. Pays \$50 architect's bill.
6	8 July 1909	C.P. Steinmetz to W.S. Barstow & Co. NY City. Recommendation for Union graduate student L.B. Cramer.
7	12 July 1909	Joseph Lyon GE Patent Dept. to C.P. Steinmetz. Patent docket on CPS's modified regenerative flame carbon arc lamp.
8	13 July 1909	C.P. Steinmetz to H.P. Ball, GE Pittsfield. Request for Tables of Properties.
9	13 July 1909	J.L.R. Hayden to McGraw Hill Book Co. JLRH is collecting and editing non-mathematical book of CPS lectures for engineering students. Notes that one such lecture course was already published and as "you were somewhat dissatisfied to see these lectures published by a different firm, I bring the matter to your attention"
10	13 July 1909	J.L.R. Hayden to Mercantile Clearing House. Seeks price on "Woolworth treads"
11	13 July 1909	J.L.R. Hayden to Hobson & Adee, City. Royalties "on my book General Lectures in Electrical Engineering".
12	13 July 1909	C.P. Steinmetz to M. Howze, Commonwealth Edison. Horaz was a typo for Horace (see above).
13	14 July 1909	Franklin W. Hooper, Director, Brooklyn Institute for Arts and Sciences to C.P. Steinmetz. Lecture invitation. CPS shorthand.
14	15 July 1909	J.H. Perkins, Pennsylvania Electric Association to F.M. Noecker, Renova Electric Light, Heat and Power, Renova, PA. Service on two papers.
17	16 July 1909	C.P. Steinmetz to S.H. Blake, GE Pittsfield. Process for enormously increasing conductivity of carbons for flame lamp.

18	16 July 1909	C.P. Steinmetz to G.N. Chamberlin, Lynn Works. Rods made by Duplex Metal Company for possible use as positive electrode of magnetite lamp.
19	16 July 1909	L. Gibson, Production Manager, GE to C.P. Steinmetz. M/O calling for miscellaneous materials for CPS laboratory.
20	17 July 1909	C.P. Steinmetz to W.C. Fish, GE Lynn. CPS hopes to spend one day a month at Lynn in the coming year.
21-22	17 July 1909	C.P. Steinmetz to M.F. Westover, Secy. GE Realty Co. CPS does not want responsibility, as a property owner, of taking care of ravine lands in GE Plot. Objectionable usage of ravine lands makes CPS regret he located near it. Ravine lands are a thoroughfare and "lounging ground for all kinds of people and not the most able ones at that". Realty Company should do something about the situation.
23-24	20 July 1909	C.P. Steinmetz to G.N. Chamberlin, GE Lynn. Experiments on magnetite lamps.
25	20 July 1909	C.P. Steinmetz to Franklin E. Hooper, Brooklyn Institute of Arts & Sciences. Accepts lecture invitation.
26	20 July 1909	C.P. Steinmetz to Henry de Lapotterie, Middletown, NY. Invites him to visit Wendell Ave laboratory.
27-28	20 July 1909	C.P. Steinmetz to M.A. Oudin and H.R. Summerhayes, GE Foreign Dept. Advice on electric furnace for heating drills.
29	22 July 1909	F. Seabolt, GE Patent Dept., to J.L.R. Hayden. Requests data for patent application on resistance stick composed of cast silicon and carbon. Steinmetz shorthand.
30	23 July 1909	GN Chamberlin, GE Lynn, to C.P. Steinmetz (Hayden) Requests help on further improvement of electrodes for the 1000 magnetite arc lamps in Boston which are "operating beautifully" except on hot muggy nights, when there has been "rupturing of lamps."
31	23 July 1909	Frank W. Freauff, President, National Electric Light Association to C.P. Steinmetz. Requests nominee to serve on committee on low pressure turbines, condensers, and cooling towers.
32-33	23 July 1909	W.G. Gartner, GE, to C.P. Steinmetz. Seeks experimental results on Steinmetz patent docketed idea of guarding against deterioration of vacuum in incandescent lamps by putting in a piece of magnesium wire so that "if a discharge in the nature of an "Edison effect" takes place it will "absorb the gases and improve the vacuum."
34	23 July 1909	J.G. Wray, Secretary Chicago AIEE, to C.P. Steinmetz. Request for talk.
35-37	26 July 1909	F.M. Noecker, Renovo Edison Light Heat and Power Co., Renovo, Pa. "We have had such satisfactory service from our magnetite system and the public is so well pleased that every Renovoite has acted as an advertising agent... we had but one outage on the system in the past six weeks." Will write a paper on all this. Attaches a letter from Chairman of Program Committee of Pennsylvania Electric Association requesting such a paper.

38	26 June (sic) 1909	C.P. Steinmetz to American Publishers' Association. Refuses to pay bill for having his photo used in Encyclopedia of American Biography.
39	27 July 1909	J. McKean Cattell, Columbia University to C.P. Steinmetz. "Would you consent to arrange our physicists in the approximate order of merit... I am asking those who were ranked first in my previous study to make the arrangements."
39a	27 July 1909	Carl Kelsey, Secretary, American Academy of Political and Social Science to C.P. Steinmetz. Invitation to enroll as a member and participate in their studies of "Race improvement in the United States" and "Consumer Control of Production. Steinmetz shorthand.
40	31 July 1909	George W. Lewis, Harvard Engineering Journal to C.P. Steinmetz. Request for article.
41	2 Aug 1909	F. Seabolt, GE Patent, to J.L.R. Hayden. Request for more data on Steinmetz/Hayden patent application for insulating material composed of bakelite and paraffine oil dissolved in alcohol and amyl acetate.
42	2 Aug 1909	C.P. Steinmetz to Lewis A. Ferguson, Commonwealth Edison Co. "regarding interesting phenomena on the Evanston circuit... shall be glad to come out and talk the matter over with your engineers."
43	2 Aug 1909	C.P. Steinmetz to Frank W. Frueauff, President, National Electric Light Association. For place on committee on low pressure turbines, suggests W.L.R. Emmet "our chief turbine expert" or A. Kreusi.
44	3 Aug 1909	Edward Burnett, Telluride Institute, to C.P. Steinmetz. Requests a general statement on the method of making magnetite rods, to supplement C.P. Steinmetz paper on "Electric Conduction." C.P. Steinmetz shorthand.
45	2 Aug 1909	Maxwell W. Day, GE, to L.E. Underwood, GE Lynn. Regarding fresh water pumps on U.S.S. Michigan. "I would like particularly to refer these figures of Dr. Steinmetz, as he has given particular attention to the radiating constants at different room temperatures."
46	4 Aug 1909	C.P. Steinmetz to G.E. Roose, Buffalo, NY. Answer to question regarding lines of force in a conductor surrounded by iron.
47	2 Aug 1909	C.P. Steinmetz to Frank van der Bogert, Schenectady. Payment of \$5.00 bill.
48	4 Aug 1909	C.G. Hulth, GE to C.P. Steinmetz. Placement of naphtha storage in yard of GE Schenectady Works.
49	4 Aug 1909	C.P. Steinmetz to M.K Cattell. Agrees to rank physicists in approximate order (ranking not indicated in this letter).
50	4 Aug 1909	C.P. Steinmetz to David Grant, Sec. Ghi Association of Phi Gamma Delta. Suggests Grant "bestir yourself" as well as other alumni, re payment of \$500 due on mortgage to Union College. Signed "fraternally yours."
51	4 Aug 1909	Subscribes to Harvard Engineering Journal as a prelude to writing an article for it.

