

## ALBUM PAPER CIRCUITS AND PRIMARY SOURCES

### Album Description

The importance of electricity and how it changed the way we live cannot be overlooked. Have students explore the impacts on society and the implications.

If learning about electricity or circuits, creating paper circuits is a hands-on way for students to explore the topic. Connect it to primary sources by having students choose a primary source to illuminate, or light up. The initial activity was created at the holiday season and provided an opportunity to light up the first National Christmas tree. Students would not only learn about the tradition of the National Christmas tree but also get the chance to flip the switch with a paper circuit in the background. This same idea could be used to light up primary sources that highlight the importance of the electric lamp. The ideas are endless!

3 - 5 Science Technology Engineering

## ELECTRIC TOWER



**Reference Link:** <http://www.loc.gov/item/93510725/>

**Summary:** Tower lit up at night.

**Contributor Names:** Arnold, C. D. (Charles Dudley), 1844-, photographer

**Created / Published:** c1901.

**Subject Headings:** - Pan-American Exposition--(1901 :--Buffalo, N.Y.)--Buildings

- Exhibitions--New York (State)--Buffalo--1900-1910

- Night

**Notes:** - No. 516.

**Repository:** Digital Id: [cph 3b39706](http://hdl.loc.gov/loc.pnp/cph.3b39706) //hdl.loc.gov/loc.pnp/cph.3b39706

**IBM, "EVERY MAN WITH AN IDEA HAS AT LEAST TWO OR THREE FOLLOWERS"  
BROOKS ATKINSON**



**Reference Link:** <http://www.loc.gov/item/2015646143/>

**Summary:** Poster shows butterflies and moths hovering around a light bulb.

**Contributor Names:** White, Ken, artist

**Created / Published:** [United States] : [publisher not identified], [1974]

**Subject Headings:** - International Business Machines Corporation

**Genre:** Posters--American--1970-1980

**Notes:** - Title from item.

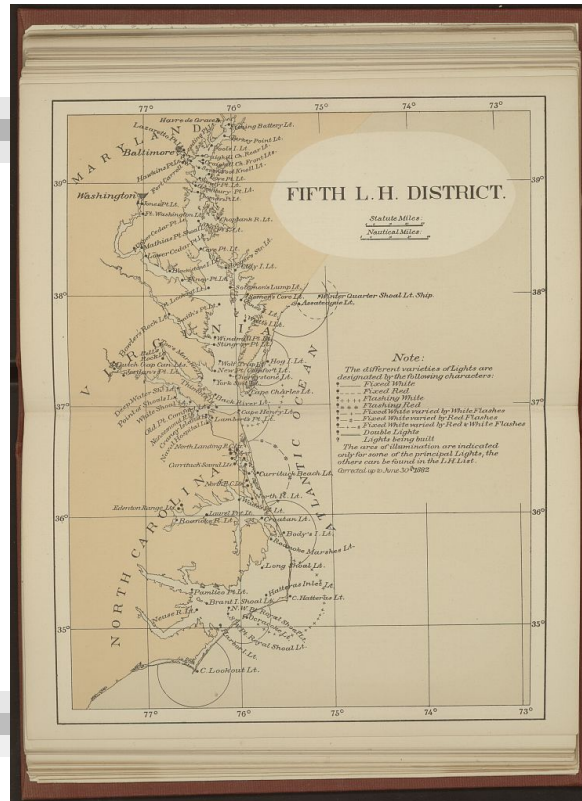
- Signed: Ken White (signed in pencil).
- Forms part of the Artist poster filing series (Library of Congress)
- Promotional goal: U.S. C33. 1974 and U.S. F22. 1974
- Management Development series.
- Gift; American Art Museum.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

**Digital Id:** ppmsca 43572 //hdl.loc.gov/loc.pnp/ppmsca.43572

## FIFTH L[IGHT] H[OUSE] DISTRICT



**Reference Link:** <http://www.loc.gov/item/2005688354/>

**Summary:** Mid-Atlantic coast map featuring light house locations In Maryland, Virginia, and North Carolina, with mileage scales and symbols for different varieties of lights.

**Created / Published:** 1882.

**Subject Headings:** - Lighthouses--1880-1890

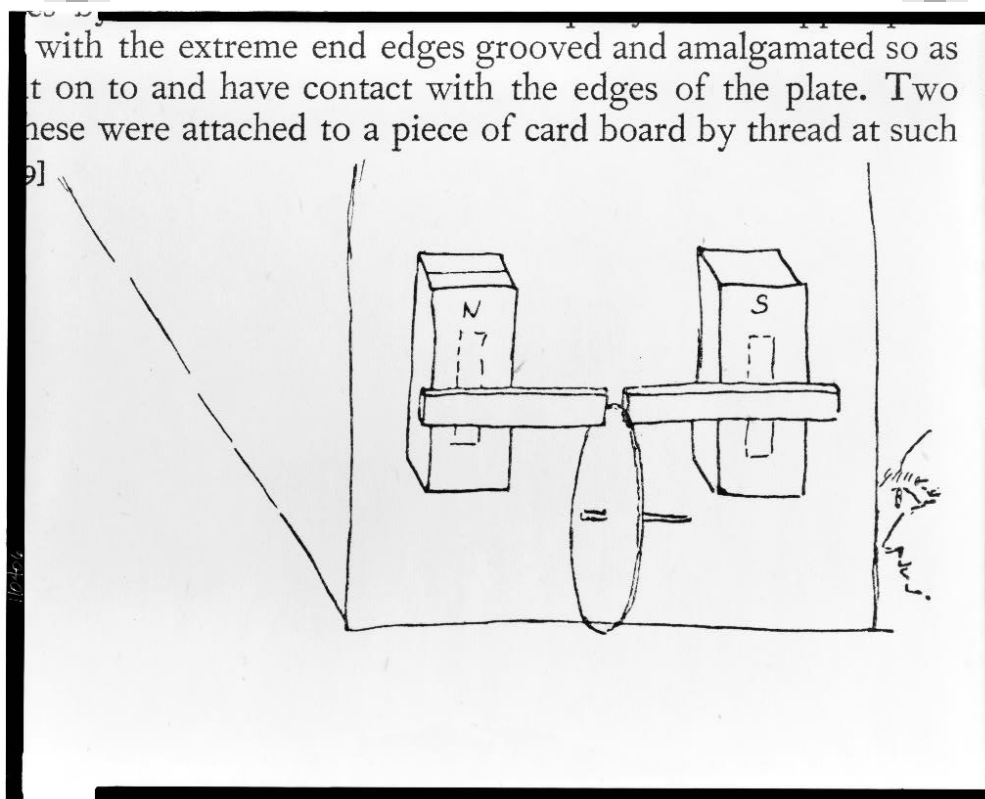
**Notes:** - Illus. in: Report of the U.S. Light-House Board, 1882, after p. 32.

- Title from item.

**Repository:** Library of Congress Washington, D.C. 20540 USA

**Digital Id:** ppmsca 09354 //hdl.loc.gov/loc.pnp/ppmsca.09354

**[SKETCH BY MICHAEL FARADAY, IN HIS DIARY, OF AN ELECTRIC GENERATOR]**



**Reference Link:** <http://www.loc.gov/item/2006691781/>

Contributor Names: Faraday, Michael, 1791-1867.

Martin, Thomas, 1893-, ed

Created / Published: [1932]

Subject Headings: - Electric generators--1830-1840

Notes: - Title devised by Library staff.

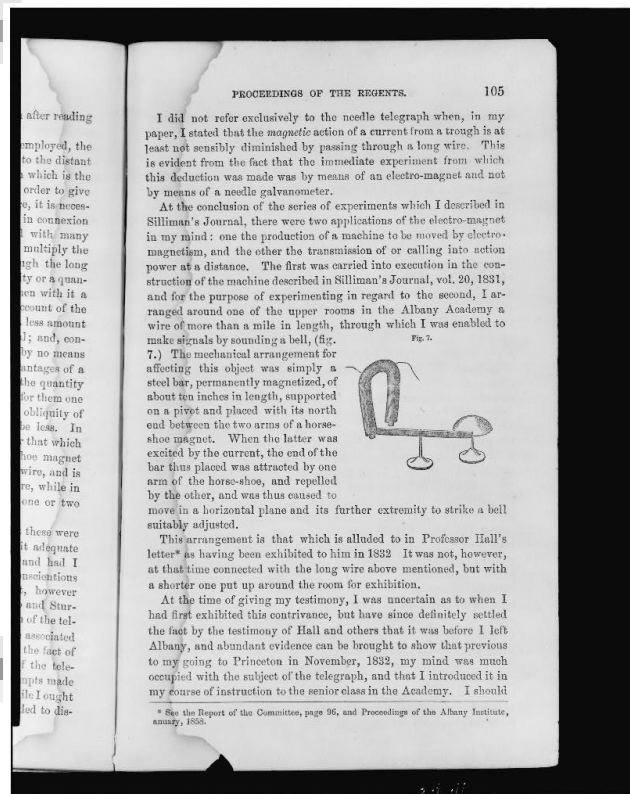
- Illus. in: Faraday's diary / printed and published for the first time, under the editorial supervision of Thomas Martin.... London : Bell, 1932, vol. 1.

