Smithsonian Institution Archives

Records, circa 1920s-1970s

Finding aid prepared by Smithsonian Institution Archives

Smithsonian Institution Archives
Washington, D.C.
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Collection Overview

Repository:	Smithsonian Institution Archives, Washington, D.C., *osiaref@si.edu*
Title:	Records
Identifier:	Accession 18-094
Date:	circa 1920s-1970s
Extent:	19 cu. ft. (38 document boxes)
Creator::	Science Service
Language:	English

Administrative Information

Prefered Citation

Smithsonian Institution Archives, Accession 18-094, Science Service, Records

Descriptive Entry

Science Service was established in 1920 through the efforts of the E. W. Scripps Company in collaboration with the American Association for the Advancement of Science (AAAS), the National Academy of Sciences (NAS), and the National Research Council (NRC). In 1919 Scripps had established the American Society for the Dissemination of Science. Unknown to Scripps, the three major scientific organizations were trying to agree on a format and establish a popular science journal. In 1920 Scripps met with representatives of the AAAS, NAS, and NRC in an attempt to pool resources. Out of that meeting came Science Service, a news service designed to popularize science and to disseminate scientific knowledge.

This accession consists of Science Service files that were given to and maintained by the Division of Electricity and Modern Physics (E&MP), National Museum of American History (NMAH), which later became part of the Division of Information Technology and Society and then Division of Work and Industry after that. The files in this collection relate specifically to the subject of electricity. Also covered and related to the subject area of electricity are automobiles, batteries, camera, communications, electric circuits, electric generators, lighting, electric machinery, electric power plants, electric power transmission, electrical engineering, electromagnets, electron microscope, fuel cells, integrated circuits, lasers, phonographs, radio, radio transmission, telephones, and television. Materials include correspondence and memoranda, photographs, news releases, and clippings. Some subjects are listed but the envelopes are missing. A select number of images were digitized and appeared on a Science Service website created and maintained by Nance L. Briscoe, Collections Manager, and later by Harold D. Wallace, Curator, Division of Work and Industry, NMAH. The site has been taken down by NMAH but can still be accessed through Accession 14-071: National Museum of American History, Website Records, 2008-2013, Smithsonian Institution Archives.

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:

Subjects:

Automobiles
Cameras
Communication -- United States
Electric batteries
Electric circuits
Electric generators
Electric lighting
Electric machinery
Electric machines
Electric power production
Electric power systems
Electric power transmission
Electrical engineering
Electricity
Electricity -- History
Electromagnets
Electron microscopes
Electronics
Fuel cells
Integrated circuits
Journalism, Scientific
Lasers
Phonograph
Radio
Radio -- Transmitters and transmission
Science -- History
Telephone
Television

Types of Materials:

Black-and-white photographs
Compact discs
Digital images
Electronic records
Manuscripts

Names:

American Association for the Advancement of Science
American Society for the Dissemination of Science
Briscoe, Nance L.
E.W. Scripps Company
National Academy of Sciences (U.S.)
National Museum of American History (U.S.). Division of Electricity and Modern Physics
National Museum of American History (U.S.). Division of Information Technology and Society
National Museum of American History (U.S.). Division of Work and Industry
National Research Council (U.S.)
Science Service

Wallace, Harold D., 1960-

Container Listing

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Box 1 of 38	E&MP 1.020 (CD2055006): Ford Sodium-Sulfur Batter Cell, 1965. (Copyright - Ford Motor Company)
Box 1 of 38	E&MP 1.021 (CD2055007): Ford Sodium-Sulfur Batter Cell, 1965. (Copyright - Ford Motor Company)
Box 1 of 38	E&MP 1.022 (CD2055008): Fold Developed Solid Electrolyte, 1967. Ford Motor Company has demonstrated a major breakthrough in its efforts to develop a feasible power source for electric vehicles. The heart of the new sodium-sulfur battery system is a Ford-developed crystalline ceramic electrolyte composed largely of aluminum oxide and based on a material known as beta-alumina. This material selectively passes sodium ions while containing all other liquids, including liquid sodium and liquid sulfur. The ceramic can be formed and sintered by commercially feasible techniques and its conductivity at operating temperatures - 250 to 300 degrees centigrade - compares favorably with electrolytes used in conventional battery systems such as sulfuric acid and potassium hydroxide. (Original caption by Science Service, Copyright - Ford Motor Company)
Box 1 of 38	E&MP 1.023 (CD2055009): Ford Developed Solid Electrolyte, 1967. (Copyright - Ford Motor Company)
Box 1 of 38	E&MP 1.024 (CD2055010): Ford Electric City Car Concept, 1967. As part of an overall program to develop feasible power sources, motors and controls for electric vehicles, Ford Motor Company and Ford of Britain are engineering jointly a low-cost, sub-compact, limited performance City-Car, to carry two adult passengers and two children. Designed for operation either in crowded cities such as London or for running errands in residential and suburban areas, the car will be powered initially by lead-acid batteries. With advanced components, the car will have a range of up to 150 miles -- at a continuous speed of 40 miles an hour. Build on the first prototype is under way and is expected to be completed in the spring of 1967. A second car also will be produced in England for testing and evaluation in urban-suburban application in the United States. (Original caption by Science Service, Copyright - Ford Motor Company)
Box 1 of 38	E&MP 1.025: City Car - Toshiba Battery Electric Car, October 12, 1967. As part of an overall program to develop feasible power sources, motors and controls for electric vehicles, Ford Motor Company and Ford of Britain are engineering jointly a low-cost, sub-compact, limited performance "City Car", to carry two adult passengers and two children. Designed for operation either in crowded cities such as London or for running errands in residential and suburban areas, the car will be powered initially by lead-acid batteries. With advanced components, the car will have a range of up to 150 miles - at a continuous speed of 40 miles an hour. Build on the first prototype is underway and is expected to be completed in the spring of 1967. A second car also will be produced in England for testing and evaluation in urban-suburban application in the United States. (Original Caption by Science Service, Copyright - Margit Friedrich from International Public Relations Co., LTD. Japan)
Box 1 of 38	E&MP 1.026: Zinc-Air Battery, 1967. Model of cell stack for experimental zinc-air battery for vehicle propulsion. This cell stack is sized for a battery