52-53	4 Aug 1909	C.P. Steinmetz to E.W. Pope, AIEE. "Personal". Expresses dissatisfaction with the way the current editing committee has edited his contributions to the discussion. "I have a good mind to hold back my discussion until the present editing committee has gone out of office."
54	4 Aug 1909	C.P. Steinmetz to J.G. Wray, Chicago AIEE. Unable to speak to Chicago AIEE this year.
55	5 Aug 1909	Edward Caldwell, Treasurer, McGraw Hill Book Co. to J.L.R. Hayden. Sending proofs of Steinmetz book on Radiation, Light and Illumination.
56	5 Aug 1909	C.P. Steinmetz to J.M. Drake, GE Lynn. "Can you arrange to have Mr. Breed to come to Schenectady to cast some silicon?"
57	6 Aug 1909	Louis A. Ferguson, Commonwealth Edison, to C.P. Steinmetz. Arrangements for C.P. Steinmetz to visit Chicago and consult on "phenomena on the Evanston line." C.P. Steinmetz shorthand.
58	6 Aug 1909	J.L.R. Hayden to American Gas Furnace Co. Request for catalogue.
59	6 Aug 1909	J.L.R. Hayden to Mr. Blickfelt, Steele Mfg. Co. Machine Shop, Gloversville. Offers \$5 to come to Schenectady and loon over machine, "as I am not satisfied with the way it climbs hills."
60	6 Aug 1909	C.P. Steinmetz to W.B. Curtiss, GE. "We think it is very desirable to work on silicon for such uses as resistance for excessive overloads, as grounding neutrals of three phase systems, lightning arresters, etc... self-reducing resistances, that is resistance rapidly decreasing with increase of current, for automatic motor starters, constant speed rheostats of induction motors, etc." [For other anticipations of the electrical industry value of silicon ca. 1909 that puts Steinmetz's interest in context, google Clarence Irving Zimmerman, 29 May 1909, Electrical Review and Western Electrician, and Miss Frances E. Wick, Physical Review Vol XXV, #3, p. 182]
61	6 Aug 1909	J.L.R. Hayden to F.J. Seabolt, GE Patent Dept. Data supporting patent on a compound solution of Bakelite and paraffin oil as insulating material.
62	6 Aug 1909	J.L.R. Hayden to Vacuum Oil Co. Re previous order of 5 gallons of vacuum oil.
63-64	6 Aug 1909	C.P. Steinmetz to Nelson M. Black, Milwaukee, WI. Harmful properties of ultraviolet light.
65	6 Aug 1909	C.P. Steinmetz to Gaylord Wilshire, NY City. Recommends GE test man Robert E. Birely to take charge of mine in South America.
66	7 Aug 1909	C.P. Steinmetz to R.B. Hyssey, GE Lynn,. Thanks for photometric data on flame carbon and titanium carbide lamps.
67-68	7 Aug 1909	J.L.R. Hayden to C.A. Kenyon, McGraw- Hill Book Co. Editorial and payment matters re Steinmetz book on Light and Illumination. C.P. Steinmetz receives royalty on 10% on first 1000, 12.5% on second thousand, 15% on all further sales.
69	7 Aug 1909	J.L.R. Hayden to F.J. Seabolt. Work on carbo-silicon resistors.
70	7 Aug 1909	Vacuum Oil Co., Rochester NY to J.L.R. Hayden. Order for 5 gallons of vacuum oil. C.P. Steinmetz shorthand.

71-72	8 Aug 1909	C.P. Steinmetz to B.W. Cochran, Palmetto, GA. Answer to question about cause of explosion of iron pipe struck by lightning.
73	7 Aug 1909	C.P. Steinmetz to L.W. Hutton, Macleod Alberta. Explanation of why Hutton's direct current machine without commutator, or any other such commutator-less direct current machine, would not work.
74	7 Aug 1909	C.P. Steinmetz to A.B. Marvin GE Patent Dept. Melting point of thallium amalgam.
75-76	7 Aug 1909	C.P. Steinmetz to F.M. Roecker, Renova Electric Light, Heat and Power Co., Renova, PA. Sends paper on street illumination.
77	7 Aug 1909	C.P. Steinmetz to H.H. Norris, EE, Cornell. Pleased to see research on transient phenomena being taken up.
78	9 Aug 1909	C.P. Steinmetz to G.H. Chamberlin, GE Lynn. "We are in from camp and will be glad to see you upon the hill of our private laboratory on Wendell Avenue."
79	9 Aug 1909	C.P. Steinmetz to Frank Bailey, Brooklyn, N.Y. Fraternity (Chi Association of Phi Gamma Delta) mortgage payments.
80-81	9 Aug 1909	C.P. Steinmetz to Edward Bennett, Telluride Inst., Provo UT. Process for making magnetite rods.
82	9 Aug 1909	C.P. Steinmetz to C.C. Chesney, Mgr, GE Pittsfield Works. Requests use at Schenectady of "moderately small" 200,000 volt transformer built for use of Mr. Faccioli at Pittsfield.
83	9 Aug 1909	C.P. Steinmetz to W.G. Gartner, GE Patent Dept. Regarding C.P. Steinmetz patent for use of magnetite wire in lamps (see above) "we have not made any exact lamp tests, and this is hardly necessary as Dr. Weintraub has proved the vacuum improving character."
84	9 Aug 1909	C.P. Steinmetz to C.G. Smith, GE Buildings and Grounds. Proposed location of naphtha storage.
85	9 Aug 1909	C.P. Steinmetz to Carl Kelsey, University of Pennsylvania. C.P. Steinmetz will be "glad to join" the American Academy of Political and Social Science.
86	9 Aug 1909	C.P. Steinmetz to Gaylord Wilshire, NY City. Recommends test man Robert M. Birely to take charge of mine in SC.P. Steinmetz America.
87	10 Aug 1909	Telegram Louis A. Ferguson, Commonwealth Edison, Chicago, to C.P. Steinmetz. "Have experienced new developments and am anxious for your advice as soon as possible." [re Evanston line problems, see above]
88	10 Aug 1909	C.P. Steinmetz to Louis A. Ferguson, Commonwealth Edison, Chicago. "arrive Chicago Wednesday August 18 th "
89	10 August 1909	C.P. Steinmetz to Louis A. Ferguson, Commonwealth Edison, Chicago. Has rescheduled to arrive sooner.
90	10 Aug 1909	C.P. Steinmetz to C.A. Kenyon, McGraw-Hill Book Co. Returning part of proofs.

