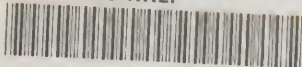


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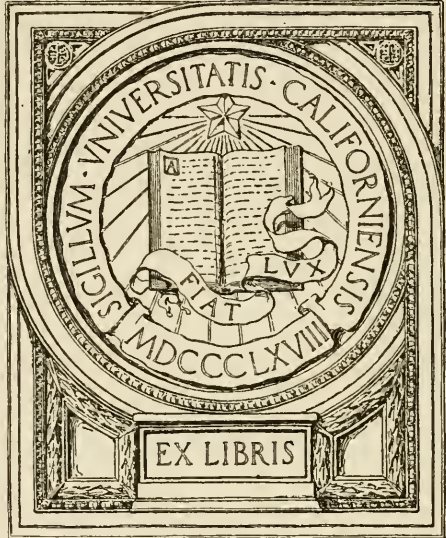
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MARY ETHEL JAMESON
SCIENCE DIVISION

WITH A FOREWORD BY
SIMON LAKE

NEW YORK

1918

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A FOREWORD TO THE LIST OF REFERENCES ON SUBMARINES

BY SIMON LAKE

I HAVE read with great interest the proof sheets of this compilation of books, magazines and technical papers relating to submarines. Now that the submarine is becoming recognized as the most important weapon ever introduced into "The art of warfare on the high seas," information regarding its development is being eagerly sought by many people who are interested in the advancement of science.

The destiny of the submarine is as yet but little understood by the casual reader; at the present time its introduction into the art of warfare has caused it to be condemned by many, while others look upon it as a means of defense against or a means of destroying overwhelming sea power and, perhaps, think it may be utilized to assist in extending domination over other peoples when combined with military supremacy on land. I think those who use it for any illegitimate purpose will eventually see their error.

Submarine inventors have, from the earliest days, considered the submarine boat as a means to advanced knowledge of things beneath the surface of the seas, to recover and restore to the use of mankind many of the things that have gone to the bottom of the sea in ships, and also to recover the natural products of the sea, in the nature of shell fish, sponges, coral, pearls, and to reach mineral and other deposits heretofore inaccessible and unavailable to the people. The introduction of the submarine in war will eventually prove a benefit to all of the smaller and less powerful nations, as the submarine is undoubtedly able to offer to any nation the greatest degree of security for the least expenditure of money in the defense of its coast line.

This compilation will make available to the student of submarine navigation information that it has heretofore been almost impossible to procure, covering, as it does, published articles on this subject dating back from a period of over two thousand years to the present time. I remember in years gone by, many days spent in searching through various libraries for information regarding the submarine, of which little could then be found. I can, therefore, appreciate the great amount of time which the compiler of this bibliography must have given to this investigation. Much of the literature relating to submarines

is based on hearsay, romance and imagination, but imagination may lead to scientific development, so that both the student of the romance of "The mysteries of the deep" and the investigator of its uses as a weapon of war, or its possibilities in the commercial field, will all appreciate the labor which has been put into the preparation of this bibliography.

MILFORD, CONN., January 16, 1918.

SUBMARINES

A LIST OF REFERENCES IN THE NEW YORK PUBLIC LIBRARY

COMPILED BY MARY ETHEL JAMESON
Science Division

This list of references in The New York Public Library is submitted as an aid to those interested in the history and construction of the submarine boat. Questions of international affairs have not been included, although in several cases the documents have involved this phase of the discussion.

The patent records have not been reprinted here, as quite a complete list has already appeared in the *General Electric Review* for August, 1917. An exception has been made, however, in the case of the mechanism of the deep sea bomb which has proven so effective in combatting the underwater foe, the basic patents for which are listed under date of 1900, covering a self-winding clock. These patents, with modifications and subsequent improvements, have been adapted to the pressure bombs which explode at given depths determined by the regulation of the gauge.

So many requests have come to the Science Division for information regarding the transmission and propagation of sound under water that a few references on submarine signalling have been added in a section following the documents.

Attention is directed to the list prepared by Mr. W. A. Ellis on Torpedoes and printed in the *Bulletin* for October, 1917, v. 21, p. 657-726 (also issued in separate form). This very complete bibliography has made the inclusion of such literature quite unnecessary here, although the submarine and the torpedo are so closely related.

NON-OFFICIAL PUBLICATIONS

Bibliography

1. **Hosmer**, Helen R., compiler. Submarines in periodical literature from 1911 to 1917. (*Journal of Franklin Institute*, Philadelphia, v. 184, August, 1917, p. 251-306.) **VA**

Selected articles with extensive annotations or abstracts.

2. **Rushmore**, David P., and others. Bibliography of the literature of submarines, mines and torpedoes. (*General electric review*, Schenectady, v. 20, Aug., 1917, p. 675-694.) **VGA**

This bibliography includes the list of United States patents on submarines.

430 B. C.?

3. **Herodotus**. Book VIII. Urania. (In his: *Herodotus*, translated... by Isaac Taylor. London, 1829. 8°. p. 584-585.) **BAE**

The famous reference by Herodotus to the feat accomplished by Scyllias of Scion and his daughter, who dived under the ships of Xerxes, cutting the anchor chains. Scyllias deserted the Persians in order to inform the Greeks of the plans of the Persians and Herodotus ventures the suggestion that it was in an underwater boat.

The Library has many other editions of Herodotus besides the one here cited.

332 B. C.?

4. **Aristotle**. *Problematum Sectio XXXII*. (In his: *Aristotelis operum*. Lutetiae Paris-

iorvm, 1629. f°. tomus 2, p. 826-828.)

† **YAEF**

Greek and Latin texts in parallel columns.

For an English translation see that of Thomas Taylor, London, 1810, v. 6, p. 554-555, † **YAEF**.

Refers to the difficulties of diving below the surface of the water and suggests that the diver provide himself with a vase or kettle inverted, to prevent the water rushing into the ears and to facilitate respiration.

77 A. D.?

5. **Pliny**, the elder. *The Natural history of Pliny*. Translated by John Bostock and H. T. Riley. London: H. G. Bohn, 1857. 6 v. 12°. **PQC**

v. 6, book 35, chap. 40, p. 278.

Refers to the statue erected in Rome to the great diver Scyllias.

1555

6. **Olaus Magnus**, bishop of Upsala. *De navibus insidiosis*. illus. (In his: *Historia de Gentibus septentrionalibus*, Romae, 1555. f°. cap. 17, p. 334-335.) **Reserve**

Description of the first Scandinavian submarines. The quaint illustration is an attempt to convey the impression of boats submerged.

1609

7. **Lorini**, Buonaiuto. *Libro strumenti ne quaki possono star gli huomini sotto acqua*. illus. (In his: *Le Fortificationi*. Venetia, 1609. f°. p. 232-233.) †† **VWK**

An air-tight box in which the observer was lowered to the ocean depths and through the glass disks fitted in the sides could view and study the sea life.

Non-official Publications, continued.

1644

8. **Mersenne**, Marin. *Nauis sub aquis natans.* (In his: *Cogitata physico mathematica. Parisiis: Sumptibus Antonii Bertier, 1644. 4°. v. 2, p. 251-259.*) **OKC**

The question of air supply was the debatable point in this author's opinion.

1648

9. **Wilkins**, John. Concerning the possibility of framing an Ark for submarine Navigations. The difficulties and conveniences of such a contrivance. (In his: *Mathematicall Magick. London, 1648. 8°. p. 178-190.*) **PBC**

Quaint consideration of the need of air and how it may be supplied to a crew. The author was wonderfully alive to the difficulties of this problem.

1687

10. **Schott**, Gaspard. *Navis Drebellii, Mersenni, & Melitensis, quibus sub aqua navigari possit [and] Cacabus aquaticus, & aquatica Loricæ, qua quis tectus sub aquis ambulet. 2 pl.* (In his: *Technica curiosa, sive Mirabilia artis... Herbipoli, 1687. 4°. p. 390-396.*) **PAD**

Summarized in *La nature*, Paris, v. 43, 3 April 1915, p. 228-229, *O.A.*

Description and drawing of Drebbel's boat and an account of a diving bell invented at that time.

1716

11. **Halley**, Edmund. *The Art of Living under Water: Or, A discourse concerning the means of furnishing Air at the bottom of the sea, in any ordinary Depths.* (Royal Society of London, *Philosophical transactions*, London, v. 29, July-Sept., 1716, p. 492-499.) *** EC**

This paper has become classic in the literature of the submarine. While, therefore, it refers to diving bells more particularly, it is included here.

1747

12. **Description** of a diving ship built by order of his most serene highness, Charles, Landgrave of Hesse Cassel. (*Gentleman's magazine*, London, v. 17, Dec., 1747, p. 581-582.) *** DA**

Built "of like kind to Drebel—a wooden tub"—oars were the propulsive power.

1749

13. **Lethbridge**, John. [Letter to the editor.] (*Gentleman's magazine*, London, v. 19, Sept., 1749, p. 411-412.) *** DA**

Claims the invention of the diving boat, referred

to by Ley, as his own rather than his cousin Symons'. "I have been fathoms deep a hundred times."

14. **Ley**, Samuel. [Letter to the editor.] (*Gentleman's magazine*, London, v. 19, July, 1749, p. 312.) *** DA**

Describes a boat built by Nathaniel Symons; "a common house carpenter... I shall trouble you with such description as my memory will permit, after twenty years."

15. **M., T.** The form and use of a diving-ship, to be rowed under water. *illus.* (*Gentleman's magazine*, London, v. 19, June, 1749, p. 249.) *** DA**

"The description of the curious diving-vessel in your magazine of Dec., 1747, left us at an uncertainty about the method of pumping out the water, so as to raise or lower the vessel." The article describes the use of "goat-leather bottles fastened to the floor of the ship with their mouths to holes."

Quaint engraving shows position of bottles.

1771

16. **Martin**, Benjamin. *Use of the Diving Bell.* (In his: *Philosophia Britannica. 3. ed. London, 1771. 8°. v. 2, p. 174-180.*) **OAD**

In note on p. 180 an invention is described "contrived by a gentleman at Newton-Bushel, a Hogshead...made perfectly air tight."

Although illustrations are mentioned in the text these are lacking.

1775

17. **Gale**, Benjamin. [The American Turtle, built at Saybrook by David Bushnell.] (*Connecticut Historical Society, Collections*, Hartford, v. 2, 1870, p. 315-318, 322-323, 333-335.) **IAA**

Letters to Silas Deane, dated at Killingworth, Conn., Nov. 9, 22, and Dec. 7, 1775, in which he reports the progress made on "our machine," gives a description of it and states that Franklin was consulted in its construction.

1787

18. **Clark**, Thomas. D. Bushnell, inventor of the torpedo, etc. (In his: *Naval history of the United States. Philadelphia, 1814. 12°. v. 1, p. 63-74.*) **VYE**

Description of "torpedoes, submarine boats, etc., used during the Revolution, in attempts to destroy British vessels."

Reprint of a letter to Thomas Jefferson dated October, 1787.

1810

19. **Bateau sous-marin.** (*Annales des arts et manufactures*, Paris, v. 37, 31 Aug. 1810, p. 117-122.) **VA**

Inventions of Caussin and Fulton described.

19a. **Fulton**, Robert. Torpedo war, and submarine explosions. New York: printed by William Elliot, 1810. 57(1) p., 11., 5 pl. ob. 8°. **Reserve**

Non-official Publications, continued.

1810, continued.

19b. ——— New York: printed by W. Eliot, 1810. New York: Reprinted, W. Abbott, 1914. 55 p., 5 pl. 4°. Magazine of history with notes and queries. Extra number. no. 35.) **IAG (Magazine)**

The original pamphlet was reviewed in the *Proceedings of the United States Naval Institute*, Annapolis, Md., v. 12, 1886, p. 252-254, *VXA*.

1811

20. **Carnot, Lazare.** Le nautille sous-marin de MM. Coessin. (Institut de France.— Académie des sciences, Procès-verbaux, Paris, v. 4, 1 April 1913, p. 468-470.) * **EO**

Reprinted in *Revue générale des sciences pures et appliquées*, Paris, v. 27, 13 Jan. 1916, p. 25-27, *OA*.

Historical sketch beginning with the mention of submarines by Herodotus, concluding with a description of the Coessin boat.

1813

21. **Clark, Thomas.** The torpedo, or American Turtle-River Delaware. (In his: Sketches of the naval history of the United States. Philadelphia, 1813. 12°. p. 39-46.) **VYE**

1819

22. **Petitot, Claude Bernard.** De la défaite et de la prise du Comte de Pembroc devant la Rochelle, par les flotes de Franc et d'Espagne dont la première étoit commandée par Ivain de Galles. (In his: Collection complète des mémoires... Paris, 1819. 8°. v. 5, p. 110-123.) **DBA**

Refers to the boats of the Spanish, supplied with combustibles, which were launched against the vessels of the British fleet, setting them on fire. These boats are supposed to have been "like to Drebbel's."

1820

23. **Griswold, Charles.** Submarine navigation. (American journal of science, New Haven, v. 2, April, 1820, p. 94-100.) **OA**

Reprinted in *Scientific American supplement*, New York, v. 79, 22 May 1915, p. 333-334, *VA*.

"Description of a machine, invented and constructed by David Bushnell...with an account of the first attempt with it in Aug., 1776, by Ezra Lee ...to destroy some of the British ships then lying at New York."

1833

24. **Sub-marine boat.** (American railroad journal and advocate of internal improvements, New York, v. 2, June 22, 1833, p. 391.) **TPB**

Description of boat used by M. Villeroi of Nantes, in the autumn of 1832. "The machinery by which it is impelled is said to be a mechanical application of the forms and means with which nature has endowed the fish."

1846

25. **Bateau sous-marin du docteur Payerne.** illus. (L'illustration, Paris, v. 7, 23 July 1846, p. 521-522.) * **DM**

An astonishing boat comparing not unfavourably with modern undersea craft except in the matter of propulsion.

1851

26. **Payerne.** Observations tendant à démontrer que, dans les ascensions sur les hautes montagnes, la lassitude et l'anhélation éprouvées par la plupart des explorateurs n'ont pas cause une insuffisance d'oxygène dans l'air respiré. (Institut de France.— Académie des sciences, Comptes rendus, Paris, v. 33, 1851, p. 198-199.) * **EO**

M. Payerne reports experiments made with diving bells and submarine boats to ascertain the effect upon the respiration.

1854

27. **Burdin.** Considérations de mécanique sur la navigation sous-marin et la navigation aérienne. (Institut de France.— Académie des sciences, Comptes rendus, Paris, v. 38, 29 May 1854, p. 1854.) * **EO**

Note only.

28. **Carré.** Un bateau plongeur. (Institut de France.— Académie des sciences, Comptes rendus, Paris, v. 38, 15 May 1854, p. 881.) * **EO**

Note only stating that a paper had been submitted.

1856

28a. **Reigart, J. Franklin.** The life of Robert Fulton... Philadelphia: C. G. Henderson & Co., 1856. xxvii, 29-40 p., 2 l., 41-297 p., 23 pl., 2 ports. 8°. **AN**

Chapter 7 is devoted to submarine navigation and plunging boats.

The prints are from original drawings by Fulton.

1857

29. **Burdin.** De la navigation sous-marine. (Institut de France.— Académie des sciences, Comptes rendus, Paris, v. 44, 16 Feb. 1857, p. 370-378.) * **EO**

M. Burdin proposes a submersible navy and explains the advantages thereof. This paper received more consideration than that submitted by the same author in 1854.

1861

30. **Malespine, A.** [Le bateau sous-marin.] illus. (Le monde illustré, Paris, v. 9, 6 July 1861, p. 438, 445.) * **DM**

Description of submarine invented by M. Villeroi.

Non-official Publications, continued.

1863

31. **Jalin, Olivier de.** Bateau sous-marin. illus. (Le monde illustré, Paris, v. 13, 12 Dec. 1863, p. 369, 374.) *DM

Description of a submarine designed by M. Alstilt.

32. **Timbs, John.** Living under water: the diving bell. (In his: Stories of inventors and discoverers. London, 1863. 16° p. 33-42.) V

Contains several references to early submarine boats.

1864

33. **New submarine boat.** (Scientific American, New York, v. 11, 17 Sept. 1864, p. 183.) VA

Torpedo boat invented by Chief Engineer Wood, U. S. N., reported in the *New York Herald*, 9 Sept. 1864.

34. **Submarine firing.** (Engineer, London, v. 17, 26 Feb. 1864, p. 125.) VA

Extract from Fulton's experiences.

35. **Undersea fleet.** (Engineer, London, v. 18, 5 Aug. 1864, p. 82.) VA

Reprinted in *Scientific American*, New York, v. 11, 10 Sept. 1864, p. 163, VA.

Appeared originally in *Ironmonger and metal trade advertiser* of Birmingham.

Brief but important note on wrought-iron tubes ordered by the Russian government to be used in the construction of submarines.

1868

36. **Figuiet, Louis.** Les bateaux sous-marins. illus. (In his: Les merveilles de la science. Paris, 1868. 4° v. 4, p. 658-668.) V

The connecting links between the diving bell and the submarine are described with illustrations of Payerne's hydrostat submarine and that of Villeroi.

1870

37. **Barnes, James S.** Submarine warfare. (Engineering, London, v. 9, 18 Feb. 1870, p. 104-105.) VDA

Reprinted in *Van Nostrand's eclectic engineering magazine*, New York, v. 2, April, 1870, p. 409-412, VDA.

These are reviews of a book issued by J. S. Barnes in 1869. It deals more particularly with torpedoes, but contains some information concerning contemporary submarines.