	having an energy storage capacity of seven kilowatt hours of electricity. Development of the zinc-air battery system for vehicle motive power is being carried out under a jointly sponsored program of the Edison Electric Institute and General Atomic Division of General Dynamics. (Original caption by Science Service, Copyright - General Dynamics, General Atomic Division)
Box 1 of 38	E&MP 1.027: Prototype Zinc-Air Battery. Performance of 7-kilowatt-hour experimental prototype of the zinc-air battery system for vehicle propulsion is checked during test operation at laboratories of General Atomic Division of General Dynamics in San Diego, Calif. Development of the compact and lightweight motive-power battery system is going forward under a jointly sponsored program of the Edison Electric Institute and General Atomic Division of General Dynamics. (Original caption by Science Service, Copyright - General Dynamics, General Atomic Division)
Box 1 of 38	E&MP 1.028: Diagram for Zinc-air battery system. Charging and discharging processes of the zinc-air battery system for vehicle propulsion which is under development by the Edison electric Institute and General Atomic Division of General Dynamics. (Original caption by Science Service, Copyright - Ford Motor Company)
Box 1 of 38	E&MP 1.029: Charging and Discharging Process, 1967. Experimental 7-kilowatt-hour laboratory prototype of zinc-air battery for vehicle propulsion during successful test operation at General Atomic Division of General Dynamics in San Diego, Calif., under jointly sponsored program of the Edison Electric Institute and General Atomic Division. (Original caption by Science Service)
Box 1 of 38	E&MP 1.030: Experimental Battery Assembly, March 1967. Experimental 14-kilowatt-hour capacity prototype of the zinc-air battery operates train drive for small electric-power vehicle during test operations carried out under jointly sponsored development program of the Edison Electric Institute and General Atomic Division of General Dynamics. Vehicle axle and electric motor are in left foreground, with experimental prototype battery assembly to the rear. Engineer at left has hand on accelerator while test control panel is monitored at right. (Original caption by Science Service, Copyright - General Dynamics and Edison Electric Institute)
Box 1 of 38	E&MP 1.031: Sodium-Sulfur Battery. Ford Motor Company has demonstrated a major breakthrough in its efforts to develop a feasible power source for electric vehicles. Developed by Drs. Neil Weber (left) and Joseph T. Kummer, shown with an operating cell and a model of a 2,000 watt unit, the new sodium-sulfur battery system should be able to store up to fifteen times the amount of electrical energy available from present lead-acid storage batteries. The heart of the new system is a Ford-developed crystalline ceramic electrolyte composed largely of aluminum oxide and based on a material known as beta-alumina. Further development of the Ford battery should lead to an economical, rechargeable battery system which, when adapted to a vehicle would provide greatly improved acceleration and range capabilities than now available from existing batteries.
Box 1 of 38	E&MP 1.032: Solid-Liquid Battery Comparisons, 1967. Ford Motor Company has demonstrated a major breakthrough in its efforts to develop a feasible

power source for electric vehicles. The heart of the new sodium-sulfur battery system is a Ford-developed crystalline ceramic electrolyte composed largely of aluminum oxide and based on a material known as beta-alumina. This material selectively passes sodium ions while containing all other liquids, including liquid sodium and liquid sulfur. The ceramic can be formed and sintered by commercially feasible techniques and its conductivity at operating temperatures -- 250 to 300 degrees centigrade -- compares favorably with electrolytes used in conventional battery systems such as sulfuric acid and potassium hydroxide. (Original Caption by Science Service, Copyright - Ford Motor Company)