91	10 Aug 1909	C.P. Steinmetz to F.C. Pratt, GE. Requests appropriation of \$1000 for building an artificial transmission line to study experimentally the possibility, suggested by "mathematical investigation" that on 200 mile transmission lines "by electrical reflection and refraction, a serious increase in voltage may occur".
92	11 Aug 1909	W.C. Fish, GE Lynn to C.P. Steinmetz. Will send Mr. Breed to Schenectady to cast silicon after next week.
93	11 Aug 1909	J.L.R. Hayden to Vacuum Oil Co. Order for vacuum oil.
94	12 Aug 1909	C.C. Chesney, Works Mgr., GE Pittsfield, to C.P. Steinmetz. Requests C.P. Steinmetz visit Pittsfield to view results of Mr. Blake on calcium chloride, tungstic acid and carbon electrode.
95	12 Aug 1909	James E. Davidson, President, Consolidated Lighting Co., Montpelier, VT. Requests copy of Steinmetz paper on Wireless Telegraphy delivered to General electric dinner in Boston last March. C.P. Steinmetz shorthand.
96	12 Aug 1909	Frank M. Trueauff, President, National Electric Light Assn. to C.P. Steinmetz. Requests C.P. Steinmetz serve on committee on electrical terminology. C.P. Steinmetz shorthand.
97	12 August 1909	M.C. Joiner, Vacuum Oil Co. to J.L.R. Hayden. Order of vacuum oil
98	13 Aug 1909	J.L.R. Hayden to Vacuum Oil Co. Order of vacuum oil
99	13 Aug 1909	J.L.R. Hayden to White Company, NY City. Payment of \$1.53 and request for catalogues of both gasoline and steam vehicles.
100	13 Aug 1909	C.P. Steinmetz to J. T. Broderick, GE. Request for \$200 appropriation to pursue casting of Mr. Hayden's new carbo-silicon alloy, superior to previous silicon materials due to its higher resistance, and "needed for lightning arrester resistances... and it is urgently desired by the heating department and for other uses."
101	13 Aug 1909	C.P. Steinmetz to H.F. Dewey, Asst. Treas. Union College. Suggest Mr. Cunningham be live-in supervisor of Union College electrical laboratory.
102	14 Aug 1909	M.C. Gaines, Vacuum Oil Co. to J.L.R. Hayden. Vacuum oil order.
103	14 Aug 1909	C.P. Steinmetz to F.W. Frueauff, National Electric Light Association. "Very glad" to serve on electrical terminology committee.
104	16 Aug 1909	C.P. Steinmetz to E.R. Berry, GE Lynn. Improvements in flux for titanium carbide electrodes.
105	16 Aug 1909	C.P. Steinmetz to C.A. Kenyon, McGraw-Hill Book Co. Proofs.
106	16 Aug 1909	C.P. Steinmetz to White Company. Demands refund of \$28.50 on bill from White Co. for auto.
107	16 Aug 1909	C.P. Steinmetz to C.C. Chesney, GE Pittsfield. Due to need for C.P. Steinmetz to go to Chicago, J.L.R. Hayden will represent him at Pittsfield next week.
108	16 Aug 1909	C.P. Steinmetz to James E. Davidson, Consolidated Lighting Co., Montpelier, VT. In response to request for C.P. Steinmetz paper on wireless telegraphy: "I have written very little on wireless telegraphy."

109	17 Aug 1909	Telegram. J.L.R. Hayden to E.H. Blake, GE Pittsfield. Schedule of visit to Pittsfield.
110	17 Aug 1909	C.P. Steinmetz to C.J. Ferguson, Union College. Order of book (title not given).
111	17 Aug 1909	J.L.R. Hayden to Vacuum Oil Co. Requisition for 5 gallons of vacuum oil.
112	21 Aug 1909	C.P. Steinmetz to E.S. Moody, GE Pittsfield. "I will be in Pittsfield Monday afternoon to discuss Chicago transformers and reactances."
113	26 Aug 1909	C.P. Steinmetz to J.T. Broderick, GE. Request to add Edward Fernhille (?) to C.P. Steinmetz laboratory payroll at 44/week.
		Letter book here notes a "gap in material" from "fall '09 to winter'10
114	28 Mar 1910	Wallace S. Clark, GE, to C.P. Steinmetz. Information on 220 volt service.
115	23 April 1909	F.H. Gale, National Electric Light Association to C.P. Steinmetz. Invitation to National Electric Light Association Convention. C.P. Steinmetz shorthand.
116	28 Apr 1910	A.L. Boynton, Real Estate, Mountain View, CA. Asks opinion of "The Americana" [encyclopedia] , ed. by Frederick C. Beach, as investment prospect. C.P. Steinmetz shorthand.
117	29 Apr 1909	C.P. Steinmetz to E.R. Berry, GE Lynn. Electrode meeting in Lynn. "I find difficulty [sic] to do anything with the Research laboratory in this matter"
118	2 Mar 1910	E.J. Berg to C.P. Steinmetz. Unofficial notification of C.P. Steinmetz election to Tau Beta Pi society.
119	2 May 1910	J.L.R. Hayden to Charles Black, Highstown, NJ. Order has been paid for but not received.
120	2 May 1910	C.P. Steinmetz to A.B. Hendricks, GE Pittsfield. Request for report on High Tension Line Losses.
121	2 May 1910	C.P. Steinmetz to S.H. Blake, GE Pittsfield. "When do you expect [sic] to ship the lamp you said you would?"
122	2 May 1910	Robert E. Noyes to C.P. Steinmetz. Request for information on inductance of stranded resistors.
123	3 May 1910	M.E. Fellows International Congress of Inventors to C.P. Steinmetz. Talk request.
124-125	3 May 1910	J.W. Lieb, Jr. International Electrotechnical Convention to C.P. Steinmetz. Invitation to International Electrotechnical Convention dinner. C.P. Steinmetz shorthand.
126-128	3 May 1910	W.W. Weaver, Electrical World, to C.P. Steinmetz. Invitation to take part in a lecture series on illuminating engineering at Johns Hopkins.
129	4 May 1910	J.L.R. Hayden to S.H. Blake, GE Pittsfield. Visit of J.A. Capp of National Carbon Co. to Schenectady.
130	4 May 1910	C.P. Steinmetz to W.D. Weaver, Editor, Electrical World. "Enclosed... promised magnetic manganese alloy."
131	9 May 1910	C.P. Steinmetz to E.J. Berg. Upcoming trip to Illinois.
132	9 May 1910	C.P. Steinmetz to A.L. Boynton, Mountain View, CA. The Americana is "a good encyclopedia" but has no information on "the investment side".

133	9 May 1910	C.P. Steinmetz to C.C. Chesney, GE Pittsfield. "We are badly in need of a suitable transformer" to study high voltage static line losses, and request loan from Pittsfield of such a transformer.
134	9 May 1910	C.P. Steinmetz to W.s. Clark. Order of 215 ft. of lead covered cable.
135-138	9 May 1910	C.P. Steinmetz to G. Faccioli. Investigations of line oscillations and corona losses. Technical details of plans for tests.
139	9 May 1910	C.P. Steinmetz to F.E. Fellows, Rochester NY. Declines request to deliver paper at convention.
140	9 May 1910	C.P. Steinmetz to F.E. Gale, GE Supply Dept. Plans for delivery of C.P. Steinmetz paper to National Electric Light Association Convention.
141	9 May 1910	C.P. Steinmetz to Gerardus Post Herrick, NY City. Declines invitation.
142	9 May 1910	C.P. Steinmetz to J.W. Lieb, Jr. Accepts invitation to Electrotechnical Convention dinner.
143-145	9 May 1910	C.P. Steinmetz to Robert E. Noyes, Pratt Institute. Detailed reply to request for information on self inductance of stranded conductor.
146	9 May 1910	C.P. Steinmetz to L.T. Robinson, Standardizing Lab, GE. Requests tests of iron sample.
147-148	9 May 1910	C.P. Steinmetz to W.D. Weaver, Editor, Electrical World. Agrees to give one or two lectures in proposed Johns Hopkins course on illuminating engineering.
149	10 May 1910	J.L.R. Hayden to C.M. Brewster, Williamstown, MA. Reservation of 3 rooms.
150	11 May 1910	J.L.R. Hayden to R. Vincent, Jr. & Sons, White Marsh, MD. Order of 100 English ivy.
151	11 May 1910	J.L.R. Hayden to J.M. Shoemaker, VP. Elmira Mutual Building Loan Association, Elmira, NY. Request to have 20 shares paid off.
152 -154	11 May 1910	C.P. Steinmetz to E.W. Rice, Jr, GE. "I should strongly recommend" that Mr. Faccioli make a study of transmission line phenomena on the Great Western Power Company's line.... "There occurs a recurrent surge in the transformer which is somewhat disquieting".
155	12 May 1910	Wallace S. Clark, GE, to C.P. Steinmetz. Request for 250 ft. armored cable (see above) requires a shop order.
156	13 May 1910	J.L.R. Hayden to E.J. Berg, U. Illinois. Telegram. "Will get Steinmetz to Urbana by Saturday."
157	13 May 1910	C.P. Steinmetz to E.H. Blake, GE Pittsfield. Complaint about Blake sending him the wrong DC fan motors.
158	13 May 1910	C.P. Steinmetz to Wallace C. Clark, GE. Delivery schedule for armored cable.
159	13 May 1910	C.P. Steinmetz to C.W. Stone, GE. Details of transfer or transformer from Pittsfield for corona test.
160	13 May 1910	C.P. Steinmetz to M.A. Oudin, Foreign Dept., GE. Order of silicon tubes for heating mining drills.
161	14 May 1910	C.P. Steinmetz to S.H. Blake, GE Pittsfield. Would like to meet Blake at American Institute meeting.

