

SANDIA BULLETIN

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SANDIA CORPORATION, ALBUQUERQUE, NEW MEXICO

SEPTEMBER 14, 1951

Telephone Highway In The Sky Takes Long Distance Calls Coast-To-Coast Over World's Longest Microwave System

August 17, 1951, marked an important milestone in the history of American communications. On that Friday, the first coast-to-coast telephone call was made without the use of trans-continental wires or cables. The world's longest microwave relay system was put into use.

The tremendous undertaking was the product of the ingenuity and aggressiveness of private industry. The American Telephone and Telegraph Company spent approximately \$40,000,000 completing this system which supplies a vital telephone route for the civilian and military needs of the nation.

The system was developed by the Bell Telephone Laboratories and Western Electric Company manufactured or procured every item of equipment used in the system and did all the installation work.

Construction of the new system started in 1948 and now words may be relayed between 107 towers stretching from New York, through Chicago, Omaha and Denver to San Francisco. From tower to tower over the 3000 mile route messages are being carried at almost the speed of light. When in regular full use later this year the system will carry hundreds of calls simultaneously.

Speedy Communications

The planning, engineering and construction work which have gone into the project have been stupendous. Let's take a look at the way the system works: Steel and concrete towers are spotted about every 30 miles across the country from New York to San Francisco. They hold amplifying equipment for this high-speed conversational highway. In traveling along this highway, telephone calls ride from tower to tower on a radio beam at lightning speed.

Despite the fact that a call crosses the country in a fraction of a second, it makes a slight detour at each tower. The side trip electrically refreshes, so to speak, each impulse

through powerful Western Electric amplifying equipment.

After the signal receives the electronic "shot in the arm" it is carried to the tower again and relayed to the next stop along the way. Since radio waves carrying conversations are concentrated in narrow beams, the antennas on each tower have to be aimed exactly at the next tower in line. Choosing locations for the towers and lining up the antennas were among the most difficult jobs the engineers faced.

Bull Provides Problem

These engineers proved themselves to be masters of cooperation and experts in understanding human nature as well as tops in their profession. Tales of their experiences are legion. In Colorado the construction crews had to handle the delicate problem of pacifying a ferocious bull. In Utah construction had to be scheduled to avoid lambing season and the potential catastrophe of upset ewes.

In Wyoming the daytime wind posed a problem which was solved after a study of climatic conditions to learn the quiet hours. In Iowa, a hospitalized youngster who followed every phase of tower construction from his sick-bed was made happy. A gang foreman gave him a red tin hat and an erector set so he could build his own towers.

Television Too

Not only will words go through space between these towers, but also images. Work on the installation and testing of additional special equipment needed to adapt the radio relay facilities to carry television over this route has advanced to the point where it is now expected that coast-to-coast television programs can be started by the end of this month. The first program to be carried across the country on the microwave system and televised throughout the nation was President Truman's talk which opened the Japanese Peace Treaty Confer-

ence in San Francisco September 4.

Today the radio relay stations stand on their mountain-top locations and on their skyscraper posts, silent sentinels with electronic hearts to put wings on the nation's words. The completion of the system is a significant milestone in the history of the telephone in United States.

Sandia Directors Meet This Month

The September meeting of the Board of Directors of Sandia Corporation will be held September 20. The six board members will be at Sandia for three days beginning Sept. 18.

The directors are: Stanley Bracken, president of Western Electric Company, Inc.; H. C. Beal, vice-president, Manufacturing, Western Electric Company, Inc.; Walter L. Brown, vice-president and general counsel, Western Electric Company, Inc.; Frederick R. Lack, vice-president, Radio Division, Western Electric Company, Inc.; Donald A. Quarles, vice-president, Bell Telephone Laboratories; and G. A. Landry, president, Sandia Corporation.

AEC Authorizes 12 Patent Applications

Patent applications for 12 inventions which are the work of Sandia Corporation employees have been authorized by the Atomic Energy Commission. The inventions include classified devices which have been developed in Sandia Corporation laboratories.

Employees in the inventor group are: B. J. Bittner, 1132, Louis J. Kabell, 1135, R. A. Richards, 1282, Allen L. Dyer, 1270, Donald S. Dreesen, 1522, C. E. Runyan, 1220, John Tillman, 2122, James W. Deer, 1242, Wolf Goodman, 1242, T. L. Allen, 1135, Silvan Locus, 1132, and William E. Boyes, 1294.

John Tillman already has credit for a patent granted while employed at Sandia.

Improvements In Coronado Club Near Completion

The Coronado Club is boasting an enlarged private dining room and four evaporative coolers in the ballroom.

Enlargement of the small dining room was completed this week and the room is now double its former size, accommodating upwards of 40 people for special luncheons or private dinner parties.

A new sidewalk leads to a separate entrance on the north side of the Club. Plans include landscaping the entrance and walling off the outside kitchen area so that diners have a window view of the housing area with mountains in the background.

Other features of the new dining room include air conditioning, an attractive interior with one brick and three painted walls, window drapes, and a flower box outside the window.

Club members attending dances and other functions such as bingo will benefit from the installation of four big coolers in the ballroom. In operation they will take a load off the main cooling system, improving air circulation in the cafeteria, basement, bar and lobby. And best of all, here's your chance to stay cool at the square dances.

Freedom Crusade Seeks Funds to Fight Communism

Sandia Corporation employees who wish to contribute to the 1951 Crusade For Freedom may do so by mailing their contributions to The Crusade For Freedom, care of the Postmaster, Albuquerque.

The campaign was launched on Labor Day and will last throughout September. In Albuquerque \$5,000 will be sought as the local quota in a nationwide drive to raise \$3,500,000. The money will be used to expand the anti-communist propaganda facilities of Radio Free Europe and to launch a new radio network to combat communism in Asia.

Retail stores throughout Albuquerque are displaying coin collection boxes in order to give everyone an opportunity to contribute. Although no solicitation will be conducted at Sandia, posters have been placed throughout the technical area and leaflets have been sent to all departments. Further information concerning the Crusade For Freedom may be obtained from the Public Relations Division, 3125, extension 26150.

Choristers Look For More Voices

Bathtub warblers or office crooners, here's your opportunity. The Sandia Base Choristers opened their 1951-52 season Monday, September 10, with their first rehearsal and they're interested in recruiting new members.

The group, made up of mixed voices representing every branch of Sandia Base activity, will rehearse each Monday in the Coronado Club lounge at 8 p. m. All interested employees or members of their families are invited to join the "singing for fun."

The Choristers are under the direction of Craig Summers, 2222-2. Robert Winter, AEC, is president of the organization this year.

Last season ended with a concert in the Base theatre. During the year the Choristers provided entertainment at the Base hospital, ANAF Club, Coronado Club, Officers' Club and Veterans hospital.

In addition to singers, the group is on the lookout for additional piano accompanists. Those interested should contact Craig Summers, ext. 26158.

Changes in Staff Are Announced for AEC Organization

Colonel Kenneth E. Fields has been appointed Director of the Division of Military Application of the United States Atomic Energy Commission. Col. Fields succeeds Brig. Gen. James McCormack, Jr., who has been assigned as a Special Assistant to the Deputy Chief of Staff for Development in U. S. Air Force Headquarters.

Daniel F. Worth, Sandia Field Manager for the Atomic Energy Commission, has announced the appointment of Gilbert C. Hoover as Assistant Manager, Sandia Field Office.

Mr. Hoover will assume the position vacated by Mr. Worth when he was named Sandia Field Manager



Gilbert C. Hoover

to succeed George F. Kraker, who earlier this summer was named Deputy Manager of the Commission's Santa Fe Operations.

