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Underwriters Laboratories in the First World War

Working for a safer world

In 1893, a young electrical engineer by the name of William Henry Merrill, Jr. was sent from Boston to Chicago to assess and mitigate the fire risks associated with the World's Columbian Exposition. While in Chicago, Mr. Merrill connected with prominent fire insurance underwriters who provided him with the funds to start Underwriters Laboratories (UL) an organization that still exists today and is headquartered in Northbrook, Illinois. During its earliest days, UL focused on testing electrical and fire suppression products for their safety. Over time, UL applied its safety science and engineering knowledge to a wide variety of fields including burglary protection, chemical safety, gases and oils and even the automotive industry.



William Henry Merrill, Jr. founded Underwriters Laboratories (UL) in 1894 and chaired the Fire Prevention Section of the War Industries Board in 1918.

UL's involvement in World War One

By the time the United States entered into World War One, UL had long been recognized for its expert knowledge in fire prevention and protection engineering. UL had also written standards that specified the proper materials and construction techniques necessary for the safe production of devices and facilities. In early 1918, Congress was encouraged to introduce a bill that would provide fire insurance to private companies that manufactured, handled or stored war munitions for the U.S. government. Munitions were defined as materials, machinery and supplies used for war purposes. Secretary of the Treasury William Gibbs McAdoo perceived the value in this fire insurance proposal and called for a committee to be appointed. Shortly thereafter, Bernard Baruch, a financier, political advisor and Chairman of the War Industries Board of the Council of National Defense, established the Fire Prevention Section.



*In addition to Mr. Merrill's personal contributions to the war effort, 64 UL employees answered the call to proudly serve their country.
(A sampling of UL servicemen - clockwise from top left: C.J Peacock, V. Harpster, F.J. Bauer, M.B. Smith)*

On April 5, 1918, UL's founder William Henry Merrill, Jr. was named Chairman of the Fire Prevention Section of the War Industries Board at a salary of \$1 per year. An experienced group of fire experts and insurance underwriters was quickly assembled under Mr. Merrill's capable leadership to collect data related to existing fire hazards in U.S. munitions plants, conduct inspections and enforce adequate fire protections at each plant. In seven short months, the Section had fully inspected and made fire protection recommendations at 2,000 munitions plants with government contracts. Shortly after the war drew to close on November 11, 1918, Mr. Merrill provided a final report to Mr. Baruch who gratefully recognized the Fire Prevention Section's achievements in reducing fire risks at the munitions plants across the nation during this critical time in world history.

Underwriters' Laboratories
Tabular Summary of Munitions Inspections
Label Service Plants—1917