162	14 May 1910	C.P. Steinmetz to E.W. Pope, AIEE. Request for reprints of Hayden-Steinmetz paper on "Disruptive Strength of Oil with Transient Voltages."
163	14 May 1910	C.P. Steinmetz to F. Colliers & Son, NY City. Order for Harvard Classics.
164-165	15 May 1910	Ira Remsen, Johns Hopkins U., to C.P. Steinmetz. Details of illuminating engineering course. Honorarium \$50. C.P. Steinmetz shorthand.
166	16 May 1910	C.P. Steinmetz to E.J. Berg, U. Illinois. Details of visit.
167-168	16 May 1910	C.P. Steinmetz to W.C. Fish, GE Lynn. "I thoroughly believe in the mercury lamp, and have always regretted we dropped it, five years ago, just when our development was practically completed, and the lamp appeared ready for the market. I should therefore be pleased to see us get interested in it again." ... "The efficiency of the mercury lamp obviously is of higher order than that of the tungsten lamp."
169	19 May 1910	F.W. Willcox, Asst. to Mgr. Incandescent Lamps, GE to C.P. Steinmetz. Requests information on C.P. Steinmetz trial use of Mazda Lamps sent in March.
170	21 May 1910	C.P. Steinmetz to P. Henderson & Co. NY City. Order for water lilies.
171	21 May 1910	C.P. Steinmetz to Ira Remsen, Johns Hopkins. "Glad to" deliver 2 lectures to Johns Hopkins course.
172	21 May 1910	C.P. Steinmetz to Charles Richmond, President, Union College. Recommends Mr. O. Ferguson [Olin J. Ferguson] for permanent appointment as Associate Professor, Electrical Engineering, Union. "I, while in charge of the department, can devote only a limited time to it, and as a result hereof, I have turned over the administrative and executive work of the department to Mr. Ferguson already some years ago.... I consider it therefore desirable to recognize this situation."
173-174	26 May 1910	George J. Cox, NY Electrical School, to C.P. Steinmetz. Request that he serve on school's advisory board.
175	1 June 1910	W.W. Freeman, Edison Electric Illuminating Co. of Brooklyn, to C.P. Steinmetz. Lecture request.
176	1 June 1910	J.L.R. Hayden to M.R. Wilcox, Albany, NY. Trading in White Steamer and buying "1910 model Marmon Five passenger touring car, listed at \$2650.00"
177	6 June 1910	C.P. Steinmetz to G.J. Cox. Accepts place on Advisory Board of NY Electrical School.
178-180	6 June 1910	C.P. Steinmetz to C.A. Richmond, President Union. Urges "re-establishment" of a Union College Mathematics Department, "as it existed in Professor Wright's time." ... "For the electrical engineer, mathematics is the most important preliminary subject of study, more even than physics and chemistry." Lack of such a department has led to electrical engineering students being poorly prepared.
181	6 June 1910	C.P. Steinmetz to F.W. Wilcox, GE Incandescent Lamp Dept. In trial of Mazda Lamps at his house, C.P. Steinmetz found them "somewhat better" than previous lamps regarding life, but "not sufficiently so as to show a marked and unquestionable superiority."

182-183	7 June 1910	Albert G. Jones, GE San Francisco. Requests C.P. Steinmetz review his book on the Watthour Meter.
184-185	9 June 1910	J.L.R. Hayden to E.R. Berry, GE Lynn. "The situation of the TiC lamp is still very unsatisfactory." ... "The Research Laboratory has started energetic work on improving the quality of the carbide." Requests tests, describes details.
186	9 June 1910	J.L.R. Hayden to G.N. Chamberlin, GE Lynn. Suggests heeding of Steinmetz suggestion and using an inductive resistance on the 110 volt magnetite lamp.
187	9 June 1910	Same as 186
188-189	9 June 1910	J.L.R. Hayden to E.A. Guay, GE Lynn. Dr. Steinmetz was "not favorably impressed" with the new TiC lamp. It was too complicated, in ways that would interfere with efficiency. Suggests a return to the Lynn Lamp No. 1 as the best type.
190-192	9 June 1910	C.P. Steinmetz to E.J. Berg, U. Illinois. After saying he cannot advise Berg on his role in a publishing project, and objecting to use of "crank diagram" in representing oscillation, C.P. Steinmetz advises that Berg write a series of books on theoretical electrical engineering based on Berg's next two years of lectures at Illinois.
193	10 June 1910	J.L.R. Hayden to T. Breckenridge, Williamsburg, MA. Sending 9 standard incandescent lamps, hope to send you some tungsten lamps in the near future.
194	10 June 1910	J.L.R. Hayden to P. Hayden, Cummington, MA. Hope to have a voltage regulator shipped to you in the near future.
195	10 June 1910	J.L.R. Hayden to William S. Myers, NY City. Request for agricultural bulletins.
196	10 June 1910	C.P. Steinmetz to W.F. Story, GE. Telephone number for Steinmetz Lab.
197	10 June 1910	C.P. Steinmetz to E.W. Freeman, VP, Edison Electric Illuminating Co. of Brooklyn. Unable to speak to Brooklyn section of National Electric Light Association as requested.
198	10 June 1910	C.P. Steinmetz to E.J. Berg. Forwarding letter from McGraw-Hill.
199	13 June 1910	C.P. Steinmetz to Charles V. Murphy, Manager "The Waumbeck" Jefferson, NH. Room reservation.
200-105	16 June 1910	C.P. Steinmetz to S. Ferguson, GE Research Lab. Investigation of Titanium Carbide Luminous Arc Lamp. Lamp at present is "extremely unsatisfactory," both due to lamp mechanism and carbide. Gives very detailed recommendations for developing "a satisfactory quality of carbide."
206	16 June 1910	C.P. Steinmetz to Franklin w. Hooper, Brooklyn Institute of Arts & Sciences. Thanks for election as Corresponding Member.
207	16 June 1910	C.P. Steinmetz to George R. Lunn, Schenectady. "Enclosed please find one dollar in check for payment of one year's subscription to the "Citizen". If possible I should like to get the paper from the first number on."