- Published in: The tradition of technology : Landmarks of Western technology ... / Leonard C. Bruno. Washington, D.C. : Library of Congress, 1995, p. 233.

Repository: Library of Congress Washington, D.C. 20540 USA

Digital Id: [cph 3c10406 //hdl.loc.gov/loc.pnp/cph.3c10406](http://hdl.loc.gov/loc.pnp/cph.3c10406)

**[ELECTROMAGNETISM DESCRIBED AND ILLUSTRATED (WITH HORSESHOE MAGNET, ROD, AND BELL) ON A PAGE FROM THE ANNUAL REPORT BY THE FIRST SECRETARY OF THE SMITHSONIAN INSTITUTION]**



**Reference Link:** <http://www.loc.gov/item/2006691783/>

**Contributor Names:** Henry, Joseph, 1797-1878.

**Created / Published:** [1858]

**Subject Headings:** - Electromagnetism--1830-1840

- Magnets--1830-1840

- Telegraph--1830-1840

- Electricity--1830-1840

**Notes:** - Title devised by Library staff.

- Illus. in: Annual report of the Board of Regents of the Smithsonian Institution...for the year 1857.

Washington : The Institution, 1858, p. 105.

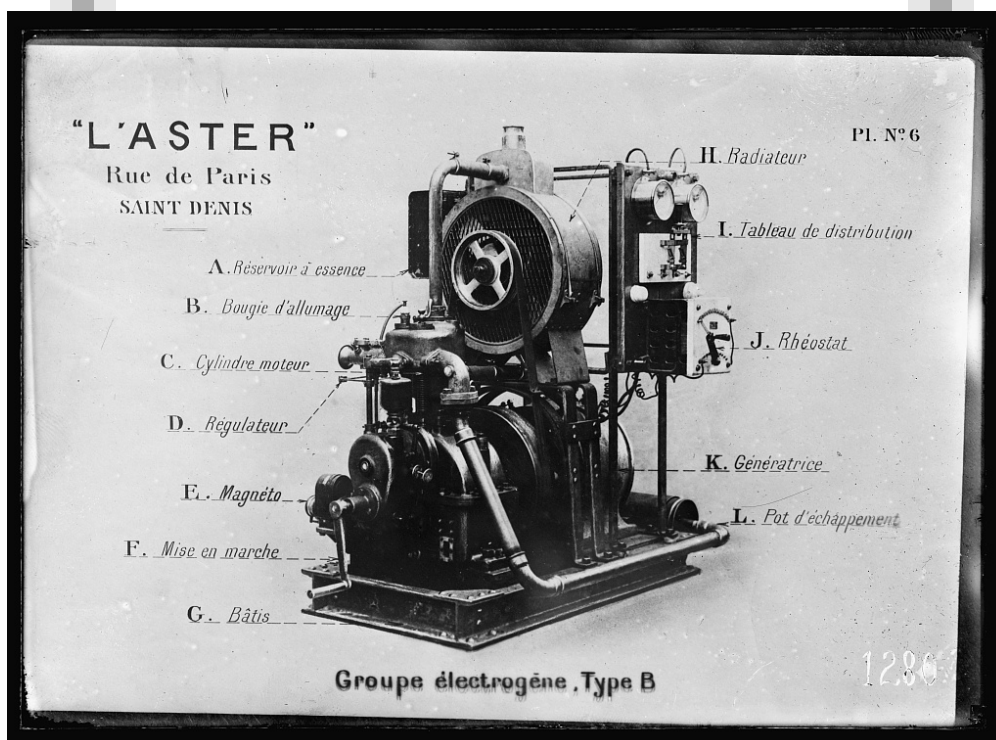
- Published in: The tradition of technology : Landmarks of Western technology ... / Leonard C. Bruno.

Washington, D.C. : Library of Congress, 1995, p. 236.

**Repository:** Library of Congress Washington, D.C. 20540 USA

**Digital Id:** cph 3c10408 //hdl.loc.gov/loc.pnp/cph.3c10408

## ELECTRIC DYNAMO



**Reference Link:** <http://www.loc.gov/item/2017681092/>

Created / Published: [between 1914 and 1920]

Subject Headings: - American Red Cross

- France

Genre: Glass negatives

Notes: - Dynamo used by the American Red Cross.

- Title and notes from Red Cross caption card.

- Group title: Hospital supplies. U.S. France.

- On caption card: (1280)

- Date based on date range for negative series.

- Gift; American National Red Cross 1944 and 1952.

- General information about the American National Red Cross photograph collection is available at

<http://hdl.loc.gov/loc.pnp/pp.anrc>

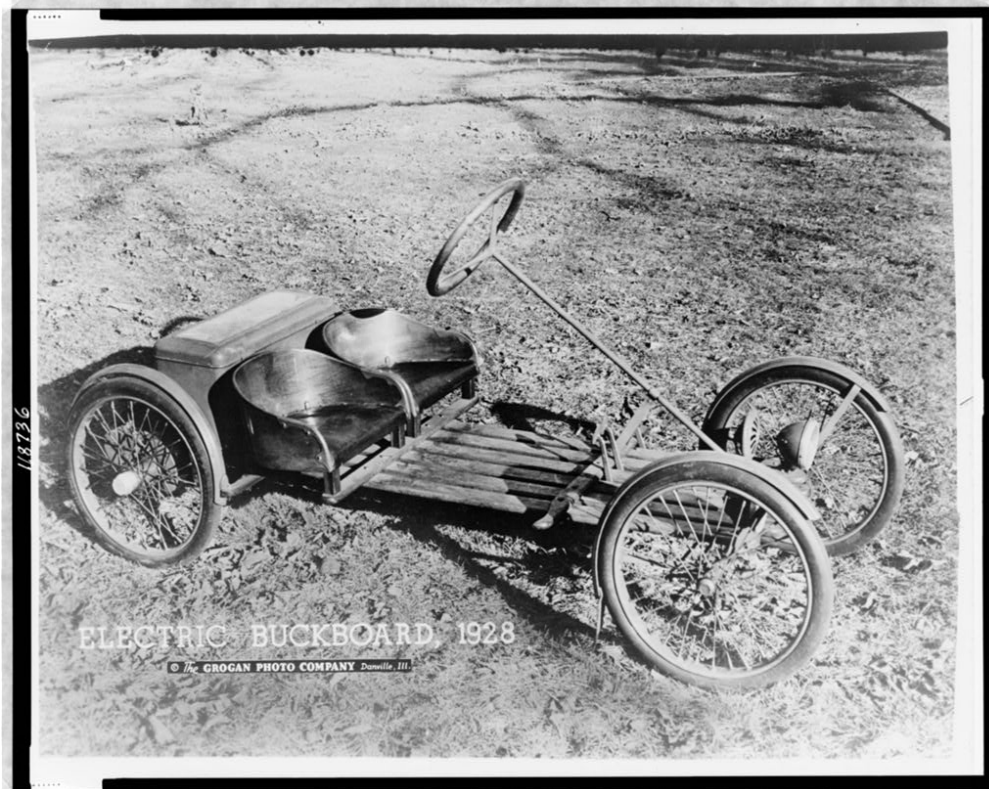
- Temp note: Batch 31

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: anrc 16088 //hdl.loc.gov/loc.pnp/anrc.16088

## ELECTRIC BUCKBOARD, 1928



**Reference Link:** <http://www.loc.gov/item/97511397/>

**Summary:** Small, four-wheeled vehicle with two seats.

**Created / Published:** c1944.

**Subject Headings:** - Electric automobiles--American--1920-1930

**Notes:** - J36872 U.S. Copyright Office.

- Photograph by the Grogan Photo Company.

- Copyright by the Grogan Photo Company, Danville, Ill.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

**Digital Id:** cph 3c18736 //hdl.loc.gov/loc.pnp/cph.3c18736



## DETROIT ELECTRIC (STA.)



**Reference Link:** <http://www.loc.gov/item/2016822581/>

Created / Published: [between 1921 and 1922]

Genre: Glass negatives

Notes: - Title from unverified data provided by the National Photo Company on the negative or negative sleeve.

- Date from negatives in same range.

- Gift; Herbert A. French; 1947.

- General information about the National Photo Company collection is available at

<http://hdl.loc.gov/loc.pnp/pp.npc>

- This glass negative might show streaks and other blemishes resulting from a natural deterioration in the original coatings.

- Temp. note: Batch five.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: npcc 21279 //hdl.loc.gov/loc.pnp/npcc.21279

## SCHNEIDER ELECTRIC STORE. INTERIOR



**Reference Link:** <http://www.loc.gov/item/2016861894/>

Contributor Names: Harris & Ewing, photographer

Created / Published: [between 1905 and 1945]

Genre: Glass negatives

Notes: - Title from unverified caption data received with the Harris & Ewing Collection.

- Date span based on active dates of Harris & Ewing, Inc.

- Portrait series.

- Gift; Harris & Ewing, Inc. 1955.