A career Navy officer, Mr. Hoover has been living at 448 Metacom Avenue in Bristol, Rhode Island, since his retirement as a Rear Admiral in 1947. In Bristol he has been active in community affairs and has served as President of the Town Council and Director of Civil Defense.

Rhetoric Rages As Toastmasters Select Officers

Once a year the Sandia Toastmaster Club winds up with an uninhibited round of bombastic speech making. It's their annual election and a chance to let go with all the rhetoric and eloquence at their command.

Last week the Officer's Club rang with campaign speeches. After the verbiage had settled it became apparent that of the five offices, four had been filled by members who were next door neighbors.

The president's post was the exception. Elected to this office was Lee Deeter, 1282. Other officers named were Harlan Kelsey, 1511, vice-president; John Merillat, 3122-1, secretary; and Max Weber, 1714, treasurer—all residents of Thirty-ninth Place, Sandia Base. Eaton Draper, who was elected sergeant-at-arms, lives on the corner.

Weatherman Will Explain Forecasting To Sandia Engineers

H. S. Manson of the U. S. Weather Bureau will present a semi-technical talk on weather forecasting at a meeting of the American Society of Mechanical Engineers Wednesday, according to Lee Toliver, director.

The Society will meet at the University of New Mexico Mechanical Engineering building at 7:30 p. m. About 40 persons are expected to attend, Toliver said. It will be an open meeting and any engineer is invited to attend.



A TYPICAL CONCRETE STATION, pictured at the right, on the Long Lines Radio Relay route is located in farming country between Chicago and Des Moines. The route runs 2992 miles across the country as shown on the map above.

The first trans-continental telephone call was made January 25, 1915, when Alexander Graham Bell in New York spoke to his famous assistant, Thomas Watson, in San Francisco.

Participants in the first call over the micro-relay system August 17 included Wayne Coy, chairman of the Federal Communications System; Cleo F. Craig, president of the A. T. and T.; H. T. Killingsworth, A. T. and T. vice-president in charge of Long Lines Department; Mark Sullivan, president of the Pacific Telephone and Telegraph Company and Harold P. Huls, member and former president of the California Public Utilities Commission.



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Published for the employees of Sandia Corporation, Albuquerque, New Mexico.

Robert S. Gillespie, Editor

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Telephone Ext. 25253



Today Every Rivet Counts

During World War II there was a certain shipyard worker who has gone unnamed who decided his job wasn't important. "All I do all day is put 16 rivets here and one there," he lamented, "and then I go on to the next piece and put 16 more rivets here and one more there."

Nevertheless, that man stayed on his job and it was a good thing he did. The 17 rivets he placed in each part that passed him on the production line were vital. If they had not been properly placed the ship would have soon become helpless in heavy seas.

Here at Sandia we all have to "place rivets" and it is necessary that we do our job well. But sometimes it is confusing. We work hard, but we see no tangible result. Over 3,500 of us work long hours, but most of us never see or touch a finished product. The circumstance we encounter in Sandia Corporation is peculiar to our own operation. We probably never will see the fruits of our labor. The progress we make will be reflected only by the increased military strength of our country.

If the lack of visible evidence of the results of your labor troubles you, reflect on the recent statement of Gordon Dean, chairman of the Atomic Energy Commission, in which he publicly expressed the satisfaction of the Commission with the progress of the atomic energy program. Since we are contributors to that program we can feel that our efforts are appreciated and that we are an active part of a highly important task.

If you do not understand all that goes on around you do not be dismayed. Security regulations specify that each person here have just enough information about the project to do his job well. When a person knows more than necessary he becomes a weak link in the chain of security.

Paradoxical as it may seem, the greatest return any of us can expect is that the fruits of our labor may never have to be used for their ultimate purpose. All of us are doing an important job, how important we may not know for a long time.

Don't doubt the importance of your "rivets."

Want to Go to Night School?

Night Classes for Credit May Help You Get a Degree

Evening credit classes scheduled by The University of New Mexico for the fall term of the 1951-52 academic year include several courses of interest to Sandia Corporation employees.

Three chemical engineering courses are listed. They are: Chemical Engineering Seminar, Advanced Chemical Engineering and Gas Process Engineering.

The four electrical engineering courses are D C Machines, A C Circuits, Electron Tubes and A C Machinery.

Mechanical Engineering courses are Aerodynamics, Mechanical Vibration and Advanced Thermodynamics.

Physics courses include Introduction to Astronomy and Physics, Contemporary Physics and Quantum Mechanics. In addition there are 14 Mathematics courses, three in Chemistry, five in Civil Engineering, six in Accounting and four in Business Administration.

Registration is Monday, September 17, at 6:30 p. m. in Carlisle Gymnasium on the University campus. A complete list of the night credit courses offered by the University is available at the Sandia Corporation Technical Library. The Library is located in Bldg. 802.

Sympathy

The employees of Sandia Corporation extend their sympathy to Charles Max Jones on the death of his wife, Loretta Jones, September 5. Mrs. Jones has been employed by Sandia Corporation in 2333 since November 1950. She was 30.

She is survived by her husband and her parents, Mr. and Mrs. Edward I. Johnson of Tulsa, Okla. Services will be held in Tulsa.

Sympathy is extended to Helen Lautner, 4151, whose husband passed away on September 2.

Non-Credit Night Courses Offered At the University

Here is a good chance to gain knowledge and enjoy yourself at the same time. Non-credit evening classes in a variety of subjects which range from Early Childhood Education through Blue Print Reading to Easy French Conversation are being offered by the Community Evening College of the University of New Mexico.

Registration for the courses will be held in the Extension Office of the University in Hodgen Hall on East Central Avenue beginning September 17. Office hours are 8:30 a. m. to 4:30 p. m. and 7 p. m. to 9 p. m. Classes start Monday, September 24.

Fees for the courses are low and vary according to the length and type of course. Complete information concerning the courses offered may be secured from the Extension office at the University. A limited supply of bulletins explaining Community Evening College courses may be secured at the Employee Services Office, Bldg. T-301.

Men Into Service

Two Sandia Corporation employees entered military service recently. Clayton D. Blackwell, 2471, was



Holmes

Blackwell

recalled to service with the United States Navy and Shary Holmes, 2235, was called by selective service.

Life in the Arctic Healthy, Says Ken, But Oh So Cold!

Not long ago Ken Weidner was almost on top of the world. That's not a figure of speech. Ken spent two years at an arctic test station on Hudson Bay before he came to Sandia in 1949.

He helped test Army Corps of Engineers equipment in temperatures of 40° below zero at a place called Fort Churchill, Manitoba province, Canada.

"When I got out of the Army in 1947," Ken explains, "I wanted to



Ken Weidner

get a backlog of cash as soon as I could so I volunteered for this project. It's a U.S.-Canadian base designed to find out how equipment like bulldozers and arctic clothing stand up under extreme cold. Fort Churchill is well-suited for the job, it's situated in the coldest spot on the North American continent."

Wind Blows Continually

There are places that boast lower temperatures, but none feel as cold because of a factor called wind chill. Adequate clothing keeps body heat from escaping too fast in most climates, but at Fort Churchill a constant wind whistles over the vast flat lands surrounding the base and whips away your body heat almost as fast as you generate it.

Although the snow falls often, Ken seldom found it more than ankle deep. The ever-present wind sweeps the snow along so it never has a chance to pile up unless it hits an obstacle such as a building. Then it forms drifts that sometimes completely cover the building. For this reason the engineers never cleared the roads into the fort. It would have meant piling the snow along the side of the road and overnight drifts would bank against these piles until the road became more impassable than the snowy flats on either side.

Ken arrived there in September, 1947, and awed by the problems of existence in that weather, took every precaution to prevent frost bite.