208	16 June 1910	C.P. Steinmetz to Elihu Thomson, GE Lynn. Discussion of accumulation and dissipation of comets, in response to Thomson's recent article on comets.
209	16 June 1919	C.P. Steinmetz to Arthur Williams, NY Edison. Thanks for photos.
210	17 June 1910	C.P. Steinmetz to W.S. Clark, GE. Request to have iron wire insulated.
211-212	20 June 1910	C.P. Steinmetz to F.T. Foster GE Pittsfield. Safety of transformers used to test lightning arrestors, and suggestions for improvement.
213	20 June 1910	C.P. Steinmetz to Major Gifford, GE Transportation Dept. Please secure train reservations for C.P. Steinmetz trip to Jefferson, NH.
214-215	20 June 1910	C.P. Steinmetz to Alf. A. Leopold, Schenectady. Describes problem with Leopold's suggestion of use of copper covered iron wire as electrical conductor.
216	20 June 1910	C.P. Steinmetz to T.S. Young, Canadian Electrical Assn. Declines invitation to convention.
217	21 June 1910	L.L. Hunt, GE to C.P. Steinmetz. Gloucester, MA, electric company expresses concern that "fairly good sized wireless plant" to be built nearby might cause problems with company's meters and transformers. "We would like to have your opinion..."
218-219	21 June 1910	D.B. Rushmore, GE Power & Mining to C.H. Alexander, GE Butte Office. Transformer breakdowns at Mining Plant of Robert Emmet Copper Mining Company. Reports discussions with GE experts W.S. Moody, Mr. Faccioli, and C.P. Steinmetz. Steinmetz suggests that high elevation and location between two "storm sections" might be part of the problem. No conclusions reached. Faccioli will visit and investigate further.
220-223	21 June 1910	C.P. Steinmetz to A.G. Davis, GE Patent Dept. "Attached I send you sketch of lamp mechanism for AC luminous arc lamp which I intend to build." Claims simplification over previous AC arcs. Novelty consists of connection of operating magnet.
224-228	21 June 1910	C.P. Steinmetz to S. Ferguson, GE Research Laboratory. Instructions for investigation and development of flame carbons for AC arc lamps. Goal is an efficient white flame carbon. C.P. Steinmetz believes this can be achieved by adding Titanium Carbide to the Carbon Arc.
229-232	21 June 1910	C.P. Steinmetz to J. Lyons, GE Patent Dept. "As requested by you I have made a number of trials to produce and test an arc lamp carbon in accordance with the patent specification of Adeney.... the arc had all the characteristics and appearance of the ordinary carbon arc."
233	22 June 1910	C.P. Steinmetz to W.B. Curtiss, GE. Temporarily substitute Otto Kimun for L.H. Crouchey on payroll.
234	22 June 1910	C.P. Steinmetz to S. Ferguson, GE Research Lab. Ship 5 pounds or rutile to Baker & Adamson for them to produce cerium and calcium titanate fluoride for titanium carbide arc development.
235-236	22 June 1910	C.P. Steinmetz to F.L. Hunt, GE Boston. Regarding possible danger from wireless plant (see letter 217 above). There is a possibility of a danger from the high frequency signals, but it is rather remote. Suggests precautions to take.

237	22 June 1910	C.P. Steinmetz to Longmans, Green & Co. Would b pleased to receive copy of Drysdale's Foundations of Alternate Current Theory.
238	24 June 1910	C.P. Steinmetz to George R. Lunn, Schenectady. "Enclosed I send you \$1.00 in check in payment of subscription, and am sorry to say you guessed right, that in my recent letter I forgot to include my check."
239	25 June 1910	C.P. Steinmetz to W.L. Sturtevant, GE Lynn. Properties of differing titanium carbides used in arc lamps.
240	29 June 1910	Longmans Green & Co. to C.P. Steinmetz. Confusing re sending Drysdale's Foundations of Alternate Current Theory.
241	30 June 1910	H.H. Harris, Cornell Dept. EE, to C.P. Steinmetz. Please sign and return enclosed application of Mr. Creighton.
242	1 July 1910	F.W. Willcox to C.P. Steinmetz. Is disappointed to hear of poor results of Mazda lamps in Steinmetz house, is sending more: "I trust you will have better success."
243	2 July 1910	C.P. Steinmetz to S.H. Blake, GE Pittsfield. Suggestions to improve arc carbons.
242?	2 July 1910	C.P. Steinmetz to C.E. Van Dyke, Schenectady Illuminating Company. Putting electric supply to Steinmetz house and laboratory underground.
244	7 July 1910	E.H. Morrison, National Electric Light Association, to C.P. Steinmetz. Requests C.P. Steinmetz send in his discussion of paper by B.E. Morrow on Lightning and other Static Disturbances.
245	7 July 1910	C.P. Steinmetz to Longmans, Green & Co. Further discussion of copy of Drysdale book (see letters 237, 240 above)
246-247	7 July 1910	C.P. Steinmetz to H.H. Norris, Cornell EE Dept. Wants suggestions of books "giving comprehensive information on special functions, as the Bessel function, the Gamma function, Zonal harmonies, etc., etc. I am not familiar with the English and very little familiar with the German mathematical literature, and these special functions have rather been relegated to an unimportant position with the development of the general theory of functions of a complex variable. I do not care for the latter as the elliptical functions, etc., but only for those special functions which have been devised by the requirements of astronomy, etc., have been more or less sidetracked, but which it may be desirable to review in view of the special problems of electrical engineering...."
248	7 July 1910	C.P. Steinmetz to F.W. Wilcox, GE Harrison. Have received tungsten lamps (see letter 242 above). In life tests at Steinmetz house, begun six months ago, all GE lamps [GEM carbon lamps?] are still in operation, while all GE tungsten lamps have failed.
249-252	8 July 1910	Fred H. Clough, Engineering Department of British Thomson Houston Co. to C.P. Steinmetz Wants opinion of armature winding described in letter, for use in turbogenerators. C.P. Steinmetz handwriting: "Mr. E.F. Alexanderson. Like to get your suggestions."
253	8 July 1910	Allen G. Jones, GE San Francisco, to C.P. Steinmetz. Wants blurb for his book on the watthour meter.

254-255	9 July 1910	J.L.R. Hayden to E.R. Berry, GE Lynn. "I am sorry that your men are dissatisfied with their surroundings." Follows with suggestions for improvements and tests on ar light carbides.
256	9 July 1910	J.L.R. Hayden to J.T.H. Dempster, GE Building No. 6. "the work on the silicon rods has been laid aside due to the fact that the grade of silicon obtained from Niagara Falls was not uniform enough to carry out any extensive line of investigations. We have thought perhaps that some time in the future we might be able to get somebody interested in silicon far enough to try and make it. Dr. Steinmetz will be glad to talk over this matter with you any time you feel inclined. "
257	11 July 1910	Frank J. Sprague, NY City, to C.P. Steinmetz. "Agreeable with your suggestion, I have cut down the letter on the Academy question..."
258	12 July 1910	J.L.R. Hayden to E.R. Berry, GE Lynn. "Did you place an order for 500 pounds TiC...?"
259	12 July 1910	J.L.R. Hayden to C.C. Chesney, GE Pittsfield. Request to have 200,000 volt transformer shipped to Steinmetz Laboratory.
260-261	12 July 1910	C.P. Steinmetz to James Lyman, GE Chicago. Request for more information regarding burn out of Highwood and Blue Island reactances, and for opinion as to whether C.P. Steinmetz should come and look the matter over.
262	12 July 1910	C.P. Steinmetz to W.S. Moody, GE Pittsfield. Seeks more data on Highwood and Blue Island reactances. (See letter above)
263	12 July 1910	C.P. Steinmetz to E.H. Morrison, National Electric Light Association. No longer has manuscript he was asked to discuss (see letter 244 above).
264	12 July 1910	C.P. Steinmetz to Frank J. Sprague, New York City. Concurs with Sprague's suggestions regarding American Academy of Engineers.
265-266	12 July 1910	C.P. Steinmetz to K. Tornberg, GE Lynn. "Jumping" problems of magnetite arc.
267-268	12 July 1910	J.L.R. Hayden to C.E. Chamberlin "Considerable work has been carried out in the last weeks by the Research Laboratory as a result of the complaint of your engineers that the TiC was not satisfactory and not uniform (see, e.g., 224-228 above)... This work has been entirely successful." The research lab can now supply 5000 lbs. weekly. Suggestions for further work on the TiC arc lamp which is "too efficient and promising to be sidetracked." [In the 21 st century a Xenon arc lamp with TiC electrodes is used in IMAX projectors]
269	13 July 1910	Franklin W. Hooper. Brooklyn Inst. Arts, to C.P. Steinmetz. Request for lecture
270	14 July 1910	C.P. Steinmetz to C.a. Kenyon, McGraw Hill Book Co. Book on "Engineering Mathematics" is "now practically finished."
271	14 July 1910	C.P. Steinmetz to Marshall S. Loke, Medina, NY. Doubts he will give any lectures this year near Buffalo or Rochester.

