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The screw is a combination of two mechanical principles: the lever, and the inclined plane in helical form. The leverage applied to the nut combines with motion of the nut around the bolt to exert tremendous clamping force between the two.

One of the greatest design errors today, in fact, is failure to realize the mechanical advantages that exist in standard nuts and bolts. Smaller diameters and less costly grades of fasteners tightened to their full capacity will create far stronger joints than those utilizing bigger and stronger fasteners tightened to only a fraction of their capacity. Last year, one of our engineers showed a manufacturer how he could save \$97,000 a year simply by using *all* the mechanical advantages of a less expensive grade.

When *you* graduate, make sure you consider the mechanical advantages that RB&W fasteners provide. And make sure, too, that you consider the career advantages RB&W offers mechanical engineers—in the design, manufacture and application of mechanical fasteners. If you're interested in machine design—or sales engineering, write us for more information.

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Personals

1918

Donavan B. Nutt died of cerebral thrombosis on June 6, 1959 in El Segundo, Calif. He had retired in 1956 after 38 years at the El Segundo plant of the Standard Oil Company, in the Light Oil Division.

1920

Mark Sawyer, protection engineer at the Pacific Telephone and Telegraph Company in Los Angeles, and also secretary for the Class of 1920, writes that the class held a get-together before the Alumni Meeting on June 8 at the Rodger Young Auditorium. Those attending were *Virgil Best, Paul Crosby, Vic Hounsell, T. C. Hounsell, Harvey House, (MS '26); Frank Mosher, Mark Sawyer, Carson Smith, George Suman, Roscoe Woodbury, Horace Andrews* and *George Whitworth*.

1924

Hollis W. Moyses died of a heart attack at his home on July 22. He was 57. For 28 years he had been working for the Du Pont Company and, at the time of his death, was technical representative to the film industry in California. He leaves his widow; two sons, *George* and *Hollis Jr.*, both of San Diego; and a daughter, *Virginia*, in San Antonio.

Cecil N. Parker, planning engineer for the California Electric Power Company, died of a cerebral hemorrhage on June 19. He had worked for the CEPC since he graduated from Caltech. He leaves his widow, a daughter and two grandchildren.

1928

K. H. Robinson, MS '29, head of the technical information department of the U.S. Naval Ordnance Test Station at China Lake, writes that "our first grandson, *Michael*, was born on April 24 in Berkeley—just in time to attend his father's graduation from the University of California (*Charles W. Robinson*). Our son *Alan* is a sophomore at the University of California, majoring in Oceanography."

1930

Ernest C. Hillman, Jr., structural engineer, and also secretary of the Class of 1930, sends along news of various members who were unable to attend the reunion at the Annual Alumni Meeting on June 8. Of himself he writes: "Following graduation I was with the Southern California Gas Company for three years, and with an architectural firm for seven years. In 1940, I opened my own structural engineering firm. In 1945 Mr. *Lawrence Nowell* became a partner in
continued on page 48

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The experience and creativity of Space Technology Laboratories in the field of space systems—both military and civilian—are documented in this record of accomplishment: Responsibility since 1954 for the over-all systems integration and test for the Atlas, Thor, Titan, and Minuteman elements of the U.S. Air Force ballistic missile program, and in such advanced space projects as Score, Tiros I, Transit IB, and Mercury. Conduct of vehicle re-entry projects and the Pioneer I, Explorer VI, and Pioneer V advanced space probes on behalf of the Air Force, ARPA and NASA. Contributions to these projects included design, construction, and instrumentation of space vehicles and ground systems; over-all systems engineering and technical direction; direction of launch and tracking; and data reduction and analysis.

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Engineering and Science

Personals . . . continued

the firm now known as Hillman & Nowell.

"Evelyn and I have been married for 28 years and our daughter just presented us with our first granddaughter in May. Our son, Donald, graduated from USC last June with a business administration degree."

Of his classmates Ernest reports:

Ira Bechtold, private consultant in chemical engineering in Los Angeles, is married, has four daughters and four grandchildren.

Howard E. Baker joined the Underwriters' Laboratories, Inc., in Los Angeles a week after his graduation. With the exception of a three-year absence during the depression he has been with them ever since. He's now associate standards engineer in the New York office.

R. Stanley Lord, Pacific Coast branch area chief of the water resources division of the Geological Survey in Menlo Park, writes that he has put in 30 years with the Survey. The Lords have two sons, Myron and Roy. Myron has just graduated from the University of Pennsylvania Medical School. Roy is studying commercial art at San Jose State College.

Jack D. Pritchett writes that he's still

an electrical engineer with the Army Corps of Engineers after 20 years. His home base is Hawaii, but he also sees a lot of Japan, Korea and Okinawa.

