



ISSUED IN THE INTERESTS OF THE PERSONNEL OF LMAL, NACA

Issue 3, Vol. 2.

LANGLEY FIELD, VIRGINIA, FEBRUARY 17, 1943

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APPR. SCHOOL GRADUATES FIRST CLASS

U. S. DIRECTOR OF APPRENTICESHIP SPOKE AT CEREMONY FEB. 4

The fourteen apprentices comprising the first graduating class of the LMAL Apprentice School were graduated on February 4 in an impressive ceremony at the Post Theatre. The following men received diplomas entitling them to journeyman rating in their trades:

John H. Breisch
 Clarence T. Brown, Jr.
 Charles W. Cardwell
 Charles M. Chambers
 Durwood A. Dereng
 Raymond M. Hulcher
 Caldwell C. Johnson, Jr.
 Robert E. Little
 Dale B. Lively
 John P. Morgan
 Norman R. Richardson
 Roland Tully
 Ralph L. Westphal
 Francis S. Wolak

Machinist
 Aircraft Sheetmetalsmith
 Aircraft Sheetmetalsmith
 Machinist
 Aircraft Modelmaker
 Instrument Maker
 Mechanical Draftsman
 Aircraft Sheetmetalsmith
 Aircraft Modelmaker
 Aircraft Modelmaker
 Aircraft Modelmaker
 Machinist
 Wind-Tunnel Mechanic
 Aircraft Modelmaker

The following program was presented:

PRESIDING	Mr. H. J. E. Reid, Eng.-in-Chg.
INVOCATION	Mr. Elton W. Miller, Chief of Aerodynamics Division
GREETINGS FROM STUDENT BODY	Mr. Richard A. Everett
ADDRESS	Mr. Edward R. Sharp, Manager of AERL
INTRODUCTION OF SPEAKER	Mr. D. E. Henry, War Manpower Commission
GUEST SPEAKER	Mr. William F. Patterson, Director of Apprenticeship
PRESENTATION OF CERTIFICATES	Mr. Charles A. Hulcher, Apprentice Administrator
FOR THE GRADUATES	Mr. Caldwell C. Johnson, Jr.
BENEDICTION	Mr. Elton W. Miller, Chief of Aerodynamics Division

The principal speaker at the graduation ceremony was Mr. William F. Patterson, U. S. Director of Apprenticeship. Mr. Patterson outlined the establishment and growth of education in this country stressing the importance to the war effort of a greatly increased flow of properly trained and highly skilled mechanics of all kinds to the war industries. He praised the thoroughness of the system employed in the Laboratory Apprentice School and commented very favorably upon the cooperative spirit of the mechanics and section heads in instructing the apprentices. Mr. Patterson's talk was very smooth interspersed with a very lively wit and was in every way a warm welcome and an inspiration to the young men to whom it was addressed.

TAXPAYERS NOTE

On or about February 8 there were distributed to all laboratory employees statements of the gross amounts of their earnings for the past year.

These notices are made available in order that the members of the staff may be able to prepare accurate income tax returns.

Because of the difficulty experienced by Laboratory employees in procuring such items as tax forms, ration forms, or any of the many other forms required by Laboratory employees in their business or personal affairs, it is desirable that the Laboratory stock and dispense as many such forms as practical. Some service of this sort is already being rendered but for general convenience, it is desired to expand it. Aside from the convenience to employees, the war effort will be benefited by the saving of lost time due to the trips to town by employees, now necessary which may be eliminated.

This idea expands naturally into what additional service could the Main Office render which would add to the general well-being of employees and the Laboratory alike. Any such services would necessarily have to be within the capacity of the office staff to render. However, time can be made available for worthwhile items.

The employees themselves can best suggest the services that would benefit them most. If you have an idea, send it to the Chief Clerk. All suggestions will be answered promptly. The staff will be advised through the Bulletin of the progress of the idea - if and as you show how.



For the past three weeks about twenty prospective members of the basketball team have been earnestly practicing almost every afternoon from 4:30 to 6:00 on the excellent court of the Langley Field gym. Coach Frank Read of the Erection Shop reports that several games are in the process of being schedu

are in the process of being scheduled with local quintets.

Since the majority of the men turning out for practice have had considerable experience with various school teams much attention has been devoted to team work rather than individual improvement.

