

OFFICE OF NAVAL OPERATIONS

WASHINGTON

November 4, 1918.

~~CONFIDENTIAL~~

From: Director of Naval Aviation,
To: All Naval Air Stations, Aviation Detachments,
Bureaus and Naval Districts.

SUBJECT: Weekly Report - November 4, 1918.

1. Hours of patrol obtained during the past week at Naval Air Stations, together with the number of flights and seaplanes used for patrol, for week ending November 4, 1918:

P A T R O L S -

| <u>Stations</u> | <u>Flights</u> | <u>Hours</u> | <u>Mins.</u> | <u>Aircraft in commission</u> | <u>Complement at station</u> |
|-----------------|----------------|--------------|--------------|-----------------------------------|----------------------------------|
| Cape May | 38 | 115 - | 17 | 8 seaplanes | 12 seaplanes |
| " " | 1 | 4 ÷ | 50 | 1 dirigible # | 1 dirigible |
| Chatham | 30 | 45 - | 40 | 12 seaplanes | 12 seaplanes |
| Coco Solo | 17 | 56 ÷ | | 2 " | 12 " |
| Halifax | 9 | 10 - | 30 | 2 " | 4 " |
| Hampton Roads | 80 | 233 - | 49 | 22 " | 24 " |
| Key West | 70 | 117 - | | 7 " | 18 " |
| Miami | 47 | 59 - | 3 | 2 " | |
| Montauk | 27 | 50 - | 35 | 12 " | 12 seaplanes |
| " | 3 | 9 - | 50 | 1 dirigible # | 2 dirigibles |
| North Sydney | 2 | 1 - | 40 | 5 seaplanes | 4 seaplanes |
| Rockaway | 81 | 206 - | 50 | 13 " | 24 " |
| Rockaway | 5 | 8 - | 40 | 1 dirigible # | 2 dirigibles |
| " | 28 | 239 ÷ | 20 | 4 kite bal. # | 20 |
| | 433 | 1261 - | 44 | | |

Lighter-than-air
craft total - 37 312 40
Seaplanes total - 401 949 4

NOTE: The sign ÷ indicates that the record for the week is greater, the sign - indicates that the record for the week is less than for the preceding week. Underscoring denotes best record for station.

DECLASSIFIED - DOD DIR 5200.9,
27 Sep 1958

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2. Hours of flying other than patrol obtained during the past week at Naval Air Stations, together with the number of flights and seaplanes in commission and at each station, for the week ending November 4, 1918:

| Stations | Flights other than Patrol | | | Aircraft in Commission | Complement at station |
|---------------|---------------------------------|--------------|----|---------------------------|--------------------------|
| | Hours | Mins. | | | |
| Akron | 4 | 4 | 39 | 1 dirigible | |
| " | 46 | 27 | 30 | 1 kite balloon | |
| " | 26 | 39 | 40 | 10 free " | |
| Bay Shore | 424 | 374 | 5 | 38 seaplanes | 48 seaplanes |
| Cape May | 7 | 7 | 5 | 3 " | |
| " " | 3 | | 33 | 1 dirigible | # 1 dirigible |
| Chatham | 30 | 12 | 32 | 10 seaplanes | |
| Coco Solo | 20 | 11 | 3 | " | |
| Halifax | 10 | 11 | 10 | 5 " | |
| Hampton Roads | 32 | 30 | 50 | 20 " | m 38 seaplanes |
| " " | 23 | 7 | 38 | 4 kite bal. | # 33 kite bal. |
| Key West | 963 | 957 | | 50 seaplanes | 36 seaplanes |
| " " | 40 | 27 | 25 | 1 dirigible | # 2 dirigibles |
| Miami | 1,332 | 1,048 | 15 | 29 seaplanes | 114 seaplanes |
| Miami Marines | 699 | 603 | 39 | airplanes | |
| Montauk | 6 | 3 | 40 | 12 seaplanes | |
| " | 5 | 12 | 30 | 1 kite bal. | # 2 kite bal. |
| North Sydney | 32 | 19 | 3 | 5 seaplanes | |
| Pensacola | 1,815 | 1,297 | 58 | 66 seaplanes | 108 seaplanes |
| " | 87 | 53 | 50 | 1 dirigible | # 3 dirigibles |
| " | 2 | 1 | 50 | 2 free bal. | |
| Rockaway | 24 | 14 | 15 | 16 seaplanes | |
| " | 1 | | 40 | 1 dirigible | # 2 dirigibles |
| San Diego | 483 | 355 | | 13 seaplanes | 36 seaplanes |
| | <u>6,121</u> | <u>4,921</u> | | | |

| | Flights | Hours | Mins. |
|------------------------|---------|-------|-------|
| Seaplanes | 5,183 | 4,136 | 6 |
| Dirigibles | 134 | 92 | 7 |
| Kite and free balloons | 105 | 89 | 3 |
| Airplanes | 699 | 603 | 39 |