38. **Ericsson, John.** Submarine warfare. (Engineering, London, v. 9, 1 April 1870, p. 213.) VDA

Reprinted in *Van Nostrand's eclectic engineering magazine*, New York, v. 2, June, 1870, p. 630-636, VDA.

A copy of some letters from Capt. Ericsson to the editor of *Engineering* in which the writer offers

solutions for the problem "How to defeat monitors superior in thickness of armor to our own." His solution is a torpedo and the drawings for this implement of war are included.

39. **Verne, Jules.** Twenty thousand leagues under the sea; or, The marvellous and exciting adventures of Pierre Aronnax, Conseil, his servant and Ned Land, a Canadian harpooner. New York: J. W. Lovell, 1880. 351 p. illus. 12° NKV

This book was first published in Paris in 1870.

1873

40. **Lacomme, A.** Mémoire sur un projet de bateau sous-marin. (Institut de France. — Académie des sciences, Comptes rendus, Paris, v. 77, 20 Oct. 1873, p. 891.) *EO

Note only, stating that this paper had been submitted to the Academy.

41. **Siebe, Henry.** Conquest of the sea; a book about divers and diving. New York: G. Routledge & Sons [1873]. 299 p. illus. 12° VDM

A nice bit of history is scattered through the pages showing the transition from diving bell to diving boat.

1875

42. **Barber, Francis M.** Lecture on submarine boats, and their application to torpedo operations. Newport: U. S. Torpedo Station, 1875. 39(1) p., 8 diagr. 8°. (United States. — Ordnance Bureau, Navy Department.) VXX p.v.1, no.4

"I have endeavored to give a general history of the science of submarine navigation, giving detailed descriptions... of special apparatus designed for the purpose." — *Preface*.

1878

43. **Capt. Ericsson's new torpedo-boat.** (Manufacturer and builder, New York, v. 10, Oct., 1878, p. 229-230.) VA

Description of the *Destroyer*.

1879

44. **Belknap, George E.** Reminiscent of the New Ironsides off Charleston. (United service, Philadelphia, v. 1, Jan., 1879, p. 63-82.) VWA

Reprinted in same journal, new series, v. 15, Feb., 1896, p. 147-166.

Gives circumstantial account of the attack by the *David*.

1880

45. **Garrett submarine torpedo boat.** illus. (Graphic, London, v. 21, 17 Jan. 1880, p. 77.) *DA

Reprinted in *Scientific American supplement*, New York, v. 9, 6 March 1880, p. 3464, VA.

Brief text.

Non-official Publications, continued.

1882

46. **Garrett's** submarine torpedo boat. illus. (Engineer, London, v. 53, 6 Jan. 1882, p. 6, 13.) **VA**

Reprinted in *Scientific American supplement*, New York, v. 13, 18 Feb. 1882, p. 5096-5097, *VA*.

Sectional plan of boat designed in 1878.

Brief text.

1885

47. **Experiments** with the Nordenfeldt submarine boat before the Prince of Wales. illus. (Illustrated London news, London, v. 87, 3 Oct. 1885, p. 339.) ***DA**

No text.

48. **Jaques, William Henry.** Ericsson's Destroyer and submarine gun: being a consideration of their application to naval warfare. New York: G. P. Putnam's Sons, 1885. 48 p. illus. 12°. (Questions of the day. no. 31.) **VWS p.v.2**

49. **New** torpedo boat. (Army and navy journal, New York, v. 23, 5, 12 Sept. 1885, p. 106-107, 117.) **††VWA**

Zalinski's boat described.

50. **New** torpedo boat. illus. (Harper's weekly, New York, v. 29, 12 Sept. 1885, p. 599.) ***DA**

Description of submarine to be equipped with armament.

51. **Nordenfeld'sche** submarine Boote. illus. (Illustrirte Zeitung, Berlin, Jahrg. 85, 24 Oct. 1885, p. 414.) ***DF**

Details of the boat with sectional view showing all parts and placing of machinery.

52. **Nordenfeldt** submarine boat. (Engineering news, New York, v. 14, 24 Oct. 1885, p. 257.) **VDA**

General description.

53. **Nordenfeldt's** submarine boats. (Army and navy journal, New York, v. 23, 26 Sept. - 12 Dec. 1885, p. 168, 223, 231, 392-393.) **††VWA**

Brief notes on trials and experiments with these boats.

54. **Nordenfeldt's** submarine boat. illus. (Scientific American, v. 53, 7 Nov. 1885, p. 295.) **VA**

Boat fulfilled requirements. Motive power steam, reserve steam propulsive power when submerged. Illustrations taken from the *Graphic* and *Illustrated London news*.

Portraits of Nordenfeldt and Commander Garrett.

55. **Le Nouveau** torpilleur sous-marin adopté par le gouvernement russe. (L'illustration, Paris, v. 86, 28 Nov. 1885, p. 352.) ***DM**

Illustration only.

56. **Nuevas** construcciones navales. illus. (La ilustración española y americana, Madrid, año 29, 15 Oct. 1885, p. 220.) ***DR**

Illustration only of the *Nordenfeldt*.

57. **Submarine** torpedo boat. illus. (Scientific American, New York, v. 53, 26 Dec. 1885, p. 406.) **VA**

Boat designed by J. L. Tuck. Storage batteries used for propulsion.

58. **Trial** of the Nordenfeldt submarine boat at Landskrona, Sweden, in the presence of the Danish royal family and the Prince of Wales. illus. (Graphic, London, v. 32, 10 Oct. 1885, p. 393, 395.) ***DA**

Autograph of Nordenfeldt and illustrations of his boat.

1886

59. **Down** in a submarine boat. (Army and navy journal, New York, v. 23, 24 July 1886, p. 1065.) **††VWA**

Brief reprint from *New York Herald* of reporter's account of trip with Lieut. Zalinski.

60. **Goubet's** submarine boat. illus. (Telegraphic journal and electrical review, London, v. 18, 4 June 1886, p. 516.) **VGA**

Reprinted in *Dingler's polytechnisches Journal*, Augsburg, Bd. 261, 1886, p. 225-226, *VA*.

Electrically propelled.

61. **Nordenfeldt, T.** Submarine boats, by T. Nordenfeldt. (United States Naval Institute, Proceedings, Annapolis, v. 12, no. 3, 1886, p. 439-443.) **VXA**

Nordenfeldt states the principles of his boats, giving dimensions and system of construction. This article is reprinted from *United States gazette*.

1887

62. **Hovgaard, George William.** Submarine boats. London: E. & F. N. Spon, 1887. v p., 1 l., 98 p., 2 plans. 12°. **VXX**

History, construction and strategical value of the submarine boat.

63. **New** Nordenfeldt submarine boat. illus. (Scientific American, New York, v. 57, 30 July 1887, p. 73.) **VA**

Details of this boat.

64. **A New** submarine boat. (Scientific American, New York, v. 56, 1 Jan. 1887, p. 6.) **VA**

Boat designed by Campbell and built by Wolesley and Lyon.

65. **Nordenfeldt** submarine boat at Constantinople. illus. (Engineer, London, v. 63, 24 June 1887, p. 499.) **VA**

Reprinted in *Scientific American supplement*, New York, v. 23, 23 June 1887, p. 9418-9419, *VA*.

Description of the boat, giving dimensions, operation, and performances. Sectional view.

66. **Nordenfeldt's** neuestes submarines Boot. illus. (Mittheilungen aus dem Gebiete des Seewesens, Pola, Bd. 15, No. 7-8, p. 475-478, No. 9, p. 584-586.) **VXA**

Full specifications, with illustrations of the boat built for Turkey.

67. **Selbstthaetige** Gleichgewichtseinstellung für Torpedoboote. illus. (Dingler's

Non-official Publications, continued.

1887, *continued.*

polytechnisches Journal, Augsburg, Bd. 264, 1887, p. 115-116.) **VA**

Goubet's boat described.

68. **Ueber unterseeische Boote.** (Mittheilungen aus dem Gebiete des Seewesens, Pola, Bd. 15, No. 1, 4, 1887, p. 19-25, 206-211.) **VXA**

History of the submarine gleaned from various sources. The *Peacemaker* is especially mentioned.

1888

69. **Hovgaard, George William.** Proposed design for surface and diving boats. (Institution of Naval Architects, Transactions, London, v. 29, 1888, p. 351-365.) **VXA**

Paper read to "promote discussion of the subject of submarine boats." Steam and electric motors to be the propulsive power.

70. **Ledieu, A.** Étude sur les bateaux sous-marins. illus. (Institut de France. — Académie des sciences, Comptes rendus, Paris, v. 107, 19 Nov. 1888, p. 817-821.) ***EO**

Description of the *Plongeur* designed by Admiral Bourgois.

71. **Submarine torpedo boat for United States navy.** (United States Naval Institute, Proceedings, Annapolis, v. 14, no. 1, 1888, p. 253-257.) **VXA**

Report of committee giving requirements of United States navy for submarines.

1889

72. **Evolution of the torpedo boat.** (United service, Philadelphia, new series, v. 2, Dec., 1889, p. 548-572.) **VWA**

73. **Sleeman, Charles William.** Submarine torpedo boats. illus. (In his: Torpedoes and torpedo warfare. Portsmouth, 1889. 2. ed. 8°. p. 288-307.) **VXV**

Holland and Nordenfeldt boats described at length.

1890

74. **Bush, James C.** Development of submarine mines and torpedoes. illus. (Military Service Institution of the United States, Journal, Governor's Island, v. 11, March, May, 1890, p. 179-197, 377-395.) **VWA**

Chapter 8, p. 382-384 discusses types of submarine boats then employed in the navies of the world.

75. **Figuiet, Louis.** La navigation sous-marine. illus. (In his: Les merveilles de la science. Paris, 1890. 4°. Supplement, v. 2, p. 354-364.) **†V**

Inventions since 1871 including the *Plongeur*, *Pacificateur*, *Gymnote*, *Goubet* and *Peral*, all of which are illustrated.

76. **New Spanish submarine torpedo boat.** illus. (Scientific American supplement,

New York, v. 29, 25 Jan. 1890, p. 11719-11720.) **VA**

Launched in 1887. Dimensions and details of construction given.

77. **Sch., F.** Erprobungen unterseeischer Fahrzeuge. (Mittheilungen aus dem Gebiete des Seewesens, Pola, Bd. 18, No. 1, 1890, p. 45-46.) **VXA**

Note on the *Goubet*.

78. **Das Unterseeische Boot Peral.** (Mittheilungen aus dem Gebiete des Seewesens, Pola, Bd. 18, No. 10, 1890, p. 625.) **VXA**

Brief note.

1891

78a. **Hughes, W. S.** Submarine boats for coast defence. illus. (Cosmopolitan, New York, v. 11, July, 1891, p. 303-311.) ***DA**

History of the submarine from Bushnell, with good illustrations of early American boats.

1892

79. **Raineri, S.** Guerra sottomarina. (In his: Note marinare. Venezia, 1892. 12°. p. 87-102.) **VX**

Historical sketch beginning with Nordenfeldt.

Author's pseud., Il capitano Nemo, at top of title-page.

1893

80. **Submarine torpedo boats for the United States.** (Engineering news, New York, v. 30, 21 Sept. 1893, p. 226-227.) **VDA**

Describes the Holland invention.

1895

81. **Le Bateau sous-marin Le Goubet.** illus. (La nature, Paris, année 24, 28 Dec. 1895, p. 55-58.) **OA**

Abstracted in *Electrical review*, London, v. 38, 10 Jan. 1896, p. 35-37, *VGA*.

Essential characteristics. Illustrations show lines of hull and interior.

82. **Dax, A. de.** Quelques détails du sous-marin Le Goubet. (Société des ingénieurs civils de France, Mémoires, Paris, année 1895, tome 2, 22 Nov. 1895, p. 439-442.) **VDA**

Brief outline of the mechanism and construction of this boat.

83. **New submarine torpedo boat.** (Manufacturer and builder, New York, v. 27, Feb., 1895, p. 33.) **VA**

Brief note of the Holland boat.

84. **Skerrett, Robert G.** A submarine torpedo boat. illus. (Harper's weekly, New York, v. 39, 16 March 1895, p. 244, 246.) ***DA**

Describes the Holland boat authorized by the Navy Department in 1893.

Non-official Publications, continued.

1896

85. Le **Bateau** sous-marin, Le Goubet. (L'éclairage électrique, Paris, série 3, v. 6, 1 Feb. 1896, p. 239.) **VGA**

Brief description of chief characteristics.

86. **Bateaux** sous-marins. (Société des ingénieurs civils de France, Bulletin, Paris, année 1896, tome 1, p. 370.) **VDA**

Brief note on paramount importance of the submarine for the navy, which was then under consideration by the Minister of Marine.

87. **Dobson**, W. A. Submarine boats. illus. (Cosmopolitan, New York, v. 20, Jan., 1896, p. 280-288.) ***DA**

Sectional charts of Nordenfeldt's boat and those designed by Baker, Dobson, Holland, and Goubet.

88. **Holland** submarine torpedo boat. illus. (Scientific American, New York, v. 74, 25 April 1896, p. 257, 263.) **VA**

Sketch of Holland's efforts and sectional view of his boat.

89. **New Goubet** submarine boat. (American Society of Naval Engineers, Journal, New York, v. 8, Feb., 1896, p. 158-159.) **VXA**

Brief note.

90. **Pesce**, G. L. La navigation sous-marine. (Société des ingénieurs civils de France, Mémoires, Paris, année 1896, v. 2, July, 1896, p. 77-146.) **VDA**

Abstracted in *Bulletin* of the society, Paris, année 1896, October, 1896, p. 578-580, *VDA*.

Comprehensive historical paper which forms the basis for the first edition of the author's book.

1897

91. **Chaudy**, M. F. Essai sur la détermination de la forme de moindre résistance à l'avancement des bateaux sous-marins. illus. (Société des ingénieurs civils de France, Mémoires, Paris, année 1897, v. 1, Feb., 1897, p. 193-200.) **VDA**

Mathematical analysis.

92. **Pesce**, G. L. La navigation sous-marine. Paris: H. Bécus, 1897. 3 p.l., viii, 147 p., 2 pl. illus. 4°. **VXV**

History of submarine construction with chronology. The illustrations are from rare prints and there are portraits of many of the men identified with the development of the submarine. A large portion of the material appeared first in année 9-10 of *Marine française*.

93. — Le Travailleur sous-marin. illus. (Marine française, Paris, année 10, July, 1897, p. 502-506.) **VXA**

Extract from book by this author on boat invented by Count Piatti dal Pozzo for submarine observation.

Reprinted in *Revue encyclopédique*, Paris, 1897, p. 743-744, *R-†*AP.

94. **Submarine** boat Plunger launched. illus. (Marine engineering, New York, v. 1, Sept., 1897, p. 20.) **†VXA**

Brief note.

95. **Submarine** exploration. (Electrical engineer, London, v. 26, 27 Aug. 1897, p. 258.) **VGA**

Brief editorial on use of submarine in underwater exploration.

96. **Submarine** vessels. (Engineer, New York, v. 33, 21 Aug. 1897, p. 46-47.) **VDA**

Launching of the *Plunger*, giving chief characteristics.

1898

97. **Crouse**, George N. Submarine boats. (Yale scientific monthly, New Haven, v. 5, Oct., 1898, p. 12-19.) **OA**

Briefly reviews history of submarine construction.

98. **Dary**, Georges. Le sous-marin l'“Argonaute.” illus. (L'électricien, Paris, série 2, tome 15, 2 April 1898, p. 209-211.) **VGA**

Details of this Lake boat for submarine explorations.

99. **G. Bateau** sous-marin Holland. illus. (La nature, Paris, année 26, 19 Nov. 1898, p. 585-587.) **OA**

Describes and illustrates this boat.

100. **Holland** submarine boat. illus. (Engineer, New York, v. 35, 15 March 1898, p. 63-64.) **VDA**

One of the best articles on the Holland boat. Illustrations show the boat on the ways and a sectional view.

101. **Holland** submarine torpedo boat. illus. (Locomotive firemen's magazine, Peoria, v. 24, June, 1898, p. 581, 582-585.) **TRD**

Sectional view of the *Plunger*.

102. **Holland** submarine torpedo boat. illus. (Railway and engineering review, Chicago, v. 38, 30 April 1898, p. 227.) **†TPB**

Full details of the boat by a contemporary. Diagram.

103. **Hopkins**, Henry Clayton. The Argonaut the successful submarine boat. illus. (National magazine, Boston, v. 9, Dec., 1898, p. 250-256.) ***DA**

Mr. Lake's methods of navigation, the object of the *Argonaut* as a treasure hunter together with a history of the builder's work. Portrait of Mr. Lake.

104. **Jaques**, William Henry. Holland submarine boat. (Marine review, Cleveland, v. 18, 17 Nov. 1898, p. 19-20.) **†VXA**

Brief note summing up the submarine question.

105. — Submarine torpedo boats; their influence on torpedo-boat architecture and value in warfare. (Institution of Naval Architects, Transactions, London, v. 40, 1898, p. 259-273.) **VXA**

The conservative British found it hard to accept the enthusiastic prophecies of the Americans on the future of the submarine.

Reprinted in *Engineering*, London, v. 65, 29 April 1898, p. 543-545, *VDA*.

Non-official Publications, continued.
1898, continued.

106. **Kimball, William W.** Has the submarine boat a place? [With discussion.] (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 6, Nov., 1898, p. 61-74.) **VXA**

Compares cost of submarines with effectiveness as coast defense.

107. — The submarine boat: an able analysis of arguments in favor of submarine boats. (Marine review, Cleveland, v. 18, 17 Nov. 1898, p. 20-21.) † **VXA**

Brief note.