"The next winter I figured I was something of a veteran up there so I relaxed and before I knew it I had been frost bitten three times."

Frostbite Dangerous

Five minutes in the open and the white spots denoting frost bite appear on any unprotected areas of your skin. All you can do then is get where it's warm and wait and hope for your circulation to get through the frozen spots. Rubbing snow or putting cold water on frost bite is not only useless, it's dangerous, Ken says. Any rubbing may bruise or break the skin.

He lived with the rest of the bachelors of his group in an Army type barracks building heated by a crude oil stove that left the corners much too cold for comfort. The barracks had no foundation, none of the buildings did. Even the telephone poles were propped up instead of being sunk in the ground. There is a permanent frost that extends 75 feet below the ground, summer and winter. This frost produces a heaving action, due to small thawings and freezings, that forces up any buried object.

The ground itself is a phenomenon. Ken, in the course of his work testing digging equipment, dug out a block of frozen earth and found it was 80 per cent water. This ground is called muskeg and in the summer it thaws down about 12

August Newcomers to Sandia Number 164; Come From 25 States, Panama

Twenty-five states and one foreign country provided new employees for Sandia Corporation during the month of August. A total of 164 newcomers joined the Corporation during the month. There were 111 men and 53 women. The youth of the new employees again emphasized the opportunity for young people in Sandia Corporation. Average age of men was 33 and women 27. August newcomers to Sandia number 164; come from 25 states, Panama.

46 College Grads

Of the 164 new hires 128 were married and there was an average of two children per couple. Six of the new employees graduated from college this June and a total of 46 hold college degrees.

Following is a table showing the degrees held by the college graduates:

Degree	B.S. or M.S. or Ph.D.		
	B.A.	M.A.	Ph.D.
Electrical			
Engineering	6	2	
Mechanical			
Engineering	5	1	1
Physics	7	3	3
Business			
Administration	1		
Mathematics	5	3	2
Physical			
Education	1		
Civil			
Engineering	2		
Mining			
Engineering	1		
Industrial			
Relations and Management	1		
Education	1	1	
Chemistry	1		
	30	10	6

Represent Many Schools

Following are the 22 colleges where the new employees received their degrees:

University of New Mexico, Texas Christian University, Northwest Missouri State Teachers College, University of Colorado, University of Iowa, University of Illinois and University of California.

Colorado A & M, Western Kentucky State College, Purdue University, Massachusetts Institute of Technology, University of the South, Central State College and Oklahoma A and M.

University of Arizona, University of Kentucky, University of Texas, University of Idaho, University of Washington, Missouri School of Mines, Southwestern Louisiana Institute and University of Missouri.

Following is a list of the 25 home states of the new employees and the number from each state:

New Mexico	84
California	12
Indiana	9
Arizona and Texas	8
Tennessee	5
Washington	4
Colorado, Illinois, Michigan and Ohio	3
Alabama, Kansas, Kentucky, Missouri, Mississippi, New Jersey, and Wisconsin	2
Idaho, Iowa, Maryland, New York, North Dakota, Oklahoma and Pennsylvania	1

One new employee lived in Panama prior to moving to Albuquerque.

inches to the perma-frost and forms a muddy bog.

Recreation Limited

Practically the only recreation for the arctic testers was occasional 16mm movies and basketball. They played basketball in a huge unheated barn-like building. Many a game was lost, Ken recalls, because of numb fingers.

Drinking water was the biggest problem. It had to be trucked from the myriad small snow lakes on the flats and if a truck broke down the fort was faced with a major crisis.

Despite all the discomforts, Ken says he was never more healthy and that held for most of the fort's inhabitants. Babies especially thrived in the cold, he says. It was a common thing to see an infant outside in a baby carriage in 30 below zero weather for an afternoon airing.

But offered a choice, Ken wastes no time in choosing New Mexico. The arctic, he says, will never be a land of enchantment for him, aurora borealis or no.

News From Men in Service

Pvt. Herman R. Perea, formerly of 2241, has completed noncommissioned officers school in the 31st "Dixie" Division at Fort Jackson, S.C., and is now eligible for promotion. Herman writes that basic training is all over and he will soon be stationed in Camp McCall, N.C.

Seeing duty in the new hospital on Sandia Base is Cpl. Ruth H. Day, formerly an employee of Sandia Corporation in 2222-1, who was called back to duty in the WAC. Cpl. Day is in medical supply and writes, "I like my work very much and still feel the same pride in being a part of the Army of this United States of ours."

Ray H. Lee, who worked for Sandia Corporation in 1225, is now a captain in the artillery and is on duty at Sandia Base as an instructor in the Technical Training Group.

Fred H. Schneider reports that he is "one of those extremely fortunate individuals who has been recalled to active duty in his own town." Fred, a first lieutenant, is assistant military personnel officer in Special Weapons Command Headquarters, Kirtland. He says that his work is similar to that of Sandia Corporation's training and education division. Fred was in 4212.

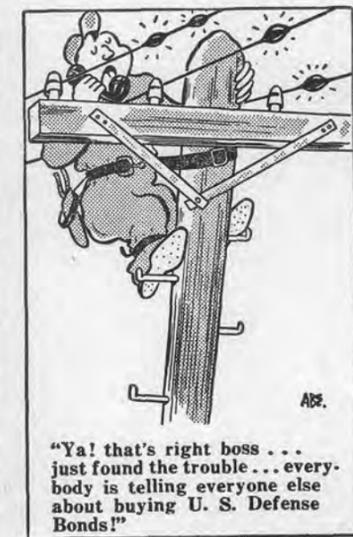
Intensive training in amphibious assaults is reported by Sgt. Eden Raney, formerly of 2452. Sgt. Raney, who was a reservist called back to active duty with the Marines, has been in a Floating Bridge Company of Fleet Marine Force Pacific. He has many interesting stories of assault training under blank fire and of bridge construction in the black of night. He expects to return to civilian life soon and rejoin the guard force here.

Avilio S. Aragon writes that he is now a mechanic in an Engineer Aviation Battalion. Avilio, who was in 2414, had basic training at Fort Leonard Wood, Mo., and is now at Camp Beale, Calif. He reports there will soon be another move for him.

One Square Dance In September

Due to a change in schedule Coronado Club square dancers will have their only dance of the month Friday, Sept. 21. Music will be provided by the Duke City Cowboys and refreshments will be served by the Coronado Club.

Coronado Square dancers enjoyed the Albuquerque Lions Club benefit square dance last week. Luther Yost, 1230, was invited to call a dance representing the Sandia Base group.



"Ya! that's right boss . . . just found the trouble . . . everybody is telling everyone else about buying U. S. Defense Bonds!"

AROUND THE DEPARTMENTS

Nancy Martinez, 2461-3, enjoyed the Labor Day week end visiting in Juarez. She watched her first bullfight and claims it is most exciting.

Marcial Valdez, 2461-3, took in the Santa Fe fiesta over the recent holidays. He was much impressed and enjoyed all the festivities.

Emmie Segura, 2461-3, and family visited relatives in Taos, N.M., recently and Emmie tried her hand at fishing for the first time. She caught five 10-inch fish and is mighty proud.

George Blea, 2461-3, is back on the job after a month's illness. His co-workers welcomed him back in grand style.

Proud parents of a new daughter are **Mr. and Mrs. Fred Pfeffer**. Virginia Lynn, weighing 6 lb. 3 oz., arrived August 20. Fred passed the cigars to fellow-workers in 2461-3.

Vacationing in Denver recently was **Helen Russo**, 1220. Helen went up with her 13-year-old son who is entering the Colorado Military Academy there.

Dick Pershing, 1220, made a tour of the Indian pueblos of New Mexico for his vacation. He also included a trek to Denver. **Richard Kidd, Jr.**, also of 1220, journeyed to Illinois and Iowa.