- General information about the Harris & Ewing Collection is available at <http://hdl.loc.gov/loc.pnp/pp.hec>

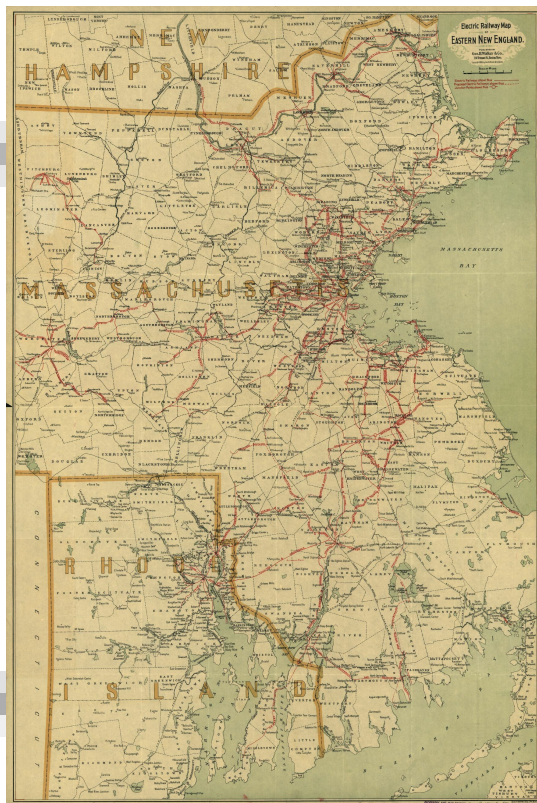
- Temp. note: Batch four.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: [hec 20848 //hdl.loc.gov/loc.pnp/hec.20848](http://hdl.loc.gov/loc.pnp/hec.20848)

## ELECTRIC RAILWAY MAP OF EASTERN NEW ENGLAND.



**Reference Link:** <http://www.loc.gov/item/98688386/>

**Summary:** Outline map showing townships, cities and towns, and existing and proposed electric railroads in red. Includes names of lines and junction points.

**Contributor Names:** Geo. H. Walker & Co.

**Created / Published:** Boston, 1898.

**Subject Headings:** - Electric railroads--New England--Maps

- United States--New England

**Notes:** - Scale ca. 1:200,000.

- LC Railroad maps, 113

- Description derived from published bibliography.

- Available also through the Library of Congress Web site as a raster image.

**Repository:** Library of Congress Geography and Map Division Washington, D.C. 20540-4650 USA dcu

**Digital Id:** <http://hdl.loc.gov/loc.gmd/g3721p.rr001130>

## FORD MOTOR CO. OLD ELECTRIC



**Reference Link:** <http://www.loc.gov/item/2016826685/>

Created / Published: [between 1918 and 1928]

Genre: Glass negatives

Notes: - Title from unverified data provided by the National Photo Company on the negative or negative sleeve.

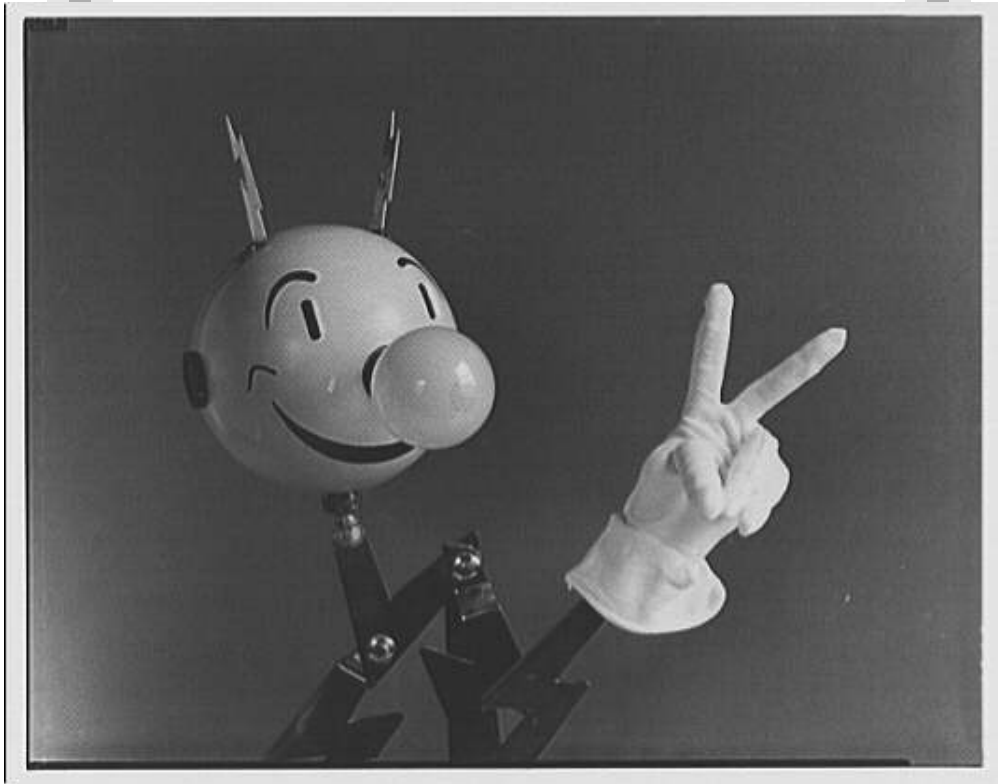
- Date from negatives in same range.
- Gift; Herbert A. French; 1947.
- General information about the National Photo Company collection is available at <http://hdl.loc.gov/loc.pnp/pp.npc>
- This glass negative might show streaks and other blemishes resulting from a natural deterioration in the original coatings.
- Temp. note: Batch seven.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: npcc 33443 //hdl.loc.gov/loc.pnp/npcc.33443

## POTOMAC ELECTRIC POWER CO. REDDY KILOWATT



**Reference Link:** <http://www.loc.gov/item/thc1995009776/PP/>

Contributor Names: Horydczak, Theodor, approximately 1890-1971, photographer

Created / Published: ca. 1920-ca. 1950.

Subject Headings: - Public utility companies.

- United States--District of Columbia--Washington (D.C.)

- District Of Columbia--Washington (D.C.)

Notes: - Titles devised.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [thc 5a44463](https://hdl.loc.gov/loc.pnp/thc.5a44463) //hdl.loc.gov/loc.pnp/thc.5a44463

## ELECTRIC INSTITUTE OF WASHINGTON. CHRISTMAS TREE I



**Reference Link:** <http://www.loc.gov/item/thc1995003450/PP/>

Contributor Names: Horydczak, Theodor, approximately 1890-1971, photographer

Created / Published: 1940.

Subject Headings: - Christmas trees.

- Commercial organizations.

- United States--District of Columbia--Washington (D.C.)

- District Of Columbia--Washington (D.C.)

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [thc 5a40675](https://hdl.loc.gov/loc.pnp/thc.5a40675) //hdl.loc.gov/loc.pnp/thc.5a40675

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## **ELECTRICITY AND PRIMARY SOURCES: ENGAGING SECOND GRADERS BLOG**

### **Teaching Notes:**

Electricity and Primary Sources: Engaging Second Graders

## ELECTRIC CARS.



**Reference Link:** <http://www.loc.gov/item/2018654087/>

**Contributor Names:** Trikosko, Marion S., photographer

**Created / Published:** 1974 February 18.

**Genre:** Film negatives--1970-1980

**Notes:** - Title and date from log book.

- Contact sheet available for reference purposes: USN&WR COLL - Job no. 29216, frame 7A.

- Forms part of: U.S. News & World Report Magazine Photograph Collection.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

**Digital Id:** ppmsca 55466 //hdl.loc.gov/loc.pnp/ppmsca.55466



# POTOMAC ELECTRIC POWER CO. MISCELLANEOUS. POTOMAC ELECTRIC POWER CO. ADVERTISEMENT



**Reference Link:** <http://www.loc.gov/item/thc1995001283/PP/>

Contributor Names: Horydczak, Theodor, approximately 1890-1971, photographer

Created / Published: ca. 1920-ca. 1950.

Subject Headings: - Advertising.

- Public utility companies.
- United States--District of Columbia--Washington (D.C.)
- District Of Columbia--Washington (D.C.)

Notes: - Item title devised.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [thc 5a39630](https://hdl.loc.gov/loc.pnp/thc.5a39630) //hdl.loc.gov/loc.pnp/thc.5a39630

## POTOMAC ELECTRIC POWER CO. ELECTRIC APPLIANCES. APPLIANCES MONTAGE II



**Reference Link:** <http://www.loc.gov/item/thc1995003661/PP/>

Contributor Names: Horydczak, Theodor, approximately 1890-1971, photographer

Created / Published: ca. 1920-ca. 1950.

Subject Headings: - Appliances.

- Public utility companies.

- United States--District of Columbia--Washington (D.C.)

- District Of Columbia--Washington (D.C.)

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [thc 5a48575](https://hdl.loc.gov/loc.pnp/thc.5a48575) //hdl.loc.gov/loc.pnp/thc.5a48575

## IS THERE LIFE ON EARTH? : NOTE

IDEAS RIDING: 28 September 1964  
IS THERE LIFE ON EARTH?