NAME AND DESCRIPTION OF SERVICE MATERIAL	NUMBER AND DESCRIPTION	NUMBER OF PLANTS INSPECTED	NUMBER OF PLANTS INSPECTED	NUMBER OF PLANTS INSPECTED	NUMBER OF UNITS OF PRODUCT INSPECTED		NAME AND DESCRIPTION OF SERVICE MATERIAL	NUMBER AND DESCRIPTION	NUMBER OF PLANTS INSPECTED	NUMBER OF PLANTS INSPECTED	NUMBER OF PLANTS INSPECTED	NUMBER OF UNITS OF PRODUCT INSPECTED				
					A. INSPECTED AS MANUFACTURED	B. INSPECTED AS RECEIVED						A. INSPECTED AS MANUFACTURED	B. INSPECTED AS RECEIVED			
FIRE RETARDANTS AND FITTINGS													ELECTRICAL APPLIANCES			
FIRE DOORS Treated 2-Ply and 3-Ply	At openings in fire and smoke walls, fire doors and windows are inspected and tested. United States and in France.	22	8	31	Defects corrected during manufacture.	28,793 labeled doors each inspected on later tests during construction.	RUBBER-INSULATED WIRES AND CORDS	Conductors, f.e.r. electric power and lighting circuits in automobiles, trucks, boats, ships, airplanes, in aircraft, in submarines, in ships, in motor vehicles and in other buildings.	24	13	39	Defects noted by inspectors corrected during preparation and goods reworked.	Over 3,000,000 shipping units inspected, more than 130,000,000 feet of wire, 70,000,000 feet of cable.			
FIRE-DOOR HARDWARE Hinges and Swings	See above.	3	2	5	1,631 parts.	29,000 labeled parts comprising over 15,000 sets of hardware.	RIGID CONDUITS	Recesses for electrical work. Prepared for installation in exposed work.	10	6	17	4,130 lengths inspected and accepted, principally for use in ships and overboard.	4,033,000 labeled lengths of 1/2 to 2 inch, 14,120 miles.			
FIRE-WINDOW FRAMES For Wood Class	At openings in exterior walls subject to exposure to fire, windows are inspected and tested. United States.	19	14	31	Sub-standard features corrected during inspection.	22,215 labeled frames with each of metal designs.	FLEXIBLE TUBING Non-Metallic, Cashak	See above.	8	4	10	Defective material corrected during manufacture.	111,000 labeled units of 1/2 to 2 inch, 18,221,000 ft., 3,500 miles.			
ROOFING MATERIAL Class "C" 2-Ply	Roof and side wall covering, terrazzo and other coverings of various kinds, including lamps and accessories, fixtures, etc., are inspected and tested. United States and in France.	47	19	34	Over 10,000 rolls of one square each. Principal defects noted: weight, oil and post-assembly.	480,000 labeled material, mainly 15,000 squares of 12 sq. yds.	FUSES Cartridge Type	Electrical control circuit protection, in electrical machinery, ships, boats, motor vehicles and other buildings.	13	7	38	18,710 fuses inspected and accepted, principally for use in ships.	3,410,000 labeled fuses of all standard ratings and classifications.			
FIRE EXTINGUISHING DEVICES																
AUTOMATIC SPRINKLERS	In warehouses and depots. United States.	5	3	15	All parts checked for leak gauges during manufacture.	300,000 heads, labels not used since material is inspected and all sub-standard parts and heads are scrapped.	ARMORED CABLES	Insulated conductors. See above.	11	6	15	279,100 labeled units of 1/2 to 2 inch, 13,700,000 ft., 2,600 miles.				
PORTABLE APPLIANCE Wheeled Extinguishers Single Tank 15 Gal.	Roof and side wall covering, terrazzo and other coverings of various kinds, including lamps and accessories, fixtures, etc., are inspected and tested. United States and in France.	2	2	7	All defective features corrected and accepted upon re-inspection.	12 labeled devices.	SNAP SWITCHES	Control of lighting and small motor circuits, in ships, boats, motor vehicles, etc., in buildings.	16	9	22	Primarily defective material.	2,761,000 switches of several standard types and ratings.			
DOUBLE TANK 50 Gal.	See above.	1	1	7		12 labeled devices.	CABINETS AND OUT-LET BOXES	Enclosing electrical control devices.	28	14	23	1,200 poor workmanship.	280,125 labeled devices.			
7 1/2 GAL. Loose Storage Type	Roof and side wall covering, terrazzo and other coverings of various kinds, including lamps and accessories, fixtures, etc., are inspected and tested. United States and in France.	19	11	23	470 completed devices inspected. Defective conditions corrected on final inspection.	17,710 labeled appliances, including 1,141,400 sq. ft. of hydraulic pressure.	FIRE ALARM SIGNALING									
One Quart Pump Type	Roof and side wall covering, terrazzo and other coverings of various kinds, including lamps and accessories, fixtures, etc., are inspected and tested. United States and in France.	5	3	20	Device subject to ground inspection. Defective conditions corrected on final inspection.	11,510 labeled appliances, including 1,141,400 sq. ft. of hydraulic pressure.	FIRE ALARM BONES	Signal service in machine shops, warehouses and other buildings.	2	2	4	Defective conditions corrected during adjustment.	2,000 labeled bones.			
FIRE HOSES Cotton Rubber Lined 1 1/2 in. Single Jacket	Roof and side wall covering, terrazzo and other coverings of various kinds, including lamps and accessories, fixtures, etc., are inspected and tested. United States and in France.	12	7	20	284,500 ft. lengths.	22,493 labeled lengths of 1 1/2 inch length, totaling 1,124,500 ft., 713 miles.	WATCHMAN TIME RECORDERS Including Station Fittings	Watchman service counter, yards, docks and depots.	5	3	8	See above.	4,300 labeled devices.			
Rubbed Lines	See above.	3	2	7		28,413 labeled sections of 1/2 to 2 inch, 1,420,665 ft., 275 miles.	GASOLINE STORAGE AND HANDLING									
CAST IRON PIPE	Underground sewer mains, storm sewers, etc., including lamps and accessories, fixtures, etc., are inspected and tested. United States and in France.	4	4	9	Proved inspection. Under one material accepted at various stages of manufacture.	100,000 labeled lengths. Minimum storage.	GASOLINE STORAGE DEVICES PUMPS	At bargons and piers in connection with gasoline in motor trucks and other motor vehicle depots.	14	10	22	Sub-standard parts replaced in assembly operations.	26,100 labeled pumps of various types and capacities.			
							SAFETY CANS	Storing oil in machine shops, etc., in buildings.	7	3	8	100 defective units. Faulty valve stems.	2,000 labeled cans, some 1 qt. to 1 gal.			
							TANKS Portable Fuel Tanks	Water bargons and gasoline dispensing apparatus, including oil in buildings.	7	6	11	Sub-standard parts replaced in assembly operations.	390 labeled tanks of 10-gal. capacity.			
							UNDERGROUND	Underground storage of gasoline in bulk and for dispensing service.	21	14	34	Leaking joints made tight and ground on existing.	28,807 labeled tanks from 1 gal. to 10,000 gal. capacity.			
							OTHER SAFEGUARDS									
							RECEPTACLES City Water Cans	Storage of daily supplies, food, water and other necessities. Machine shops, garages, hospitals, etc.	9	6	11	118 top heavy design. Poor workmanship.	1,400 labeled cans, all in-panels.			
							RECORD STORAGE Light Weight Notes	Protection of records of personnel in the military and naval establishments.	3	3	9	Sub-standard appliances built and substituted for inspection.	1,730 labeled light weight notes and standard labels.			
							FUSELINE LINKS	High temperature insulating cover designed to keep fuses and other necessary devices.	4	4	8	2,200 inspected under military. Poor workmanship.	41,000 links.			
							TOTALS 31 Varieties, Iron, Steel, etc., Not Counted.	AFFECTING ENTIRE ORGANIZATION For Winning the War	296	187	520	1,000,000,000 units of product inspected.	The practice of making the inspection of the entire organization for winning the war. The entire organization is inspected and the results are reported to the War Department. The results are reported to the War Department.			

A chart summarizing UL's munitions inspections.

About UL today

UL fosters safe living and working conditions for people everywhere through the application of science to solve safety, security and sustainability challenges. The UL Mark engendering trust enabling the safe adoption of innovative new products and technologies. Everyone at UL shares a passion to make the world a safer place. We test, inspect, audit, certify, verify, advise and train and we support these efforts with software solutions for safety and sustainability. To learn more about Underwriters Laboratories, visit UL.com.

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