GRAND TOTAL FOR FLYING TIME:

| | | | |
|-------------------------|--------------|--------------|----|
| Patrol | 483 | 1,261 | 44 |
| Other than patrol | <u>6,121</u> | <u>4,921</u> | |
| | 6,555 | 2,193 | 44 |

Number at Stations.
m Experimental.

3. The following officers have been ordered abroad.

| | |
|-------------------------|----------------|
| Feuchtwanger, Austin J. | Ensign, USNRF. |
| Going, Henri R. | " |
| Harrigan, Millard J. | " |
| McDonald, Wm. C. F. | " |

4. Ensign Commissions have been requested for the following men:

| | |
|--------------------------------------|----------------|
| Bell, Harold Wm. | Ensign, USNRF. |
| Bowes, Harvey Richard | " " |
| Chase, Burr Linden | " " |
| Clark, Robert H. | " " |
| Connelly, Thos. Joseph | " " |
| Davison, Wm. Walter | " " |
| Davisson, Cyrus Gibson | " " |
| Dickey, Wm. Cox | " " |
| Erdman, Albert Wm. Jr. | " " |
| Foster, Raymond Albert | " " |
| Frye, Edgar P. | " " |
| Gardner, Guy Nelson | " " |
| Gray, Thos. Ashbury, Jr. | " " |
| Green, Raymond Francis | " " |
| Hall, Raymond Avery | " " |
| Hart, Van Breed | " " |
| Jacobson, Lee Richard | " " |
| Keyes, Lloyd D. | " " |
| Laird, John Robert D. | " " |
| Littleton, Covington Henry Scott 2nd | " " |
| Lunt, Dudley Commett | " " |
| Lyon, Norman Morois | " " |
| Mauck, Earl Lewis | " " |
| Richter, Joseph F. | " " |
| Schlichter, Frederick Paul | " " |
| Sebthrope, Hawley K. | " " |
| Stevenson, Virgil E. | " " |
| Sweeney, James Monroe | " " |
| Tipton, Meade C. | " " |
| Uhri, Wm. Clarence | " " |
| Whitcomb, Kenneth Frederick | " " |
| Wickman, Wilber Fletcher | " " |
| Wright, Walter Frank | " " |
| Winants, Frank Hillyer | " " |

MONTAGE, L.-I., October 30, 1918.

The week just ended was an unusually favorable one for flying and it is a record week for the station in several respects. The flying time for the week totaled 301 hours, which is a station record. The most time for one day was registered on October 28th, when the total reached 43 hours and 5 minutes, this also being a station record. Ensign W. R. Hillberg, Ensign J. H. Herbert, Ensign S. A. Crum, and Ensign J. F. Seehoff made the longest individual flight for US boats, the time being 4 hours and 15 minutes. Ensign J. H. Corbett made the greatest number of hours for the week for one flyer, his time amounting to 25 hours and 5 minutes.

Red lead has proven to be one of the most useful preparations for use on fittings and turnbuckles on aircraft. This is true especially where the fittings come in contact with the sea water.

A system for supplying gasoline on the beach has been in use at this station for some time. It consists of several spouts tapped from one line which runs from the storage tank. The storage tank is placed on a little hill near the beach and the force is sufficient to force the gasoline directly into the boats by means of a hose connection.

Much difficulty has been experienced with the starting dog on the Liberty engine. This dog has worn off on several engines in extremely short time. It was found that this trouble was due to the starting crank not releasing quickly enough. A spring was fitted on the crank to insure its releasing quickly and no more trouble has been experienced. This change has been reported to the department's representative for Liberty engines.

CHATHAM, MASS. October 28, 1918.