Data from Mr. J. Ward, Pacific Gas and Electric Co., 9 July 1959,  
on the output of shaded street lights in California towns, not  
counting highways and freeways:

(The units are lumens; one lumen = 0.0015 watts)

Oakland: 90 million  
Emeryville: 3.5 million  
Piedmont: 2.5 million  
Berkeley: 22 million  
Richmond: 15 million  
San Leandro: 12 million

**Reference Link:** <http://www.loc.gov/item/cosmos000088/>

**Contributor Names:** Sagan, Carl (Author)

**Subject Headings:** - Sagan, Carl

- Ideas riding  
- California

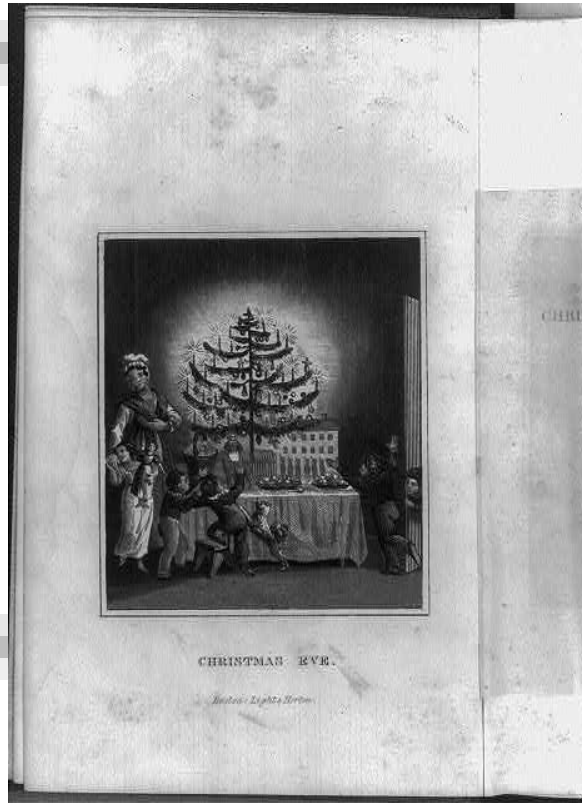
- Light  
- Manuscripts

**Genre:** Manuscripts

**Notes:** - In this document, Carl Sagan describes the lumens (a unit of measure for visible light) given off by various cities in California. From Carl Sagan's "ideas riding" files, a play on "ideas writing." These files contain a running set of initial concepts for various writing projects.

**Repository:** Manuscript Division

**[TITLE PAGE AND FRONTIS. OF THE STRANGER'S GIFT, BOSTON, 1836 (HERMANN BOKUM, ED.): FRONTIS, SHOWING CHILDREN AROUND TREE LIGHTED WITH CANDLES ON TABLE FULL OF TOYS; TITLED "CHRISTMAS EVE"]**



**Reference Link:** <http://www.loc.gov/item/2005693210/>

Created / Published: 1836.

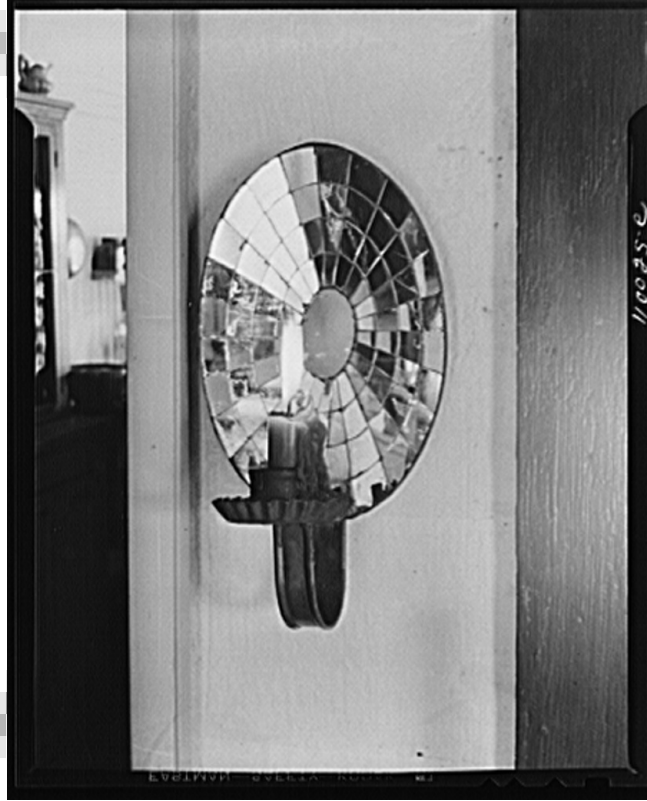
Notes: - Illus. in: The Stranger's Gift, Boston, 1836, frontis.

- Reference copy may be in LOT 4446.
- This record contains unverified, old data from caption card.
- Caption card tracings: BI Works; Holidays; RBD; Shelf.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [cph 3b06632](http://hdl.loc.gov/loc.pnp/cph.3b06632) //hdl.loc.gov/loc.pnp/cph.3b06632

**DETROIT, MICHIGAN (VICINITY). OLD STYLE CANDLE LIGHT REFLECTORS MADE OUT OF PIECES OF MIRROR ARRANGED TO FORM A PARABOLA**



**Reference Link:** <http://www.loc.gov/item/2017826056/>

Contributor Names: Siegel, Arthur S., photographer

Created / Published: 1942 July.

Subject Headings: - United States--Michigan--Wayne County--Detroit

Genre: Safety film negatives

Notes: - Title and other information from caption card.

- Transfer; United States. Office of War Information. Overseas Picture Division. Washington Division; 1944.

- More information about the FSA/OWI Collection is available at <http://hdl.loc.gov/loc.pnp/pp.fsaowi>

- Temp. note: usf34batch9

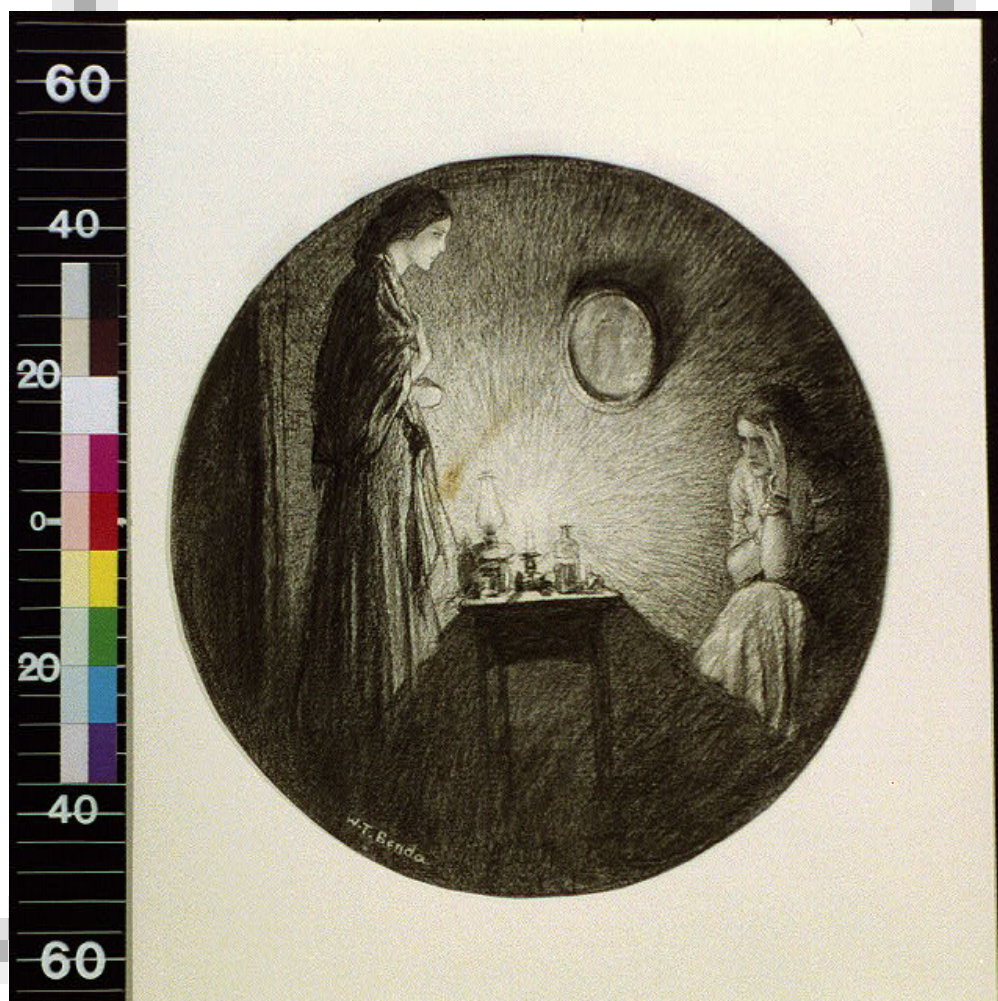
- Film copy on SIS roll 14, frame 834.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: fsa 8c28569 //hdl.loc.gov/loc.pnp/fsa.8c28569

[TWO WOMEN BY SMALL TABLE LIGHTED BY CANDLE]



**Reference Link:** <http://www.loc.gov/item/2010715072/>

Contributor Names: Benda, Wladyslaw T. (Wladyslaw Theodore), 1873-1948., artist

Created / Published: [between 1890 and 1934]

Subject Headings: - Interiors

- Lamps
- Lightning
- Women

Notes: - Title devised by cataloger.

- No publication information.

- (DLC/PP-1934:0056).

- Forms part of: Cabinet of American illustration (Library of Congress).