272	18 July 1910	C.P. Steinmetz to E.R. Berry, GE Lynn. "You would relieve the situation quite a little over here if you would place an order for 500 pounds of titanium carbide as per your specifications, as they are making this carbide and have a lot on hand and do not know what to do with it. I saw Mr. Ferguson yesterday..."
273	18 July 1910	C.P. Steinmetz to C.H. Chamberlin, GE Lynn. "The lamp that we have confidence in is of the constant arc length embodying the magnetite lamp features and not a float feed like the Boston flame lamp."
274	18 July 1910	J.L.R. Hayden to W.J. Merriam, Amsterdam, NY. Delays in getting shipment of Marmon automobile to replace White Steamer.
275	18 July 1918	C.P. Steinmetz to A.G. Davis, GE Patent Dept. Re Sandycroft Foundry Co. Cascade Motors. "I do not think that the arrangement is sufficiently valuable to pay large sums for the same.
276	18 July 1910	C.P. Steinmetz to A.G. Jones, GE San Francisco. "Enclosed I return you the manuscript and a short review thereof." (See 253 above
277	18 July 1910	G.W. Stewart, Physics Dept., U. of Iowa. Seeks Steinmetz-Hayden paper on "Disruptive Strength With Transient Voltages."
278	21 July 1910	S. Ferguson, GE Research Lab, to F.S. Baily, GE Lynn. Progress on fused Titanium Carbide.
279-280	21 July 1910	J.L.R. Hayden to G.N. Chamberlin, GE Lynn. Pleased Lynn has resumed work on TiC lamp, and conveys C.P. Steinmetz suggestions. "As regard to the fused TiC, I believe the interest in it is decreasing, and I should expect that the Reseach Laboratory will drop the matter soon... I doubt that it will ever be taken up" despite initial excitement and production by Research Laboratory of a "very satisfactory product."
281	21 July 1910	C.P. Steinmetz to L. Ettrup, San Francisco. "Received your letter asking for information on my patent on the "fixation of nitrogen. I have never built any larger furnace, with smaller furnaces the best results I get were about 600 kilograms per kilowatt year. As material for absorption milk of lime is most conveniently used" Appears to be electric furnace.
282	21 July 1910	C.P. Steinmetz to F.W. Hooper, Brooklyn Institute of Arts. Will give requested lecture (see 269 above).
283	21 July 1910	C.P. Steinmetz to E.W. Rice, Jr., GE. Recommends that "the design of direct current motors made at Lynn by Dr. Bergman with complete distributed compensation" be adopted as a standard. Its commutation is superior and cost lower than current types.
284	22 July 1910	C.P. Steinmetz to Prof. A.S. Langsdorf, Washington University. Heat insulating tests.
285	22 July 1910	C.P. Steinmetz got G.W. Stewart, Univ. Iowa (see 277 above) Has no more reprints of requested paper.
287	23 July 1910	G.N. Chamberlin, GE Lynn, to J.L.R. Hayden. Proposed tests on TiC lamp. Willing to test GE Research Lab material, but haven't gotten enough yet.

288-291	25 July 1910	E.F.W. Alexanderson, GE, to C.P. Steinmetz. (Salutation is "Dear Sir"). Regarding design to windings for generators (see 249-252 above). Believes Clough's schemes are reasonable, and indicates which he thinks is best. and suggests experiments.
292	25 July 1910	P.S. Bailey, GE Arc Lamp Engineering Dept., Lynn, MA. to J.L.R. Hayden. Shipment of TiC from GE Research Lab to Lynn.
293-295	25 July 1910	C.P. Steinmetz to E.W. Rice, Jr., GE. Westinghouse has been better represented at AIEE meetings than GE, and this has been "unfavorably commented upon.... a liberal attendance at these conventions would be very desirable for our company, and the indirect financial benefit derived therefrom very much greater than the expense involved."
296-297	25 July 1910	C.P. Steinmetz to E.W. Rice, Jr., GE, on "the quarrel represented by attached correspondence." Appears to concern suspicious agreement between supposedly independent tests of iron for hysteresis. Involves L.T. Robinson of GE Schenectady Mr. Hendricks of GE Pittsfield, and the A.S. Company. C.P. Steinmetz expresses confidence in the ability and reliability of both Robinson and Hendricks. Believes issue is "based on misunderstanding."
298	26 July 1910	M.W. Allen, National Carbon Co., Cleveland, to J.L.R. Hayden. Has been unsuccessful in making TiC, would like to see 10 lbs. of GE's material. (National Carbon makes arc lamp carbons).
299	26 July 1910	George R. Metcalfe, AIEE, to C.P. Steinmetz. Encloses transcript of C.P. Steinmetz discussion on paper by A.R. Cheyney, for correction and return.
300	27 July 1910	C.P. Steinmetz to P.S. Bailey, GE Pittsfield. Need to requisition fused carbide samples from GE Research lab as "the Research Lab has never been in favor of giving things away." Fused carbide is superior to resistance furnace carbide and "will undoubtedly become standard."
301	27 July 1910	C.P. Steinmetz to E.R. Berry, GE Lynn. Visit of Berry to Schenectady.
302	27 July 1910	J.L.R. Hayden to S.H. Blake, GE Pittsfield. "I was very sorry to hear that you had been over to Schenectady without looking us up. We have what we think is a very good principle for an arc lamp mechanism."
303	28 July 1910	C.P. Steinmetz to Van Voast & Leonard Gen. Insurance. Elmira Building and Loan Association mortgage.
304	28 July 1910	Sidney T. Branam, Pittsfield, MA, Board of Trade. Lecture request. Steinmetz shorthand.
305	28 July 1910	J.L.R. Hayden to G.N. Chamberlin, GE Lynn. Conveys Steinmetz view of titanium carbide arc lamp operation.
306	29 July 1910	J.L.R. Hayden to C.S. Van Dyke, Schenectady Illuminating Co. Putting electrical service to Wendell Ave. House and laboratory underground.
307	29 July 1910	C.P. Steinmetz to E.W. Rice, Jr., GE. Since upcoming Laboratory Advisor Council involved formation of a Consulting Department, suggest C.W. Stone be present.

