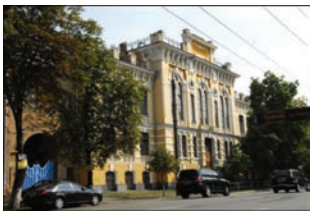
FEBRUARY 1, 1941 Production of Sherman tank began in the USA. Compared to riveted tank M-3, it had a larger caliber gun (75 mm), cast or welded turret. Pullman-Standard Company participated in fulfillment of the program on all-welded tank production. It developed the technology of welding the hull and turret. A conveyor line for hull assembly and welding was organized. Multilayer manual arc welding was performed in the downhand position, and after that the structure was installed into positioners. Automatic submerged-arc welding in equipment developed already in 1940, was used only for producing the heaviest part — tank wheels from low-carbon steel.



FEBRUARY 2, 1933 All-Ukrainian Academy of Sciences (AUAS) adopted a resolution on setting up the Electric Welding Institute on the base of the Electric Welding Committee and Electric Welding Laboratory of AUAS. Evgeny Oscarovich Paton (1870–1953) was appointed Director of the Institute.

FEBRUARY 3, 1938 Birthday of V.G. Fartushny (1938–2018), President of the Welding Society of Ukraine, specialist in the field of welding high-alloyed corrosion-resistant steels, mechanization and automation of welding production, equipment for thermal coating and robotic complexes. He took an active part in development and testing of Vulkan unit, in which welding in space was performed in 1969. During 1980–2004 he was Director of All-Union Design Institute of Welding Production. V.G. Fartushny is author of about 100 scientific publications and inventions.

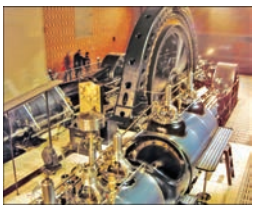
FEBRUARY 4, 1952 At the start of 1952 B.E. Paton and B.I. Medovar developed the process of electroslag remelting (ESR) at the Electric Welding Institute for the first time, in order to produce high-quality metals. At ESR metal refining is achieved by changing the slag composition and process temperature mode.

FEBRUARY 5, 2005 Sea fighter (FSF-1), experimental ship of the US navy, was tested. Its hull has a smaller waterplane area, ensuring high stability even on rough seas. The ship was one of the first, in manufacture of which friction stir welding began to be applied at assembly of metal panels.

FEBRUARY 6, 1989 An experiment was performed in Yantar unit on deposition of thin-film coatings by the method of thermal electron beam evaporation and condensation, in order to study the features and dynamics of the process in space environment.

FEBRUARY 7, 1950 R. Sarazin, French inventor, proposed a method and machine for continuous coating of electrodes. In keeping with his invention, the wire was unwound from the bundle at wheel rotation. It was then straightened in rollers and entered in extrusion press, which was followed by its cutting into separate electrodes, and feeding by a conveyor for drying.

*The material was prepared by the company Steel Work (Krivoy Rog, Ukraine) with the participation of the editorial board of the Journal. The Calendar is published every month, starting from the issue of «The Paton Welding Journal» No.1, 2019.



FEBRUARY 8, 1988 ABB Concern (Asea Brown Boveri Ltd.) was founded. It is a Swedish-Swiss Company, specialized in the field of electrical and power engineering and information technologies. ABB Company is actively pursuing manufacture of industrial robots, including those for welding operations. The Concern has its representative offices in more than 100 countries of the world. Production facilities are located in the territory of Germany, Switzerland, Sweden, Italy, France, Czechia, India, China, USA, Portugal, Brazil, Finland, Estonia and other countries.

FEBRUARY 9, 1915 Birthday of G.P. Sakhatsky (1915–1992), known scientist and specialist in the field of cold welding of nonferrous metals and alloys. In his works he set forth the main principles of resistance butt welding and features of joint formation on such materials as high-carbon and high-alloyed steels, copper, and aluminium alloys of different alloying systems.