108. **Lake** submarine boat *Argonaut*. illus. (Electrical engineer, New York, v. 26, 29 Dec. 1898, p. 647-648.) **VGA**

Argonaut illustrated, with details and specifications.

109. **Niblack, Albert Parker.** A place all to itself; such is the position of the submarine boat in war — makes blockading almost impossible. (Marine review, Cleveland, v. 18, 17 Nov. 1898, p. 21.) † **VXA**

Brief note.

110. **Niblack, Albert Parker, and others.** Discussion of the submarine boat. (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 6, Nov., 1898, p. 63-74.) **VXA**

Submarine boats should be standardized.

111. **Noalhat, Henri.** Le problème de la navigation sous-marine. (Revue technique, Paris, tome 20, 10-25 Dec. 1898, p. 539, 559-562.) **VA**

Technical analysis of the problems of submergence.

112. **Nowy** statek podwodny. illus. (Tygodnik illustrowany, Warszawa, 1898, no. 24, p. 479.) * **QPA**

Holland and Lake boats illustrated.

113. **Scott, J. Alvah.** Submarine torpedo boat *Plunger*. illus. (American Society of Naval Engineers, Journal, Washington, v. 10, May, 1898, p. 366-373.) **VXA**

Full specifications with illustrations showing the boat on the ways and afloat.

114. **Successful** trials of the *Holland* boat. illus. (Scientific American, New York, v. 78, 9 April 1898, p. 233-234.) **VA**

Excellent illustrations of the *Holland*.

1899

115. **Baker, Ray Stannard.** A voyage on the bottom of the sea. illus. (McClure's magazine, New York, v. 12, Jan., 1899, p. 203-209.) * **DA**

A continuation of a paper on the *Argonaut* by Mr. Lake. In this Mr. Baker gives his impressions of his voyage and also of the inventor.

116. **Clark, Charles Sydney.** The new *Argonaut*. illus. (Harper's weekly, New York, v. 42, 1 April 1899, p. 306.) * **DA**

Details of this boat which could do wrecking work in times of peace and was the first submarine built with any degree of habitability.

117. **Fawcett, Waldon.** Submarine boat and its future. illus. (Scientific American, New York, v. 81, 9 Dec. 1899, p. 376-377.) **VA**

Official trial of the *Holland* boat.

118. **Forest, F.** Le progrès de la navigation sous-marine. illus. (L'illustration, Paris, v. 113, 4 Feb. 1899, p. 72-76.) * **DM**

Reprinted in *Scientific American supplement*, New York, v. 47, 3-10 June 1899, p. 19586-19587, 19610-19612, *VA*.

Rather brief text. Excellent sectional illustrations of *Bushnell's Tortoise* and the *Zédé* of 1892.

119. **French** submarine torpedo boats. illus. (Scientific American, New York, v. 80, 8 April 1899, p. 211, 217.) **VA**

Gymnote and *Gustave Zédé* illustrated and results of trials given.

120. **G.** Les sous-marins. illus. (La nature, Paris, année 27, 18 Feb. 1899, p. 177-179.) **OA**

General description of French boats.

121. **Gault, J. W.** A practical submarine boat. illus. (United service magazine, London, new series, v. 19, April, 1899, p. 26-35.) * **DA**

A description of the *Argonaut* built by Simon Lake. Illustration of the boat.

122. **Hachebet, H.** Un nouveau bateau sous-marin américain. illus. (Génie civil, Paris, tome 36, 4 Nov. 1899, p. 10-11.) **VA**

Illustrations and description of the *Argonaut*.

123. **Holland** boat and her tests. illus. (Marine review, Cleveland, v. 19, 16 Nov. 1899, p. 17.) † **VXA**

Success of trials. Illustration of the *Plunger* on the ways.

124. **Holland** submarine boat. (Marine engineer, London, v. 21, Oct. 1, 1899, p. 314.) **VXA**

Account of tests made with the *Holland* boat by United States naval officers.

125. **Holland** submarine boat: the business and patents of the company which built it taken over by a new corporation with heavy capital. (Marine review, Cleveland, v. 19, 16 Feb. 1899, p. 13.) † **VXA**

Brief note.

126. **Improved** Goubet submarine torpedo boat. illus. (Scientific American supplement, New York, v. 48, 4 Nov. 1899, p. 19939.) **VA**

Two unusual pictures of the interior of this boat. Brief text.

127. **Interest** in the *Holland*. (Marine review, Cleveland, v. 19, 30 Nov. 1899, p. 19.) † **VXA**

Brief note on the report of Capt. John Lowe.

*Non-official Publications, continued.*1899, *continued.*

128. **Interview** with the inventor of the Plunger. (Marine review, Cleveland, v. 19, 1 June 1899, p. 11.) † VXA

Brief interview with J. P. Holland.

129. **Irwell**, Lawrence. Submarine boats. (Marine review, Cleveland, v. 19, 1 June 1899, p. 12-13.) † VXA

History of the submarine.

130. **Lake**, Simon. Voyaging under the sea: the submarine boat Argonaut and her achievements. illus. (McClure's magazine, New York, v. 12, January, 1899, p. 195-202.) * DA

Interesting account of the *Argonaut* and of the voyages made in her by the inventor. A portrait of Mr. Lake is among the illustrations, which include working drawings of the *Argonaut*, and sketches of the *Argonaut Jr.*, and of the *David*, which sank the *Housatonic* in Charleston harbor.

131. The **Lake** submarine boat. illus. (Engineer, London, v. 88, 6 Oct. 1899, p. 344.) VA

Full details of this boat, built primarily for wrecking purposes but with naval applications in view. Sectional view of the *Argonaut*.

132. **Manfroni**, Camillo. In terra o in mare? (Nuova antologia, Roma, serie 4, v. 79, p. 92-102.) NNA

Review of *La guerra del 190...* In terra e in mare, by A***. Speculations on conditions of warfare on land and water.

133. **Marcillac**, P. Les bateaux sous-marins. (L'éclairage électrique, Paris, v. 19, 6-13 May 1899, p. 195-199, 230-234.) VGA

British, Swedish, French, and American submarines described — propulsion, power, tonnage, etc.

134. The **New Argonaut**; radical changes embodied by Simon Lake of Baltimore in his new submarine boat soon to be launched. (Marine review, Cleveland, v. 19, 29 June 1899, p. 21.) † VXA

135. **Noalhat**, Henri. Des multiples conditions de la navigation sous-marine. illus. (Bulletin technique, Paris, année 1, 1 April, 1 May, 1899, p. 1-30, 126-153.) VDA

A technical analysis of immersion and stability of immersion at various depths.

136. — La navigation sous-marine. illus. (Bulletin technique, Paris, année 1, Jan., 1899, p. 52-78.) VDA

Excellent historical sketch with good illustrations of early types.

137. — La navigation sous-marine; étude complète sur l'immersion. illus. (Revue technique, Paris, v. 21, 10, 25 May, 25 June, 25 July, 10 Oct. 1899, p. 200-204, 222-226, 279-281, 321-323, 454-455; v. 22, 25 Feb. 1901, p. 77-81, 102-106.) VA

Material destined to appear later in book form. See 1904.

This part is a theoretical study of elaborate experiments made by M. Noalhat with submerged bodies.

138. **Redier**, H. Antoine. Un sous-marin et le droit des gens à la conférence de la Haye. (Correspondant, Paris, v. 195, 10 May 1899, p. 470-485.) * DM

The question of the legitimacy of employing torpedoes and submarines in naval warfare.

139. **Some details** of the Holland submarine boat. (Marine engineer, London, v. 21, 1 Oct. 1899, p. 302.) VXA

Details.

140. **Les Sous-marins**. illus. (L'illustration, Paris, tome 113, 28 Jan., 18 Feb., 4 March 1899, p. 54-55, 112, 136.) * DM

History of French construction programme. Illustrations of the *Zédé* and *Gymnote*.

141. **Submarine boats**. (Engineer, London, v. 87, 20 Jan. 1899, p. 61-62.) VA

Editorial on the trial trip of the *Zédé*.

142. A **Submarine problem**; into that the torpedo boat Plunger... has virtually resolved itself. (Marine review, Cleveland, v. 19, 18 May 1899, p. 12.) † VXA

Difficulties in building operations.

143. **Submarine torpedo boat Plunger**. (Army and navy journal, New York, v. 36, 15 July 1899, p. 1104.) †† VWA

Brief description of the Holland boat.

144. **Submarine torpedo boats**. (Marine engineer, London, v. 21, Dec. 1, 1899, p. 381.) VXA

"Americans have decided... submarine torpedo boats shall be adopted for the defence of their ports." — *Editorial*.

145. **Submarine warfare**. (Marine review, Cleveland, v. 19, 28 Dec. 1899, p. 14.) † VXA

Details of the Holland boat.

146. **Tests** of the Holland submarine boat. illus., maps. (Electrical world and engineer, New York, v. 34, 4 Nov. 1899, p. 696-698.) VGA

Abstracted in *Dingler's polytechnisches Journal*, Stuttgart, Jahrg. 1900, Bd. 315, 17 March 1900, p. 179. VA.

Holland adequately met expectations.

147. **Le Travailleur** sous-marin. illus. (L'illustration, Paris, v. 113, 17 June 1899, p. 384.) * DM

Brief text.

1900

148. **Bradley**, W. P. Submarine navigation. illus. (Popular science monthly, New York, v. 58, Dec., 1900, p. 156-171.) * DA

"Safe" submarine navigation discussed and the value of the boats in coast defense and in warfare. Illustrations of the *David* and *Argonaut*.

149. **Busley**, Carl. Die modernen Unterseeboote. illus. (Schiffbautechnische Gesellschaft, Jahrbuch, Berlin, Bd. 1, 1900, p. 65-124.) † VXA

Reprinted in *Marine engineering*, New York, v. 5, Oct. - Dec., 1900, p. 405-409, 466-496, 540-542, v. 6,

*Non-official Publications, continued.**1900, continued.*

Jan. - May, 1901, p. 24-27, 60-63, 111-114, 148-150, 193-194, † VXA.

Fine historical sketch with most attractive illustrations.

150. Forest, F., and HENRI NOALHAT. Les bateaux sous-marins. Paris: V^{ve} Ch. Dunod, 1900. 2 v. illus. 8°. **VXV**

v. 1, History, beginning with a plongeur used at the siege of Tyre in 332 B. C.

v. 2, Technical problems of immersion, stability, and navigation are treated in detail with chapters on motive power and machinery.

151. Fulton, Weston M. Motor. (United States patent, no. 685,269, Feb., 1900.)

Patents Room

152. — Collapsible vessel for atmospheric motors. (United States patent, no. 729,926, Nov., 1901.)

Patents Room

153. — Winding mechanism for clocks. (United States patent, no. 778,237, August, 1903.)

Patents Room

These mechanisms comprise the basic principles of the deep sea bombs, which have been the most potent enemy of the submarine. At a given depth the pressure of the water, determined by an adjustable gauge, works upon the device which causes the bomb to explode. The water is compressed to such a degree that the hull of the submarine is caused to collapse or spring leaks. There have been subsequent patents which have been combined with these (all patents of Mr. Fulton's) to evolve this formidable weapon.

154. Geitel, Max. Unterseeboot. illus. (In his: Der Siegeslauf der Technik. Stuttgart, 1900. 4^e. Bd. 3, p. 412-416.) **V**

Interesting illustration of Bauer's boat.

155. Hichborn, Philip. Demonstrated success of the submarine boat. illus. (Engineering magazine, New York, v. 19, June, 1900, p. 321-324.) **VDA**

Historical outline showing development in naval experimentation, with synopsis of the report of the Endicott Board. Illustrates the *Argonaut* and *Holland*.

156. Holland, John Philip. The submarine boat and its future. (North American review, New York, v. 174, Dec., 1900, p. 894-903.) *** DA**

The inventor of the Holland boat believed that passengers would travel across channel and other short routes by submarine. This paper was criticised editorially in the *Engineering news*, New York, v. 45, 10 Jan. 1901, p. 29-30, *VDA*.

157. Holland submarine boat. (Marine engineer, London, v. 21, Jan. 1, 1900, p. 447.)

VXA

American Inspection and Survey Board reports that trials with this boat were successful.

158. Hovgaard, George William. Strength of elliptic sections under fluid pressure. [With discussion.] diagr. (Institution of Naval Architects, Transactions, London, v. 42, 1900, p. 93-121.) **VXA**

Detailed mathematical investigations as applied to submarine boats.

159. John P. Holland on the submarine boat. port. (Marine review, Cleveland, v. 21, 24 May 1900, p. 18.) † **VXA**

A biographical sketch of Holland as given in interview.

160. Kimball, William W. Submarine torpedo boats. (Harper's monthly magazine, New York, v. 101, Sept., 1900, p. 558-569.) *** DA**

Follows submarine development in popular vein. Gives good idea of habitability and operation.

161. Lake Submarine Company. The submarine boat "Argonaut." What she was built for and what she has accomplished. [New York, 1900?] 16 p. illus. 8°. **VXV p. box 2**

Detailed description.

162. Position of the Navy Department regarding Holland. (Marine review, Cleveland, v. 21, 15 Feb. 1900, p. 20.) † **VXA**

Letter from Secretary Long concerning the purchase of the *Plunger*.

163. Raddatz submarine boat. (Scientific American, New York, v. 82, 13 Jan. 1900, p. 23.) **VA**

Brief note.

164. Der Stande der Unterseebootfrage zu Beginn des zwanzigsten Jahrhunderts. (Dingler's polytechnisches Journal, Stuttgart, Jahrg. 1900, Bd. 315, 5 May 1900, p. 277-281.) **VA**

Interesting history with bibliographical notes.

165. Submarine torpedo boat Holland. illus. (Marine review, Cleveland, v. 21, 29 March 1900, p. 12.) † **VXA**

Interesting data concerning experiments made to test the boat.

166. Submarine vessels for commercial purposes. (Marine review, Cleveland, v. 21, 4 Jan. 1900, p. 13.) † **VXA**

Interview with J. P. Holland.

167. Unterseeische Boote. illus. (Dingler's polytechnisches Journal, Stuttgart, Jahrg. 1900, Bd. 315, 13 Jan. 1900, p. 32-33.) **VA**

Lake's *Argonaut* and other boats of the United States navy described and illustrated.

168. Wireless control of submarines. (Scientific American, New York, v. 82, 3 Feb. 1900, p. 71.) **VA**

Brief note on invention of J. C. Colwell.

1901

169. Admiral Melville on the French submarine. (Marine review, Cleveland, v. 24, 5 Sept. 1901, p. 19.) † **VXA**

Brief abstract of an article appearing in the *New York Tribune*.

170. Atteridge, Andrew Hilliard. The tactics of the submarine. (Monthly review, London, v. 4, Aug. 1901, p. 42-51.) *** DA**

History of the submarine as a naval unit.

*Non-official Publications, continued.**1901, continued.*

171. **Delauney**. Les sous-marins. illus. (La nature, Paris, année 29, 18 May 1901, p. 591-594.) **OA**

Historical sketch.

172. **Delpeuch**, Maurice. La première tentative de guerre sous-marine (août 1776). illus. (La contemporaine, Paris, no. 16, Oct., 1901, p. 217-228.) ***DM**

Bushnell's solution of "the difficult problem of submarine navigation."

173. **Early** submarine warfare. (Engineer, London, v. 91, 1 Feb. 1901, p. 109-110.) **VA**

Abstracted in *Marine review*, Cleveland, v. 23, 21 Feb. 1901, p. 26, † *VXA*.

Begins with early attempts in America at building submarines during the Civil war.

174. **England's** submarine boat destroyer. illus. (*Marine review*, Cleveland, v. 24, 11 July 1901, p. 19.) † **VXA**

Deep sea mines or torpedoes are discharged from the destroyer, compressing the hull of the submarine in such a way that leaks are certain to occur.

175. Die **Entwicklung** des Unterseebootwesens in den Jahren 1900 und 1901. (Dingler's polytechnisches Journal, Berlin, Jahrg. 82, Bd. 316, 28 Dec. 1901, p. 821-824.) **VA**

Increase in submarine power of each navy.

176. **Fawcett**, Waldon. American submarine boats. illus. (American manufacturer and iron world, Pittsburgh, v. 68, 14 Feb. 1901, p. 196-197.) **3-VA**

Historical sketch of Holland boats with illustrations showing them on the stocks.

177. **French** submarine boats. (Engineer, London, v. 91, 18 Jan. 1901, p. 55-56.) **VA**

Editorial and note concerning these boats.

178. **Gaget**, Maurice. La navigation sous-marine. Généralités et historique. Théorie de sous-marin. Bateaux sous-marins modernes. La guerre maritime. Paris: Ch. Béranget, 1901. 472 p. 12°. **VXV**

Early history giving citations from classic writers. Good illustrations of primitive boats. Chapter devoted to the periscope.

179. **Holland** submarine boat. (Engineer, London, v. 91, 1 March 1901, p. 218, 225-226.) **VA**

Editorial and abstract of Rear Admiral O'Neil's report.

180. **Holland's** speed endurance trial. (*Marine review*, Cleveland, v. 23, 7 March 1901, p. 18.) † **VXA**

Lieut. Comm. Edwards' report to Congress.

181. **Hovgaard**, George William. Motion of submarine boats in the vertical plane. diagr. (Institution of Naval Architects, Transactions, London, v. 43, 1901, p. 143-190.) **VXA**

Reprinted in *Engineering*, London, v. 71, 5-12 April 1901, p. 437-439, 459-460, 488-490, *VDA*.

Mathematical consideration of the two qualities the submarine boat must possess, viz.: stability of

motion and maneuvering power, and the manner in which they are affected by varying rudders, the amount and distribution of buoyance, shape of hull, etc.