Robert I. Stirton, PhD '34, has been with Standard Oil of California for 13 years, first as manager of product development for their subsidiary, Oronite Chemical Company, and now as general manager of the commercial development department of the California Chemical Company in San Francisco. The Stirtons have a 12-year-old son, Rory, who is now in his second year in junior high school.

Theodore Stipp writes that he has been employed by the Department of Water and Power of the City of Los Angeles since 1937. He is an electrical engineering associate in the underground design section.

Clyde E. Giebler, MS '32, is now assistant commercial manager of the Atlantic Plant of U.S. Electrical Motors, Inc., in Milford, Conn. He has been with the company since 1933. His hobbies include sailing on Long Island Sound and bowling. The Gieblers have a daughter in Pomona College, and a married son.

Truman Kuhn, dean of the faculty at the Colorado School of Mines in Golden, writes that he's been there since 1942.

He gave up teaching in 1943 to become the first dean of the graduate school, and in 1956 was appointed dean of the faculty. The Kuhn's twin sons are 20 years old—one is at Colorado School of Mines, and the other is at Colorado State College.

David W. Scharf, MS '32, writes from Pescara, Italy, that he has been party chief of a seismic crew for Western Ricerche Geofisiche, the Italian affiliate of the Western Geophysical Company of America. Dave is married and has two children—a boy, 4, and a girl, 3.

Col. Frank N. Moyers, MS '31 ME, MS '40 AE, writes that "most of my time since graduation has been spent in the U.S. Air Force, largely in the field of research and development. My active flying career was abruptly terminated about a year ago by a cardiac difficulty. Although I seem to be fully recovered, the doc says 'no more flying.' In about a year, I shall probably retire—to Florida where our love for boating can be satisfied. We have one child—a daughter, 17."

1936

Albert G. Bodine, owner and manager of the Bodine Soundrive Company

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U.S. Navy Electronics Laboratory

Personals . . . continued

in Los Angeles, has been appointed to the board of governors of Chapman College in Orange, Calif. The Bodines have two children - Linda and Albert J.

1938

George B. Holmes, MS '50, is now director of administration in the manufacturing and engineering division of the Burroughs Corporation in Detroit. He was formerly controller of the Electro-Data Division of Burroughs in Pasadena.

1946

Keith Doig is now chief mechanical engineer in the Shell Oil Company's Houston Area production department. He has been at Shell since 1946.

Frank Lanni, PhD, has been promoted from associate professor to professor of bacteriology at Emory University in Atlanta. His wife, Dr. Yvonne Lanni, has been promoted from instructor to assistant professor of bacteriology and immunology.

1947

Fernand de Percin, MS, is now a polar research specialist at the U.S. Army's Research office in Washington, D.C.

Jonas Brachfeld is now chief of internal medicine at the Levittown Gen-

eral Hospital in Levittown, N.J., and also maintains a private practice there.

William Giacomazzi, manager of the Modern Ice and Cold Storage Company in San Francisco, hosted a swimming pool party for the San Francisco Chapter of the Alumni Association on August 28. New officers were elected at the party.

1949

Hugh Carter, president of the Hugh Carter Engineering Company in Long Beach, writes that a group of post-war Dabney men, and their wives and children, had a beach picnic at Newport Dunes in July. Some of those who attended were: *Thomas Hamilton* '52, *Charles Moody*, '48; *Albert Hook*, '49; *Wilbur Barmore*, '52; *Danny Markoff*, '50; *Roy Gould*, '49, PhD '56; *Bruce Hedrick* '51; *James McQuiston* '51; *Cecil Drinkward*, '50; *James Blom*, '50; *Richard D. Welsh*, '53 and *Hugh Carter*.

1950

Craig Marks, MS '51, PhD '55, writes that "I'm still working at the Technical Center of General Motors in Detroit. *Peter Kyropoulos*, MS '38, PhD '48, is just across the lake in the Styling Department."

1951

Harold F. Martin is now senior engineer and assistant to the director of development engineering in the IBM World Trade Corporation. Although stationed in Paris, Harold travels all over Europe. The Martins have a son, Charles.

Rodney T. Phipps, MS, died on November 5, 1959, of a heart attack. He was a geophysicist at the Union Oil Company office in Calgary, Alberta. He leaves his wife and two sons - Roderick, 9, and Graham, 8.

1952

Lt. Col. William H. Wyatt, MS, former commander of the North American Defense Weather Forecast Center at Colorado Springs, is now a professional expert in the Directorate of Chemical Sciences at the Air Force Office of Scientific Research in Washington, D.C. He has been in the Air Force for 18 years. The Wyatts have four children - Evelyn, 17; Buddy, 12; Donna, 10; and Jeffrey, 4.