During the past few days the following eleven members have been showing good form at practice:

William Acken	Flight Research
Scotty Bowlin	W. Area Mach. Shop
Robert DeMoss	16' Pressure Tunnel
Don Dails	8' H.S.T.
Albert Evans	16' Pressure Tunnel
Paul Johnson	19' Pressure Tunnel
Harold Kleckner	Flight Research
James Lindell	Erection Shop
Mack Nichols	P.R.T.
Jack Reeder	Flight Research
Harold Swiberg	Full-Scale Tunnel

ALL SECTIONS PLEASE CHECK to see if they have any of the following equipment:

- Rubicon Potentiometer, Serial No. 8320
- Rubicon Potentiometer, Serial No. 3864, Inv. No. 10427
- Rubicon Galvanometer, Serial No. 10936
- Meylan Stopwatch, Case No. 253291, Works No. 66915, Inv. No. 582
- Meylan Stopwatch, Case No. 253311, Works No. 66935, Inv. No. 584

Please notify Klein of the Supercharger Section if any of this is in your possession.

ADDITIONS TO TELEPHONE DIRECTORY

- Supersonic Tunnel 373
- Administrative and Property Officer, Liaison Office 374
- West Area Dispensary 375

A new General Telephone Directory will be distributed shortly.

MODEL DOPE

BY Dick Everett

The first Indoor Contest of the season was a huge success. As usual Hewitt Phillips was the winner, his time 6:40.7. This time is really remarkable for such a small ceiling and it was only after numerous trials that this was accomplished. In second place was Joe Boyle with a time of 5:35 and Dick Everett third with 5:24, fourth was Crane with 5:21, fifth C. C. Johnson time 4:57, 6th R. Sladek 4:34.

Altogether seven contestants took official flights while there were over 14 at the contest. At one time there were over eight ships in the air at one time looking very much like a bunch of oversize mosquitoes because of the ships small size. It was especially encouraging to see the number of contestants out for this meet for the ships are the hardest of our many types to build and fly.

One of the most interested spectators was Mr. Ernest Johnson, Chief of Technical Service, who seemed vitally interested in the ships, their weight, times and records. Accompanying Mr. Johnson was his son who has just recently returned from the far Pacific Battlefield where he saw a great deal of the action that has so far taken place. He is home on furlough from the Navy.

The second indoor meet is scheduled for the 17th, with Class B models holding forth. These ships will have from 30 to 100 sq. in. in wing area and will be approximately 24" in span. The weight of the lightest of these ships will be close to .035 oz. without the rubber. Time will be close to 8 minutes depending on the weather. This may sound foolish but a lot depends on the weather outside. A warm sunshine type day with very little humidity is the best. The time being higher on this type of day than any other.

The outdoor Gas Model Contest has been indefinitely postponed due to the ban on pleasure driving. We realize that it would be perfectly possible for most of the fellows to get to the field without a car, but there would be those few who would drive their cars; this would undoubtedly cause the cancelling of their ration book and we don't want that to happen. When this ban is over we can look forward to the largest local meet ever held in this area. Keep up the building. Latest reports have it that Paul Marchel is finally building a ship of his own design. Best ship, the "Hep Cat" with a vanguard wing and tail, does pretty good, but his own "B" is not so good. Wonder what will happen to the "Gremlin"?

(Continued next column)

SKYWAYS UP AND DOWN

All the good dirt seems finally to end up in this column so why not help out, if you know anything good see that it gets to Dick Everett. Here we go:

Gilbert has a new Texas ship. The original won the State meet and was lost at the Washington victory meet.

Hamil and Burke have new Pencil Bombers finished, saw them gliding them the other day, looked pretty good.

Ed Price has a scotch tape special. Seems as though everything is held together with that Stick-Staff.

Frank Parmenter holds forth as the first to fly this year. At 12:01 he and Dick Sladek got the model going. The ship was launched and recovered a day later.

Junior "Small Fry" Jones has a sweet looking "23" job all finished. The only trouble is the motor won't run on internals.

Seems like Birkel has a new (old) dream type ship. The ship was lost about 5 months ago and recently recovered (both ways). Powered by a bullet he declares it to have the fastest climb of any ship ever built. We wonder.

Seems as though Rosemary Taibi is again building Dodgers. This time a "C" with a Super Cike up front. Hope it does better than Beitchmans.

Wonder why Webber gets razed every time he shows up at the field with Culpepper's Playboy. The one he won the Baltimore contest with.