182. **Lancement** du sous-marin américain "Shark" à Elizabeth Port (New Jersey). illus. (L'illustration, Paris, v. 118, 16 Nov. 1901, p. 310, 316.) ***DM**

Brief description of the *Shark*, with illustration of the boat leaving the runway.

183. **La Rouveraye**, P. de. La navigation sous-marine et les torpilleurs submersibles. (Marine française, Paris, année 14, March, 1901, p. 122-127.) **VXA**

Survey of submarine construction.

184. **Latest** engine of war: the French submarine boat *Gustave Zédé*. illus. (Sphere, London, v. 6, 3 Aug. 1901, p. 125.) ***DA**

Illustration only.

185. **Launch** of the submarine torpedo boat *Fulton*. illus. (*Scientific American*, New York, v. 84, 22 June 1901, p. 388.) **VA**

Boat to be used for experimental purposes by the Holland Company.

186. **Melville**, George Wallace. Submarine boat: its promises and performances. (North American review, New York, v. 172, April, 1901, p. 584-598.) ***DA**

Non-technical summary with comment on views of the Naval Committees.

Abstracted in *Marine review*, Cleveland, v. 23, 18 April 1901, p. 22, † *VXA*.

187. — The submarine boat; its value as a weapon of naval warfare. pl. (Smithsonian Institution, Annual report, 1901, Washington, 1902, p. 717-738.) ***EA**

"No attempt has been made in this monograph to tell of the advantages of an efficient and reliable submarine. The possibilities are only limited by the imagination of the reader."

188. **Naval** danger of the future: the submarine boat of our rivals. illus. (Sphere, London, v. 4, 23 Feb. 1901, p. 194.) ***DA**

Brief description and illustrations of the French boats, *Zédé* and *Gymnote*.

189. **The New** submarine boats. (Navy and army illustrated, London, v. 12, 24 Aug. 1901, p. 565.) **VWZH**

Remarkable illustrations of the *Adder*. On the ways, launching, and afloat.

190. **Noalhat**, Henri. La navigation sous-marine aujourd'hui. (Marine française, Paris, année 14, April, 1901, p. 160-184.) **VXA**

Careful investigations made of problems — scientific and mechanical — of submarine navigation; motors, lines of hull, tactics.

191. **Oblaski**, T. Le premier bateau sous-marin; le *Nautilus*. illus. (La nature, Paris, année 29, 24 Aug. 1901, p. 193-195.) **OA**

Abstracted in *Scientific American supplement*, New York, v. 52, 12 Oct. 1901, p. 21558, *VA*.

Fulton's experiments with the *Nautilus* in the Seine in 1801.

Non-official Publications, continued.

1901, continued.

192. **Robertson, Edmund.** The Admiralty and submarine boats. (Nineteenth century, London, v. 49, Jan., 1901, p. 30-38.) *DA

Referring to the attitude of the Admiralty and commenting on what has been done in France and the United States.

193. **Salter, John, the younger.** Gasoline engines for Holland submarine torpedo vessels nos. 3 to 8. illus. (American Society of Naval Engineers, Journal, Washington, v. 13, Feb., 1901, p. 144-150.) VXA

A bit of the history of the gas engine and details of the submarine motors.

194. **Les Sous-marins.** (Correspondant, Paris, v. 204 [nouv. série, v. 168], 23 July 1901, p. 216-237.) *DM

The "sensational" voyage of the *Gustave Zédé*.

195. **Submarine boat in naval warfare.** illus. (Illustrated London news, London, v. 119, 23 March 1901, p. 429.) *DA

Sectional view of the Holland boat with other illustrations of the boat. No text.

196. **Submarine boats.** (Engineer, London, v. 91, 25 Jan. 1901, p. 86-88.) VA

The French government's attitude in regard to submarine building. Illustrates Nordenfeldt's boat constructed for the Turks in 1887.

197. **Submarine boats.** (Marine review, Cleveland, v. 23, 18 April 1901, p. 23.) †VXA

Unfavorable comment of the British technical press is discussed and abstracted.

198. **Submarine boats for the British navy.** (Engineering, London, v. 71, 9 March 1901, p. 395-397.) VDA

Sectional drawing of the improved Holland boat, five of this type having been built for Great Britain.

199. **A Submarine cross channel service.** (Engineer, London, v. 91, 25 Jan. 1901, p. 95.) VA

Brief note on Holland's prophecy.

200. **Successful test of the Fulton.** (Marine review, Cleveland, v. 24, 28 Nov. 1901, p. 17.) †VXA

Brief note.

201. **Vereteegh, H. H.** Onderzeesche boot-en. illus. (De Ingenieur, 's Gravenhage, Jaarg. 16, 20-27 July 1901, p. 474-478, 491-497.) VDA

Historical outline leading up to more detailed account of recent boats. Sectional illustration.

1902

202. **Admiral O'Neil on submarines.** (Marine review, Cleveland, v. 26, 21 Aug. 1902, p. 24.) †VXA

Report of interview in which the Admiral discusses defense against submarines, advocating guns from 3 to 14 pounders.

203. **Baird, George Washington.** Submarine torpedo boats. diagr. (American Society of Naval Engineers, Journal, Washington, v. 14, Aug., 1902, p. 845-855.) VXA

McClintock's submarine built during the Civil war, Horstford's design of 1864, and Kroehl's submarine explorer, as well as Van Buran Ryerson's diving bell, described.

204. **Bonomo, Quintino.** Le armi subaquee nel secolo XIX. (Rivista marittima, Roma, anno 35, trimestre 2, June, 1902, p. 437-477.) VXA

Development of submarines from Fulton's experiments. Torpedoes are described also.

205. **Coming to the surface.** illus. (Navy and army illustrated, London, v. 14, 5 April 1902, p. 51.) VWZH

Remarkable picture of the first British submarine just emerging after launching.

206. **Delpuech, Maurice.** Les premières expériences de navigation sous-marine en France: Fulton et son Nautilus. illus. diagr. (La contemporaine, Paris, no. 28, April, 1902, p. 202-218.) *DM

Portrait of Fulton. History of his experiences in France.

207. **Development in construction of submarines.** illus. (Illustrated London news, London, v. 121, 20 Sept. 1902, p. 422-423.) *DA

Very brief text. Interior views of submarines.

208. **Équevilley, Raymond d'.** Les bateaux sous-marins et les submersibles. Paris: Gauthier-Villars [1902?]. 164 p., 12°. (Encyclopédie scientifique des aide-mémoire. no. 287.) VXV

Assembles the details of the question of navigation, military programmes of the nations and constructive policy.

209. **Fawcett, Waldon.** The submarine boat Protector. illus. (Scientific American, New York, v. 87, 22 Nov. 1902, p. 346-347.) VA

Description of this Lake boat "which was radically dissimilar to any other boat" having a ship-shape hull and twin screws.

Illustrates the launching of the *Protector*.

210. **Field, C.** Old attempts at under water war. (United service magazine, London, v. 145 [new series, v. 24], Jan., 1902, p. 353-360.) *DA

Survey of early history with mention of ancient references.

211. **Fontin, Paul.** Les sous-marins et l'Angleterre. Paris: R. Chapelot et Cie., 1902. 70 p. 8°. VXV

History of the adoption of the submarine by Great Britain as part of her naval equipment.

212. — Les sous-marins et la politique navale de l'Angleterre. (Revue maritime, Paris, tome 155, Oct., 1902, p. 1819-1881.) VXA

History of British naval power with an account of the discussion which preceded the adoption of the submarine into the British navy.

Non-official Publications, continued.

1902, continued.

213. **Fyfe, Herbert C.** Submarine warfare, past, present and future; with an introduction by Admiral Sir Edmund R. Freemantle . . . and a chapter on "The probable future of submarine boat construction" by Sir Edward J. Reed. London: Grant Richards, 1902. xxviii, 332 p. illus. 8°. **VXV**

Bibliography, p. 331-332.

"The author's object is to produce a book that is essentially of a popular character. . . . The aim has been to avoid technicalities." — *Preface.*

214. **Hurd, Archibald Spicer.** The coming of the submarine — new British boats. (Nineteenth century, London, v. 51, Feb., 1902, p. 220-232.) ***DA**

Abstracted in *Marine review*, Cleveland, v. 25, 6 March 1902, p. 25, † *VXA*; and in *Marine française*, Paris, tome 15, March, 1902, p. 295-299, *VXA*.

Predicts correctly naval developments.

215. **Iberti, Carlo.** Submarine work. illus. (Contemporary review, London, v. 82, Nov., 1902, p. 696-702.) ***DA**

Description of the invention of Signor Pino, which is to be used for salvaging ships or treasure at any depth.

216. **Le Roll, P.** Les sous-marins français. (Journal de la marine: le yacht, Paris, année 13, 25 Sept. 1902, p. 1.) † **VXA**

Reprinted in *United service magazine*, London, new series, v. 26, Oct., 1902, p. 118-122, * *DA*. Re-counts the achievement of the French submarines that sailed from Cherbourg to Brest and return.

217. **Morris, Arthur.** A boom in submarines. (Nautical magazine, London, v. 71, Sept. - Oct., 1902, p. 557-564, 619-626.) **VXA**

Delightful historical sketch in light vein.

218. **Official trials of our submarine boats.** (Scientific American, New York, v. 87, 29 Nov. 1902, p. 357.) **VA**

Brief account of the gratifying results obtained in trial of the *Adder* and *Moccasin*.

219. **Question of protection against submarines.** illus. (Sphere, London, v. 10, 20 Sept. 1902, supplement, p. iv.) ***DA**

Enumerates the means of protection: 6-in. guns, nets, captive balloons, telephone connections, etc.

220. **Remarkable test of submarine boat Adder.** (Marine review, Cleveland, v. 26, 20 Nov. 1902, p. 33.) † **VXA**

Brief note.

221. **Robinson, Charles N.** Submarines. illus. (Naval annual, Portsmouth, Eng., 1902, p. 144-156.) **VXA**

Reprinted in *Mittheilungen aus dem Gebiete des Seewesens*, Pola, Bd. 30, 1902, No. 9, p. 722-727, *VXA*.

Submarine development in every navy giving types used. First British submarine illustrated.

222. **Les Sous-marins anglais.** illus. (Journal de la marine: le yacht, Paris, année 25, 13 Sept. 1902, p. 433-434.) † **VXA**

Illustration of the British C-3.

223. **Spear, Lawrence.** Submarine torpedo boats; past, present, and future. [With discussion.] (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 10, Nov., 1902, p. 323-350.) **VXA**

Review of this paper in *Marine review*, Cleveland, v. 26, 11 Dec. 1902, p. 18, † *VXA*.

Abstracted in *Scientific American supplement*, New York, v. 55, 7 Feb. 1903, p. 22653-22658, *VA*.

Historical sketch followed by a consideration of the characteristics of the later types and a word as to future development. Excellent illustrations.

224. **Submarine boats.** (Engineering, London, v. 74, 5 Sept. 1902, p. 313-314.) **VDA**

Editorial on United States building programme and of opinions obtaining as to the value of the submarine boat.

225. **Submarine boats.** (Engineering, London, v. 74, 5 Dec. 1902, p. 733-736.) **VDA**

Describes Holland, Lake, and Moriarty types.

226. **Submarine boats in the U. S.** (Engineer, London, v. 94, 19 Dec. 1902, p. 582.) **VA**

Findings of the Naval Board of Inspection on the trials of the *Adder* and *Moccasin*.

227. **The Submarine and naval warfare,** types of the various vessels including the new British submarines. illus. (Sphere, London, v. 10, 20 Sept. 1902, supplement, p. i-iii.) ***DA**

Illustrations show submarines in dry dock and types in vogue at that date, viz.: *Fulton*, *Gymnote*, *Shark*, *Goubet*. On page 4 is an illustration of the nets in use.

228. **Submarine warfare.** (Marine review, Cleveland, v. 26, 6 Nov. 1902, p. 30-31.) † **VXA**

Reprinted from the *Boston Transcript*.

A popular opinion of submarine possibilities, giving objections of H. G. Wells to a serious consideration of this subtle craft.

229. **Two submarines ready for trial.** (Marine review, Cleveland, v. 26, 13 Nov. 1902, p. 17.) † **VXA**

The *Adder* and *Moccasin* are described in some detail.

230. **Value of the submarine boat.** (Marine review, Cleveland, v. 25, 5 June 1902, p. 26.) † **VXA**

Opinions of prominent naval officers on the purchase of submarines by the United States navy, many of them being reluctant.

231. **White, J. Dundas.** A submarine of the eighteenth century. (Nautical magazine, London, v. 71, June, 1902, p. 352-355.) **VXA**

Abstracts from book by N. D. Flack, *Philosophical dissertation of the Diving Vessel perfected by Mr. Day and sunk in Plymouth Sound*, London, 1775.

232. **X. Du rôle du sous-marin dans la défense et l'attaque des côtes allemandes.** (Marine française, Paris, année 15, May, 1902, p. 299-301.) **VXA**

An abstract from the *Berliner Tageblatt* on the adoption of the submarine by the Germans for coast and harbor defense and the blindness of the English in ignoring the potential powers of these boats for this branch of naval strength.

Non-official Publications, continued.

1903

233. **Barber, Francis M.** A rambling discourse on submarine navigation. (Forum, New York, v. 34, April, 1903, p. 625-634.) *DA

A letter to the editor outlining the history of the submarine.

234. **Burger's** sub-surface boat. (Marine review, Cleveland, v. 27, 2 April 1903, p. 17.) †VXA

Brief note giving dimensions of Burger's type.

235. **Burgoyne, Alan H.** Submarine navigation, past and present. London: G. Richards, 1903. 2 v. illus. 8°. VXX

This book belongs to the library of popular literature despite its bulk. v. 1 describes at length the Burgoyne and Lake boats; v. 2 describes the Holland types with reports before the United States Commission of Admiral Dewey and others, and comprises a compilation of opinions interesting in view of recent achievements in submarine warfare.

Reviewed in *Scientific American supplement*, New York, v. 57, 21 May 1904, p. 23729-23730, VA; reprinted from the *London Times*, *Engineering supplement*.

Illustration of the Apostoloff boat.

236. **Delpuech, Maurice.** La navigation sous-marine à travers les siècles. D'après de nombreux documents inédits. Paris: Félix Juven [1903]. xii, 450 p. illus. 8°. VXX

Very exhaustive historical study free from technicalities. Portraits of inventors and illustrations of early boats.

237. **French** submarines. (Engineering, London, v. 75, 9 Jan. 1903, p. 31-33.) VDA

French manoeuvres at Cherbourg and account of the types of boats taking part.

238. **Fulton's** submarine. (Marine review, Cleveland, v. 27, 12 March 1903, p. 21.) †VXA

Brief note on Fulton's experiences in France.

239. **Fyfe, Herbert C.** An underwater automobile: the new American submarine torpedo boat Protector. illus. (Page's weekly, London, v. 2, April, 1903, p. 299-305.) VDA

Compares the Lake submarine *Protector* with the Holland boats as to respective efficiency.

240. **Halligan, John.** Development of the submarine in the direction of increased scope. illus. (American Society of Naval Engineers, Journal, Washington, v. 15, Nov., 1903, p. 1211-1240.) VXA

Reprinted in *Scientific American supplement*, New York, v. 56, 26 Dec. 1903, p. 23393-23395; v. 57, 2 Jan. 1904, p. 23410-23413, VA.

When the submarine is submerged and within torpedo range it is most formidable and success depends upon three factors: ability of the commander to place vessel within torpedo range, to successfully discharge the missile, and the character of the personnel. Excellent illustrations of interior of the *Protector*.

241. **Hurd, Archibald Spicer.** The success of the submarine. (Nineteenth century, London, v. 54, Nov., 1903, p. 711-721.) *DA

French and British boats discussed and the value of the submarine as an instrument of war.

242. **Lake** submarine boat Protector. (Marine review, Cleveland, v. 28, 3 Sept. 1903, p. 33.) †VXA

Brief note on a visit of reporters to inspect the submarine.

242a. The **Lake** submarine torpedo boat "Protector." illus. (Scientific American, New York, v. 89, 26 Dec. 1903, p. 484-486.) VA

Describes the boat in great detail.

243. **Marquis, Raoul.** Les sous-marins et leur rôle. Par Henry de Graffigny [pseud.]. (Revue scientifique, Paris, série 4, tome 19, 13 Jan. 1903, p. 15-22.) OA

Possibilities of the submarine considered.

244. **Morgan, Leo.** Official trials of the submarine boats Grampus and Pike. pl. (American Society of Naval Engineers, Journal, Washington, v. 15, May, 1903, p. 584-602.) VXA

Reprinted in *Mitteilungen aus dem Gebiete des Seewesens*, Pola, Bd. 31, No. 11, 1903, p. 896-913, VXA.

Brief description with reports and standardizing tables of trials.

245. **New** submarine invented by the Chevalier Pino; it is not an instrument of war but for use in salvaging wreckage and other undersea operations. illus. (Black and white, London, v. 25, 2 May 1903, p. 586.) *DA

No text.

246. **Noalhat, Henri.** Les sous-marins et la prochaine guerre navale. Paris: Berger-Levrault & Cie., 1903. viii, 246 p., 1 pl., 1 table. illus. 12°. VXX

"It is attempted to present to the general public, rather than to specialists... the role the submarine shall play in the next naval war."—*Introduction*.

The material for this book appeared at various times in the *Revue technique*.

247. A **Novel** type of submarine. illus. (Navy and army illustrated, London, v. 15, 14 Feb. 1903, p. 560.) VWZH

Illustrations of Lake's *Protector* launching and on the stocks.

248. **Our** latest engine of war. illus. (Navy and army illustrated, London, v. 15, 21 March 1903, p. 683.) VWZH

No text.