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: cai 2a11672 //hdl.loc.gov/loc.pnp/cai.2a11672

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## AARON COPLAND BY CANDLELIGHT, STUDIO IN THE BERKSHIRES, SEPTEMBER, 1946



**Reference Link:** <http://www.loc.gov/item/copland.phot0017/>

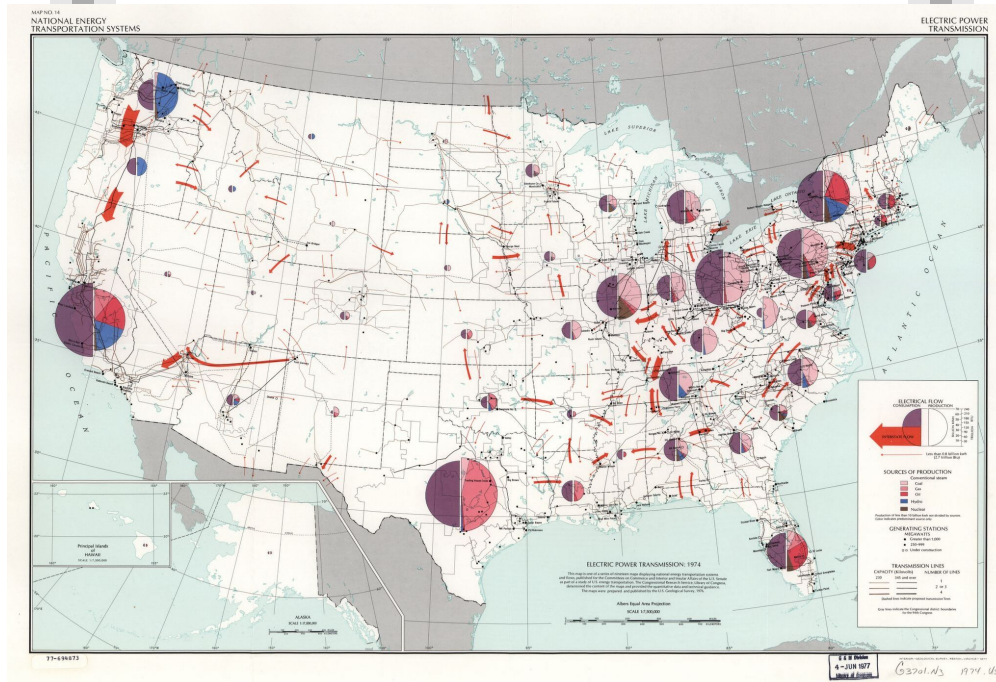
Contributor Names: Kraft, Victor (creator)

Genre: Photographs

Repository: Music Division, Library of Congress



## ELECTRIC POWER TRANSMISSION: 1974.



**Reference Link:** <http://www.loc.gov/item/77694873/>

**Contributor Names:** Geological Survey (U.S.)

**Created / Published:** Reston, Va., 1976.

**Subject Headings:** - Electric power transmission--United States--Maps

- United States

**Notes:** - Scale 1:7,500,000.

- Title in upper margin: Electric power transmission.

- "Albers equal area projection."

- "This map is ... published for the Committees on Commerce and Interior and Insular Affairs of the U.S. Senate as part of a study of U.S. energy transportation. The Congressional Research Service, Library of Congress, determined the content of the maps and provided the quantitative data and technical guidance."

- Includes insets of Alaska and Hawaii.

- Available also through the Library of Congress Web site as a raster image.

- AACR2: 110; 650

**Repository:** Library of Congress Geography and Map Division Washington, D.C. 20540-4650 USA dcu

**Digital Id:** <http://hdl.loc.gov/loc.gmd/g3701n.ct001098>



## THE RATHDRUM TRIBUNE., MARCH 23, 1906, IMAGE 1



### Reference Link:

[https://chroniclingamerica.loc.gov/lccn/sn88056093/1906-03-23/ed-1/seq-](https://chroniclingamerica.loc.gov/lccn/sn88056093/1906-03-23/ed-1/seq-1/#date1=1789&sort=date&rows=20&words=Lake+lake+Oreille+Pend&searchType=basic&sequence=0&index=11)

[1/#date1=1789&sort=date&rows=20&words=Lake+lake+Oreille+Pend&searchType=basic&sequence=0&index=11](https://chroniclingamerica.loc.gov/lccn/sn88056093/1906-03-23/ed-1/seq-1/#date1=1789&sort=date&rows=20&words=Lake+lake+Oreille+Pend&searchType=basic&sequence=0&index=11)

Newspaper: The Rathdrum tribune. (Rathdrum, Idaho) 1903-1963

Newspaper Link: <https://chroniclingamerica.loc.gov/lccn/sn88056093/1906-03-23/ed-1/seq-1/#date1=1789&sort=date&rows=...>

Image provided by: Idaho State Historical Society

PDF Link: <https://chroniclingamerica.loc.gov/lccn/sn88056093/1906-03-23/ed-1/seq-1.pdf>

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## **ILLUMINATING PRIMARY SOURCES WITH ELECTRIC LIGHTS - BLOG**

### **Teaching Notes:**

<http://blogs.loc.gov/teachers/2019/06/illuminating-primary-sources-with-electric-lights/>

## FRANKLIN'S EXPERIMENT WITH THE KITE



**Reference Link:** <http://www.loc.gov/item/89709410/>

**Summary:** Benjamin Franklin and another man flying kite from doorway.

**Contributor Names:** Mills, Charles E., artist

**Created / Published:** c1911.

**Subject Headings:** - Franklin, Benjamin,--1706-1790

- Experiments--1750-1760

- Electricity--1750-1760

**Notes:** - G36759-60 U.S. Copyright Office.

- Reproduction of painting by Charles E. Mills.

**Repository:** Digital Id: cph 3b42841 //hdl.loc.gov/loc.pnp/cph.3b42841

## NATIONAL CHRISTMAS TREE ON THE NATIONAL MALL IN WASHINGTON, D.C.



### Teaching Notes:

Use at the holidays for lighting the National Christmas tree.

**Reference Link:** <http://www.loc.gov/item/2011632159/>

**Summary:** Photo shows the National Christmas Tree on the Ellipse of the White House, with the Washington Monument in the background.

**Contributor Names:** Highsmith, Carol M., 1946-, photographer

**Created / Published:** [1997]

**Subject Headings:** - Christmas Trees--Washington (D.C.)--1990-2000

- United States--District of Columbia--Washington (D.C.)

- America

**Genre:** Transparencies--Color--1990-2000

**Notes:** - Digital image produced by Carol M. Highsmith to represent her original film transparency; some details may differ between the film and the digital images.

- Title and keywords provided by the photographer. Date based on other photos of the 1997 National Christmas Tree.

- Credit line: Photographs in the Carol M. Highsmith Archive, Library of Congress, Prints and Photographs Division.

- Gift and purchase; Carol M. Highsmith; 2011; (DLC/PP-2011:124).

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[https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps\\_logo-1.png](https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps_logo-1.png)

- Forms part of the Selects Series in the Carol M. Highsmith Archive.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: highsm 13965 //hdl.loc.gov/loc.pnp/highsm.13965

**THE NATIONAL CHRISTMAS TREE PRESENTED TO PRESIDENT COOLIDGE BY MIDDLEBURY COLLEGE AS A GIFT FROM HIS HOME STATE HAS BEEN SET UP IN WASH. D.C. IMMEDIATELY BEHIND THE WHITE HOUSE**



**Teaching Notes:**

Students can light up the first National Christmas tree and learn about the importance of having electric lights on Christmas trees.

**Reference Link:** <http://www.loc.gov/item/98518085/>

Summary: Undecorated Christmas tree, with White House in background.

Created / Published: 1923.

Subject Headings: - White House (Washington, D.C.)--1920-1930

- Christmas trees--Washington (D.C.)--1920-1930

Notes: - National Photo Company Collection (Library of Congress).

- In album: LOT 12295, v. 9, p. 21.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: cph 3c22222 //hdl.loc.gov/loc.pnp/cph.3c22222

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## **NATIONAL CHRISTMAS TREE CARD PAPER CIRCUIT.DOCX**

### **Teaching Notes:**

Put the primary source in the format of a card to make it easier to close the circuit.

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[https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps\\_logo-1.png](https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps_logo-1.png)

## **VIDEO OF PAPER CIRCUIT INSTRUCTIONS FOR NATIONAL CHRISTMAS TREE PROJECT**

### **Teaching Notes:**

<https://animoto.com/play/3yz4SwMoQN7Ckmoq7AYZug>



Image not found

[https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps\\_logo-1.png](https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps_logo-1.png)

## **PAPER CIRCUIT INSTRUCTIONS.DOCX**

### **Teaching Notes:**

Instructions for creating a paper circuit in Word format.

## ELECTRIC INSTITUTE OF WASHINGTON. ADVERTISEMENT FOR THE SUPERIOR LIGHTING QUALITIES OF I.E.S. LAMPS



**Reference Link:** <http://www.loc.gov/item/thc1995005066/PP/>

Contributor Names: Horydczak, Theodor, approximately 1890-1971, photographer

Created / Published: ca. 1920-ca. 1950.

Subject Headings: - Commercial organizations.

- Lamps.
- United States--District of Columbia--Washington (D.C.).
- District Of Columbia--Washington (D.C.)