Barney Jordan, 2331, his wife and their three sons recently returned from their vacation trip. They visited such scenic spots as Boulder Dam, Yosemite, San Francisco, Los Angeles and Phoenix and camped out along the way. In addition to an exciting vacation to talk about, the Jordans have a new home at 621 S. Arizona.

Bernadine Eiffert, 2300, is spending her vacation time visiting relatives in St. Louis, Mo.

Frances Sheppard, 2333, and her husband **Orvin**, 2252, are vacationing in Salt Lake City and vicinity, just sightseeing.

Betty and Charles Phelps, both of 2334, chose Galveston and Ft. Worth, Tex., for their vacation trip.

Vacationers in 2210 recently were **Bill Kraft**, 2211, **Dick Hickman**, 2213, and **Charles Simpson**, 2212. Hollywood didn't retain Kraft, Simpson escaped from Las Vegas and Hickman stayed at home with a sick automobile.

Patricia Anderson, 2210, was recently elected secretary of the Ladies Bowling League.

Jacque Quinn, 2213, enjoyed her Labor Day week end at the Santa Fe fiesta.

George Ison, who had an operation last month, is back on the job looking better than ever. George is in 4151.

Carl Gregory, 2212, was seen selling some of his golf equipment to **Don Weldon**, 2211. His co-workers are wondering if a helping hand with his golf game would help.

Evelyn Wade, 2210, is promoting a department picnic to be held September 30 in the mountains. "Evie is a good kid," is a favorite expression in 2210.

Returnees from vacations are **Harry O'Ren**, **John Logan** and **John Hess**, all of 4151. Harry went to Chicago, Ill., and visited friends there and had two weeks active duty at the Great Lakes Naval Station. John Logan went to California by way of Oak Creek canyon in Arizona and returned by way of Las Vegas, Nev., and Colorado. John Hess went to California and tried some west coast fishing in addition to a short jaunt to Tiajuana, Mex.

Mort Morterud, 2112, returned to the old stomping grounds at Westby, Wis., for his vacation. The rain started the day he arrived and the sun didn't come out until he left the city limits headed westward. Mort did enjoy the trip back to Albuquerque, with visits to Glacier and Yellowstone parks, Hoover Dam, and the Grand Canyon.

Leta Foster, 2114, and her family enjoyed the Labor Day week end driving to Denver and visiting Estes Park.

Fern Spencer, 2114, spent her three-day week end in Las Cruces visiting her parents.

Vern Garratt, 2113, returned from a week's vacation admitting weariness. Vern spent the week helping his wife with the involved care of newly arrived young Mr. Garratt.

Welcome back to **Keren Ivy**, 4215, after a leave of absence. It's a boy—congratulations.

Jessie D. Wright, 1521-1, enjoyed his vacation in his home town of Hamilton, Mo.

Phil Hempin, 1520, and her husband are enjoying their vacation at Estes Park, Colo.

Ralph Ridenour, 4215-1, is sporting a beautiful, blue, 1951 Plymouth.

Dennis Salazar, 4215, toured Mexico on his vacation.

Barbara and Joseph Hegge, 1214, enjoyed sightseeing at Taos over the Labor Day week end.

After visiting relatives in Chicago and Boston, **Evelyn McHugh**, 3152, and her husband vacationed through New England and Canada.

Don Jenkins, 3152, spent two weeks vacation with his family in Chicago.

Mary Witcher, 3153, visited relatives in Hobbs, N.M., and Odessa, Tex., during her vacation.

Polly LeHaye, 3151, and her husband, Jimmy, saw the state of Colorado during their vacation. They visited Colorado Springs, Denver, Royal Gorge and Canon City.

Dean Irvin, 3153, and his family journeyed through Colorado and Wyoming for a vacation. They also went into Nebraska and were present for Dean's parents' celebration of their 35th wedding anniversary.

Art Machen, 1710 department manager, returned Monday from a one-week vacation trip to the coast where he visited friends and relatives in and around San Francisco.

Irv Broverman, 1712, is spending a vacation in Pittsburgh visiting his father and mother.

Max Weber, 1714, took a trip to Mesa Verde over Labor Day week end. For the benefit of those who may be planning such a trip, Max reports three days are required if you want to be able to see enough of the interesting sights to make the trip worthwhile.

Florence Burwell, 1714, spent an interesting Labor Day week end. She and her husband (a student at the University) visited Carlsbad, the Bottomless Lakes and the Longhorn Ranch. They started for Lake McMillan on the way back from Carlsbad, but took the wrong turn and wound up camping out at Lake Avalon.

H. J. Smyth, 2510, and Mrs. Smyth spent an enjoyable Labor Day week end vacation in Colorado. After riding the Cog Train to the top of Pikes Peak, they saw the finish of the annual Pikes Peak auto race.

Leta Faber, 2232, has just returned from vacation in Canada.

Gertrude Theiler has been transferred from 1213 and is now working in 1111.

Congratulations are in order for **Mr. and Mrs. Arthur McMullen** on the birth of a daughter, Karen Louise, weighing 7 lb. 6 oz. Art works in 1132.

Mary Helen Sharkey, 2230, was given a surprise birthday party by her mother while vacationing in Boston. She was accompanied by her son, Jackie.

Congratulations to the following proud fathers in 2230: **Harry E. Bell**, 2231; **Fred R. Callahan**, 2235, and **William E. Reed**, 2233.

The following people in 2230 are sporting new cars: **Don D. Wader**, **Buddy Abeyta** and **Dennis B. Sparger**. They're running competition to see who can keep his the cleanest.

E. J. Whitmore, 2235, and family are enjoying a visit from their son, Cpl. E. J. Whitmore, Jr., USMC, who is home on leave.

Allen Dale, 1912-3, is the proud owner of a spankin' new 1951 Studebaker Champion.

Jackie Hecker, 1210, has returned from a two-week vacation. She visited Denver, Salt Lake City, Los Angeles and Phoenix.

Lee Ferrarri, 1210, is spending two weeks vacation in Southern California.

Mary Bascome and Delia Stiles, 1912, are back after spending a week of vacation at their homes "just resting."

Charlie Schmidt, 2113, joined his wife in St. Louis where she had been vacationing with her parents. Charlie's five-day vacation there was highlighted by water skiing at the Lake of the Ozarks. He took movies of a boyhood friend, Billy Berberich, one of the few skiers who do the job with no skis!

Lois Kelley, 2111, has the fish-story of the week. Her husband landed a 36-lb. catfish while on their week-end jaunt to San Marcial Labor Day.

Dr. Paul A. Northrup, who has been with the Corporation for the past year on a special assignment, returned last week to his job as head of the Physics Department at Vassar.

C. W. Carnahan, 1130, and family are spending their vacation in sunny California.

Coronado Club Notes

Dancing students who have been attending the Arthur Murray instruction sessions will want to make a notation on their September calendar of events that next week's instruction will be on Wednesday night instead of Tuesday. The change was made in order to avoid a conflict with other activities.

Bob Van Driel and his orchestra will play for tomorrow night's informal dance from 9 to 1.

At a recent board meeting the directors authorized the repair of the billiard tables and every effort will be made to keep the equipment from being abused or damaged in the future.

Have you noticed the quality of the bingo prizes lately? Carl Lindquist, director in charge of bingo, is always open to suggestions for bingo prizes that can be obtained with the money available. The next bingo party will be Wednesday the 26th.