249. **Recent** submarine inventions. (Marine review, Cleveland, v. 27, 5 Feb. 1903, p. 26-27.) †VXA

Describes the salvage boat and hydroscope invented by Signor Pino.

250. **Les Sous-marins: premiers essais sérieux en France et à l'étranger; sous-marins et sousmersibles; les 50 sous-marins que possèdera la France en 1904; le méca-**

Non-official Publications, continued.
1903, continued.

nisme de la plongée sur place. illus. (L'illustration, Paris, tome 122, 10, 31 Oct., 7 Nov. 1903, p. 238-239, 294-295, 311.) *DM
 Historical sketch followed by outline of principles of submarine navigation.

251. **Steering** submarine boats. (Marine review, Cleveland, v. 27, 28 May 1903, p. 32.) †VXA

Brief note on instrument invented by Negus Company for steering submarines.

252. **Submarine** boat Protector. illus. (Engineer, London, v. 96, 20 Nov. 1903, p. 502-503.) VA

Account of this experimental boat built by the Lake Company. Diagram of the omniscope.

253. **Submarine** to travel under ice. (Marine review, Cleveland, v. 27, 23 April 1903, p. 17; 21 May 1903, p. 18.) †VXA

Submarine proposed for polar expedition of Scholl and Kuempfe.

254. **Trials** of the submarine boats Grampus and Pike. illus. (Marine engineering, New York, v. 8, July, 1903, p. 368-371.) †VXA

Trials held in San Francisco bay. Illustrations of the boats in dry dock, showing lines of hull.

255. **White, William Russell.** Official trials of the submarine boats Adder and Moccasin. 1 pl. illus. (American Society of Naval Engineers, Journal, Washington, v. 15, Feb., 1903, p. 39-58.) VXA

Description of boats and results of trials given in graphs.

256. — Test of America's newest submarines; construction and operation described by Lieut. White who accompanied the boats in their ride under the sea. illus. (Popular mechanics, Chicago, v. 4, 4 July 1903, p. 18.) VFA

Trials of the *Adder* and *Moccasin*, Holland type boats.

257. **Wireless** guidance of torpedoes by electric waves. (Illustrated London news, London, v. 122, 13 June 1903, p. 911.) *DA
 Orling-Armstrong torpedo described.

1904

258. **Le Comité des sous-marins.** (Marine française, Paris, année 17, Aug., 1904, p. 249-254.) VXA

Report to the president of France by C. Pelletan on efficiency of submarines as an arm of the navy.

259. **Early** attempts at submarine navigation. (Scientific American supplement, New York, v. 57, 9 Jan. 1904, p. 23422-23423.) VA

Abstract and review of Alan H. Burgoyne's book on submarine navigation.

260. **Favor** submarines of Protector type. (Marine review, Cleveland, v. 29, 14 April 1904, p. 13.) †VXA

Brief note on report made to the War Department.

261. **Fins** on a submarine; Middleton system of underwater navigation. illus. (Illustrated London news, London, v. 125, 24 Dec. 1904, p. 965.) *DA

Fins propel, impel, direct, and control submarine.

262. **Laughton, L. G. C.** War under water. (Monthly review, London, v. 16, Sept., 1904, p. 60-69.) *DA

Shows farsightedness in view of subsequent developments.

263. **Noalhat, Henri.** La navigation sous-marine. illus. (Revue technique, Paris, tome 25, 10-25 Aug., 10-25 Sept., 25 Oct., 25 Nov. 1904, p. 796-799, 853-855, 912-914, 967-969, 1071-1074, 1179-1183.) VA

Analysis of underwater navigation with statement of problems involved.

264. **Nos stations de sous-marins.** (Marine française, Paris, année 17, Jan., 1904, p. 1-3.) VXA

List of stations on Mediterranean and Atlantic coasts.

265. **Pouleur, Hector.** Torpilleurs et sous-marins; la tactique navale et les enseignements de la guerre russo-japonaise. Liège: C. Desoer, 1904. 74 p., 2 pl. 8°. V XV

Repr.: Revue universelle des mines, Liège, série 4, tome 7, 1904, p. 131-200, VA.

Discusses the development of the submarine up to its use in the Russo-Japanese war.

266. **Report** of the army board as to the usefulness of the Lake type of submarine boat for coast defence. (Scientific American, New York, v. 90, 12 March 1904, p. 210-211.) VA

Review of the military aspect of the Lake submarine.

267. **Skerrett, Robert G.** The evolution of the submarine and how far the Lake type solves the problem. n. t.-p. (Washington, 1904, 24 p., 6 pl. 8°. VXM p.v.4, no.1

Discusses types and methods of submergence, and reviews the development of the Lake type.

268. **Submarine.** (Technics, London, v. 2, July, 1904, p. 97.) VA

Brief question of ballast and buoyancy.

269. **Submarine** disaster; interior arrangements of the undersea going craft. illus. (Illustrated London news, London, v. 124, 26 March 1904, p. 453-455.) *DA

Brief text only. British submarine illustrated and described.

270. **Submarines** and harbor defense. (Nautical gazette, New York, v. 66, 24 March 1904, p. 160.) VXA

Editorial on the ramming of a submarine in Portsmouth harbor.

271. **Terrible** fate of submarine A-1. illus. (Sphere, London, v. 14, 26 March 1904, p. 288-289.) *DA

Sectional view of the A-1.

Non-official Publications, continued.

1905

272. Armor, d'. Les submersibles et les sous-marins; leur utilisation dans les guerres modernes. Paris: A. Challamel, 1905. 54 p., 11. illus. 4°. **VXV**

Extended study of the use of submarines and the problems involved in submarine navigation. Another edition published in 1899.

273. Bacon, R. H. Notes on the causes of accidents to submarine boats and their salvage. pl. (Institution of Naval Architects, Transactions, London, v. 47, 20 July 1905, p. 406-423.) **VXA**

Reprinted in *Rivista marittima*, Roma, anno 38, trimestre 3, Aug. - Sept., 1905, p. 245-258, *VXA*; *Engineer*, London, v. 100, 4 Aug. 1905, p. 123-124, *VA*; *Scientific American supplement*, New York, v. 60, 7 Oct. 1905, p. 24880-24882, *VA*; and in *Revue maritime*, Paris, tome 169, April, 1906, p. 93-110, *VXA*. Abstracted in *Engineering*, London, v. 80, 28 July 1905, p. 118, *VD.A*.

Probability and prevention of accidents: by explosion, collision, failure of machinery and appliances. Discusses the advisability of salvage craft.

274. Burgoyne, Alan H. Safety of submarines. illus. (Technics, London, v. 3, Jan., 1905, p. 17-24.) **VA**

Historical sketch. Life saving apparatus described and illustrated and also the boat *Holland*.

275. En sous-marin. (Revue de Paris, Paris, année 12, tome 4, 1 Aug. 1905, p. 587-596.) ***DM**

An imaginary trip in a submarine.

276. Hoff, A. B. Submarine as an enemy. diagr. (United States Naval Institute, Proceedings, Annapolis, v. 31, June, 1905, p. 385-400.) **VXA**

Tactics and strategy, the place of submarines in the fleet and a chapter on manœuvres.

277. Influence of submarine warfare on British naval supremacy. (United service magazine, London, new series, v. 30, Feb., 1905, p. 483-491.) ***DA**

An excellent paper considering the future development of the submarine and its place as a naval asset to any nation.

278. K. De eerste in Nederland gebouwde onderzeesche torpedo boot. illus. (De Ingenieur, s'Gravenhage, Jaarg. 20, 16 Sept. 1905, p. 598-603.) **VDA**

Details of a boat built at the Koninklijke Maatschappij "de Schelde" after plans made by the American Electric Boat Company.

279. Kearney, Thomas A. The submarine; its purpose and development. (United States Naval Institute, Journal, Annapolis, v. 41, Sept. - Oct., 1905, p. 1239-1250.) **VXA**

280. Koster, P. De Russische onderzeesche booten van het Lake type. illus. (Elseviers' geïllustreerd maandschrift, Amsterdam, Jaarg. 15, Deel 30, Oct., 1905, p. 242-249.) ***DH**

Illustrations of the *Simon Lake X*, showing the boat stowed on deck of the *Adria* on which she was carried to her destination.

281. Loss of submarine A-8. (Engineer, London, v. 99, 23 June 1905, p. 624, 627-628.) **VA**

Abstracted from the *Western Morning News*, giving details of the trial of survivors of the submarine A-8 which sank suddenly near Plymouth sound, 8 June.

Editorial on p. 627-628.

282. A New type of submarine: the French submersible *Aigrette* running below the surface during Cherbourg experiments. illus. (Illustrated London news, London, v. 126, 22 April 1905, p. 582.) ***DA**

Illustration of the *Aigrette*. Brief text.

283. Stainer, C. Ueber Unterseeboote. (Stahl und Eisen, Düsseldorf, Bd. 25, 1 Nov. 1905, p. 1234-1240.) **VIA**

Submarine navigation and construction.

284. Submarines "A" and "B" class. illus. (Engineer, London, v. 99, 16 June 1905, p. 598-599.) **VA**

Illustrations of British submarines *A8* and *B1*. Brief text.

285. Submersible contre sous-marin. illus. (L'Illustration, Paris, v. 125, 25 March 1905, p. 192.) ***DM**

Compares the submersible *Aigrette* and the submarine *Z*.

286. Tomb, J. H. Description of types, operation of and accidents to submarines. (United States Naval Institute, Proceedings, Annapolis, v. 31, Dec., 1905, p. 965-971.) **VXA**

General discussion.

287. White, Sir William Henry. Submarine navigation. (Royal Institution of Great Britain, Proceedings, London, v. 18, 9 June 1905, p. 155-165.) ***EC**

Reprinted in Smithsonian Institution, *Annual report*, 1905, Washington, 1906, p. 235-245, **EA*; and in *Popular science monthly*, New York, v. 68, March, 1906, p. 266-275, **DA*.

Abstracted in *Technics*, London, v. 4, July, 1905, p. 12-19, *VA*, and in *Marine review*, Cleveland, v. 31, 29 June 1905, p. 17, † *VXA*.

Survey of development of submarine as naval unit, especially of modern types. Progress in constructive advancement and equipment discussed.

288. — Submarines. (Scientific American supplement, New York, v. 59, 10, 17 June 1905, p. 24606-24607, 24630-24631; v. 60, 15 July, 16 Sept., 28 Oct. 1905, p. 24689-24690, 24838-24839, 24933-24934.) **VA**

Abstracted in *Marine review*, Cleveland, v. 32, 20 July 1905, p. 31-32, † *VXA*.

History of submarines in great navies, principles of construction, methods of diving and a paragraph on periscopes. Reprinted from the *Engineering supplement* of the *London Times*.

Non-official Publications, continued.

1906

289. **Bellet, Daniel.** Le bateau sous-marin et ses dangers. (*Revue scientifique*, Paris, série 5, tome 6, 17 Nov. 1906, p. 612-616.) **OA**

Discusses the accidents that have befallen under-sea boats, their causes and prevention, salvage and life saving.

290. **C., G.** Notre marine. illus. (L'illustration, Paris, v. 127, 24 March 1906, p. 186-187.) ***DM**

Reprinted in *Scientific American supplement*, New York, v. 61, 19 May 1906, p. 25389, *V.A.*

Brief text giving description of periscope and outline of French policy in submarine construction.

291. **Devaux, M.** Commande électrique à distance par les ondes hertziennes. Application à la commande d'un sous-marin torpilleur. diagr. (*Société internationale des électriciens*, Bulletin, Paris, série 2, tome 6, June, 1906, p. 309-314.) **VGA**

Abstracted in *Electrician*, London, v. 57, 10 Aug. 1906, p. 661, *VGA*; *Army and navy journal*, New York, v. 44, 29 Sept. 1906, p. 125, *VWA*.

A single coherer is used on board the boat working in conjunction with a relay. Diagram of control apparatus.

292. **Escape** from sunken submarines: a device that gives the crew a chance of life. illus. (*Illustrated London news*, London, v. 129, 17 Nov. 1906, p. 707.) ***DA**

Mr. J. Fripps of Catford patented a detachable boat.

293. **Fillol, L.** Comment voient les sous-marins. illus. (*Le monde moderne*, Paris, v. 13, no. 14, Dec., 1906, p. 155-160.) ***DM**

The periscope is described and illustrated.

294. **First** naval submarine for Germany. (*Journal of the United States artillery*, Fortress Monroe, v. 26, Sept.-Oct., 1906, p. 213.) **VWA**

Very brief note.

295. **First** photograph ever taken inside a submarine. illus. (*Illustrated London news*, London, v. 129, 24 Nov. 1906, p. 750-751.) ***DA**

Summary of dangers and life-saving devices to minimize these. Remarks on some accidents and their causes.

296. **Der Gegenwaertige** Stand der Unterseebootsfrage. (*Nauticus: Jahrbuch für Deutschlands Seeinteressen*, Berlin, 1906, Jahrg. 8, 1906, p. 136-167.) **VYL**

Reprinted in *Revista general de marina*, Madrid, tomo 60, May, 1907, p. 1000-1043, *VXA*.

Very comprehensive paper considering the types of submarines, their equipment, radius of action, accidents and their causes, the submarine power of the various nations, and possibilities of future development.

297. **Hasler** floating dock for submarine boats. illus. (*Marine review*, Cleveland, v. 34, 9 Aug. 1906, p. 18.) **†VXA**

Description of dock.

298. **Lake, Simon.** Submarines and submersible boats. diagrs. (*Engineer*, London, v. 101, 29 July 1906, p. 645-648.) **VA**

Defines the two types of boats and discusses accidents, giving possible causes and prevention. Mr. Lake dwells upon dangers of the cigar-shaped boat.

299. ——— Submarines versus submersibles. pl. (*American Society of Naval Engineers, Journal*, Washington, v. 18, May, 1906, p. 533-545.) **VXA**

Analysis of the two types of underwater boat with ultimate conclusions in favor of the submersible.

300. **Lake Torpedo Boat Company.** Under-water torpedo-boats. The submarine versus the submersible: their merits and their menace. [Bridgeport: the company,] 1906. 116 p. illus. 8°. **VXV**

"During the past two years... a number of shocking disasters have befallen under-water craft... Mindful of these mishaps many people are firm in their belief that all submarine vessels have inherent defects that bring in their train grave measures of peril.

"This pamphlet is issued... to correct this erroneous notion and to explain to the general reader the real reasons for the accidents that have occurred in the submarine flotillas of England, France, Russia, and the United States during the period referred to." — *Foreword*.

301. **Lasalle, C. de.** La navigation sous-marine. illus. (*Revue française de l'étranger et des colonies*, Paris, tome 31, July, 1906, p. 384-397.) **KA**

Historical sketch with illustrations of Hallett's *Nautilus* and Tommasi's *Hémi-plongeur*.

302. **Louis, Jean.** La catastrophe du Lutin et le programme naval. (*La marine française*, Paris, année 19, série 3, Sept.-Oct., 1906, p. 161-165.) **VXA**

Public opinion as to the cause and the probable cause.

303. **Mathelin, L.** Procédé de sauvetage du personnel à bord d'un sous-marin naufragé. figs. (*Société des anciens élèves des écoles nationales d'arts et métiers*, Bulletin technologique, Paris, année 1906, v. 1, Feb., 1906, p. 150-160.) **VA**

Apropos of the disaster to the *Farfadet*.

304. **Model** of Germany's new under sea boat. illus. (*Sphere*, London, v. 26, 15 Sept. 1906, p. 236.) ***DA**

No text.

305. **Pesce, G. L.** La navigation sous-marine. Paris: Vuibert et Nony, 1906. 2 p.l., 498 p. illus. f°. **†VXV**

One of the best historical studies on the subject, beginning with the diving apparatus, whether boats or bells, referred to in the Greek and Latin classics.

There are reproductions of many rare prints and illustrations of boats long forgotten.

306. **Petroleum** motor for submarines. illus. diagr. (*Engineer*, London, v. 102, 3 Aug. 1906, p. 116-117.) **VA**

Two-cycle motor designed by Körting Brothers. Valves are entirely absent, the control of the admission and exhaust being regulated by the position of the piston.

Non-official Publications, continued.

1906, continued.

307. The **Position** of the submarine. (Engineering, London, v. 82, 28 Dec. 1906, p. 871-872.) **VDA**

Reprinted in *Scientific American supplement*, New York, v. 63, 2 Feb. 1907, p. 25992-25993, *VA*.

Efficiency of submarines considered in relation to cost and achievement.

308. **Skerret**, Robert G. The limitations of the diving submarine. illus. (Journal of the United States artillery, Fortress Monroe, v. 26, Nov.-Dec., 1906, p. 221-252.) **VWA**

Abstracted in *Revue maritime*, Paris, v. 174, Jan., 1907, p. 457-458, *VXA*.

The weak points developed so far in submarine construction are tabulated and discussed: longitudinal stability, form of hull and of superstructure, etc. Illustrations of the *B-1*, *Protector*, *Octopus*, *Cuttlefish*, and *A-12*.

309. **Spear**, Lawrence Y. Development of the submarine. [With discussion.] 16 p. (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 14, Nov., 1906, p. 141-191.) **VXA**

Abstracted in *Marine review*, Cleveland, v. 35, 11 April 1907, p. 26-33, † *VXA*.

310. **Submarines** and submersibles of France. illus. (Engineer, London, v. 102, 21 Dec. 1906, p. 625-628.) **VA**

Boats constructed since 1885 with descriptions. Tables of types and illustrations of the following boats: *Niade*, *Lutin*, *Goubet*, *Gymnote*, *Narvale*, *Z*.