FEBRUARY 10, 1938 Birthday of V.P. Larionov (1938–2004), known Russian scientist in the field of strength and reliability of structures, operating under extreme climatic conditions of the North, academician of RAS. He obtained fundamental results in the field of materials physics, metallurgy and kinetics of welding processes.

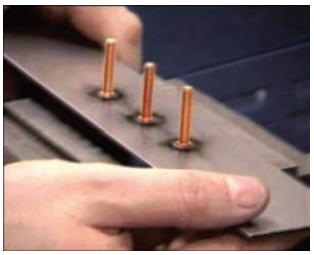
FEBRUARY 11, 1965 Scientists of E.O. Paton Electric Welding Institute — A.E. Asnis and I.M. Savich — for the first time developed the equipment, flux-cored wire and technology of mechanized wet underwater welding. The technology has found wide application in repair of underwater pipelines and structures as well as afloat ships.

FEBRUARY 12, 1981 President of the AS of USSR acad. B.E. Paton was awarded with the Lomonosov Gold Medal — the highest award of AS of USSR — for outstanding achievements in the field of metallurgy and metal technologies.

FEBRUARY 13, 1951 In the beginning of 1951 E.O. Paton Electric Welding Institute together with Novokramatorsk Machine-Building Plant developed a process and technology of vertical electroslag welding of metal of up to 2000 mm thickness. For the first time in the world the new method was used in welding of stator of hydraulic turbine for Mingachevir Hydro Power Station.

FEBRUARY 14, 1917 Birthday of S.M. Gurevich, a well-known scientist in the field of metallurgy and welding of titanium and refractory metals. For the first time in the world S.M. Gurevich developed a technology of submerged-arc welding of titanium. He participated in the development of the methods of electroslag welding and electroslag remelting of titanium, argon-arc welding over flux layer with flux-cored wire. S.M. Gurevich is the author of almost 600 scientific papers, including more than 100 patents for invention.

FEBRUARY 15, 1938 The second transatlantic liner Leviathan, initially constructed as German liner Vaterland, was recycled. On April 6, 1917 the USA entered the World War I and Vaterland was impressed by American authorities. Three months after it was renamed in «Leviathan». After repair using welding it was subjected to sea trials. They were successful, the vessel built up impressive speed of 27.48 knots. Leviathan carried military cargos in North Atlantic, transported troops in Europe. The vessel has transported in total more than 100 thou of soldiers for 19 voyages.



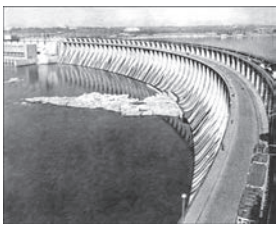
FEBRUARY 16, 1912 Capacitor-discharge welding and device for its realization was patented. Staff member of Westinghouse Electric Corp. L.V. Chubb experimenting with electric capacitors found that the wire is welded to aluminum plate in passing through them of accumulated electric discharge. This observation allowed making some conclusions, namely discharge ruined strong oxide film complicating soldering and, that provided the possibility to get sound joint of aluminum wires. The capacitor-discharge welding at once started to be used in electric engineering (welding of silver, tungsten and other contacts).

FEBRUARY 17, 1982 R.I. Lashkevich died. He was a talented designer and researcher in the field of development of welding equipment. He developed a series of original welding apparatuses, units, machines and devices such as roll-welding mills for mine cars, first models of apparatuses for electroslag welding, first in the USSR through-pass mill for automatic welding of large-diameter pipes, heads for resistance welding of main pipelines and another unique welding equipment.

FEBRUARY 18, 1914 Birthday of V.V. Podgaetsky (1914–1991), a well-known scientist, Honored Master of Science and Engineering of Ukraine. He made a fundamental contribution in welding metallurgy, in particular, investigation of interaction of metal, slag and gases, causes of formation of pores, cracks and other defects in weld metal. Published 215 scientific papers, including 23 monographs.