On October 24th, a plane piloted by Ensign Marschat was making a regular patrol when camshaft housing on No. 1 cylinder broke. He made a landing about fifty miles out at sea and investigated trouble. The motor seemed to be acting well as Ensign Marschat took off again and flew for thirty minutes toward land. Fearing that his oil supply would run out, he landed beside the first craft that was sighted. Ensign Marschat stated that motor continued to turn over at 1500 R.P.M., and that oil pressure did not drop below 30 lbs.

Ensign Flood, the other pilot on the patrol returned and reported position of disabled plane. A boat shoved off to take plane in tow and about an hour before dark, Ensign Flood started out to show boat the whereabouts of plane. He was gone about 1-1/2 hours. When he returned it was quite dark and a heavy low-hanging fog made landing difficult. Nevertheless, he made an excellent landing using only the light from a gasoline torch.

PIGEONS. During the week, twelve pigeons were released from seaplanes, all returned to Station safely, making excellent time.

BAY SHORE, LONG ISLAND. October 29, 1918.

On October 25, the final training flight of the carrier pigeons at this station was successfully accomplished. Having completed five (5) short flights over land from various points on Long Island, twenty seven (27) birds were transported by seaplane to Montauk Point, a distance of about seventy miles from here and released. Out of the twenty seven birds twenty-three returned the same day and the remaining four the next morning. The quickest time made was three hours.

No difficulty in any respect was experienced in the operation. The birds are now ready for active service on sea patrols and as soon as small containers are received, will be used for that purpose supplementing the radio service. It is felt that this means of communication though not in itself infallible will nevertheless be of material assistance in patrol operations.

stalled and the penguin is equipped with Dep. control. Turns can be made in it and, if put in a side slip, it

MIAMI, FLORIDA - October 26, 1918.

Three (3) H-16's arrived at this Station on Friday, October 25th, 1918, from Philadelphia, Pennsylvania. The planes arrived at Miami within a few minutes of each other and remained here for about twenty-four (24) hours while undergoing minor repairs and refueling.

The Alexandria Boat is being equipped with splash boards. In taking off an excessive amount of spray was thrown and caused a great deal of annoyance to the pilot. It is believed that the splash boards will obviate the trouble caused by the excessive spray.

The Seventh Squadron has installed a penguin. This penguin was made from the fuselage of a wrecked Scout. It is fitted on a ball and socket joint and stands about eight (8) feet off the ground. In place of wings a four (4) inch board extends from each side of the fuselage. Large flippers have been placed on the ends of these boards for ailerons. The flippers and rudder end were also installed and the penguin is equipped with Dep. control. Turns can be made in it and, if put in a side slip, it is necessary to nose down and rudder into slip to bring it out. If the flippers are held back too far the penguin will stall and fall off on the wing. Students are required to get into the penguin and keep it level, make turns and come out of side slips. This has proved to be very successful and is a great help in getting Students accustomed to the action of controls before taking their first instruction in flying. N-9 Squadrons are now building penguins and excellent results are expected.

CAPE MAY, N.J. - October 30, 1918.

PATROL SQUADRON.

Station during the week flew 151 hours and 53 minutes, and the total distance patrolled was 7420 nautical miles. Estimating the visibility as averaging eight miles, a total area of 59,392 square nautical miles was patrolled. The average length of each patrol was three hours and fifteen minutes. Recently, patrols have been made of four machines. Four machine patrols not only cover the area much more effectively, but tend a greater feeling of safety to deep sea patrols.

COMPASSES FOR OBSERVERS INSTALLED.

Compasses have been placed in the cock-pits for the observers in several of the H-Boats of this Station, with the result that the patrol reports have outlined the patrol, and given the position of vessels passed with a greater degree of accuracy.

CHATHAM - October 30, 1918

BOMB COVERS

A great deal of the failure of Mark IV bombs to function has been caused by water rusting the mechanism, and dampening the booster charge. Experiment is now being made with a bomb cover attached to the bomb gear, which will prevent water from spraying over the ends of the bomb. This cover is made of brass sheeting eighteen inches long, of conical shape, securely fastened to the bomb gear, and the end of the bomb projects into this cover.

HOISTING SLING FOR HS-2 L BOATS

A hoisting sling for HS-2 L Boats is being devised by one of the officers of this station. The purpose of the sling is to hoist HS Boats aboard vessels when broken down or disabled to such an extent that the planes are unable to return to the station. The greater part of the strain caused when the H Boat is hoisted aboard a vessel, will be taken up by the struts supporting the motor. Such a hoisting sling will be welcomed by all patrol stations, as many H Boats when only slightly damaged, have been totally wrecked by the heavy seas when forced to be abandoned by the crew.