Notes: - Item title devised.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [thc 5a44182](https://hdl.loc.gov/loc.pnp/thc.5a44182) //hdl.loc.gov/loc.pnp/thc.5a44182

## ELECTRIC INSTITUTE OF WASHINGTON. COPY OF LEISURE WITH ELECTRICITY ADVERTISEMENT



**Reference Link:** <http://www.loc.gov/item/thc1995003571/PP/>

Contributor Names: Horydczak, Theodor, approximately 1890-1971, photographer

Created / Published: 1946 Aug. 8.

Subject Headings: - Appliances.

- Commercial organizations.
- United States--District of Columbia--Washington (D.C.)
- District Of Columbia--Washington (D.C.)

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [thc 5a40783](http://hdl.loc.gov/loc.pnp/thc.5a40783) //hdl.loc.gov/loc.pnp/thc.5a40783

## ELECTRICITY & ELECTRIC APPLIANCES



**Reference Link:** <http://www.loc.gov/item/99402580/>

**Summary:** Photograph of painting(?), pertaining to the invention of electricity, showing globe, cherubs, and other mythological people on ship.

**Created / Published:** c1892.

**Subject Headings:** - Electricity--1890-1900

- Inventions--1890-1900

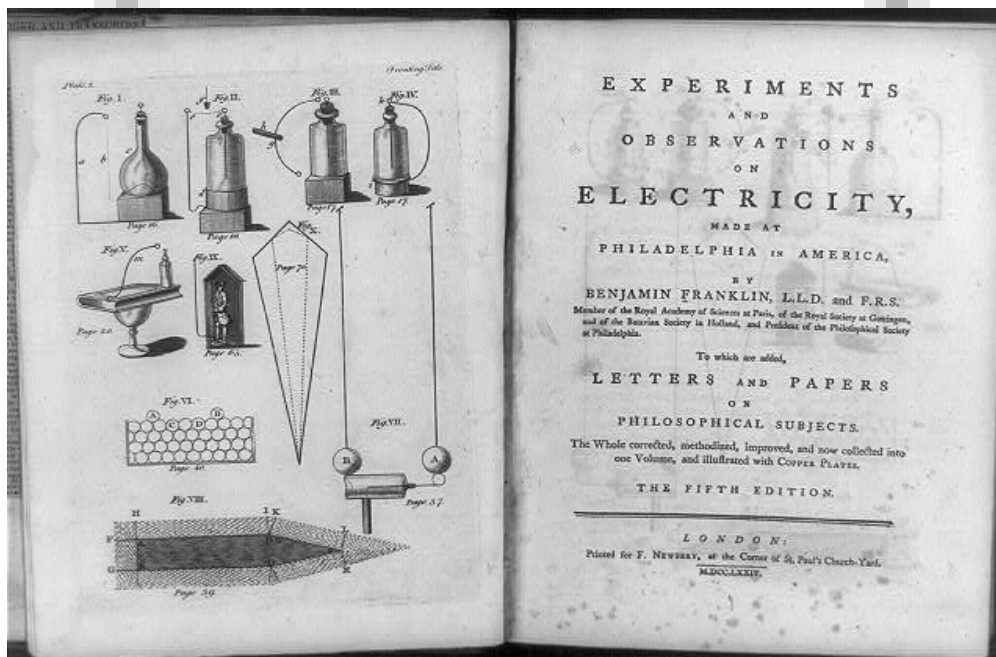
**Notes:** - 11947X U.S. Copyright Office.

- Copyright by Edward Carqueville.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

**Digital Id:** cph 3c22823 //hdl.loc.gov/loc.pnp/cph.3c22823

**[DIAGRAMS OF VARIOUS ELECTRICAL PHENOMENA AND TITLE PAGE OF  
EXPERIMENTS AND OBSERVATIONS ON ELECTRICITY]**



**Reference Link:** <http://www.loc.gov/item/92518851/>

Created / Published: [published 1774]

Subject Headings: - Scientific equipment--Pennsylvania--Philadelphia--1770-1780

- Experiments--Pennsylvania--Philadelphia--1770-1780

- Electricity--1770-1780

Notes: - Frontispiece and title page in: Experiments and observations of electricity / Benjamin Franklin.

London : Printed for F. Newbery, 1774.

- Published in: The tradition of science / Leonard C. Bruno. Washington, D.C. : Library of Congress, 1987, p. 278.

Repository: Digital Id: [cph 3b41494](https://hdl.loc.gov/loc.pnp/cph.3b41494) //hdl.loc.gov/loc.pnp/cph.3b41494

## NEW JERSEY--THE WIZARD OF ELECTRICITY--THOMAS A. EDISON'S SYSTEM OF ELECTRIC ILLUMINATION



**Reference Link:** <http://www.loc.gov/item/89714482/>

Summary: Six views showing Menlo Park and exterior of Edison's laboratory, and electric light apparatus.  
Created / Published: 1880.

Subject Headings: - Edison, Thomas A.--(Thomas Alva),--1847-1931

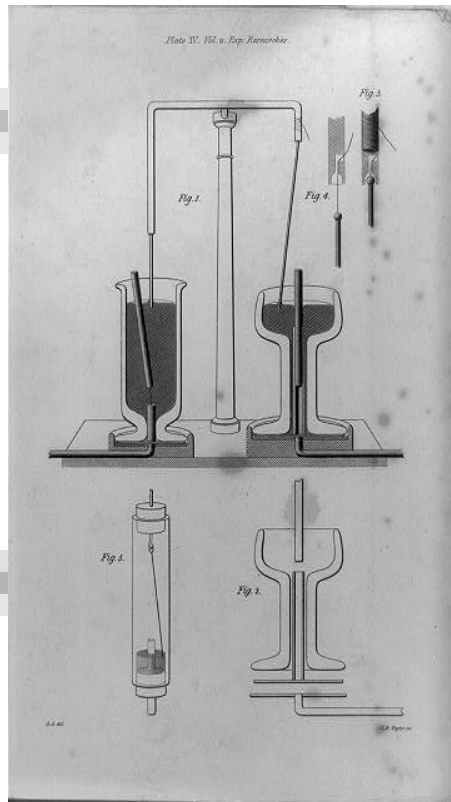
- Electric lighting--New Jersey--Menlo Park--1880

- Laboratories--New Jersey--Menlo Park--1880

Notes: - Illus. in: Frank Leslie's illustrated newspaper, 1880 Jan. 10., p. 353.

Repository: Digital Id: [cph 3b44049](https://hdl.loc.gov/loc.pnp/cph.3b44049) //hdl.loc.gov/loc.pnp/cph.3b44049

**[APPARATUS USED TO CONVERT ELECTRICAL ENERGY INTO MECHANICAL ROTATION, THE BASIS OF DYNAMOS, USING BAR MAGNET, BEAKER OF MERCURY, AND CURRENT CARRYING WIRE] / A.A., DEL. ; J.B. TAYLOR, SC.**



**Reference Link:** <http://www.loc.gov/item/92518976/>

Created / Published: [published between 1839 and 1855]

Subject Headings: - Electricity--1830-1860

- Experiments--England--London--1830-1860

- Magnets--1830-1860

Notes: - Illus. in: Experimental researches in electricity / Michael Faraday. London : R. and J.E. Taylor, 1839-1855, v. 2, pl. 4.

- Published in: The tradition of science / Leonard C. Bruno. Washington, D.C. : Library of Congress, 1987, p. 283.

Repository: Digital Id: [cph 3b41497](http://hdl.loc.gov/loc.pnp/cph.3b41497) //hdl.loc.gov/loc.pnp/cph.3b41497

## [ADVERTISEMENT FOR DYNAMO ELECTRIC MACHINES]

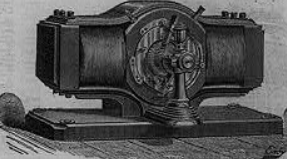
FEB. 23, 1884. THE ELECTRICAL WORLD

**Van Depoele Electric Light Comp'y, THE**  
MANUFACTURE SINGLE AND MULTIPLE CURRENT

**DYNAMO ELECTRIC MACHINES,**  
Electric Lamps, Electric Motors and Electro-Plating Apparatus.  
OWN AND CONTROL THE VAN DEPOELE PATENTS AND SYSTEM.

**Dynamo - Electric Machines,**

RANGING FROM ONE  
TO SIXTY LIGHTS,



SIMPLE  
AND  
DURABLE

FOR THE LIGHTING OF  
Hotels, Stores, Public Buildings, Factories, Railway Stations, Mines,  
Tunnels, Steamships, Streets, Parks and Cities.

**VAN DEPOELE Patent Standard Arc Lamp for Interior and Outside Use.**  
Van Depoele Electric Plants are in use at Cedar Rapids and Decorah, Ia.; Rockford, Freeport,  
Rock Island, Elgin, Bloomington, Sterling and Dixon, Ill.; Moorhead, Crookston and  
Winona, Minn.; Lansing, Mich.; Milwaukee Industrial Exposition Building, and  
also in many other cities. John V. Farwell & Co., Carson, Erie & Co.,  
Sea & Co., Bartis Bros., Sherman House, Clifton House, Thors  
Wire, Hodge Co., Frank Douglas Mfg. Co., Hooley's  
Theatre, Olympic Theatre, Chicago, Ill.; and many  
other Chicago houses, to whom we refer.