307	1 Aug 1910	J.L.R. Hayden to E.W. Allen, National Carbide Co. "We are shipping you 10 pounds of fused carbide" (see 298 above).
308	1 Aug 1910	J.L.R. Hayden to C.M. Brewster, Williamsburgh, MA. Will send him new tungsten lamps and new cigar lighter plugs.
309-312	2 Aug 1910	W.L. Barraden to Chamberlin, Halvorson, C.P. Steinmetz, Dr. Weintraub, Fish, Berry, Standerwick, Tornberg [arc light group] Unsteady arc-Boston Edison Lamps. Lamps in North End of Boston. "jumping was actually taking place... some actually flickered". Color and brightness also changed. May have been due to high temperature and humidity.
313-319	2 Aug 1910	C.P. Steinmetz to A.G. Davis, Patent Dept. Improvements in oil switches.
320	4 Aug 1910	W.W. Freeman, President, National Electric Light Assn. to C.P. Steinmetz. Requests C.P. Steinmetz serve on Committee on Terminology. Shorthand.
321-322	4 Aug 1910	C.P. Steinmetz to S.H. Blake, GE Pittsfield. Asks Blake to take on for two or three weeks C.M. Davis, a former student of Steinmetz who, in preparation for Davis joining C.P. Steinmetz Consulting Dept. , has been sent to Pittsfield to learn about transformers, flame lamp, and lightning arresters.
323	4 Aug 1910	C.P. Steinmetz to C.M. Davis. Assignment to arc testing, per above.
324	5 Aug 1910	C.P. Steinmetz to Sidney T. Braman, Board of Trade, Pittsfield, MA. Will be on vacation so can't give requested lecture.
325-326	8 Aug 1910	C.P. Steinmetz to G.N. Chamberlin, GE Lynn. Unsteady Arc of Boston Edison Lamps (see 309-312). Suggests they try electrodes with 5% chromium fluoride added.
327	8 Aug 1910	C.P. Steinmetz to W.W. Freeman, President, National Electric Light Assn. Will be glad to serve on Terminology Committee (see 320, above)
328-329	8 Aug 1910	C.P. Steinmetz to C.A. Kenyon, McGraw Hill Book Co. "I herewith send you by express the manuscript of "Electrical Engineering Mathematics.""
330-331	8 Aug 1910	C.P. Steinmetz to Philip Torchio, NY Edison Co. Agrees with principles of draft of 1910 report of High Potential Disturbance Committee. "I have been preaching for a number of years the desirability of providing more reactance in these high power, moderate voltage, generating systems." Adds some detailed suggestions.
332-336	9 Aug 1910	E.E. F. Creighton to C.P. Steinmetz Proposed N.E.L.A. Lightning Report. Draft of GE views attached attached.
337-338	9 Aug 1910	Edward P. Hyde, Illuminating Engineering Society. Details of Illuminating Engineering Lectures to be given at the Johns Hopkins University.
339	10 Aug 1910	Encoded cablegram.
340	10 Aug 1910	Translation of Cablegram... Sporburg, BTH Co., Rugby, England to E.W. Rice, Jr. GE. "Very important we should receive Steinmetz comments design DC Turbo Generator." (See 249-252 above)
341	11 Aug 1910	J.L.R. Hayden to Baker & Adamson Chemical Co., Easton, PA. We have placed shop order for chemicals.

342	11 Aug 1910	J.L.R. Hayden to C.W. Stone, GE. Improvements to regenerative Flame Lamp (TiC Arc Lamp) made at National Carbon Co. and GE Research lab (Mr. Hardman).
343	11 Aug 1910	J.L.R. Hayden to C.W. Stone. Work on power limiting transformer reactances.
344	11 Aug 1910	C.P. Steinmetz to Edward P. Hyde, Illuminating Engineering Society. Preparation of Johns Hopkins Lecture. "I prefer to write a lecture out after I have delivered it."
345	11 Aug 1910	C.P. Steinmetz to C.A. Kenyon, McGraw Hill Book Co., NY City. enclosed two remaining illustrations for "Electrical Engineering Mathematics."
346	12 Aug 1910	C.P. Steinmetz to S.H. Blake, GE Pittsfield. Long burning flame lamp should be operated in series, and controlled entirely by series magnet. Advantages: simpler and steadier operation.
347	12 Aug 1910	J.L.R. Hayden to A. Gifford, GE Pittsfield. Sending two sets of coils to be put through "bakerlizer."
348	12 Aug 1912	J.L.R. Hayden to M.R. Wilcox, Albany. Have any 1911 Marmon Cars been shipped from the factory in Albany?
349	12 Aug 1912	C.P. Steinmetz to H.N. Sporborg, British Thomson Houston Co., Rugby, England (see 340 above)."Re: Cloughs generator, cannot recommend taking contract now, but recommend building experimental machine."
350	13 Aug 1910	C.P. Steinmetz to S.H. Blake, GE Pittsfield. Wants to go with Mr. Hardman of GE Research Lab to GE Pittsfield to demonstrate flame carbons containing titanium carbide.
351-354	11 Aug 1910	H.F.T. Erben, GE, to H.N. Sporberg, British Thomson Houston. Regarding tests on 200 kw. 3000 rpm Clough generator. "I think it is a little bit risky to assume that you have produced a machine which is entirely satisfactory." Is consulting Steinmetz. (see 349, above).
355	15 Aug 1910	Ernest E. Gale, Otis Elevator, Yonkers, NY. Wants a tour for his son of GE Works.
356	15 Aug 1910	J.L.R. Hayden to W.H. Hardman, GE. "What is the smallest amount of mixture that you can squirt?"
357	15 Aug 1910	T. Martin, National Electric Light Assn. to C.P. Steinmetz. Wants copy of C.P. Steinmetz remarks to Power Transmission Section.
358-359	15 Aug 1910	C.P. Steinmetz to F.H. Clough, British Thomson Houston, Rugby, England. Comments on Clough's "proposition for a new design for a direct current generator based on a principle somewhat similar to that of the Brush arc dynamo." Judges it "feasible in principle", discusses difficulties in maintaining a sufficiently uniform magnetic field, an issue which "can be decided by experiment..... I hope you build such a machine"
360	15 Aug 1910	C.P. Steinmetz to C.M. Davis Pittsfield, MA. To meet at Steinmetz Camp.
361	15 Aug 1910	C.P. Steinmetz to Hotel Frontenac, Frontenac NY. Room reservation.
362	15 Aug 1910	C.P. Steinmetz to R.W. Pope, AIEE. Received discussion manuscript, will correct.