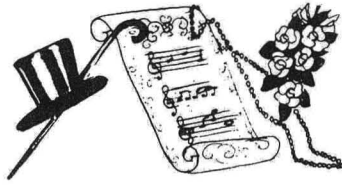
Wonder why you always see big boys with small ships. Jim Cox is the latest. A small atom job. Why not pick on something your size? Herb Andrews has a new ship of small cross section that really flies sweet.

Can you imagine gas builders building indoors? Well Frank Parmenter did it and got away with it. We would really like to see some of the other hotshots out. If you don't you are going to get challenged!!

WHAT'S YOUR ORDER NUMBER?

Every registrant should secure from his Selective Service questionnaire and report promptly to the Selective Service Office, the order number that has been assigned to him, because every laboratory communication with the registrant's local board must bear the proper order number.

Every registrant is responsible for knowing at all times what his number is.



Mr. and Mrs. E. W. Miller entertained Friday night, January 29th at a party at their home. They had as their guests members of the computing section.

Mr. and Mrs. Joseph A. Shortal entertained members of the Free-Flight Tunnel at their home Saturday night, January 30.

The Structures Lab. turned out on the evening of January 30th for their biggest party of the year. The fuel shortage made the American Legion Hall in Hampton a rather frigid gathering place, but the wit of Evan Schuette, the master of ceremonies, kept the celebrants warm and effervescent.

Consensus: "Swell Party."

We extend our warmest congratulations to Captain Donald R. Eastman, Jr. of the Liaison Office, who was promoted to his present rank on February 4.

The best wishes of the Photo Lab. go with their three recent additions to Uncle Sam's fighting men. John Kauffman is serving his country at some unknown outpost in the tropics. Eugene Snyder and William H. Guy, Jr. have been called up as Air Cadets.

The Air Flow Research section threw its annual party on the evening of the 13th at the home of Mr. Jacobs. Highlight of the affair was the able showmanship of Seymour Bogdonoff, who, as master of ceremonies, presented a side-splitting program of laughs which made the affair really outstanding.

Mr. Leo Francis Fehlner of the Stability Tunnel will be married to Miss Frances Anne Kirby on Saturday, February 20 at 10:30 in the Church of the Holy Name, Washington, D. C. A reception following the ceremony will be held at the Nordman Park Hotel.

Congratulations to Bob Bullock, Supercharger, who recently became engaged to Fay DeGaris, Hampton. Date of the wedding has been set for February 19th.

Janet Hollingworth of the Stenographic Section has returned to work after a long absence.

LANGLEY VIEWS · J.P.C.

THE NACA TANKS - PART 2

THEIR WORK

The testing done in the NACA tanks has kept pace with rapidly changing seaplane design. Within the past few years the emphasis in tank testing has changed almost completely because of new problems introduced by increasing seaplane weight and take-off speed.

Formerly, only resistance tests were run on model seaplane hulls. In this type of testing, the model is towed through the water without ever taking off, and various force, moment, and trim readings are made. The data obtained can be combined with aerodynamic test data to determine accurately the time and distance required for take-off.

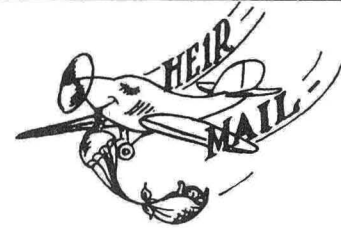
When the new heavier and faster seaplanes began having trouble with longitudinal instability at take-off and landing (commonly called "porpoising") a new type of tests became necessary--dynamic tests of complete model seaplanes. NACA tank number 1 was the first tank in the country to take up dynamic testing. In these tests, the model, which is an accurate dynamic scale model of the airplane, actually takes off and lands. From the model's behavior in these tests can be determined its longitudinal stability, its response to elevator control, and other important take-off and landing characteristics.

The latest dynamic models being tested in the tanks are equipped with powered propellers for investigating the effects of power on the take-off run. A further extension of dynamic testing of powered models is now being started--tests of models free to rotate about all axes. At present, the models are free only to pitch and to move longitudinally and vertically. In the new type of testing, the model can also roll and yaw, thus making possible a study of its lateral stability on the water.