Coronado Club Schedule

Saturday, Sept. 15 — Dance, Bob Van Driel orchestra, 9 p. m.
 Wednesday, Sept. 19 — Arthur Murray dance instructions, 8:30 p. m.
 Friday, Sept. 21 — Square dance, 8:30 p. m.
 Saturday, Sept. 22 — Dance, Joe Cata orchestra, 9 p. m.
 Wednesday, Sept. 26 — Bingo, 8 p. m.
 Thursday, Sept. 27 — Bridge, 25 cents per person, 7:45 p. m.
 Saturday, Sept. 29 — Dance, Tom Morgan orchestra, 9 p. m.
 Sunday, Sept. 30 — Buffet dinner-dance, 6 to 10 p. m. Bob Van Driel orchestra.



Fly Boys May Qualify to Be Quiet Birdmen

Here's a chance for you QB members to do a bit of stag hangar flying. George Kloefer, 1283, is a member of that not-so-ancient (it dates back to 1921) and not-so-mysterious (it has no rules or laws) Order of the Quiet Birdmen and he'd like to rally other QBs about him and form an active Albuquerque group.

For the uninitiated ground-bound neophyte, George explains the organization is a men-only club of fliers or ex-fliers who have at least 300 hours in the air. The monthly meetings of the group give the boys a chance to do some dinner table flying, reminiscing and barnstorming. Each club is known as a hangar.

No dues, no rules, and a small entrance fee free the QBs from all red tape, George says. If you qualify and wish to be a Quiet Birdman call George, ext. 7251.

New Employees

A welcome is extended to new employees who have joined Sandia Corporation. Listed here are the newcomers who arrived between August 24 and September 6. The listing of newcomers is a regular feature of the Sandia Bulletin.

Thomas B. Cook, Jr.	1114-2
James H. Smith	1123
Henry S. Sack	1140
Hugh D. Brunk	1140
David A. Mayhew	1212
Don Van Couden	1212
Franklin V. Naugle	1242
Richard A. Freeman	1243
Erroll Stone	1251
Charles A. Tucker	1251
Charles H. Christie	1251
Jerome C. Didier	1251
Harvey McGowen	1282
Harley Walker	1511
Ross Birdsell	1540
Harley D. Moody	1614
Jack L. McDaniel	1614
Arthur M. Cobb	1614
Lou K. Ivy	1915
Fred J. Villa	2112
Maria Yrene	2113
Lucille C. Hillebrand	2121
Kay M. Graff	2121
Clayton A. Loftin	2122
Kenneth R. Dickerson	2123
Donald A. McFadden	2123
Juan P. Cordova	2123
Roland W. Kurth	2123
Leonard J. Nelson	2123
Winston French	2123
John Smeltzer	2123
Delmar W. Dufty	2123
Charles E. Horner	2123
William E. Nicholas	2124
Marion Drago	2124
Leroy M. May	2223
Josephine Lobato	2234
James Grier, Jr.	2251
Robert J. Kronberger	2251
John H. Samuelson	2251
William M. Simpson	2251
Eloy V. Sedillo	2251-2
Margaret M. Ussery	2312
Louis J. Price	2411
Walter A. Madden	2411-1
Della Mae Johnson	2415
Robert P. Kelly	2415
Ralph T. Miller	2417
Oscar I. Thompson	2452
John F. Flynn	2452
Samuel G. Thomas	2452
Bartholomew J. Coveney	2452
Stuart E. Shew	2461
Jean W. Lackey	2463
Barbara A. Yates	3151
Clara E. Koebke	3152
Dorothy L. White	3153-1
Richard E. Beckman	3220
Bertha Arguelles	4135
Anna Lou Holley	4135
Betty J. Cooke	4222
Delia C. Sanches	4222
Claire E. Roberts	4222
Herman Romero	4222
Daurice A. Hall	4222-1
Mary K. Mulford	4222-1
Miriam D. Martinez	4222-2
Celeste M. Meilner	4222-2
Elizabeth J. Sinnott	4222-2
Clerinda L. Montoya	4222-2
George W. Browning, Jr.	4233
Frances J. Rinn	4233



COMMUNITY CHEST COMMITTEE MEMBERS left to right around the table are: F. L. Dewey, 200, general chairman; C. W. Eggert, 2414; J. K. Merillat, 3122-1, treasurer; E. J. Cooney, 4100, solicitations; Theresa Sullivan, AEC; Mr. Rubincam, Mr. Greer, Bob Hawk, 4215; T. B. Sherwin, 3125, publicity; and R. P. Petersen, 1100. L. J. Heilman, 2400, was unable to attend.



WOMEN'S SKEET SHOOTING CHAMPION of Sandia Base, Erma Fauerbach, AEC, receives the congratulations of Brig. Gen. Leland S. Stranathan. Erma won first place in the competition sponsored by the Sandia Gun Club.

Sandia Corporation Promotions

CHARLES R. BARNCORD has been named division supervisor of 1231. He is married and has an 8-year-old son. Charles came to Sandia in 1947 after spending three years at Los Alamos. He worked for two years in aircraft plants prior to entering the service in 1942. Charles holds a mechanical engineering degree from the University of New Mexico. He lives in Albuquerque with his family.



CHARLES A. SEAY has been named supervisor of Division 1223. He joined Sandia Corporation in 1946 after a year's Army service. From 1941 to 1945 he worked as a tool and machine designer and production consultant for firms in New York, Georgia and Louisiana. He studied mechanical engineering at the University of Arizona.



WALLACE T. SMITH is now division supervisor of 1615. He came to Sandia Corporation in 1949 after working two and a half years at the New Mexico School of Mines as a field test supervisor. For eight years prior to that Wallace was employed as a field test supervisor by International Telephone and Telegraph Co., in New Jersey. The Smiths live in Albuquerque.



WILLIAM B. DAVIS has been promoted to supervisor of Section 4133-1. For four years prior to joining Sandia Corporation in 1950, he worked as office manager for an Elk City, Okla., firm. He has a total of 12 years office experience, three years of Army service. Bill studied business administration at Oklahoma A & M. He and his wife live in Albuquerque.



VICTOR V. MYERS has been promoted to section supervisor of 1633-3. He is married and has a 4-year-old son. Vic received a bachelor of science degree in electrical engineering from the University of New Mexico before coming to Sandia Corporation in 1948. He is a veteran of two years service in the Navy and lives in Albuquerque with his family.



ROBERT R. SOWELL has been named section supervisor of 1514-3. He took his master of science degree in zoology at Oregon State College before joining Sandia Corporation in 1949. Previously Bob received a bachelor of science degree in zoology from the University of Oklahoma. Mr. and Mrs. Sowell live at Cedarcrest, in Tijeras Canyon.



CARROLL B. McCAMPBELL was recently appointed section supervisor of 1625. He came to Sandia in 1949 after two years as operator of a seismic truck for an oil company. He spent a year in Egypt exploring for oil. Carroll is a veteran of three years in the Marine Corps, and has a degree in electrical engineering from the University of Colorado. The McCampbells live in Albuquerque.



JAMES E. BIRCHFIEL was recently named supervisor of Section 4135-2. He is married and has two daughters, 11 and 5 years old. James was employed by Sandia Corporation in 1950. He came here from the Aluminum Company of America in Alcoa, Tenn. He has 14 years experience there in stores costs and as a cost accountant. The Birchfiel family lives in Albuquerque.



JACK O. ROBERTS is the recently appointed supervisor of Section 1542-4. He came to Sandia Corporation in 1949 from the University of Colorado where he earned a bachelor of science degree in chemical engineering. From 1942 to 1945 Jack served in the Army, including two years in Italy. Jack is married and lives on Sandia Base.



ROBERT B. BUNKER is now the supervisor of Section 1633-4. Prior to joining Sandia Corporation in 1948, he graduated from the University of New Mexico with a bachelor of science degree in mechanical engineering. From 1943 to 1944 Bob worked in the maintenance department of a California firm. He spent two years in the Navy. Mr. and Mrs. Bunker live in Albuquerque.