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E&MP 1.033: City Car, circa 1966. As part of an overall program to develop feasible power sources, motors and controls for electric vehicles, Ford Motor Company and Ford of Britain are engineering jointly a low-cost, sub-compact, limited performance "City Car", to carry two adult passengers and two children. Designed for operation either in crowded cities such as London or for running errands in residential and suburban areas, the car will be powered initially by lead-acid batteries. With advanced components, the car will have a range of up to 150 miles -- at a continuous speed of 40 miles an hour. Build on the first prototype is underway and is expected to be completed in the spring of 1967. A second car also will be produced in England for testing and evaluation in urban-suburban application in the United States. (Original Caption by Science Service, Copyright - Ford Motor Company)

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E&MP 1.034: Yardney Silvercel experimental electric automobile. Rear view of the Yardney Silvercel experimental electric automobile showing two silver-zinc batters, the 7.2 horsepower electric motor that drive the car without any gears, and an ampere hour meter that shows how much energy has been used after the car is driven. The Silvercel was developed by Yardney Electric Corporation, New York.

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E&MP 1.035: Electric Urbmobiles, July 16, 1966. Artist's sketch shows electric Urbmobiles traveling at 60 mph on automated tracked guideway for travel to and from suburbs, with power coming from third, electrified rail. For travel on existing street network the fume-free Urbmobile would be driven manually and powered by electric storage batteries. Cornell Aeronautical Laboratory has recently completed a year-long $110,000 feasibility study of such a future transportation system for the U.S. Department of Housing and Urban Development. HUD considers the concept of a small dual-mode electric car to be a promising idea which should be investigated further. The Urbmobile system was conceived in answer to a need for reducing air pollution, sluggish traffic movement and excessive land requirements for streets and parking areas. (Original Caption by Science Service, Copyright - Cornell Aeronautical Laboratory, Inc.)

Subject 2 - Automobile Safety

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E&MP 2.001: Guillotine Look-Alike Safety Tool, November 16, 1967. A device resembling the notorious guillotine has found its place as a safety tool at the General Motors Proving Ground near Milford, Mich. This impact device drops an instrumented load cell on the chests of test dummies to calibrate - or standardize - the spring rate of the dummies' chests. These

	dummies are used to test the performance of production and experimental steering assembly designs on a special test fixture which slams the dummy against the wheel. The impact device has been used by GM Proving Ground engineers to calibrate chest spring rates on all dummies used by the entire automotive industry for testing compliance with Federal Motor Vehicle Safety Standards. By using only one device, engineers make sure that wherever the dummies are used test results can be compared accurately. Several supplier and accessory firms also have had dummies calibrated on the Proving Ground equipment. (Original caption by Science Service, Copyright - General Motors)
	Subject 3 - Batteries
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Box 1 of 38	E&MP 3.006: Gadgets, September 1940. General Electric Battery tester - SP 3/24/41 - from General Electric Co. (Original caption by Science Service, Copyright - General Electric)
Box 1 of 38	E&MP 3.007 (CD2055023): Tiny Dry Battery, January 28, 1946. Tiny dry battery that powered the "handie-talkie" used by Army Signal Corps has now been developed into the commercial model shown in the picture, used principally in hearing aids. Chemical reaction of zinc and mercuric oxide operates the cell; conventional cells use zinc and carbon.
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Box 23

Subject 95 - Photoelectric Tube

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Subject 103 - Radar

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Subject 106 - Radio

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Box 26 of 38 E&MP 106.091 to E&MP 106.180 (90 envelopes)

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Subject 129 - Telemeter

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Subject 130 - Telephone

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Subject 133 - Teletypewriter

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Box 34

Subject 134 - Television

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Box 35

Box 35 of 38 E&MP 134.091 to E&MP 134.190 (100 envelopes)

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Box 38

Box 38 of 38 E&MP 134.371 to E&MP 134.433 (63 envelopes)

Subject 135 - Television Transmission [MISSING]

Subject 136 - Televox

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	Subject 137 - Thermeonic Converters
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	Subject 139 - Thermoelectricity
Box 38 of 38	E&MP 139.001 to E&MP 139.010 (10 envelopes)
	Subject 140 - Thin Film Technology [MISSING]
	Subject 141 - Transducers [MISSING]
	Subject 142 - Transistors [MISSING]
	Subject 143 - Transmitters [MISSING]
	Subject 144 - Tropospheric Scatter [MISSING]
	Subject 145 - Tungsten Lamps [MISSING]
	Subject 146 - Vacuum Tube [MISSING]
	Subject 147 - Voltmeter [MISSING]
Box 38 of 38	Negatives, undated