311. **Warren**, E. L. Two modern types of submarines. (Yale scientific monthly, New Haven, v. 12, June, 1906, p. 423-427.) **OA**

Maintaining equilibrium in submarines, especially in the Holland and Lake boats.

312. **White**, Sir William Henry. The catastrophe of the French submarine *Lutin*. (Engineer, London, v. 102, 9 Nov. 1906, p. 479-480.) **VA**

Short account of the sinking of this ship, probable causes and condition when placed in dry-dock.

313. — Stability of submarines. illus. (Royal Society of London, Proceedings, London, v. 77, section A Mathematics and physics, 3 May 1906, p. 528-537.) ***EC**

Reprinted in *Marine engineering*, New York, v. 28, 22 June 1906, p. 526-530, † *VXA*; *Scientific American supplement*, New York, v. 62, 25 Aug. 1906, p. 25616-25617, *VA*; and in *Engineering*, London, v. 81, 25 May 1906, p. 703-705, *VDA*.

Record of the results of calculations made to determine the conditions of stability in varying circumstances such as, awash, diving, and changes of trim.

1907

314. **B.** Vergleichsfahrten amerikanischer Unterseeboote 1907. (Marie Rundschau, Berlin, Jahrg. 18, Dec., 1907, p. 1424-1435.) **VXA**

Compares Lake and Holland boats.

315. **Babcock**, W. I. The sub-surface torpedo boat. pl. (Society of Naval Archi-

ects and Marine Engineers, Transactions, New York, v. 15, June, 1907, p. 243-247.)

VXA

Object of "the sub-surface torpedo boat is to give to the under water boat wider vision, speed and radius of action... It is a water protected torpedo boat."

316. **Bernard**, Walter. Construction and handling of submarines. illus. (Scientific American, New York, v. 96, 18 May 1907, p. 405, 408, 410-411.) **VA**

Holland and Lake types under competitive trials at Newport. *Cuttlefish*, *Tarantula* and *Octopus* described in detail and illustrated.

317. **Bernay**, Henri. La défense contre les sous-marins. (Journal de la marine: le yacht, Paris, année 30, 23 Nov. 1907, p. 727-728.) † **VXA**

Necessity of studying defense against submarines.

318. — La sécurité à bord des sous-marins. (Journal de la marine: le yacht, Paris, année 30, 15 June 1907, p. 369-370.) † **VXA**

Question of safety of crews of submarines apropos of the disasters to the *Farfadet* and *Lutin*.

319. **Brazilian** torpedo boat. (Engineer, London, v. 104, 4 Oct. 1907, p. 346.) **VA**

Brief note.

320. **Chace**, Mason S. Submarines of battle-ship speed. pl. (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 15, Nov., 1907, p. 43-68.) **VXA**

Reprinted in *Engineering*, London, v. 85, 10 Jan. 1908, p. 61-64, *VDA*.

"I think this paper gives a very clear and comprehensive discussion on the question of submarine vessels. It does not lose itself in history of the past. It discusses conditions as they are to-day and moreover it gives a look into the future by discussion of the possibilities of future developments, indicating the means and the way which we have to go to further improve the submarine boats and giving figures and facts in connection therewith."—*Captain William Hørgaard in discussion.*

321. **Chladek**, Franz. Über Luftverhältniss und Luftverbrauch in Unterseebooten in getauchtern Zustande. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Bd. 35, No. 9, 1907, p. 897-914.) **VXA**

322. **David Bushnell**. (National cyclopaedia of American biography, New York: J. T. White & Co., 1907, v. 9, p. 244-245.) ***R-AGZ**

Biographical sketch.

323. The **Development** of our submarine fleet. illus. (Scientific American, New York, v. 97, 7 Dec. 1907, p. 420.) **VA**

Describes the Holland type and illustrates the *Octopus*.

324. **English**, French and American submarines. illus. (International marine engineering, New York, v. 12, June, 1907, p. 229-230.) † **VXA**

Brief text. Illustrations of the *Cigogne*, *C-1*, and Lake boat *Octopus*.

Non-official Publications, continued.

1907, continued.

325. **Ferrand**, Charles. Torpilles, torpilleurs et sous-marins. (Revue scientifique, Paris, série 5, v. 8, 28 Sept., 5 Oct. 1907, p. 385-391, 417-441.) **OA**

History of the submarine in the French navy. Reprinted from *Conservatoire des arts et métiers*, 1907.

326. **First German submarine**. illus. (Scientific American supplement, New York, v. 64, 10 Aug. 1907, p. 84.) **VA**

Abstracted in *Revista general de marina*, Madrid, v. 61, Nov., 1907, p. 1072, *VXA*.

Brief description giving some account of construction.

327. **French submarines**. (International marine engineering, New York, v. 12, June, 1907, p. 229.) † **VXA**

Gives specifications of French submarines *Opale* and *Cicoque*, also illustrations.

328. **G., A.** Die Komparativversuche zwischen den Tauchbooten Octopus und Lake der Vereinigten Staaten Marine. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Bd. 35, Sept., 1907, p. 914-922.) **VXA**

Reprinted in *Revue maritime*, Paris, tome 175, Oct., 1907, p. 143-152, *VXA*.

329. **Gegenwaertige Stand der Unterseebootenfrage**. (Grenzboten, Leipzig, Jahrg. 66, Bd. 4, p. 446-455.) * **DF**

Modern development followed.

330. **Government tests of submarines**. illus. (Scientific American, New York, v. 96, 22 June 1907, p. 508.) **VA**

Description and illustrations of the *Octopus* type, Electric Boat Company.

331. **Holzhauser**, D. Unterseeboote. Berlin: E. S. Mittler & Sohn, 1907. 23 p., 2 pl. 8°. (Meereskunde, Berlin, Jahrg. 1, Heft 2.) **PSRA**

Describes the *Braundtaucher*, the first German submarine, and outlines improvements in contemporary craft.

332. **Johnstone**, J. G. Stability of submarines. [With discussion.] 3 pl. (Institution of Engineers and Shipbuilders in Scotland, Transactions, Glasgow, v. 50, 22 Jan. 1907, p. 164-196.) **VDA**

Shows that stability of motion of submerged vessel would be satisfactory up to speed of 22 knots. Sets before one very clearly the conditions attending safety, both static and kinetic. Although submarines are subject to many special dangers they avoid those of wind and waves.

333. **Lake**, Simon. Safe submarine vessels and the future of the art. 2 pl. (Institution of Naval Architects, Transactions, London, v. 49, 20 March 1907, p. 37-64.) **VXA**

Abstracted in *Engineer*, London, v. 103, 22 March, 5 April 1907, p. 296-297, 352-354, *VA*; and in *Scientific American supplement*, New York, v. 63, 18 May 1907, p. 26222-26223, *VA*.

Recounts personal experiences and dangers in experimenting with submarines. States requirements

of various nations and the success of designers in meeting these. Accidents are discussed as to causes and prevention with a table. Salvage appliances and life saving devices are briefly treated.

Also issued as a separate, *VXV*.

334. **The Latest French submarines**. illus. (Engineer, London, v. 104, 30 Aug. 1907, p. 207.) **VA**

Emeraude described and illustrated.

335. **Laubeuf**, Alfred Maxime. Influence des sous-marins sur la politique navale des divers états. (Marine française, Paris, année 20, April, 1907, p. 67-80.) **VXA**

The prominence of submarines in naval wars of the future is predicted.

336. — Remarks on the article by Mr. Robert G. Skerrett on "The limits of the diving submarine." (Journal of the United States artillery, Fort Monroe, v. 28, Nov.-Dec., 1907, p. 311-314.) **VWA**

337. — La sécurité des sous-marins. (Journal de la marine: le yacht, Paris, année 30, 29 June 1907, p. 403.) † **VXA**

A letter answering the article by Henri Bernay of June 15 in this journal.

338. — Les sous-marins russes. illus. (Journal de la marine: le yacht, Paris, année 30, 28 Dec. 1907, p. 819.) † **VXA**

Brief note.

339. **Loygovil**, Joaquín de. Pruebas de submarinos. (Vida marítima, Madrid, año 6, 20 July 1907, p. 312.) † **VXA**

Brief description of the *Octopus*.

340. **Max**. Les nouveaux sous-marins américains. illus. (Journal de la marine: le yacht, Paris, année 30, 18 June 1907, p. 358.) † **VXA**

The *Adder* and others of this type.

341. **Michel**, Henri. Comment détruire le sous-marin. (Marine française, Paris, année 20, Oct., 1907, p. 433-444.) **VXA**

The advantages of France and England uniting to defend themselves against a common enemy—the Germans. The submarine to be the weapon of coast defense.

342. **New British submarine ensign**. illus. (Marine review, Cleveland, v. 36, 5 Dec. 1907, p. 47.) † **VXA**

Flag designed for the submarine branch of the British navy by R. G. Hervey. Consists of quartered shield of black, two quarters occupied by submarine and three torpedoes. In each of the remaining quarters is a white mouse, rampant.

343. **A New English submarine**. (International marine engineering, New York, v. 12, June, 1907, p. 229.) † **VXA**

Gives an illustration of the English *C-I*, also specifications.

344. **Perkins**, Frank C. Submarine boat equipped with Koerting six-cylinder oil engines. illus. (Marine review, Cleveland, v. 36, 1 Aug. 1907, p. 30-31.) † **VXA**

Valveless, two-cycle type, 200 H. P. capacity.

Non-official Publications, continued.

1907, continued.

345. **Piaud, L.** Le présent et l'avenir de la navigation sous-marine. tables. (Génie civil, Paris, tome 51, 29 June 1907, p. 145-147.) **VA**

Tables of statistics, characteristics and types of submarines of the navies of the world.

346. **Le Premier sous-marin holandaise** [sic], illus. (Journal de la marine: le yacht, Paris, année 30, 5 Oct. 1907, p. 628.) **† VXA**

Brief.

347. **Progrès des sous-marins.** (Revue maritime, Paris, tome 174, Aug., 1907, p. 404-412.) **VXA**

Reviews the building operations of the world's navies.

348. **Progress in submarine boats.** (Engineering, London, v. 84, 16 Aug. 1907, p. 241-242.) **VDA**

Reprinted in *Scientific American supplement*, New York, v. 64, 14 Sept. 1907, p. 167, *VA*.

Editorial review of the report returned by the Special Board of the United States Navy Department "to make searching tests as to the mechanical efficiency of the different types of submarine boats."

349. **Sous-marin allemand.** illus. (Journal de la marine: le yacht, Paris, année 30, 6 April 1907, p. 221.) **† VXA**

U-1 described with illustration of the motor.

350. **Les Sous-marins type Opale.** illus. (Journal de la marine: le yacht, Paris, année 30, 31 Aug. 1907, p. 549-550.) **† VXA**

Brief description of each boat of the type: *Emeraude*, *Topaze*, *Rubis*, *Turquoise*, *Saphir*.

351. **Spear, Lawrence Y.** La navegación submarino: sus peligros reales y supuestos. illus. (Vida marítima, Madrid, año 6, 10 April 1907, p. 147-149.) **† VXA**

Dangers of submarine navigation exaggerated by general public. Excellent interior views.

352. **Stewart-Garnett, W. H.** Stability of submarines. diagr. (Cassier's magazine, New York, v. 31, Jan., 1907, p. 235-241.) **VDA**

Discusses Sir William White's paper and the causes of accidents. The probable means of avoiding a repetition by the correction of line.

353. **Submarine boat.** diagr. (Marine review, Cleveland, v. 36, 5 Sept. 1907, p. 34-35.) **† VXA**

Boat invented by John M. Gage.

354. **The Submarine boat Lake.** (International marine engineering, New York, v. 12, June, 1907, p. 230.) **† VXA**

Illustration of the *Lake*. With brief text.

355. **Submarine fleet of France.** illus. (Nautical gazette, New York, v. 73, 3-10 Oct. 1907, p. 222-223, 235-237.) **VXA**

Illustrated description of types.

356. **Submarine tests.** (Army and navy journal, New York, v. 44, 4 May-1 June 1907, p. 989, 1017, 1045, 1071-1072, 1099.) **† VWA**

Comparative, not competitive tests of the boats *Lake* and *Octopus*.

357. **Submarine trials.** illus. (Marine review, Cleveland, v. 35, 23 May 1907, p. 16-17.) **† VXA**

Viper, *Cuttlefish*, *Octopus*, and *Tarantula* illustrated.

358. **Submarines good sea boats.** (Marine review, Cleveland, v. 36, 29 Aug. 1907, p. 22.) **† VXA**

Report of trials of the *Octopus*, *Viper*, *Cuttlefish*, and *Tarantula*.

359. **El Submarino "U. 1."** illus. (Revista general de marina, Madrid, tomo 60, April, 1907, p. 832-833.) **VXA**

Brief note giving displacement, equipment, engines, etc.

360. **Los Submarinos del tipo Opali.** (Revista general de marina, Madrid, tomo 61, Sept., 1907, p. 601-602.) **VXA**

Brief note.

361. **La Submersible italien Glauco.** illus. (Journal de la marine: le yacht, Paris, année 30, 20 April 1907, p. 244.) **† VXA**

Brief description.

362. **Sueter, Murray F.** The evolution of the submarine boat, mine and torpedo, from the sixteenth century to the present time. Portsmouth [Eng.]: J. Griffin and Co., 1907. xxiv, 384 p., 22 diagrs., 103 pl. 8°. **VXV**

Commander Sueter has produced an excellent book which naturally includes an exhaustive amount of technical information, but this is so delightfully and lucidly written that the non-technical reader will find no difficulty in understanding both the strategic and construction data given.

363. **Unterseeboote.** illus. (Nauticus: Jahrbuch für Deutschlands Seeinteressen, Berlin, 1907, Teil 1, p. 90-91.) **VYL**

Illustrations of the British *C-4* and American *Cuttlefish*.

364. **Unterseeboote.** illus. (Nauticus: Jahrbuch für Deutschlands Seeinteressen, Berlin, 1907, Teil 1, p. 108-109.) **VYL**

Illustrations of the French boats *Anguille* and *Grondin*.

365. **Die Unterseeboote Fiat-San Giorgio.** illus. (Schiffbau, Berlin, Jahrg. 9, 13 Nov. 1907, p. 95-98.) **† VXA**

Details of Italian submarines.

1908

366. **A propos des sous-marins quelques erreurs volontaires.** (Marine française, Paris, année 21, Nov., 1908, p. 623-628.) **VXA**

Answers to arguments against submarines abstracted from the contemporary press.

Non-official Publications, continued.

1908, *continued.*

367. **American** submarine. (Engineering, London, v. 85, 13 March 1908, p. 345-346.)

VDA

Brief note on Lake boats.

368. **Anchor** for submarine or submersible boats. illus. (Marine review, Cleveland, v. 38, 1 Oct. 1908, p. 24.)

† VXA

Anchor invented by Maxime Laubeuf.

369. Der **Ausbau** der französischen Unterseebootflotte. (Ueberall, Berlin, Jahrg. 10, April, 1908, p. 495-496.)

† VXA

Brief history of French operations, 1903-1908.

370. **Baxter**, W. J. Transportation of submarines. pl. (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 16, Nov., 1908, p. 275-278.)

VXA

Reprinted in *Nautical gazette*, New York, v. 75, 3 Dec. 1908, p. 284-286, *VXA*; *Journal de la marine: le yacht*, Paris, année 32, 5 June 1908, p. 362-364, † *VXA*; and in *Revista general de marina*, Madrid, tomo 64, June, 1909, p. 1024-1025, *VXA*.

Describes the transporting of two submarines from Brooklyn Navy Yard to a distant port on a collier and the launching of them from the collier's deck at port of destination.

371. **Bernay**, Henri. La construction des sous-marins par l'industrie privée. (Journal de la marine: le yacht, Paris, année 31, 8-22 Feb. 1908, p. 80-81, 113-114.)

† VXA

Two articles weighing the advantages of construction by state or by private interests, giving the preference to the former.

372. — Les essais des nouveaux sous-marins. (Journal de la marine: le yacht, Paris, année 31, 27 June 1908, p. 401.)

† VXA

Official trials of *Pluviôse* and *Opale*.

373. — Le sous-marin embarquable. (Journal de la marine: le yacht, Paris, année 31, 21 March 1908, p. 177-178.)

† VXA

Suggestion for carrying submarines on cruisers and launching them from the deck.

374. — Le sous-marin d'escadre. (Journal de la marine: le yacht, Paris, année 31, 25 April 1908, p. 257-259.)

† VXA

Its limited radius of action confines the submarine to a defensive rôle.

375. — Les sous-marins à mettre en chantier en 1908. (Journal de la marine: le yacht, Paris, année 31, 14 Nov. 1908, p. 721-722.)

† VXA

French budget for submarine construction.

376. **Buque** de salvamento para submarinos. illus. (*Revista general de marina*, Madrid, tomo 62, Feb., 1908, p. 396-401.)

VXA

German submarine salvage ship.

377. **Competition** in submarine construction. (Scientific American, New York, v. 98, 21 March 1908, p. 198-199.)

VA

Editorial on R. G. Skerrett's letter in the *Supplement* of the same date.

378. **D.**, J. Un navire de sauvetage pour sous-marins. (Journal de la marine: le yacht, Paris, année 31, 21 Nov. 1908, p. 744.)

† VXA

Brief description of the *Vulkan*.

379. **Dansker**. Les sous-marins américains. illus. (Armée et marine, Paris, v. 10, 5 May 1908, p. 126-127.)

† VWA

The *Octopus* described and illustrated.

380. **Driant**, Émile Augustin Cyprien. Guerre maritime et sous-marine. Par le capitaine Danrit (commandant Driant). Nouvelle édition revue et corrigée. Illustrations de J. Marin. Paris: E. Flammarion [1908]. 15 v. illus. 12°.