363	15 Aug 1910	C.P. Steinmetz to R.W. Popw, AIEE. Please send application to transfer from associate to full membership.
364	16 Aug 1910	J.L.R. Hayden to W.H. Hardman, GE Research Laboratory. Suggest you make up the glowing mistures of TiC, Calcium titano fluoride and cerium titano fluoride, and carbon, Details included.
365`	18 August 1910	J.L.R. Hayden to S.H. Blake, GE Pittsfield. Tests in Schenectady foundry of arc lamps.
366	18 Aug 2016	C.P. Steinmetz to S.H. Blake, GE Pittsfield. Difficulties in series control of flame arc lamps.
367	18 Aug 1910	C.P. Steinmetz to Ernest C. Gale, Otis Elevator, Yonkers, NY. Will be glad to give your son a tour of GE Plant.
368	18 Aug 1910	C.P. Steinmetz to T.C. Martin, National Electric Light Association. Discussion to be published of Power Transmission Section.
369	19 Aug 1910	Theodore C. Hailes, Albany, to C.P. Steinmetz. Hailes wants C.P. Steinmetz to look at his device for separating atmospheric gases.
370	19 Aug 1910	J.L.R. Hayden to T.C. Hailes. Dr. Steinmetz will be "very busy... so that it will be very difficult, perhaps impossible for him to arrange to have such experiments made" as Hailes has requested.
371	19 Aug 1910	C.P. Steinmetz to C.A. Kenyon, McGraw Hill Book Co. Corrections to book Radiation Light and Illumination.
372	19 Aug 1910	C.P. Steinmetz to C.G. Truesell, Hotel Frontenac, Frontenac, NY. Wants room with private bath.
373	22 Aug 1910	C.P. Steinmetz to Mershon & Morley Co. NY City. Please send catalogue.
374	23 Aug 1910	Ernest L. Gale to C.P. Steinmetz. Details of his son's tour of GE Plant.
375-379	24 Aug 1910	E.F. Alexanderson, GE Consulting Laboratory, to W.G. Gartner, GE Patent Dept. Baum Voltage Regulator for voltage control of power stations. "It would be worthwhile following up on Mr. Baum's line of thought."
380-381	25 Aug 1910	James Lyman, District Engineer to W.C. Ely, Schenectady. Break down of oil swith at Commonwealth Edison Power Station. Since "this matter is on the very greatest importance to the Commonwealth Edison Co. I would suggest that a conference be called at once of the engineers including Dr. Steinmetz, Mr. Emmet," and others.
382	25 Aug 1910	C.P. Steinmetz to Ernest L. Gale. Details of his son's visit.
383	26 Aug 1910	J.T. Broderick, Sec'y, Manufacturing Committee, GE, to C.P. Steinmetz. Expense and appropriation for Steinmetz Laboratory.
384-386	27 Aug 1910	J.E. Ambler, GE, Salt Lake to F.P/ Wilson, GE Schenectady. Trouble with water wheel generators furnished by GE to U.S. Reclamation Service. W.J. Foster and Mr. Faccioli have been asked for suggestions.
387-389	29 Aug 1919	D.B. Rushmore, GE Power & Mining to G.H. Hill, GE Railway Dept. Lightning arrestors for electric railroads. "I have talked over the design of the arrester equipment proposed above with Dr. Steinmetz and Mr. Creighton."

390-392	31 Aug 1910	C.P. Steinmetz to A.B. Hendricks, GE Pittsfield. Seeks comments on attached letter from W.C. Fish to E.W. Rice 6 Sept 1910: "If we are to maintain our standing and prestige in the magnetite lamp business that we must speedily develop a constant current rectifying tube". Westinghouse has "made an advance."
393	6 Sept 1910	C.P. Steinmetz to W.B. Curtiss, GE. Discontinue Otto Kinum from payroll.
394	6 Sept 1910	C.P. Steinmetz to C.A. Kenyon, McGraw-Hill Book Co. Sending corrected copy of Light and Radiation.
395	6 Sept 1910	S.A. Moss, GE Lynn, to C.P. Steinmetz. "I would like very much to go over some of our experimental turbine work with you."
396	7 Sept 1910	C. W. Hunt, New York to C.P. Steinmetz. Seeks Steinmetz's support in Organization of "the Academy".
397	8 Sept 1910	J.T. Broderick, GE, to L. Gibson, GE. Appropriation for miscellaneous material for Steinmetz Laboratory has been increased from \$1000 to \$2000.
398	9 Sept 1910	E.R. Berry to D.L. Wood. Re Patent docket for titanium arcs, chromite does not act satisfactorily as a restrainer of combustion of titanium carbide lamps.
399	9 Sept 1910	J.L.R. Hayden to R.R. Lewis. Request for copy of Turbine Handbook.
400-492	10 Sept 1910	C.P. Steinmetz to W.C. Fish, GE Lynn. "Dear Friend. " Regarding need to meet Westinghouse improvements in magnetite lamp, see 390-382 above. C.P. Steinmetz believes improvements in high temperature rectifiers "is essentially the result of better vacuum". Get a Westinghouse rectifier and see how it differs from GE's. Steinmetz laboratory has solved problems of titanium carbide electrode manufacturing, but Lynn lamps now produced are "unsatisfactory." In discussions with Edison Battery Co. C.P. Steinmetz concludes that none of the present electric motors is suitable for electric automobiles, but "the Bergman motor would be especially suitable and perhaps the only type" with "reasonable size and cost."
403	10 Sept 1910	C.P. Steinmetz to C. W. Hunt. Regarding selection of members (Steinmetz is apparently on "Committee of Nine." See 396 above.
404	10 Sept 1910	C.P. Steinmetz to G.R. Metcalfe, AIEE. Proof of Steinmetz discussion.
405	10 Sept 1910	C.P. Steinmetz to S.A. Moss. "I shall be glad to see you."
406	10 Sept 1910	C.P. Steinmetz to E.W. Pope. "I should like very much to have about 200 to 400 separate copies printed of my remarks on the Standardization of Vector Notation which I made in discussing Dr. Kennelly's paper. "

407	10 Sept 1910	C.P. Steinmetz to W.R. Whitney, GE Research Lab. "Confidential..... tests made by New York Testing Laboratories on the life of the different makes of lamps, showed a regrettable inferiority of the General Electric product of tungsten lamps and also of gem lamps compared with the National Lamp Company's as seen from the attached copy of the data.... I am inclined to the opinion that the cause of this difference in life is due to the better vacuum existing in the National Lamp Company's lamps."
408	12 Sept 1910	C.P. Steinmetz to E.W. Allen, National Carbon Co., Cleveland, OH. Sending a pound of cerium titanium fluoride and calcium titanium fluoride to be used in experiments on white flame carbons.
409	12 Sept 1910	C.P. Steinmetz to G.N. Chamberlin, GE Lynn. Steadying down the constant potential multiple magnetite amps.
410	12 Sept 1910	C.P. Steinmetz to McGraw Hill Book Co. Order of book (not named).
411	12 Sept 1910	C.P. Steinmetz to J.C. McLaren, Amsterdam. "I should be very happy to meet you."
412	12 Sept 1910	C.P. Steinmetz to Geo. W. Rooss, Pittsfield, MA. Johns Hopkins lectures as a way "to start illuminating engineering as a recognized branch of engineering."
413	12 Sept 1910	C.P. Steinmetz to S. Tompkins, Brooklyn NY. In answer to letter recommends book on integrating meters.
414	13 Sept 1910	W.C. Fish, GE Lynn, to C.P. Steinmetz. Details of upcoming C.P. Steinmetz visit to Lynn.
415	13 Sept 1910	J.L.R. Hayden to J.T. Broderick, GE. Add La Salle Lewis to payroll.
416	13 Sept 1910	E.T Lake, Chicago to C.P. Steinmetz. Telegram. Lecture arrangements.
417	13 Sept 1910	Walter S. Moody, GE, Pittsfield, MA, to M.C. Troy and W.G. Ely, GE. Information on successful operation of 400,000 volt transformer.
418	13 Sept 1810	C.R. Richards, Dean, U. of Nebraska to C.P. Steinmetz. Seeks recommendation for head of department of Electrical Engineering. Handwritten on letter. "C.W. Stone?"
419	13 Sept 1910	C.P. Steinmetz to E.W. Rice. "Confidential." Possible return of "Mr. Hobart" to GE. "I would very much like to see Hobart return to my department." His role would be as a "first class designing engineer" correlating GE apparatus designs, which have become uncorrelated. "We have not educated any designing engineers in our company in the last ten years."
420-424	13 Sept 1910	C.P. Steinmetz to E.W. Rice, Confidential. Regarding high voltage insulating materials. "A few days ago I had a lengthy conversation with Mr. Edison regarding insulting materials suited for very high voltages.... Mr. Edison stated to me the only material which is considers [sic] suitable for this purpose are the formaldehyde condensation products, of which one has been introduced recently under the name bakelite." Edison has extensively investigated these materials "as he intends to use them for phonograph cylinders." Much technical detail, including patent considerations, follows.

425	13 Sept 1910	C.P. Steinmetz to W.R. Whitney, GE Research Lab. Attaches letter to Rice above and seeks more information on bakelite type materials.
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