ERNEST L. ARTERBURN is the new supervisor of Section 2432-1. In 1946 he transferred to Sandia Base from Los Alamos while still in the Army. He was discharged from service and came to work as a civilian here that same year. Ernest worked at Los Alamos from 1945 to 1946. Before entering the service he worked for seven years as a machinist. Ernest and his wife live in Albuquerque.



AROUND THE DEPARTMENTS

C. A. Ashby, 2512, and Mrs. Ashby are becoming quite the week end travelers. Two weeks ago they traveled to Grand Canyon, the Painted Desert and the Petrified Forest, in Arizona. Labor Day week end was spent in showing Mrs. Ashby's sister, who is visiting from New Jersey, the sights of Juarez.

Millie and Doc Pickard spent their two week vacation working on their home up in Tijeras Canyon. Millie is in 2224 and Doc is in 4131.

Division 2512 welcomes "Billie" Braffett, who transferred from 3152.

Danny Aycock, 2224, and his wife are now visiting their parents and friends in Arkansas.

Bob Fleege, 2462-1, made a quick trip to Los Angeles over Labor Day and apparently had such a good time that he's decided to go out again on his vacation next week.

Kay Norton, 1133, and Dorothy Drury drove down to Chihuahua, Mexico, over Labor Day week end. They recorded most of the trip on motion picture color film. They are anxious to get the film back from the developer's so they can show movies of their nice holiday.

John Noe, 1133, has been ill for the past week. His co-workers hope to see him back at work soon.

Burt Bittner, 1132, took his family to Wisconsin for vacation in his vacuum-painted (eggshell, no less) automobile. His friends hope he still has the paint job when he gets back home.

A. Perkins, 1130, has been putting in long hours at home working on the lawn and patio of his new home. His Sandia friends are waiting for the word on that "open house."

Lots of people in 1130 were on vacation recently — Art Campbell, 1134, Woody Black, 1132, Dave Middleton, 1135, Jack Miller, 1131, and Sten Persson, 1134, were all taking life easy.

Ray Opperman, 1134, will start six months leave of absence this month to return to school.

Pat Jones, 1130, has been substituting as secretary to Mr. Poole the past two weeks while Mavis Randle was on vacation.

Siewwke DeYong, 2234, wife Hazel and son Billy vacationed at the Grand Canyon, Prescott and Oak Creek Canyon in Arizona. When they returned to Albuquerque they spent three days at Red River where Leonard proved he was the best fisherman of the family by catching two "big-uns". His wife and son could give no competition.

Frank H. Grubbs, formerly 4132, has transferred to 4233 reporting to H. W. Maglidt. Frank strayed on his way over, however, to attend a two-week training period at Fort Bliss, Tex. He is the state signal officer of the New Mexico National Guard unit.

Arlin D. Pepmueller, 4232, and his wife went to Santa Fe on Saturday and celebrated through Sunday of the fiesta. Robert C. Justice, 4234, attended a private party in Santa Fe over the week end.

Richard Starkey was married to Helen Schilling August 31 in the United Brethren Church. Dick works in 2417 and his wife is employed by the First National Bank in Albuquerque.

Congratulations to Mr. and Mrs. Fred Comstock on the birth of a son. Fred is in 4152-1.

George W. Browning, 4233, spent the Labor Day week end moving his wife and two children into a new home at 616 N. Adams.

Edward C. Fletcher, formerly of 4231, has transferred to 4140 under John W. Gray.

Mike Michnovicz, 2462, attended a convention of the Photographers' Association of America in Milwaukee, August 25 to 29. He is a Council Representative of the Commercial Photographic Division of New Mexico. In addition to having a wonderful time, Mike reported that a highlight of the convention was a visit to the Milwaukee Journal photographic department.

Marian E. Schifani, 4232, entertained friends from Pasadena, Calif., over the Labor Day holiday.

Chuck Boal, 2462-2, and family took a tour of the Grand Canyon country and Hoover Dam over Labor Day. It was the first time Chuck had seen the two wonders of the world and he'd like to go back sometime.

Helen and Stanley Swanson recently visited Mexico City and Acapulco on their vacation. Helen works in 4211 and Stanley is in 1281.

AEC Skeet Shooter Wins First Honors In Sandia Competition

Erma Fauerbach, AEC, was awarded the women's champion skeet shooting cup for Sandia Base August 25. The competition was sponsored by the Sandia Gun Club and held on the Base Skeet Range. There were 55 entries, 3 of whom were women. Erma started shooting trap and skeet at Oak Ridge, Tenn., when she was employed there by AEC. Topeka, Kans., is her home town and she has been working at Sandia and living in the base dormitory for a year.

Marriages Engagements

Engagement of Wanita Wright to Edwin Jenkins, Jr., 2244, was announced August 25 by her parents, Mr. and Mrs. Glenn Wright, Quincy, Ill. Wanita has been working for the Corporation for two years and is



Miss Wright Mrs. Clawson

now in 1514. No wedding date has been set.

Mr. and Mrs. Robert E. Poole recently announced the engagement of their daughter, Diana, to Frank John Fortine, 1542. Miss Poole, a graduate of Beard School, Orange, N.J., attended Bryn Mawr for two years, and is now studying at the University of New Mexico. Her fiance attended schools in New York, California, and Pacific States University in Los Angeles. The couple plans a December wedding in Morristown, N.J., former home of the Pooles. Mr. Poole is Director of Development for Sandia Corporation.

Charlotte Clark, 1250, became the bride of S/Sgt. Elmer E. Clawson August 8 in the Congregational Church. Sgt. Clawson is stationed with the Air Force at Kirtland Air Force Base.

Jo Ann Lohner and Pfc. O. L. Emerson were married August 29

What's My Line?



What Is This Man's Job With Sandia Corporation?

He turns theory into reality. His work requires fine measurements and painstaking attention to detail. In many respects his work comes first in actual production. He spends much of his time on his feet and his work requires that he know how to operate several different types of industrial machines. What's his line? See page 6 for the answer.

in Bernalillo. Jo Ann, an Albuquerquean, has been working for the Corporation in 3153-1 for eight months and her husband who is from O'Brien, Tex., is stationed with the Air Force at Kirtland Field.

Freedom's Not Everywhere, But The Motta Family Found It Here

This country has long been a haven for refugees from oppression. In the years gone by, as today, these hopefuls have come to United States looking for freedom and opportunity.

What becomes of these families after they arrive in New York? Do they find their dreams fulfilled and how do they fare in this big, strange country? How do people from other lands live through the years following this sudden change in their lives? We cannot tell the stories of all

of them for there have been millions who have come to the shores of America since the turn of the century. However, we can tell the story of one family. It is the tale of the Motta family, formerly of Sicily.

John Motta was the successful owner of a machine shop in the city of Catania on the east coast of the island. Though not a rich man, Mr. Motta was independent and had a happy family. His wife and two

children made life complete. The son, young Salvatore, attended the Royal Nautical Institute in Catania, graduated as a marine engineer in 1928 and had hopes of a job on a trans-Atlantic liner.

But Italy changed. Fascism came to the country and liberty disappeared. No longer was the Motta family happy. To regain their liberty they decided to go to America. In 1928 the family sold all its belongings and sailed for New York.

There they made their home and started life anew.

Young Sal worked as a machinist during the day and attended night classes at the College of the City of New York. The father worked as a tool and die maker in New York. The country was good to the Mottas and they found freedom in abundance. Young Sal soon graduated from CCNY and started on an engineering career with aircraft manufacturers.