VXM

381. **Einige** Details ueber die Tauchboote des "Fiat-San Giorgio" Typs. illus. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Bd. 36, No. 1, p. 71-79.)

VXA

382. **Erhoehung** des Fonds für Unterseeboote. (Marine Rundschau, Berlin, Jahrg. 18, Dec., 1908, p. 1395-1398.)

VXA

Motors for submarines.

383. Die **Frage** der Schwerölmotoren für Unterseeboote. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Bd. 36, No. 10, 1908, p. 1012-1023.)

VXA

384. **French** submarines and submersibles. (Engineer, London, v. 106, 2 Oct. 1908, p. 347.)

VA

Abstracted in *Revista general de marina*, Madrid, tomo 63, Nov., 1908, p. 897-898, *VXA*.

Very brief note.

385. **Giteau**, Pierre. Notre escadre en 1908. Torpilleurs et sous-marins. illus. (Armée et marine, Paris, année 10, 5 April 1908, p. 90-91.)

† VWA

The *Thon* is illustrated.

386. **Given**, E. C. Submarines and submersibles. (Liverpool Engineering Society, Transactions, Liverpool, v. 29, Jan., 1908, p. 129-196.)

VDA

Part 1. History.

Part 2. Fleets of submarines arranged under their respective nationalities.

Part 3. Chronology, giving name, date, type, displacement, and other data.

387. Der **Heutige** Stand des Unterseebootwesens. illus. (Nauticus: Jahrbuch für Deutschlands Seeinteressen, Berlin, Jahrg. 10, 1908, p. 192-223.)

VYL

Reprinted in Royal United Service Institution, *Journal*, London, v. 53, Oct., 1909, p. 1271-1299, *VWA*.

Types of motors for surface and submerged propulsion are considered in detail. Illustration of the engines and of the *Anguille*.

388. **Hislam**, P. A. The transportation of submarines. (Scientific American, New York, v. 99, 26 Dec. 1908, p. 468.)

VA

Japanese submarines built by Vickers Sons, and Maxim are shipped to destination on the *Transporter*.

389. **Inside** a submarine. (Marine review, Cleveland, v. 38, 29 Oct. 1908, p. 16.)

† VXA

Brief account.

Non-official Publications, continued.

1908, continued.

390. **Italienische** Unterseeboote. illus. (Schiffbau, Berlin, Bd. 10, 11 Nov. 1908, p. 95-96.) † VXA

Squalo and Foca described and illustrated.

391. **Italy's** progress in submarine navigation. (Engineer, London, v. 105, 14 Feb. 1908, p. 162-163.) VA

Reprinted in *Revue maritime*, Paris, v. 177, May, 1908, p. 353-360, VXA.

Outline of development, with details of the *Delphino* built in 1889 for the Italian navy.

392. **John Harvard Biles, LL.D.** (Cassier's magazine, New York, v. 33, Feb., 1908, p. 498-500.) VDA

Reprinted in *Marine review*, Cleveland, v. 37, 5 March 1908, p. 58-60, † VXA.

Biographical sketch.

393. **Kl., von.** Bergungsschiff für Unterseeboote. illus. (Marine-Rundschau, Berlin, Jahrg. 19, Feb., 1909, p. 223-226.) VXA

Details of construction of the salvage ship.

394. **Lake** submersible torpedo boat. diagr. (Marine review, Cleveland, v. 37, 5 March 1908, p. 51-53.) † VXA

Diagrammatic drawings of sectional elevations showing firing, storage, and loading tubes. Specifications of the boat.

395. **Laubeuf, Alfred Maxime.** Un bâtiment de sauvetage pour sous-marins. (Journal de la marine: le yacht, Paris, année 31, 29 Feb. 1908, p. 132-133.) † VXA

German salvage boat *Vulkan*.

396. — Present and future of the submarine navigation. (Marine review, Cleveland, v. 37, 12 March 1908, p. 22-24.) † VXA

397. **Laurenti, G.** Submarine naval warfare. illus. (Cassier's magazine, New York, v. 35, Nov., 1908, p. 241-260.) VDA

Reprinted in American Society of Naval Engineers, *Journal*, Washington, v. 20, Nov., 1908, p. 930-954, VXA.

Submarines in harbor defense, a lurking enemy taking the prey unawares. Types of motors discussed at length. Illustration of the Russo-Laurenti cleptoscope.

398. **Leandro de Alesson.** Submarinos y sumerjibles. illus. (Vida marítima, Madrid, año 7, 20 Nov. 1908, p. 506-507.) † VXA

Historical sketch of modern submarines.

399. **Le Franc, A.** Le Gustave Zédé et le Narval. (Moniteur de la flotte, Paris, année 55, 19 Dec. 1908, p. 3.) † VYH

Comparisons of the two boats.

400. **Le Roll, P.** A propos de nos nouveaux sous-marins. (Journal de la marine: le yacht, Paris, année 31, 18 April 1908, p. 253-254.) † VXA

Abstracted in *Revista general de marina*, Madrid, tomo 62, May, 1908, p. 1051-1054, VXA.

Description of the *Emeraude* and *Pluviôse* types.

401. **M.** L'épreuve d'endurance des submersibles. (Journal de la marine: le yacht, Paris, année 31, 31 Oct. 1908, p. 691.) † VXA

Laubeuf submarines on trials.

402. — Le sous-marin américain Octopus. illus. (Journal de la marine: le yacht, Paris, année 31, 14 Nov. 1908, p. 731.) † VXA

Characteristics briefly noted.

403. **Marcellin, Léon.** La vérité sur la construction des sous-marins. (Marine française, Paris, année 21, 1 March 1908, p. 129-134.) VXA

Development of the submarine in France with tables giving designer, dimensions, and achievements since building.

404. **Martin, G.** Moderne Unterseeboote und Minenanlagen. illus. (Illustrierte Zeitung, Leipzig, Bd. 130, 23 Jan. 1908, p. 137-138.) * DF

Outlines the development of the submarine since the Russo-Japanese war, with brief historical references.

405. **New** submarines for Russia. illus. (Engineer, London, v. 105, 17 April 1908, p. 410.) VA

The *Kambala* and *Forelj* illustrated.

406. **Novel** features of new submarine. (Marine review, Cleveland, v. 37, 27 Feb. 1908, p. 33.) † VXA

Brief note on new boat designed by Mr. Simon Lake which promises to revolutionize submarine navigation, making high speed beneath the surface.

407. **A Novel** type of submarine. illus. (Marine review, Cleveland, v. 38, 17 Sept. 1908, p. 13.) † VXA

Description of the sponge fisher built for the Société d'études de pêches sous-marines, Tunis.

408. **Opiniones** de Mr. Laubeuf sobre los submarinos. (Revista general de marina, Madrid, tomo 62, June, 1908, p. 1283.) VXA

Brief note on large submarines.

409. **Paraffin** engine for submarines. (Engineer, London, v. 105, 7 Feb. 1908, p. 146-148.) VA

Details of 350 B. H. P. motor designed by the Thornycroft Company for the Italian navy.

410. **Primer** submarino. (Revista general de marina, Madrid, tomo 62, May, 1908, p. 1041.) VXA

Very brief reference to the first submarine for the Dutch navy.

411. **The Rescuing** of submarines. illus. (Sphere, London, v. 35, 21 Nov. 1908, p. 166.) * DA

Brief text. Illustrates the *Vulcan* and methods used by other nations in raising and repairing submarines.

412. **Salvage** dock for submarines. illus. (Scientific American, New York, v. 98, 11 April 1908, p. 257.) VA

The *Oberelbe* illustrated and described.

Non-official Publications, continued.

1908, continued.

413. **Salvage** dock for submarines; how submarines may be raised. illus. (Scientific American supplement, New York, v. 65, 23 May 1908, p. 328.) **VA**

Describes the *Oberelbe*.

414. **Savorgnan de Brazzà, F.** Un sottomarino per la pesca della spugne e delle ostriche pulifere. illus. (L'illustrazione italiana, Milano, anno 35, semestre 2, 12 July 1908, p. 41-42.) **† NNA**

Illustrations showing design and manner of operating this sponge fisher.

415. **Shipping** submarines intact to the Philippines. illus. (Scientific American, New York, v. 98, 9 May 1908, p. 335.) **VA**

Brief article recounting the method of shipping the *Shark* and *Porpoise* intact by the collier *Caesar*.

416. **Skerrett, Robert G.** Italian submarines. illus. (Scientific American supplement, New York, v. 65, 23 May 1908, p. 329-330.) **VA**

Principal dimensions and general characteristics of boats of the *Glauco* type.

417. — Relation of the government to the development of submarine vessels. (Scientific American supplement, New York, v. 65, 21-28 March 1908, p. 180-181, 198-199.) **VA**

Letter to the editor stating the relations between the government and the Holland Boat Company.

418. **Sous-marin** et dirigeable d'il y a cent ans. illus. (L'illustration, Paris, v. 131, 16 May 1908, p. 343.) *** DM**

Description of a submarine boat discovered at the entrance of Bayou-Saint-Jean, New Orleans, La.

419. Un **Sous-marin** de pêche. illus. (Journal de la marine: le yacht, Paris, année 31, 1 Feb. 1908, p. 71.) **† VXA**

Description of the sponge gatherer.

420. Un **Sous-marin** de pêche aux éponges. illus. (L'illustration, Paris, v. 131, April, 1908, p. 259.) *** DM**

The Société des forges et chantiers de la Méditerranée has constructed a boat for gathering sponges. A good description.

421. Les **Sous-marins** anglais Class B. illus. (Journal de la marine: le yacht, Paris, année 31, 1 Aug. 1908, p. 488.) **† VXA**

The *B-10* briefly described.

422. **Souvaire-Jourdan.** Un sous-marin pour la pêche aux éponges. illus. (La nature, Paris, année 36, 7 March 1908, p. 209-210.) **OA**

Reprinted in *Scientific American*, New York, v. 98, 9 May 1908, p. 303, *VA*.

Illustrated description.

423. **A Submarine** that gathers sponges. illus. (Illustrated London news, London, v. 132, 14 March 1908, p. 368.) *** DA**

"Mechanical diver picking up sponges from the bed of the sea off Tunis."

424. **Submarine** versus battleship. (Scientific American, New York, v. 98, 14 March 1908, p. 178-179.) **VA**

Editorial in favor of capital ships.

425. **Submarino** de pesca. illus. (Vida marítima, Madrid, año 7, 10 Feb. 1908, p. 52-53.) **† VXA**

Brief note.

426. **Submergible** "Foca" al agua en Spezia. pl. (Revista general de marina, Madrid, tomo 63, Sept., 1908, p. 556-557.) **VXA**

Brief text, with table of dimensions.

Illustrates the *Squalo*.

427. **Surface** or submarine torpedo boat. (Engineer, London, v. 106, 13 Nov. 1908, p. 503.) **VA**

The Italian boats *Glauco*, *Narvalo*, *Otario* and *Squalo* made run from Venice to Spezia, 1250 miles, on their own resources.

428. A **325-horse-power** kerosene motor; the engines designed for the Italian submarines. illus. (Scientific American supplement, New York, v. 66, 28 Nov. 1908, p. 349.) **VA**

Engines built by Sir John Thornycroft Company and are composed of two four-cylinder units bolted together.

429. Le **Transport** des sous-marins américains Porpoise et Shark. illus. (Journal de la marine: le yacht, Paris, année 31, 4 July 1908, p. 422-423.) **† VXA**

Boats taken to the Philippines.

430. **Twin screw** submarine boat. diagr. (Marine review, Cleveland, v. 37, 2 April 1908, p. 28-29.) **† VXA**

"In order to secure for submarine boats...of...circular cross sectional construction the advantages of double screw propulsion, avoiding the use of outboard bracket bearings for the screw shafts, L. Y. Spear...has invented certain improvements in design, the principle of which is the gradual diminishing vertically of the stern section of the boat, so as to finally merge, through gradually flattening elliptical cross sections, into a stern frame having substantially parallel sides, within which frame are formed the end bearings of the screws' shafts."

431. A **Unique** shipping craft to transport submarines. illus. (Marine review, Cleveland, v. 38, 5 Nov. 1908, p. 25.) **† VXA**

The *Transporter*, with an unusual illustration showing the ship awash with the submarine ready to float off.

432. **Vecchj, Augusto Vittorio.** Les sous-marins italiens de César Laurenti. (Journal de la marine: le yacht, Paris, année 31, 4 Jan. 1908, p. 3-4.) **† VXA**

Letter to the editor signed with the author's pseudonym: Jack la Bolina.

Details of the *Squalo*.

Non-official Publications, continued.

1909

433. **Alex.** Ueber Torpedoboot- und Unterseebootangriffe und deren Abwehr. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Bd. 37, No. 2, p. 232-243.) **VXA**

Reprinted in *Revista general de marina*, Madrid, tomo 64, April, 1909, p. 606-624, *VXA*.

Potential power of submarines in warfare.

434. An **All-seeing** eye for the submarine. illus. (Scientific American, New York, v. 101, 23 Oct. 1909, p. 297.) **VA**

Describes the periscope, its construction and its use.

435. **America's** first submarine torpedo boat. illus. (Nautical gazette, New York, v. 76, 15 April 1909, p. 309.) **VXA**

Brief note on the Hunley boat now in New Orleans.

436. **Balch**, Edwin Swift. Development of the submarine. (Journal of the Franklin Institute, Philadelphia, v. 168, Aug., 1909, p. 108-115.) **VA**

Discusses what has been done in other countries, urging the United States to develop its submarine arm as has been done in England and France. Efficiency of the submarine as a defensive and offensive weapon.

437. **Bates**, Lindell T. Submarine navigation. illus. (Yale scientific monthly, New Haven, v. 15, April, 1909, p. 216-221.) **OA**

Brief outline history.

438. **Bernay**, Henri. Les expériences comparatives de sous-marins. (Journal de la marine: le yacht, Paris, année 32, 19 June 1909, p. 385-386.) † **VXA**

Abstracted in *Revista general de marina*, Madrid, tomo 64, June, 1909, p. 1034-1036. *VXA*.

Conclusions to be drawn from recent manœuvres.

439. **Bircham**, F. R. S. Internal combustion engines for submarines. 2 pl. (Institution of Naval Architects, Transactions, London, v. 51, 1909, p. 55-62.) **VXA**

"Considers some of the various methods of propulsion in use and proposed, having internal combustion engines as the salient feature... Then follows a consideration of these problems: silence when submerged; invisibility; safety and comfort of the crew; speed and radius of action for a given weight of machinery." — *Preface*.

Abstracted in *Engineer*, London, v. 107, 9 April 1909, p. 379-380, *VA*; and in *Revista general de marina*, Madrid, tomo 64, May, 1909, p. 899-902, *VXA*.

440. **Boselli**. La traversé du submersible Hvalen de la Spezia à Stockholm. map. (Journal de la marine: le yacht, Paris, année 32, 20 Nov. 1909, p. 743.) † **VXA**

Letter to the editor giving log of the trip.

441. **British** submarine boat A-12 on Haslar beach. illus. (Engineering, London, v. 87, 19 March 1909, p. 394.) **VDA**

Submarine ashore. Illustrations show well the lines of hull.

442. **Crewless** submarine; the deadly torpedo. (Illustrated London news, London, v. 135, 17 July 1909, p. 99.) * **DA**

Brief text. Sectional view of submarine and of torpedo.

443. A **Curious** model submarine. illus. (Graphic, London, v. 80, 6 Nov. 1909, p. 624.) * **DA**

Model of a submarine built about 1820-1830. The identity of the inventors has been lost.

444. **Davis**, Richmond P. Automobile torpedo in coast defense. pl. (Journal of the United States artillery, Fortress Monroe, v. 31, March-April, 1909, p. 138-143.) **VWA**

The function of the submarine in harbor defense and in the discharge of torpedoes.

445. **Delpuech**, Maurice. Les sous-marins à travers les siècles; d'après de nombreux documents inédits. Paris: Société d'éditions et de publications [1909]. xii, (1)14-480 p. illus. 4°. **VXV**

A non-technical history with excellent illustrations taken from early prints.

Another edition published in 1903.

446. **Einiges** ueber die Entwicklung und den gegenwärtigen Stand des Unterseebootwesens in den verschiedenen Staaten. illus. tables. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Bd. 37, No. 2, p. 188-231.) **VXA**

History of recent development, especially of the advancement made in France. Tables arranged by nations.

447. **Estado** actual de los submarinos. illus. (Revista general de marina, Madrid, tomo 64, Jan., 1909, p. 69-104.) **VXA**

Considers types, construction, motors, mechanism of submergence, armament, and tactics with the organization of the different nations.

448. **Feldhaus**, Franz M. Submarine experiments of the past; some medieval fancies recently realized. illus. (Scientific American supplement, New York, v. 67, 20 March 1909, p. 184-185.) **VA**

Reprinted from *Gartenlaube*. Contains many of the illustrations of early boats reproduced in the author's book published in 1914.

449. **Forbidden** sight: interior of a submarine. illus. (Illustrated London news, London, v. 135, 17 July 1909, p. 89.) * **DA**

Illustrations give excellent representation. Brief text.

450. Das **Franzoesische** Bergungsschiff für Unterseeboote "Vulcain." illus. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Jahrg. 37, No. 10, 1909, p. 1133-1136.) **VXA**

Detailed description.

451. The **Future** of the submarine; some practical difficulties. (Engineer, London, v. 108, 23 July 1909, p. 89-90.) **VA**

Reprinted in *Scientific American supplement*, New York, v. 68, 4 Sept. 1909, p. 146, *VA*.

Limit of vision, submerged propulsion and ventilation are discussed.