Steingrímur Hermannsson, MS, writes from Iceland that he is "general manager of the National Research Council of Iceland. This is a government insti-

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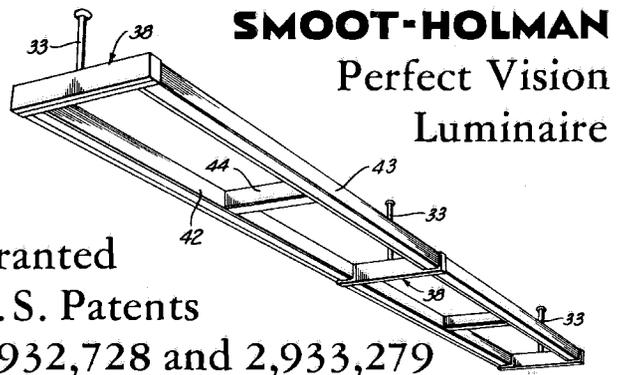
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Engineering and Science

tution for the coordination and strengthening of research in the country."

1954

John K. Wall, chief of the aerodynamics section at the Douglas Aircraft Company, Inc., in Charlotte, N.C., was married on July 2 to Joyce Brickman at the Westwood Community Methodist Church in Los Angeles.

1956

Richard H. Pratt is now engineer at De Leuw Cather and Company in San Francisco. He was married on August 27 to Laura Combs in Tulsa, Oklahoma.

1957

Michel Constanty, MS, has now finished his military service in France and is an engineer at the digital computer and punched card machines at Compagnie des Machines Bull in Paris. He was married in 1957 and now has three children - Helene, and twins Philippe and Brigitte.

Lowell M. Schwartz, MS, is now on the staff of the process research division of the Esso Research and Engineering Company in Linden, N.J.

Marcel Landrieau, MS, writes that

"after spending 2½ years in the French Army, I started working for Monsanto-Boussois in Pas-de-Calais, the French affiliate of Monsanto Chemicals Company, as a development engineer. We have a one-year-old son, Pierre-Henri.

"While we were still living in Paris, Lowell Schwarz, MS, and his wife, visited us. Lowell spent one year in Norway on a research scholarship. I spent six weeks in the U.S. in June. During my ten days in Cincinnati, I met Andre LeRoy, MS, who was still in the army."

Arthur W. Crowell died following an automobile accident in Corona del Mar on September 14. He was 29. He had just started working for the Nortronics Company in Anaheim. He was formerly a senior engineer at Automation Instruments, Inc., in Pasadena. Surviving him are his mother, three sisters, and four brothers.

1958

William G. Wagner, Frank A. Albini MS '59, and Robert H. Bond, MS '59, have been awarded doctoral fellowships by the Hughes Aircraft Company which will allow them to work toward their PhD's at Caltech while holding related part-time jobs with the company.

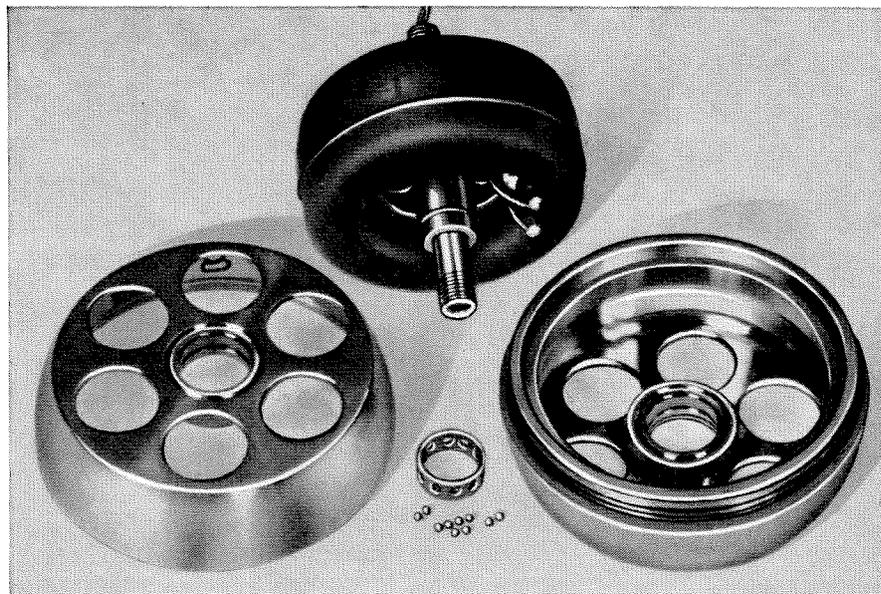


Donald W. Douglas, Jr., President of Douglas, discusses the ground installation requirements for a series of THOR-boosted space probes with Alfred J. Carah, Chief Design Engineer

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