In tank number 1, considerable work has been done with hydrofoils--foils with sections similar to airfoils which operate under water and give enormous lift due to the density of the water. In this work the tank is attempting to develop and improve the design of hydrofoils in order that they may be used to speed up the rise out of the water of seaplane floats and speed boat hulls.

The events recorder which has been used extensively in full-scale flight testing, was designed and developed through the cooperative efforts of the tank and NACA instrument section personnel. This de-

(Continued on Page 6)



Mr. and Mrs. Wallace R. Blake announce the birth of a daughter, Barbara Kathleen, on January 14, 1943.

Mr. and Mrs. John E. Doyle announce the birth of a son. Mr. Doyle is with the Engineering Section.

Mr. and Mrs. Ben Vogel announce the birth of a son. Mr. Vogel is the Art Editor of the Bulletin and is with the Instrument Service Section.

Congratulations to Mr. and Mrs. Stanley Clason on the birth of a son on February 11. Mr. Clason is with the Photo Lab.

NACA Exchange Committee

Mrs. Upshur Joyner has been appointed the West Area representative of the NACA Exchange. It is requested that all recommendations or comments concerning the West Area cafeteria be forwarded to her in writing. These will be considered at the regular meeting of the NACA Exchange Committee.

Because of the transportation situation and the need to hold many of our staff meetings after regular working hours, it has become necessary for many of these groups to have dinner in the Laboratory cafeteria preceding the meetings. It is requested that in all cases arrangements for this type of meeting be made well beforehand with Mr. Walter Reiser. This will give him an opportunity to have the needed cafeteria personnel and food on hand.

Arrangements for all other meetings after working hours on Committee premises and not involving dinner should be made through the receptionist in the Administrative Building so as to avoid conflicts in the rooms used for such purposes.

The "Special" CRT bus for NACA workers leaves Claremont Avenue and First Street at 7:45 AM instead of at 7:50 AM. At present this bus is not well patronized and there is the real possibility that this service may be discontinued if it is not used by more NACA workers.

NACA CREDIT UNION ANNUAL MEETING

The annual meeting of the NACA Credit Union on January 27, 1943 at the Administrative Building was a great success judging from the number of participants and the enthusiasm with which the two excellent pictures on synthetic rubber and aluminum were received. Many complimentary remarks were heard about the preparation and service of the dinner held at Ye Reiser's Cuisine.

The business meeting proved to be the most interesting part of the evening with all members actively participating in the many debates and arguments on policies, procedures and by-laws. The highlight of these discussions occurred when, on an impassioned plea by a member for an increase in the dividend rate, it was brought out that the factors controlling this dialectician, as admitted by himself, were those of imminent death and an expensive wife (in that order). The increase was voted and a 4% dividend was declared.

A parliamentary snarl developed when, during the presentation of candidates for the Board of Directors, it was brought out that a by-law had been passed preventing the election of a section head to the board. However, for the information of all the members, a careful perusal of the by-laws as adopted by the organization and an examination of the minutes of all previous annual meetings revealed no such by-law.

An organization meeting of the new Board of Directors elected the following members to be officers of the Credit Union for the year:

John B. Garvin President
George F. MacDougall, Jr. Vice-Pres.
Paul D. Taylor Treasurer
H. Arthur Samet Clerk-Secretary

The attention of all new employees is called to the Christmas issue of the LMAL Bulletin for information concerning the functions and purposes of the credit union and the names of the members of the Educational Committee who will supply membership blanks for all those interested in joining.

BEFORE AND AFTER

This paragraph is set in the ordinary typewriter form such as has been used in the previous issues of the Bulletin. The remainder of the issue was prepared on the new Vari-Typer, which gives a choice of type faces and also provides straight margins.

The type style used for this issue is the Heavy Gothic whereas the type used for this paragraph is the standard Pica. Which do you like best?

LIFE INSURANCE AND HOSPITALIZATION

The NACA Protective Association, a nonprofit organization composed principally of employees of the NACA, has been formed for the purpose of affording members and their dependents the opportunity of purchasing group life insurance and hospitalization insurance. All permanent and probational employees, and those appointed for the duration of the emergency, are eligible to join the Association and to purchase life insurance at the low rates obtained by the group.

The Protective Association also accepts applications for the Virginia Peninsula Hospital Service Association, which permits a holder to go to one of the local hospitals in Hampton or Newport News, and the North America Assurance Society, which covers any hospital in the country.