The years passed by and Sal was married. In 1948 he came to Albuquerque and went to work for the University of California at Sandia Base. Today Sal is an engineer in Division 1211 of Sandia Corporation and the father of three fine sons. Sal's father is still employed in New York and the Italian family which could find no liberty across the sea is now an American family, United States citizens, enjoying the freedom of a free country.



WHO'S AFRAID OF A POLICEMAN? Not John, Bobbie or Ralph, the three young Motta boys. Life here is a far cry from a police state where rule is through fear. In America a policeman can be a young

boy's best friend. State Patrolmen Lester G. Raney and Earl E. Tesman like people and people like the officers, who are the symbol of law, order and another of the four freedoms: Freedom from Fear.



IN AMERICA YOU MAY SPEAK WITHOUT FEAR OF REPRISAL. Soon after the Motta family arrived in United States they learned that they could speak out with no fear of punishment. It was their right to speak as they pleased. Sal is now a member of a Toastmaster's club and each week he joins other members of the club in freely and publicly discussing matters of current interest. Freedom of speech and freedom of assembly are treasures valued most highly by the new Americans who have been subjected to oppression in their former home countries. The Mottas are proud of the first of the Four Freedoms: Freedom of Speech.



GOING TO CHURCH ON SUNDAY is a privilege the Mottas enjoy in this country. They may go to any church they wish, they may worship when they please as they please. Religion is an important part of the freedom enjoyed by Americans. Churches and church leaders are among the greatest sufferers of tyranny, for dictatorships cannot tolerate the teachings of any religion. The Mottas exercise their second freedom: Freedom of Worship.



IN THE LAND OF OPPORTUNITY one of our greatest privileges is that of being able to enjoy the fruits of our labors and at the same time save for the future. Sal puts a portion of every pay check into a savings account, each month money goes

toward the purchase of U. S. Defense Bonds and he also participates in the Sandia Corporation Retirement Plan. A home, an automobile, abundant food also demonstrate the Motta's enjoyment of another freedom: Freedom from Want.



Hey Pop! Do you want the cork?

Classified

FOR SALE—

Three-bedroom house, near Sandia and Kirtland, has lawns and landscaping, front and back, walled yard, french doors, patio, breakfast bar, central heat, air condition, tiled bath and kitchen, \$11,500. D. Collins, ext. 7236, 804 S. Cagua Dr.

1951 Pontiac chieftain, hydromatic drive, \$2475. D. L. Collins, ext. 7236.

1937 four-door Plymouth sedan, good transportation, cheap. Mel Pliner, ext. 26159 or Alb. 5-5961.

Three-piece living room suite, sofa and two chairs, approximately 3 years old, excellent condition, \$60. J. T. Brown, ext. 24259 or Alb. 5-7467.

1941 Ford convertible (with Mercury engine), in good condition, \$400 cash. Danny Worth, ext. 5194.

Two year old house, frame stucco, landscaped, many extras, Bel Air location, assume 4 1/2% FHA mortgage. F. G. McLean, ext. 28139 or see at 2734 N. Adams.

1948 Dodge, tudor, sedan, black with white sidewall discs, heater, seat covers, altimeter, is in excellent condition, one owner, \$925. This is considerably below market. Moffat, ext. 29159.

Ithaca light weight shotgun, new condition, 30 inch full choke plus spare barrel with set of weaver chokes; sheep lined case for gun, first \$75 takes all; Bausch and Lomb 7x50 binoculars, leather case, perfect, \$60; Girl's Columbia bicycle, large size, little used, red, price \$25; Eastman 35 with range finder, leather case, f3.5 coated color corrected lens, for \$55 which includes factory cleaning and checkup; 1936 DeSoto airflow four door sedan, has good tires, seat covers, good paint, mechanic's special, needs engine overhaul, \$150 or best offer; Simons bed-divan, maroon upholstery, excellent condition, \$35; complete Book of Knowledge, seventeen books, original ten published 1944 with yearly annual through 1951, like new condition, \$55; three massive antique pieces which do not fit our house at a fraction of their actual value, large glass front book case or china closet, rosewood square piano (needs restringing) with square stool, and round dining room table extends from six to fourteen feet (banquet size), antiques at sacrifice price of \$100 each or the three for \$250. T. S. Daniel, ext. 23238 or Alb. 5-6484 or see at 5905 East Roosevelt Ave.

Trailer, Sears one wheel luggage, used one trip, only \$35. M. Gustafson, ext. 22156 or 5293.

Radiator, original Ford V8, '46-'48, new, used 2 weeks, cost \$58, sacrifice \$40. Frank Anderson, 2909 Santa Cruz, ext. 29151 or Alb. 5-9602.

Well-constructed two-bedroom house in beautiful neighborhood; ideally situated near shopping districts, schools and bus line; lawns front and back, shrubbery, fenced-in back yard; \$10,500. Helen Smith, ext. 26156 or Alb. 5-7389.

Baby grand piano, small size Brambach in perfect condition, \$200 down and terms or \$877 cash. E. L. Cheeseman, ext. 29253, 2215 Hendola Dr. in Inez addition.

Breakfast set, chrome pedestal table with plastic top and corner "built in" style bench. Both in brand new condition for \$125. Also davenport and "barrel back" lounge chair, both for only \$40. E. L. Cheeseman, ext. 29253, 2215 Hendola Dr. in Inez addition.

Baby furniture, Edison wardrobe and matching large size crib, Teeterbabe chair, Taylorot stroller, and play pen, all used but in fair condition. \$50 for the lot. E. L. Cheeseman, ext. 29253, 2215 Hendola Dr. in Inez addition.

Montgomery-Ward deluxe washer with pump, excellent condition, \$60. W. H. Everhart, 3165 44th Pl., ext. 7164.

Four-piece bedroom set, includes double

bed with spring and innerspring mattress, chest, dressing table and bench, excellent condition; Lane Cedar chest, walnut, excellent condition; two-piece living room set. James Maxim, 1103 W. Gold Ave., ext. 29155.

1941 Chrysler, two-door sedan, good rubber, body good, best offer over \$350. Matt Torres, ext. 24144.

1949 Plymouth special deluxe, R&H, black sedan, excellent condition, \$1325. R. B. Yoder, ext. 33241.

1949 FORD CUSTOM TUDOR, 6 cylinder R & H, turn indicator, excellent upholstery, 19,000 miles, undercoating, wheels balanced, new paint job, original owner, \$1235. C. H. DeSelm, ext. 21152 or Alb. 5-2634, 513 S. Carlisle.

CHILD'S ROLL-TOP OAK DESK, \$10. C. H. DeSelm, ext. 21152, or Alb. 5-2634, 513 S. Carlisle.

RIDES WANTED—

Corner of 4th and Iron or the corner of Coal and Iron. Phobe Chavez, ext. 23141 or 23136.

Mountain Road and Girard, Marble and Girard or vicinity of 1000 block on North Girard. Gerry Cacciato, ext. 5147 or 28256.

Matthew and Rio Grande to West or North Tech gate. Oliver Padilla, ext. 27145.

1212 E. Roma. Mary Barnett, ext. 28159 or Alb. 3-7481.

503 Monkbridge vicinity to East Tech gate. Theresa C. DeBaca, ext. 22259 or Alb. 4-0153.

415 South Vassar. Marianne Humphrey, ext. 4236.

205 North Adams. Connie Wright, ext. 4236.

Corner of Sky Court Road and Sky Court Circle in the Zuni addition to Tech area I. K. D. Spiller, ext. 5238.

1104 S. Atrisco Rd., or Five Points Store. Connie G. Gonzales, ext. 23141 or 23136 or Alb. 3-9392.

Coal and Princeton. Lou Ivy, ext. 31144.