CARRIER PIGEONS

A great deal of success has been achieved at this station with the carrier pigeons. There are now thirty on the station, twelve of which are Northern patrol pigeons, thirteen are Southern patrol pigeons, and the remainder are still untrained for regular patrolling. The pigeons are all frequently taken out with the planes or S.C. Boats and released thirty to forty miles off shore, and nearly all have returned each time. On several occasions, pigeons have brought in notes from planes in distress thirty miles off shore, making the trip in a very short time.

REDUCTION IN WEIGHT OF EQUIPMENT INADVISABLE

In the last weekly letter of October 21, 1918, Chatham Air Station made certain proposals for the reduction of weight of equipment of planes. An experiment was conducted at this station of sending only two men out on patrol, and it was found that the observations of the plane containing two men aboard were not as numerous and as accurate as the accompanying plane containing three. Further, it is believed not advisable to ever leave the motor, hull and propeller covers out of the boat, as a boat on patrol is subjected at all times to a possible forced landing in which the plane may have to be out all night in inclement weather, or ride in a heavy sea. It is found at this station that most of the boats with their present equipment are capable of staying out four hours on patrol which is sufficient to cover a patrol of 80 or 100 miles out to sea under normal conditions.

CHATHAM October 30, 1918.

RADIO REPORT,
MESSAGE RECEIVED 235 MILES DISTANCE WITH SIMON SET.

Recently Seaplane A-957, equipped with Simon transmitter and operated by GE. W.R. Anthony, accomplished a distance of 235 miles when a broadcast message was sent containing a check of about fifty words, radiocode, and was copied complete by Naval Radio Station, Newport, R.I.

DIRIGIBLE RECEIVES ORDERS IN THE AIR.

Dirigible A-344 frequently received orders by radio when at a distance of thirty-five and forty miles at sea. Dirigible is equipped with Simon type GE 937 receiver, and CQ 1115 transmitters.

HALIFAX, N.S. - October 26, 1918.

Two planes from this station made a patrol flight to North Sydney with bombs. On the return trip to Halifax, rain and strong winds were encountered three-fourths of the trip, but the engines behaved perfectly.

A few of our wing-tip pontoons have been broken by rough water landings. To overcome this difficulty, we have added two extra bulkheads, one ten inches forward, the other eight inches aft of the original center bulkhead; and two bottom stringers, running fore and aft, placed midway between the outside stringers and the center.

We have enclosed our fan pump gears in a brass casing, so that they move in a bed of oil. This has proven very satisfactory.

FOREIGN NEWS NOTES.

A telegram received from Dublin October 11th reports that Captain H. E. Cone U.S.N. was rescued from the British mail steamer Leinster which was torpedoed and sunk when outbound from Kingston on the morning of October 10. Later report adds that Captain Cone is at present recovering from severe shock and compound fracture of the leg in the Dublin Castle Hospital, Dublin. Captain Cone was returning from a visit of inspection to U.S. Naval Air Stations in Ireland.

Captain H. E. Irwin and Lieut. E. J. Macpherson arrived October 8 from the Navy Department for the purpose of conducting a tour of inspection of U.S. Naval Air Stations.

FOREIGN NEWS NOTES.

BRITISH OPERATIONS

Week ending Aug. 17, 1918.

| <u>No. of Patrols</u> | <u>No. of Miles Covered.</u> | |
|-------------------------------|------------------------------|--------|
| Seaplanes and Aeroplanes-3121 | Seaplanes and Aeroplanes- | 202842 |
| Airships | 273 Airships | 52879 |
| Kite Balloons | 17 Kite Balloons | 6180 |
| No. of Hours Flown: | | |
| | Seaplanes and Aeroplanes | 3,355 |
| | Airships | 2,216 |
| | Kite Balloons | 626 |

A British Squadron 217, 61st Wing). Two DH-4 Aero-planes whilst on patrol sighted a hostile submarine half blown 1500' from Middlekerke. Eight bombs were released one of which from 1000 feet scored a direct hit on the port side right alongside the conning tower. The submarine was seen by all pilots and observers to roll slowly over to starboard, lying bottom up for 5 minutes and gradually to sink. The other 7 bombs dropped from heights varying from 200 to 1000 feet, exploded close alongside the hull. After dropping the bombs the aeroplanes circled round the submarine and fired 500 rounds of A.P. ammunition into the hull until she sank bodily. The submarine was seen for so brief a time before she turned turtle, that accurate detailed observation was impossible - it is considered to have been of the U.C. 1-15 class of light grey color with dazzled top side, all the paint being new and clean, with no sign of rust.