Sample policies and further information on the life insurance and hospitalization plans may be obtained from any of the following persons:

Name	Section	Section Phone
Albert W. Bainbridge	Instrument Service	319
John W. Ebert	Tank	213
William Gracey	Flight-Research Instruments	366
Charles A. Hastings	Instrument Research	218
Percy R. Keffer	Carpenter Shop	254
Ruth T. Belle	Office of Engineer-in-Charge	271
Norman R. Richardson	Instrument Research	218
H. Jerome Shafer	Instrument Research	218
Morton J. Staller	Instrument Research	218

OIL AND GASOLINE DRUMS ARE VITAL TO THE WAR EFFORT

Notice to all mechanics, section heads, and engineers. Your undivided attention is directed to the laboratory memorandum of August 7, 1942 which reads as follows:

1. Oil and gasoline drums are vital to the War Effort for the transportation of fuels. The oil companies cannot in some cases make deliveries of oil and gasoline needed by the Laboratory unless enough drums are returned to cover the amount to be delivered.

2. In the past it was possible to keep drums longer than the free time, forfeit the deposit and keep the drum. This practice no longer exists and all drums, even those included in the price of the contract, must be returned.

3. It has been discovered that some of the sections are using drums that have been emptied to store other oils, and some even sent to dump. These drums must be returned promptly to the Warehouse in the West Area so that they may be returned to the proper companies."

If company drums are the only means of storing oil and gasoline, steps should be taken to obtain enough drums so that company drums may be emptied and returned immediately.

The practice of returning containers applies to bottles, reel-sand cylinders as well as drums. When in doubt return the containers to the warehouse and they will be returned to the contractor or held so that they may be issued again.

TRAVELERS SHOULD AVOID WEEKENDS AND HOLIDAYS DURING 1943

The following memo came from the Washington office:

"It is requested that annual leave which involves travel throughout the period January 15 to December, be scheduled to avoid holiday periods wherever possible, and that employees be encouraged to begin and end leave periods during the middle of the week, to help level off the week-end travel peaks."

It is hoped that the Laboratory will cooperate with this request. It was made with a view to helping the boys in our Armed Services and those of us who cannot travel during the week. The NACA has a fine record of "helping" in this - our war - and we shall continue this help in every way possible.

GREEN COW DANCES SUSPENDED

At a meeting held last week, the Green Cow Committee reluctantly decided that it would be impractical to present any of their famous dances until there was some alleviation of the transportation shortage.

EDITOR'S NOTE: This means there will be no dances until we cease to be dependent upon automobiles and accept the fact that we must go on living without them.

NACA HOUSING PROGRESSING RAPIDLY

THIRTY-ODD UNITS NEAR COMPLETION

The time is not far distant when "Cavalier Court" will be synonymous with "NACA people", to judge from the rapidity with which our housing project is being erected. Already some thirty houses are in various stages of construction. But this is only a good beginning. The project will extend far beyond the limits visible at present and will contain 128 units comprising an equivalent of about six square city blocks. 'Twill be quite a community.

These houses are being constructed with redwood siding and hardwood, factory-finished, floors. The floor plan shown at right is being used with slight variations, (such as reversing it), in all the five different type units. But don't think that the houses are therefore monotonously alike, they're not. There are five exterior shapes and at least eight different color schemes, so you'll be able to find your way home on even the foggiest nights.

The houses are being wired with a three-wire lighting service with 220-volt connections for electric ranges. Other electrical features include two wall outlets in each bedroom, (which is unusual in present building), as well as dome ceiling lights in all rooms, and a 1000 watt electric heater built into the bathroom wall. In addition to this the units are "converted to coal" with the stoves shown in the plan.