Write us, telling exactly what you want, from one light to any number desired; what you  
want to light (dimensions) and where.

ESTIMATES CHEERFULLY MADE.

**VAN DEPOELE ELECTRIC LIGHT CO.**  
GENERAL OFFICES AND WORKS:  
203 VAN BUREN STREET, CHICAGO, ILL., U. S. A.

The Sole  
Brus  
WE F  
and  
THE BE

Reference Link: <http://www.loc.gov/item/2004667802/>

Created / Published: 1884.

Notes: - Illus. in: Electrical World, 1884 Feb. 23.

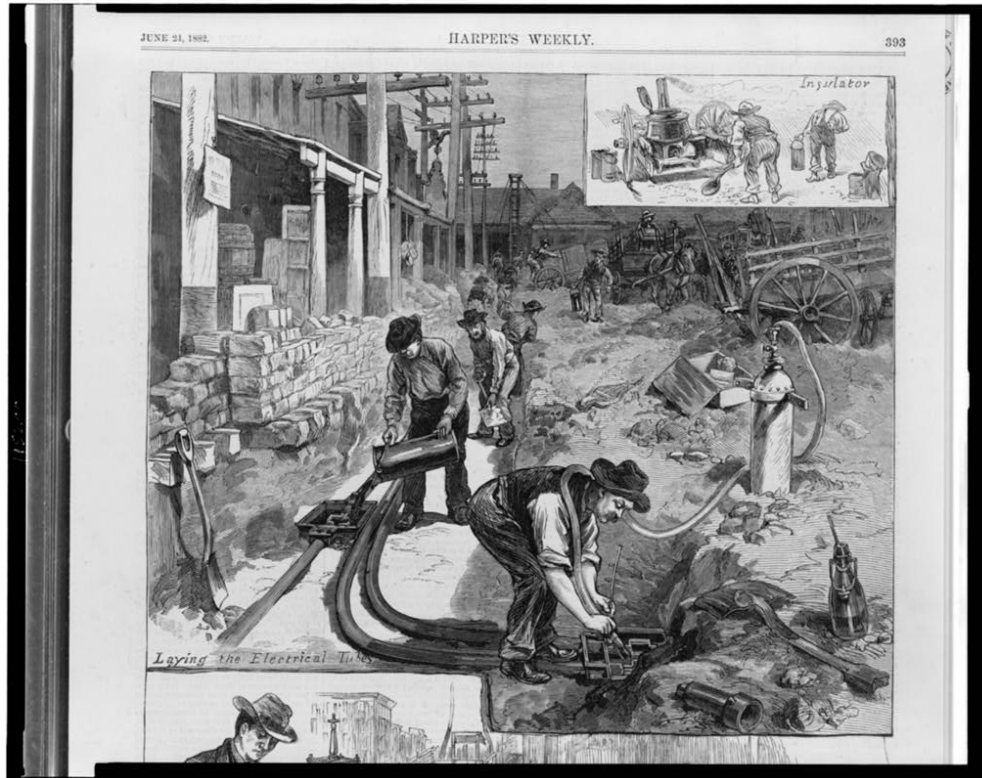
- This record contains unverified, old data from caption card.
- Caption card tracings: Dynamos; Electricity; Adv.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: cph 3b15430 //hdl.loc.gov/loc.pnp/cph.3b15430



**THE ELECTRIC LIGHT IN HOUSES--LAYING THE ELECTRICAL TUBES / DRAWN BY W.P. SNYDER.**



**Reference Link:** <http://www.loc.gov/item/95519933/>

**Summary:** Laying the tubes for electric wires in the streets of New York City.

**Created / Published:** 1882.

**Subject Headings:** - Electricity--New York (State)--New York--1880-1890

**Notes:** - Illus. in: Harper's weekly, 1882 June 24, p. 393.

**Repository:** Digital Id: cph 3c15200 //hdl.loc.gov/loc.pnp/cph.3c15200

**[GREAT HALL, VIEW OF GRAND STAIRCASE AND BRONZE STATUE OF FEMALE FIGURE ON NEWEL POST HOLDING A TORCH OF ELECTRIC LIGHT, WITH BUST OF THOMAS JEFFERSON AT RIGHT. LIBRARY OF CONGRESS THOMAS JEFFERSON BUILDING, WASHINGTON, D.C.]**



**Reference Link:** <http://www.loc.gov/item/2007684261/>

Contributor Names: Highsmith, Carol M., 1946-, photographer

Created / Published: 2007.

Subject Headings: - Library of Congress Thomas Jefferson Building (Washington, D.C.)--2000-2010

- Stairways--Washington (D.C.)--2000-2010

- Sculpture--Washington (D.C.)--2000-2010

- Architectural decorations & ornaments--Washington (D.C.)--2000-2010

Notes: - Exhibit caption: "Celebration of Electricity. The importance of electricity is celebrated throughout the Jefferson Building. A bust of Benjamin Franklin is placed outside the central window of the Jefferson Building. Franklin was not only a statesman but also a scientist who made important discoveries about electricity. When the building was completed in 1897, the United States was eager to celebrate many American inventions made practicable by scientific advances relating to electricity. These include the telegraph, the telephone, electric motors and lighting devices, and the elevator. The bare light bulbs throughout the building show how important the introduction of electric light was to America and this building." (Source: MyLOC.gov Great Hall exhibit, 2008)

- Title devised by Library staff.

- More information about the Highsmith Collection is available at <http://hdl.loc.gov/loc.pnp/pp.highsm>

- Forms part of the Library of Congress Series in the Carol M. Highsmith Archive.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

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[https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps\\_logo-1.png](https://sites.msudenver.edu/tpswesternregion/wp-content/uploads/sites/476/2021/11/tps_logo-1.png)

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: highsm-01961 [//hdl.loc.gov/loc.pnp/highsm.01961](http://hdl.loc.gov/loc.pnp/highsm.01961)



## ILLUMINATIONS ON PENN. AVE. WASH'N. FOR INAUGURATION



**Reference Link:** <http://www.loc.gov/item/2014691472/>

**Summary:** Photo shows night view of Pennsylvania Avenue in Washington, D.C., decorated with electric lights for the first inauguration of President Woodrow Wilson. (Source: Flickr Commons project, 2008)

**Contributor Names:** Bain News Service, publisher

**Created / Published:** 1913 March 3.

**Subject Headings:** - Wash

**Genre:** Glass negatives

**Notes:** - Title and date from data provided by the Bain News Service on the negative.

- Forms part of: George Grantham Bain Collection (Library of Congress).

- General information about the George Grantham Bain Collection is available at

<http://hdl.loc.gov/loc.pnp/pp.ggbain>

- Additional information about this photograph might be available through the Flickr Commons project at

[http://www.flickr.com/photos/library\\_of\\_congress/2616369192](http://www.flickr.com/photos/library_of_congress/2616369192) External

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

**Digital Id:** ggbain 11385 //hdl.loc.gov/loc.pnp/ggbain.11385

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**[COMPOSITE OF HALF LGTH. PORTRAIT OF THOMAS ALVA EDISON AND DRAWINGS OF  
FIRST ELECTRIC LAMP AND U.S. FLAG]**

**Teaching Notes:**

<https://www.loc.gov/item/2002706674/>

## LIGHT THROWN ON A DARK SUBJECT (WHICH IS BAD FOR THE GAS COMPANIES)



**Reference Link:** <http://www.loc.gov/item/2004679729/>

**Summary:** Thomas Edison, with his newly-invented electric light bulb, throws light on the gas company monopoly, personified by 2 men with monstrous gas-meter heads.

**Created / Published:** 1878.

**Notes:** - Illus. in: Puck, 1878 Oct. 23, p. 16.

- Reference copy may be in LOT 9357.

- This record contains unverified, old data from caption card.

- Caption card tracings: Monopolies; Gas; BI; Cartoons, US Oct. 1878; Shelf.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

**Digital Id:** [cph 3b03877](http://hdl.loc.gov/loc.pnp/cph.3b03877) //hdl.loc.gov/loc.pnp/cph.3b03877

**TEST ELECTRIC LIGHT BULBS FOR UNCLE SAM. WASHINGTON, D.C., MARCH 21. PURCHASING ON AN AVERAGE OF 4,000,000 ELECTRIC LIGHT BULBS ANNUALLY, UNCLE SAM IS PROBABLY ONE OF THE LARGEST USERS OF LIGHT IN THE COUNTRY. THE NATIONAL BUREAU OF STANDARDS SEES THAT THE GOVERNMENT GETS VALUE RECEIVED IN PURCHASES BY CONTINUALLY TESTING THE INCANDESCENT LAMPS TO DETERMINE THEIR LIFE AND THE AMOUNT OF LIGHT THEY GIVE. USING A SPECIAL MACHINE DESIGNED BY THE BUREAU, LOUIS BARBROW IS SHOWN MEASURING THE AMOUNT OF LIGHT GIVEN BY A LAMP, 3/21/38**



**Reference Link:** <http://www.loc.gov/item/2016873250/>

Contributor Names: Harris & Ewing, photographer

Created / Published: [19]38 March 21.

Subject Headings: - United States--District of Columbia--Washington (D.C.)