Captain D. G. Hanrahan, U.S. Navy, Commander, Northern Bombing Group, reports that he has been informed by the General Officer Commanding 5th Group R.A.F. that Lieut. (j.g.) E.S. Ingalls, USNRF, who was recently attached to the British Squadron No. 213 in which he served as Flight Commander for a time, has been awarded the Distinguished Flying Cross for his gallant work in combat with the enemy. He is credited with the destruction of one enemy aircraft alone, and with having shared in the destruction of 8 others, and a kite balloon which fell in flames upon its hangar, burning the surrounding buildings.

FOREIGN NEWS NOTES

From September 29 to October 8, 1918, inclusive, no sightings of submarines were reported at a U.S. Naval Air Station - the longest period of no sighting since April. At another station during the period, September 28, to October 4, 1918, inclusive, no submarines were sighted. It is interesting to note these facts with regard to the reported withdrawal of German activities from the Belgian Coast.

KEY WEST - October 29, 1918

Training School -

The Elementary Flight Training Syllabus for Student Officers is being strictly adhered to at this station. The main advantage of this system is the check up flight every five hours. This flight is a sure means of determining a man's ability as a flyer and certainly proves effective.

Patrol -

An experiment at landing by the use of Very rockets was tried during the past week at this station. Rockets were used by the observer and were shot along the surface of the water. It was found that they would skip along the surface and show the level of the water quite clearly. This method of landing when a searchlight is not available should prove very satisfactory.

At 9:45 a.m. on October 27th, Ensign Moore in HS-2L 1895 landed at sea because of motor trouble. At 7 p.m. October 27th the seaplane was taken in tow by S.C. 354 and towed from that time until 2:00 October 28th a distance of 75 miles. The tow rope broke once due to severance of steel hitching wire as there was a twenty knot breeze blowing and the sea was running high. As a precaution in the future for such circumstances it is recommended that this tow cable be enlarged from a 3/8" to a 1/2" wire. The hull became water-logged at one time but the seaplane was kept afloat by releasing bombs, closing off the water-tight compartments, and the use of pumps. The only damage done to the machine was the breaking of a few ribs in the lower wings when the machine became water-logged.

FOREIGN REPORTS -

The British Admiralty expressed appreciation of the good look-out and the prompt action taken by a U.S. seaplane piloted by Ensign J. J. Schuffelin, USNRF, with Ensign J. F. Staub, USNRF, second pilot; P. E. Rollhouse, El. 3/c, wireless operator; and L. Bernstein, E.M., 1/c, engineer. The seaplane sighted the submarine, released two bombs and dropped Very's lights to indicate the position.

FOREIGN REPORTS. English ships escorting a convoy also dropped several depth charges, and the Admiralty considered that the submarine was probably seriously damaged.

It is reported by Captain Hanrahan, USN, that Lieut. A. L. Gates, USNRF, has been recommended for the Distinguished Flying Cross by His Majesty the King of England for gallantry when he rescued Lieut. Hetheringt, R.A.F., and El. 2cl. Kennedy, USN, from a wrecked Handly Page which fell into the sea.

Lieut. (j.g.) Moseley Taylor, USNRF, made two trips on a night in September as first pilot in a Handley-Page machine. Bombs were dropped on the objective and a small fire was started.

During September, raids were carried out by Lieuts. (j.g.) D. P. Morgan, H. P. Davidson, J. S. Otis, William Gaston and Ensign H. R. Benjamin, USNRF.

Satisfactory tests have been made with a new Radio Phone Aerial mounted on top plane of Caproni B-13. It enables planes to send and receive without dropping an Aerial.

HAMPTON ROADS - October 30, 1918.
Patrol Squadron.

The Patrol Squadron made 96 patrols in the week ending October 26, 1918 for a total of 343 hours and 44 min. covering 17,975 nautical miles. This is not only a record for weekly patrol time but exceeds any previous total for the station as a whole, and was made possible by favorable weather conditions for practically the whole week.