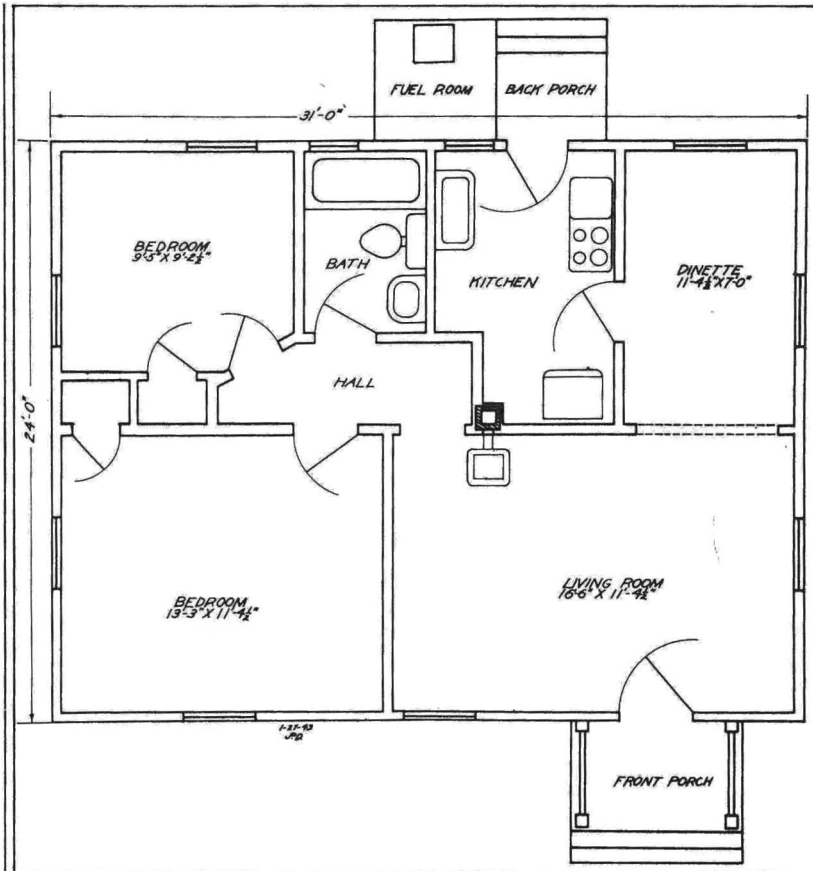
The location of our new homes is exceptionally convenient both to the field and to a shopping center. The center of the project is 2.4 miles from the Administration Building and about 500 yards from the general grocery store at the traffic circle. Of course the bus lines to any spot on the Peninsula are very convenient to the Court.

LANGLEY VIEWS

(Continued from Page 4)

vice, which records pertinent data during take-off and landing tests has already been used on the PBY-5, the PBB-1, and the PBM-3, and has shown that these tests are in good agreement with the model tests of the same airplane in the NACA tank.

Although the work of the tank has been widely diversified and ever-changing during the past few years, the testing and improvement of particular seaplane designs has not been neglected. In fact, within the past 10 years, every flying boat built in the United States, with but one exception, has been tested in the NACA tank.



STOCKROOM NOTES

(Continued from Page 2)

cylinders cannot be exchanged for full ones unless these caps are on the cylinders, so keep the caps with the cylinders at all times.

We have been looking over the "lost" ads of the various "local rags" from time to time in an earnest endeavor to locate the owners of various items that have strayed into our possession. Personnel seem to take a fiendish glee in entering and leaving in our stockroom various articles of merchandise containing no markings and identification. They must chuckle indeed in watching us hunt vainly for the owners. When you deliver articles to us please write on them the "why and wherefore".

Please note that all requests for envelopes of any and all kinds whatsoever must be made to the duplicating room. The stockroom no longer has any authority to issue them.

P.S. Watch your speed going out the west gate at quitting time. There has been a speed trap there at various times lately.

The following periodicals are now off circulation and are available in the Library:

- Aero Digest, Nov. 1942
- Aeroplane, Nov. 23 & 30, 1942
- Aircraft Engineering, Sept. & Oct. 1942
- Automobile Engineer, Nov. & Dec. 1942
- Aviation, Dec. 1942
- Bur. Stds. Jr. of Research, Oct. 1942
- Diesel Progress, Dec. 1942 and Jan. 1943
- Engineering, Nov. 27, Dec. 4, 11, 18, 25, 1942
- Jr. of Applied Physics, Dec. 1942
- Jr. of Institute of Aero. Sciences, Jan. 1943
- Jr. of Institute of Petroleum, Nov. 1942
- Jr. of S.A.E., Jan. 1943
- Mechanical Engineering, Dec. 1942 and Jan. 1943
- Nat. Petroleum News, Jan. 6 and 13, 1943
- Patent Office Gazette, Dec. 29, 1942 and Jan. 5, 12, and 19, 1943
- Reviews of Modern Physics, Apr.-July, 1942
- Aerodynamic Theory, By W.F. Durand. Volume 3, Copy 2, Accession No. 1419.