Genre: Glass negatives

Notes: - Title from unverified caption data received with the Harris & Ewing Collection.

- Gift; Harris & Ewing, Inc. 1955.

- General information about the Harris & Ewing Collection is available at <http://hdl.loc.gov/loc.pnp/pp.hec>

- Temp. note: Batch five.

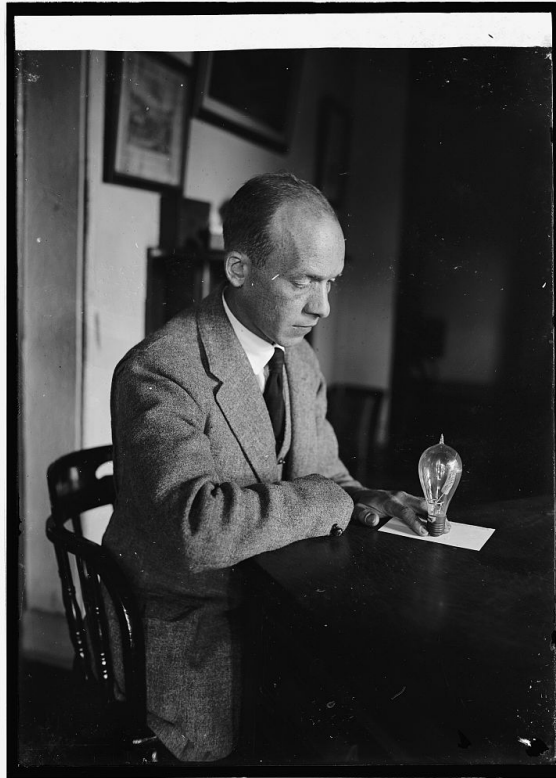
Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: [hec 24279 //hdl.loc.gov/loc.pnp/hec.24279](http://hdl.loc.gov/loc.pnp/hec.24279)



**CARL. W. MITMAN CURATOR OF ENGINEERING AT SMITHSONIAN INSTITUTION WITH  
1ST COLD ELECTRIC LIGHT BULB, 9/6/24**



**Reference Link:** <http://www.loc.gov/item/2016849464/>

Created / Published: [19]24 September 6.

Genre: Glass negatives

Notes: - Title from unverified data provided by the National Photo Company on the negative or negative sleeve.

- Gift; Herbert A. French; 1947.

- General information about the National Photo Company collection is available at  
<http://hdl.loc.gov/loc.pnp/pp.npc>

- This glass negative might show streaks and other blemishes resulting from a natural deterioration in the original coatings.

- Temp. note: Batch six.

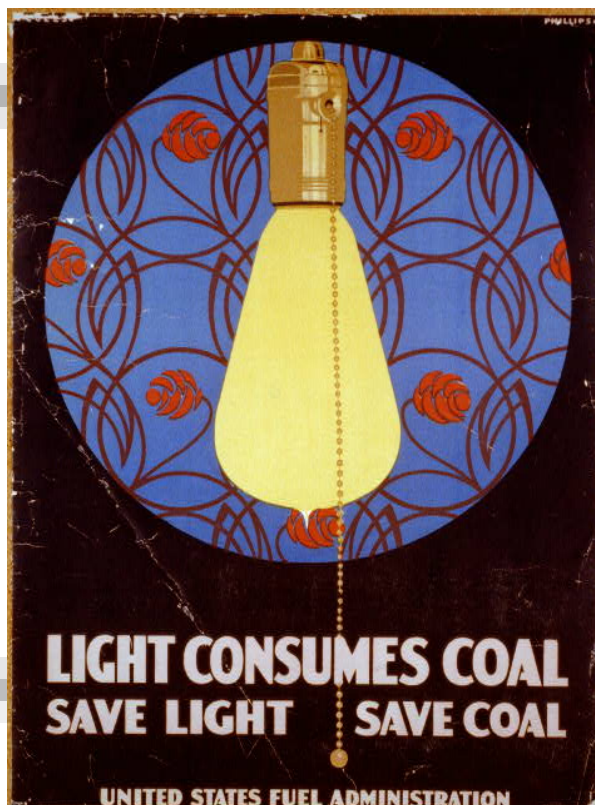
Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

Digital Id: npcc 26130 //hdl.loc.gov/loc.pnp/npcc.26130



**LIGHT CONSUMES COAL - SAVE LIGHT, SAVE COAL UNITED STATES FUEL  
ADMINISTRATION // COLES PHILLIPS ; WARDS & DEUTSCH LITHO. CO. CHICAGO.**



**Reference Link:** <http://www.loc.gov/item/2002712078/>

**Summary:** Poster showing a light bulb in suspended socket with pull-chain.

**Contributor Names:** Phillips, Coles, 1880-1927, artist

**Created / Published:** [1917]

**Subject Headings:** - United States.--Fuel Administration--1910-1920

- World War, 1914-1918--Economic & industrial aspects--United States

- Light bulbs--1910-1920

- Conservation of natural resources--1910-1920

**Notes:** - No. 8.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

**Digital Id:** cph 3b52632 //hdl.loc.gov/loc.pnp/cph.3b52632

**LIGHT - RURAL ELECTRIFICATION ADMINISTRATION / BEALL.**



**Reference Link:** <http://www.loc.gov/item/2010646236/>

**Summary:** Poster shows a large light bulb labeled "Light" in the foreground and a rural farmhouse on the distant horizon with light beaming from its windows; on blocks of blue and red representing the night sky and farmland.

**Contributor Names:** Beall, Lester, 1903-1969, artist

**Created / Published:** [193-]

**Subject Headings:** - United States--Rural Electrification Administration--Public relations

- Light bulbs--United States--1930-1940
- Country life--United States--1930-1940
- Electric lighting--United States--1930-1940

**Genre:** Posters--American--1930-1940

**Prints--Color--1930-1940**

**Notes:** - Title from item.

- Signed in image "Beall" in upper left corner.

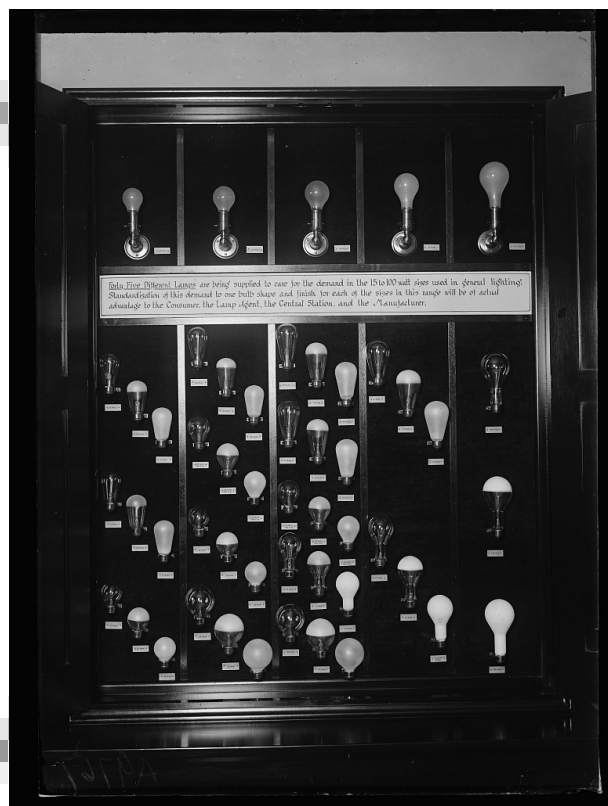
- Exhibited: "Capitol Visitor Center" at the U.S. Capitol, Washington, D.C., 2012-2013.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

**Digital Id:** ppmsca 25374 //hdl.loc.gov/loc.pnp/ppmsca.25374

## [DISPLAY OF DIFFERENT LIGHT BULB SIZES]



**Reference Link:** <http://www.loc.gov/item/2016887695/>

**Contributor Names:** Harris & Ewing, photographer

**Created / Published:** [between 1923 and 1929]

**Subject Headings:** - United States

**Genre:** Glass negatives

**Notes:** - Title devised by Library staff.

- Date based on date of negatives in same range.

- Gift; Harris & Ewing, Inc. 1955.

- General information about the Harris & Ewing Collection is available at <http://hdl.loc.gov/loc.pnp/pp.hec>

- Temp. note: Batch seven.

**Repository:** Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

<http://hdl.loc.gov/loc.pnp/pp.print>

**Digital Id:** [hec 32748](http://hdl.loc.gov/loc.pnp/hec.32748) //hdl.loc.gov/loc.pnp/hec.32748

## ART BROWN AND FAMILY. BROWN FAMILY IN LIVING ROOM I



**Reference Link:** <http://www.loc.gov/item/thc1995004773/PP/>

Contributor Names: Horydczak, Theodor, approximately 1890-1971, photographer

Created / Published: 1937 Mar. 7.

Subject Headings: - Families.

- United States--Virginia.

- Virginia

Notes: - Item title devised.

- Subject card annotation: pictures of family taken on March 7, 1937 for Woman's home companion at their Virginia home.

Repository: Library of Congress Prints and Photographs Division Washington, D.C. 20540 USA

Digital Id: [thc 5a40812](https://hdl.loc.gov/loc.pnp/thc.5a40812) //hdl.loc.gov/loc.pnp/thc.5a40812