Four patrols of two seaplanes each left every morning this week at daybreak without exception and effectively patrolled the entire area assigned to this station.

On the morning of Thursday, October 24th, two B-13 seaplanes, Nos. 770 and 783, happened to be the emergency standby. At 9:38 A.M. the emergency klaxon was blown, and motors of both seaplanes were immediately started. The port motor of No. 770, however, which was outside of No. 783 on the runway, broke a starter, and in order to get 783 away with the greatest despatch, 770 had to be launched with both motors dead, pushed off the truck,

HAMPTON ROADS - October 30, 1918. (Cont)

On October 21, two HS-2 seaplanes Nos. 1376 and 1268 were delivered via the air route from the L.W.F. Aircraft Factory, College Point, New York to this station, a distance of 250 miles. The seaplanes made a non-stop trip in four hours and fifteen minutes without experiencing difficulties of any kind or refueling.

It is interesting to note that the average running time of all Liberty motors in the Patrol Squadron for the month of October, until the date of this report, has been sixty-six hours.

On October 25th, two HS-2 seaplanes were sent on a routine patrol equipped with Davis guns. The machines were equipped as prescribed, with 70 pounds of sand in the tail and two experienced pilots selected. The seaplanes completed a patrol of approximately four hours but experienced great difficulty in handling. Both pilots made similar reports that the gun not only made the machines exceedingly nose-heavy and seriously impaired the visibility of the pilot but also made the planes cranky. Apparently the added weight and wind resistance hindered dangerously the correction of bumps and made it difficult to take the planes in and out of turns. It is not believed that the use of this gun is practicable for use on patrol in HS type seaplanes.

The majority of patrol seaplanes are now equipped with radio in satisfactory operating condition. Orders to the pilots include instructions to send their position by radio every ten minutes according to Naval Operations Chart. These messages are picked up at the Experimental Radio Station on Fisherman's Island, Virginia, a branch station about twenty miles distant and sent by radio-telephone to the Communications Officer, who lays out the position of each seaplane as reported on the chart of the day's operations. Consistent reports are not yet being received from all pilots owing to their inexperience of the handling of the radio set, but under constant training marked improvement is being made and in a great many cases it has been possible to follow the exact course of seaplanes on patrol on the chart in the Communications Office.

Experience has shown that the majority of forced landings occur on the last leg of a patrol and accordingly patrol courses are so laid out that the last leg is the inbound leg. Coast Guard Stations report all planes sighted and in this way an occasional check is obtained on seaplane operations. Instructions have been sent to all Coast Guard Stations in this district regarding the best means of handling planes

HAMPTON FADS - October 30, 1918. (Cont)

which have been forced to land at sea, so that no damage will result while the plane is being towed to sheltered waters. . . . Splendid co-operation has been given by all of these stations as they have frequently been the means of saving seaplanes from serious damage and the pilots from exposure.

Experimental Squadron.

In order to determine the efficiency of a wing and aileron, the skid fins and under weights were removed from a Martin aerodynamic control and the aileron installed on a H-16 with manually operated controls. It was found that the wing and ailerons were very inefficient, being less than half as powerful as the trailing edge aileron used on the H-16 flying boat.

The Cooper-Servo motor was tested out on a F-5-L flying boat with very satisfactory results. This device, which is entirely mechanical, is considered far superior to the Electric Servo motor as regards weight, simplicity and performance.

Two flights were made to test a General Electric radio telegraph set. This set (CG-1410) was installed on an H-16 flying boat. During the first flight, telegraph and telephone signals were transmitted on 600 and 1600 meter waves. The telegraphic signals and voice came in so strong as to be uncomfortable to the ears when using two stages of amplification with the plane at a distance of 50 miles from the station. With the plane 70 miles away, it was possible to hear and understand the voice signals perfectly with the received 'phones lying on the table. Judging from the strength of the signals on 600 meter wave at 70 miles distant, it is believed that both voice and telegraphic signals could have easily been heard from a distance of 150 miles when using two stages of amplification. Further tests are to be conducted.

Plans have been completed and work is under way in the shops on an interchangeable device for locking the controls of a seaplane during flight. This device is arranged for use on either elevator aileron or rudder controls and is suitable for practically all standard types of seaplanes. It consists of a special fair lead through which the control wires are run and in which they may be gripped by clamping between two leather surfaces. By setting a cam lever in an upright position the wires are securely clamped. By pushing the cam lever flat in either direction, the wires are released.