2819 E. Silver, beginning Sept. 19. Norma Chumley Wigal, ext. 5234 or 21123.

502 S. Second, Dorothy White, ext. 25240.

1930 N. San Mateo, Gwendolyn Gideon, ext. 28154.

406 S. Dartmouth to East Tech gate, Helen Purcell, ext. 21249.

WANTED—

New or used concrete wheelbarrow with pneumatic tire. Mel Pliner, ext. 26159 or Alb. 5-5961.

One or two refined young ladies to share apartment with working girl, location 1100 block west Gold. Nora O'Neill, ext. 7251 or Alb. 37381 after 5:30 p. m.

FOR RENT—
Large two bedroom 5 room house with garage and lawn, furnished or unfurnished, \$85 a month, water and garbage paid, near Sandia Base, 8207 Chimayo Road. Shirley Benson, ext. 7238.

Rooms for rent, 2 rooms very near both bases and Sandia Base bus route. Kitchen privileges granted; very reasonable rent. Dorothy Pittman, ext. 24152 or go to 625 S. California after 6 p. m.

What Is Your Opinion

What Major League Teams Do You Think Will End Up in the World Series This Year?

The interviews which brought forth these predictions on the teams in the World Series were made September 4, after the Labor Day double headers.

RAYMOND E. VINSON, 1270. It'll be Cleveland in the American League and Brooklyn in the National. If the New York Yankees win again this year I'll quit following the big league baseball games. I would prefer to see the New York Giants win because I've spent considerable time in Phoenix where they have spring training. I don't see how they can make it—the only chance would be if Brooklyn collapsed completely.

G. CAROLYN WEST, 4131. I've been listening to the Cleveland Indian games and I certainly hope they get in there. I don't know whether they will or not, though, as it's awfully tight. I am afraid Brooklyn will win out in the National League. I'd rather have the Giants win than the Dodgers. I was right behind Chicago when they were on a winning streak. I always feel sorry for the underdogs.

ALBERT COULTER, 2415. I'd say Cleveland Indians and Brooklyn Dodgers. I'm not an authority but it's my opinion Cleveland will come out ahead of the Yankees. The Giants have a very slim chance even though they have been going like a house afire the past month or so. My favorite team is the St. Louis Cardinals. I used to watch them play when I was a boy, but there is no hope for them this year.

What's My Line?



Edward Gillis Is a Model and Instrument Maker.

Ed takes the theories resulting from research and experiment and translates them from a blueprint to a working reality. He is the maker of prototypes, the man between the idea and the production line.

In the picture above Ed is using a micrometer to measure part of a gear box. Ed has spent 15 years in the tool-making trade. He joined Sandia Corporation after four and half years at Ilyokern Naval Ordnance Test Station in California. He is married and has four children. He works in 2123-1.

Be wise, invest in your future. Buy U. S. Savings Bonds the payroll deduction way.

IRENE T. BRIAN, 2461-2. I think Cleveland Indians will come out. I think they will stay ahead of the Yankees. I'm not interested in the National League. If Cleveland plays Brooklyn, I'd say Cleveland will win. But I wouldn't know which team to say will win the pennant in the National League.

RAYMOND F. WULFE, 1625. Whether I like it or not I think it's Cleveland and the Dodgers. I'd like to see the Red Sox win it. I have no preference in the National League, just hope it isn't the Dodgers. I lived in Boston for awhile, that's my reason for being a Red Sox fan.

JOAN B. BELL, 2224. I'm a Bostonian and the Red Sox are my team. I used to keep up on the standings when I lived in Massachusetts but I don't any more. I just know I would like to see those Red Sox come through to be in the series. I don't know anything about the National League teams.

Cry "Stri-i-ike" Ushers in New Bowling Season

Close to 300 Sandians are flexing their bowling arms preparatory to the start of the bowling season September 24, at 6:30 p. m., on the Coronado Club alleys.

A total of 40 teams will compete in five leagues already organized. One league, composed of eight teams, will bowl each night, Monday through Friday. The women's league will play on Tuesdays. There are about seven bowlers on each team.

All the Sandia leagues are sanctioned by the American Bowling Congress which entitles the bowlers to enter national competition.

Golf

Standings as of September 1 are as follows:

Flight A

Team 4, Pierson, Dierks, Johnson, won 8, lost 2; Team 7, Hicks, Williams, Cowan, won 8, lost 2; Team 8, won 7, lost 3; Team 1, Cocke, Fellows, Benish, won 5, lost 5; Team 2, Horne, Jr., Baumgartner, won 4, lost 6; Team 6, Nelson, Summers, Lettrich, won 4, lost 6; Team 5, Hopper, Hunnicut, Siglock, won 3, lost 7; Team 3, Brooks, Lindell, Lockwood, won 1, lost 9.

Flight B

Team 2, Claasen, Sharp, Bush, won 8, lost 2; Team 4, Skinrood, Hines, Kidd, won 7, lost 3; Team 1, Quirk, Ryan, Sampson, won 6, lost 4; Team 5, Thomas Johnson, Kennedy, won 6, lost 4; Team 7, Fornero, Snyder, won 6, lost 4; Team 8, Cavanaugh, Hess, won 6, lost 4; Team 3, Hickey, Campbell, Jones, won 1, lost 9; Team 6, Weldon, Irving, Angue, won 0, lost 10.

Pitches Horseshoes to Championship, Now Finds Sons Tough Competition

Horseshoe pitching became physical therapy for Allan P. Gruer, 1624, back in 1929 to restore an injured shoulder. Since that time he has been champ horseshoe pitcher in Quebec, Montreal and several cities in the United States in addition to winning the championship of Eniwetok this summer.

Uses Scientific Approach

The barn yard approach, according to Allan, is a far cry from the scientific technique, which he practices. It isn't just a matter of throwing and hoping. Scientifically, you make your throw and know that the shoe will turn and get very near the target—maybe even a ringer.

In 1932 after becoming champion of Ontario where he was working for the Texas Oil Company, Allan competed against the then world champion, Blair Nunnemaker. His only comment is, "he beat the pants off me." But Allan gave Nunnemaker a run for his money at the start of the contest by matching him 12 consecutive ringers.

Class A pitchers must throw 70 per cent or better ringers. The record to date is 96 and Allan says his best is 92 which shows he knows his shoes.

Sons Now Play

The Gruer's have playing courts in their back yard and Allan, Jr., 18 and John "Jack," 15, now offer their dad rough competition. In fact, Allan says, "Allan, Jr., trims the old man regularly." Jack was horseshoe pitching champion at the base playground this year. The other two sons, Earl, 16 and Larry, 12 are not interested.

Marge, Allan's wife, found out long ago that pitching horseshoes was here to stay as far as her husband was concerned. Even before they were married, there were many times in Montreal when Allan would visit Marge and spend three-quarters of the time pitching the shoes with her father.

This summer at Eniwetok, Allan took on the island's champion and won a set of shoes as a prize. Horseshoe pitching is one of their more popular sports there, he says. Other than that, Allan has stuck to his backyard courts since coming to Albuquerque in 1948.

Tough Competition

Instrument work is the horseshoe pitcher's job with Sandia Corporation. He was born in Elgin, Ill., and edu-



Allen Gruer

cated in Montreal, Canada. Upon graduation from high school there he attended Montreal Tech Institute and has been in instrument work ever since. His work has taken him to various cities across the country and he has always been able to find a horseshoe tossing competitor. He has several cups to prove his skill, the biggest of which he received in Montreal after winning the championship for three consecutive years.

A match for the future is one between Fred Fay, 3230 and Dennis Sparger, 2233-1 against Ted Anderson, 3230, and Allan. Any other Corporation employees interested in the sport are invited to contact Allan on ext. 24159. He says it's wonderful exercise in addition to being fun.