FEBRUARY 19, 1948 V.P. Nikitin, a well-known scientist in the field of electrical engineering, welding and electromechanics was awarded with an honorary title «Honored Master of Science of RSFSR» for outstanding achievements in the field of science. The main works of V.P. Nikitin are dedicated to investigation of physical processes in electric arc and development of electric machines and apparatuses for arc welding. He designed a structure of one-body transformer-regulator for arc welding, which found application in industry. In 1926–1929, V.P. Nikitin being a professor of Ekaterinoslavsk Mining Institute was simultaneously a consultant at many Ukrainian and Russian enterprises.

FEBRUARY 20, 1986 On February 20, 1986 the Soviet Union launched the scientific orbital station «Mir», replacing the orbital stations «Salyut» and became for about 15 years a single in the world manned space laboratory for long-term scientific-technical experiments and investigation of human body in space. Further on the solar-cell batteries designed at the E.O. Paton Electric Welding Institute were deployed at the station.



FEBRUARY 21, 1920 On February 21, 1920, the State Commission on Electrification of Russia (GOELRO plan) was established. Later, in the GOELRO plan, the name of the future construction: the Dnieper Hydroelectric Station appeared. On March 15, 1927 on the rock «Love» a red flag with the inscription «Dneprostroy began» was set. During its construction, autogenous cutting and welding, electric welding, devices for butt joining of reinforcement bars and other mechanisms became widespread.

FEBRUARY 22, 1937 Date of birth of V.M. Sagalevich (1937–1995), Professor of the Bauman Moscow State Technical University, a scientist in the field of welding, welding strains and stresses. The works of Professor V.M. Sagalevich are devoted to the problems of strength, theory of welding strains and stresses, including deformations of thin-sheet and thin-walled structures during welding.

FEBRUARY 23, 1934 The French inventors R. Sarrazin and O. Moneiron received a patent for the electrode coating of their development, which included the compounds of alkali and alkaline earth metals (feldspar, marble, chalk and soda). Due to the low ionization potential of such elements as sodium, potassium, calcium, the arc was easily excited and maintained in burning.

FEBRUARY 24, 1988 Date of death of James Rosati (1911–1988), an American sculptor who created his sculptures by welding of stainless steel. His most famous works were created since the 1960s, where a special role was occupied by a stainless steel sculpture «Ideogram» of 23 feet height. About forty monumental sculptures of James Rosati are located in the United States of America and other countries.

FEBRUARY 25, 1936 Date of birth of O.K. Nazarenko (1936–2014), a famous scientist in the field of electron beam welding, a corresponding member of the NAS of Ukraine. He provided physical and technical grounds for the ability of avoiding defects in welded joints during breakdowns in electron gun by short-time removing of accelerating voltage. On this basis, he created perfect power sources, developed principles of automatic electron beam guiding along a welded joint, and created corresponding systems which use secondary electron emission from the welding zone as a source of information. With his participation the technology and equipment for electron beam welding of rocket and gas turbine engines was introduced into the industry of Ukraine.

FEBRUARY 26, 1934 The first plant for the production of the «people's» car Volkswagen was opened. The first produced car was the famous VW Beetle. This is the most popular car in history, produced without additional consideration of the basic design. In total, 21,529,464 cars were manufactured. In its development Ferdinand Porsche (later founder of the second variant of the Tiger tank) was involved, who was keeping contact with Ford and other pioneers and actively introduced new technologies at the plant. Welding provided reliability and quick assembly of the car in the conveyor.

FEBRUARY 27, 1917 J.H. Lincoln published one of his patents in the field of welding. He is the founder of Lincoln Electric Company, which became an American multinational company, producing equipment for arc welding, robotic welding, plasma and gas cutting. In 1909, for the first time in history, the company manufactured a welding apparatus. In 1911, Lincoln Electric produced the world's first portable welding apparatus with a controlled voltage.

FEBRUARY 28, 1962 At the end of February, at the general meeting of the Academy of Sciences of the Ukr.SSR, a new membership of the Presidium was selected. Boris Evgenievich Paton, Academician of the Academy of Sciences of the Ukr.SSR, became the President. Today, the NAS of Ukraine includes 174 institutes. The number of its associates is over 30,000 members.