A new combined rolling chart and log board has been drawn up and is being manufactured. This board is based on previous experience of this station with several other boards of this type. It comprises a standard rolling chart, a rolling log for recording observations, naval data and radio messages, loose paper for passing notes, pencils, protractor, ruler, etc., thus furnishing complete and convenient equipment for the assistant pilot. This board is designed particularly with the view of keeping down its bulk, because it has been found that the limited space in a dual control machine makes anything except a handy arrangement very impracticable. The dimensions of this new board are approximately $7\frac{7}{8}$ " x $5\text{-}1\frac{1}{2}$ " x 16".

Plans have been made and work is under way on special lifting jacks for raising H-16 and F type boats from their trucks to allow for repairing. These consist of a pair of heavy horses with jacks built in the top and so arranged that they may be placed under the wings in way of the four spar fittings directly under the engines and the boat lifted from these four points. It has been found that it requires considerable time and trouble to arrange for blocking and jacking up these heavy boats by other methods and it is expected that a pair of these horses for each hangar will be of considerable assistance.

A Drainage system for draining H-16 boats while in flight has been worked up. This consists of a large poppet valve built in the bottom of the hull and operated by foot pressure. This will be located in the port side of the after gunner's cockpit and the drainage of other compartments can be accomplished by means of a series of drain plugs. A similar device has already been successfully used on an H-12 seaplane for several weeks.

A special stand made of angle iron and provided with swivel wheels is being made up for slipping over the nose of an HS boat and removing the motor. The top of the stand is to be provided with an engine bed at the same height as the HS engine beds when the boat is on the truck and is equipped with a davit for handling the motor.

At the request of the Bureau of Ordnance, a pair of range finders and a plotting board are being drawn up for use in spotting the splash of practice bombs. These will consist of two small pin hole telescopes to be mounted at either end of a convenient base line, which will probably be about 2,000 feet in length. The angle from the base line to the bomb operation will be measured on a quadrant on one telescope and this angle telephoned to the

HAMILTON ROADS - October 30, 1918.

other end of the base line, where it will be laid out on the plot board. An arm attached to the telescope on the plot board will automatically lay out the second angle and the intersection of these two angles will show the location of the bomb operation on the plotting board.

PENSACOLA, Fla. October 26, 1918.

Navigation School.

The 3 H-16 boats which are flown from Philadelphia to Pensacola arrived at this Station without encountering any serious difficulties. A detailed account of their trip is being forwarded.

On Saturday, October 26th, an H-16 while navigating over the Gulf made a forced landing in an extremely heavy sea. The landing was effected without damage, although both lower wings were broken up before the machine could be towed in. One point of interest was that the canvas covering on the tail was not injured. This was as severe a test as an H-16 is liable to undergo, and it gives satisfaction to know that a canvas covered tail was so seaworthy in this instance. We have had the canvas broken through at other times.

The levels for flying boats, commonly known as the "bubble", come to this Station in two forms. One is longer than the other, is divided into half degrees and contains a red liquid. The other is combined with an inclinometer, contains a green liquid and has a sharper curvature. The H-16's are equipped with this latter type, but as their performance is not as satisfactory, the "red bubbles" have been substituted.

Gunnery School.

On October 25, 1918, sea-plane HS N-9 No. 2465 started burning when at an altitude of about 600 feet. Pilot Ens. Carl H. Wiegel immediately turned off gas, made landing and succeeded with the help of passenger (Student B. T. Rimes) in putting out the fire before the plane was totally destroyed. The lower and upper left wing and front fuselage were badly damaged.

It was found that the accident was caused by one of the "Jet well nuts" inside of carburetor jacking loose. The Squadron is now having these four "Jet well nuts" safety wired before any new carburetor is put into use.

Pensacola, Fla. October 26, 1918. (Cont)

The motor in the above plane was removed at 4:00 P.M. and turned out of the Squadron motor shop ready to be installed in another plane at 10:00 A.M. the following morning.

Aircraft Radio School.

This school has formally taken over the maintenance of the radio equipment on the H-16's and actual communication is established between the planes so equipped while on navigation hops.

J. H. Towers.

By direction.