*Non-official Publications, continued.*1909, *continued.*

452. **Gle.** Fultons Unterseeboot. illus. (Marine-Rundschau, Berlin, Jahrg. 20, Teil 2, Nov., 1909, p. 1232-1236.) **VXA**

Nautilus described and illustrated.

453. **Hay, Marley F.** Design of submarines. [With discussion.] (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 17, Nov., 1909, p. 233-254.) **VXA**

Discusses problems of buoyancy tanks, single and double hulls, stability, speed, and power economy. The question of strength to resist deep submergence is considered at length in the discussion which follows the paper.

454. **Italian** submarine torpedo boat *Foca*. illus. (International marine engineering, New York, v. 14, March, 1909, p. 108, 109.) † **VXA**

Compares Laurenti boats with other types and illustrates the *Foca*.

455. **Italian** submersible boat *Foca*. illus. (Engineering, London, v. 87, 15 Jan. 1909, p. 88.) **VDA**

Brief text.

456. **Italian** submersible boat "Otaria" constructed by the Fiat S. Georgio Company, Spezia. illus. (Engineering, London, v. 87, 1 Jan. 1909, p. 12.) **VDA**

Brief text giving dimensions.

457. **Latest** submarines of the United States navy. illus. (Scientific American, New York, v. 101, 23 Oct. 1909, p. 296, 305-307.) **VA**

The *Narwahl* is fully described. Illustration on p. 289.

458. **Le Franc, A.** L'Archimède. (Moniteur de la flotte, Paris, année 56, 18 Dec. 1909, p. 3.) † **VXA**

Abstracted in *Revista general de marina*, Madrid, tomo 66, Jan., 1910, p. 137-140, *VXA*.

Launching and description of this boat.

459. — La construction des sous-marins à l'industrie privée. (Moniteur de la flotte, Paris, année 56, 27 Feb. 1909, p. 3.) † **VYH**

Favors the construction of submarines by private companies rather than by the government.

460. — Les manoeuvres des sous-marins de Cherbourg. (Moniteur de la flotte, Paris, année 56, 8 May 1909, p. 3-4.) † **VYH**

Brief note on the boats participating.

461. — La résistance des coques des sous-marins. (Moniteur de la flotte, Paris, année 56, 24 April 1909, p. 3.) † **VYH**

The deeper a submarine may submerge the greater the security.

462. **Life-saving** devices in submarine boats. (Engineer, London, v. 108, 1909, p. 612-613.) **VA**

Information from a book entitled *Diving manual*

issued by Siebe, Gorman & Co., concerning appliances for saving the lives of men who go down in a submarine when she founders.

463. **New class** of submarine for the U. S. navy. illus. (Scientific American, New York, v. 100, 1 May 1909, p. 332.) **VA**

Abstracted in *Revista general de marina*, Madrid, tomo 64, May, 1909, p. 879-881, *VXA*.

Narwahl illustrated and described.

464. **New** torpedo boat. illus. (Nautical gazette, New York, v. 76, 13 May 1909, p. 372-373.) **VXA**

A subsurface boat with internal combustion engines.

465. **New type** of sub-surface torpedo-boat. illus. (Scientific American, New York, v. 100, 10 April 1909, p. 280.) **VA**

Pear-shaped surface hull is filled with cellulose which, in case of leakage, will expand and retard leak.

466. **Paulus.** Entwicklung der Unterseeboote. illus. (Verein deutscher Ingenieure, Zeitschrift, Berlin, Bd. 53, 6 Nov. 1909, p. 1852-1857.) **VDA**

A general discussion of various types.

The Russian boat *Karp* illustrated.

467. **Perkins, Frank C.** Krupp submarines for Austrian navy. illus. (International marine engineering, New York, v. 14, Oct., 1909, p. 398.) † **VXA**

Abstracted in *Revista general de marina*, Madrid, tomo 66, Jan., 1910, p. 111-112, *VXA*.

468. **Safety** for those sunk in submarines: the air-trap and life-saving helmet. illus. (Illustrated London news, London, v. 135, 18 Dec. 1909, p. 887.) ***DA**

Brief text. Illustrations give excellent idea of method by which the crew may escape.

469. **Sauvaire-Jourdan.** Un navire allemand pour le sauvetage des sous-marins et des torpilleurs. illus. (La nature, Paris, v. 37, 6 Feb. 1909, p. 145-147.) **OA**

Description of the *Vulkan*.

470. **Skerrett, Robert G.** New Swedish and Danish submersibles. illus. (International marine engineering, New York, v. 14, Dec., 1909, p. 473-476.) † **VXA**

Illustrates and describes the Swedish *Hvalen* and the Danish *Dykkeren*.

471. — Progress in submarine craft. (Iron age, New York, v. 83, 7 Jan. 1909, p. 15-16.) **VDA**

Information and tables of statistics concerning the world's navies, especially British, French and Italian.

472. **Spear, Lawrence Y.** Underwater torpedo boats; submarines or submersibles. illus. (American Society of Naval Engineers, Journal, Washington, v. 21, May, 1909, p. 353-427.) **VXA**

Defines terms most carefully and classifies types. Submerged speed analyzed mathematically with general characteristics as affecting submerged speeds. Diving apparatus and propulsive power are also discussed.

473. **Submarine** that works itself: a destroyer of dreadnoughts. illus. (Illustrated

Non-official Publications, continued.

1909, continued.

London news, London, v. 134, 19 June 1909, supplement, p. iv.) *DA

Sectional illustration of torpedo showing mechanism.

474. The **Submarine's** one weapon; the trail of the torpedo. illus. (Illustrated London news, London, v. 135, 17 July 1909, p. 88.) *DA

Brief text.

475. **Submarines** of the Austro-Hungarian navy. illus. (Engineer, London, v. 107, 8 Jan. 1909, p. 43.) VA

Double-hulled boats built by the Krupp Company.

476. **Submarines** and life-saving devices. (Engineer, London, v. 108, 30 July 1909, p. 106.) VA

Reprinted in *Scientific American supplement*, New York, v. 68, 11 Sept. 1909, p. 171, VA.

Safety helmets.

477. Le **Submersible** italien Foca. illus. diagr. (Journal de la marine: le yacht, Paris, année 32, 13 March 1909, p. 167-168.) †VXA

Detailed description.

478. Le **Submersible** italien Otaria. illus. (Journal de la marine: le yacht, Paris, année 32, 6 Feb. 1909, p. 87-88.) †VXA

Brief description.

478a. **Sutcliffe**, Alice Cray. Robert Fulton and the "Clermont." The authoritative story of Robert Fulton's early experiments, persistent efforts, and historic achievements; containing many of Fulton's hitherto unpublished letters, drawings, and pictures. New York: The Century Co., 1909. xv, 367 p., 1 fac., 2 ports. illus. 12°. AN

This important book, written by the great-granddaughter of Robert Fulton, contains many letters printed for the first time. One of these, p. 80-82, a letter to Fulton, signed Forfait, and dated 9th year of the One and Indivisible Republic, gives Napoleon's authorization for Fulton to reconstruct the *Nautilus* and specifies the amount allowed him for each ship of the enemy he might destroy.

Some of these letters were first published in the *Century magazine*, New York, v. 76, Oct., 1908, p. 780-794, *DA.

The letters from Fulton are of great interest, telling of his experiences in France with the *Nautilus*. The letter addressed to the Citizens Monge, La Place, and Volney, members of the National Institute, printed on p. 89-95, gives full specifications of the *Nautilus*.

479. **Twenty miles** under the sea. (Scientific American, New York, v. 101, 21 Aug. 1909, p. 122.) VA

Editorial account of a trip in the *Stingray* at the time of her trial trip in Provincetown bay.

480. **Wilhelm Bauer** und seine Unterseeboote. illus. (Ueberall, Berlin, Jahrg. 11, March, 1909, p. 567-570.) †VXA

Illustration shows model of Bauer's boat with drawings of machinery, history, and biography of the inventor.

1910

481. **B.**, H. Les essais de résistance des coques de sous-marins. (Journal de la marine: le yacht, Paris, année 33, 7 May 1910, p. 295-296.) †VXA

482. **Bayard**, R. S. Modern submarine torpedo boats: complicated mechanical devices solving a problem of much historic interest. illus. (American machinist, New York, v. 33, 27 Jan. 1910, p. 163-167.) VFA

Excellent description of power plant and operating machinery. *Narwhal* illustrated.

483. **Bernay**, Henri. Le renflouement des sous-marins. (Journal de la marine: le yacht, Paris, année 33, 1 Jan. 1910, p. 1-2.) †VXA

Abstracted in *Revista general de marina*, Madrid, tomo 66, Jan., 1910, p. 144-148, VXA.

Attempts that have been made to salvage submarines.

484. ———. Sous-marins et torpilleurs. (Journal de la marine: le yacht, Paris, année 33, 12 March 1910, p. 161-162.) †VXA

Reprinted in *Revista general de marina*, Madrid, tomo 66, May, 1910, p. 818-826, VXA.

485. **Bewohnbarkeit** der Unterseeboote. (Schiffbau, Berlin, Jahrg. 12, 28 Dec. 1910, p. 197.) †VXA

Review of an article appearing in *Le yacht* on the habitability of submarines.

486. **Blanchon**, Georges. Les grands accidents des sous-marins. (Revue des deux mondes, Paris, période 5, tome 58, 15 Aug. 1910, p. 898-923.) *DM

Accidents enumerated and causes discussed.

487. **Breguet**, Jacques. Note sur les équipements électriques des nouveaux submersibles de la marine française. (La lumière électrique, Paris, série 2, tome 10, 9-16 April 1910, p. 35-40, 67-73.) VGA

Abstracted in *Electrician*, London, v. 65, 26 Aug. 1910, p. 800-803, VGA.

Discusses in detail engines and propulsive power of the *Mariotte*, *Archimède* and *Amiral Bourgeois*, then just completed, giving efficiency curves for surface and submerged cruising.

For article commenting on this paper see p. 205-206.

488. La **Catástrofe** del Pluivioso. illus. (Revista general de marina, Madrid, tomo 67, July, 1910, p. 173-175.) VXA

Brief account, with diagram, of the probable way in which the accident occurred.

489. La **Catastrophe** du "Pluivioso." (L'illustration, Paris, tome 135, 4 June 1910, p. 499-501.) *DM

A circumstantial account of the disaster, with portraits of the officers and crew.

490. **Dietze**, Karl. Ballast- und Tauchrichtungen für ein Unterseeboot-Rohprojekt. (Schiffbau, Berlin, Jahrg. 11, 22 June 1910, p. 633-636.) †VXA

Discusses the designs of submarines.

Non-official Publications, continued.
1910, continued.

491. — Rohentwurf eines Unterseebootes. (Schiffbau, Berlin, Jahrg. 11, 9 March 1910, p. 387-390.) †VXA

"Gives average dimensions and characteristics of submarines deduced from existing types."

492. — Stabilität und Festigkeit für ein Unterseeboot-Rohprojekt. diagr. (Schiffbau, Berlin, Jahrg. 11, 13 July 1910, p. 679-683.) †VXA

"Discusses the factors that enter into the design of submarines."

493. Domville-Fife, Charles W. Submarines of the world's navies... London: F. Griffiths, 1910. 150 p., 31 pl. diagrs., maps, tables. 4°. †*R-VXV

"In the description of the submarine torpedo boats of the various naval powers it has been the object to point out the differences of vessels, types and efficiency, and of giving an idea of their construction without occupying undue space or worrying the non-technical mind with the descriptive details..." — Preface.

There is a chapter on life-saving apparatus.

494. Fawcett, Waldon. New United States submarine boat "Salmon"; improved electrical equipment makes possible record-breaking trip. illus. (Electrical review and western electrician, Chicago, v. 57, 17 Sept. 1910, p. 571-573.) VGA

Electricity used more effectively and extensively than ever before.

495. First submarine boats for Austria-Hungary. (Engineer, London, v. 109, 11 Feb. 1910, p. 140-141.) VA

Types and specifications of these submarines.

496. Gachot, Édouard. Les expériences de Fulton. (Nouvelle revue, Paris, série 3, tome 17, 15 Sept. 1910, p. 257-264.) *DM

Circumstantial account of Fulton's experiences in France with the *Nautilus*.

497. The Great mystery of naval warfare: the submarine. illus. (Illustrated London news, London, v. 136, 4 June 1910, p. 868-871.) *DA

Brief sketch with illustrations of various safety devices for use on submarines, helmets and signalling apparatus. Interior illustrations are included and the disaster to the French submersible *Pluviöse* is depicted.

498. Kalau vom Hofe. Die internationale Abschaffung der Unterseeboote. (Deutsche Revue, Stuttgart, Jahrg. 35, Bd. 4, Oct., 1910, p. 4-13.) *DF

At the Hague Conference of 1899 it was proposed to disarm submarines, not to consider them as a weapon of war. At the Conference of 1907 this was not followed up, as France had awakened to the importance of this new "infernal machine." There is no word of Germany's decision in the matter.

499. L., P. Sous-marins et cuirassés. (Journal de la marine: le yacht, Paris, année 33, 22 Oct. 1910, p. 674-675.) †VXA

Concludes that the submarine will play an important part in the next war.

500. Lake, Simon. Submarines. (With discussion.) (Engineers' Club of Philadelphia, Proceedings, Philadelphia, v. 27, Oct., 1910, p. 281-304.) VDA

Interesting historical sketch recounting some of the difficulties surmounted in the development of the modern submarine. An unusually valuable section is that giving data on submerged cruising.

501. Laubeuf, Alfred Maxime. L'état actuel de la construction des sous-marins et submersibles. (Société des ingénieurs civils de France, Mémoires, Paris, année 1910, v. 1, Feb., 1910, p. 81-90.) VDA

Abstracted in *Procès-verbal* of the society, Paris, année 1910, p. 135-142, VDA.

Comparison of construction of submarines in France with that in other countries.

502. — Evolution of submarine vessels. illus. diagr. (Navy League annual, London, 1909-1910, p. 146-152.) VXA

Reprinted in *Journal de la marine: le yacht*, Paris, année 33, 8 Jan. 1910, p. 19-22, VXA; and in *Revista general de marina*, Madrid, tomo 66, March, 1910, p. 503-513, VXA. Abstracted in *Engineer*, London, v. 110, 26 Aug. 1910, p. 222, VA.

Reviews ten years of submarine construction in France discussing types and motors as compared with weight. Illustrates the *Narwhal*, *Opale*, *Morse* and *Z*.

503. Law, Bernard C. The stability of submarines. illus. (Cassier's magazine, New York, v. 37, April, 1910, p. 684-691.) VDA

Popular consideration of this problem that has perplexed designers. Stability in altered weights of surface and submerged condition.

504. New type of submarine boat: Bayer's Duplex boat. illus. (Scientific American supplement, New York, v. 70, 9 July 1910, p. 21.) VA

505. Noalhat, Henri. Navigation aérienne et navigation sous-marine; deux faces d'un même problème. Paris: L. Geisler, 1910. 111 p. 8°. VDY

The principles of stability and flotability analyzed.

506. Norwegian submersible Kobben. illus. (Engineer, London, v. 109, 17 June 1910, p. 613.) VA

Brief description. Illustrations of the interior.

507. Notes on the submarines "Pluviöse," "Algérien" and "Kléber." (Schiffbau, Berlin, Jahrg. 11, 8 June 1910, p. 616.) †VXA

Brief mention.

508. La Perte du "Pluviöse." (Moniteur de la flotte, Paris, année 57, 4 June 1910, p. 3-4, 11 June 1910, p. 5-6.) †VYH

509. La Perte du Pluviöse; le relevage de l'épave. illus. (L'illustration, Paris, v. 135, 11 June 1910, p. 517.) *DM

Salvage of the submarine and burial of the victims.

510. Portugalof, N. A submarine armoured cruiser of 4,500 tons. (International marine engineering, New York, v. 15, Feb., 1910, p. 70-71.) †VXA

Russian submarines.

*Non-official Publications, continued.**1910, continued.*

511. **Proposto**, C. del. Bateaux sous-marins à grande vitesse sous l'eau. Avec un projet de M. C. Laurenti. Bruxelles: E. & H. Mertens, 1910. 107 p., 3 diags. f°. † **VXV**

Systematic study of the propulsion of submarines especially by the system "Del Proposto." Working drawings of Diesel engines.

512. **Le Retour au port du Pluviôse**. illus. (L'illustration, Paris, v. 135, 18 June 1910, p. 541, 546.) * **DM**

Salvage of this submarine.

513. **Romberg**, F. Über Schiffsgasmotoren. illus. (Schiffbautechnische Gesellschaft, Jahrbuch, Bd. 11, 1910, p. 437-693.) † **VXA**

Every application of the marine gas engine is considered.

514. **Les Sous-marins et leur rôle dans notre flotte militaire à propos d'une récente catastrophe**. (Correspondant, Paris, tome 239 (nouv. série, tome 203), 25 June 1910, p. 1071-1081.) * **DM**

Accident to the *Pluviôse* with description of the boat and speculations as to the cause of the disaster.

515. **Sub-surface torpedo boat**. (Marine review, Cleveland, v. 40, May, 1910, p. 191.) † **VXA**

Burger's boat.

516. [A **Submarine school**.] (Schiffbau, Berlin, Jahrg. 12, 12 Oct. 1910, p. 19.) † **VXA**

Course of study outlined briefly.

517. **Submersible boat Hvalen**. illus. (Marine review, Cleveland, v. 40, Feb., 1910, p. 72-74.) † **VXA**

Specifications of this Swedish submarine.

518. **Le Submersible norvégien "Kobben"**. illus. (Génie civil, Paris, tome 57, 24 Sept. 1910, p. 385-387.) **VA**

Brief description well illustrated.

519. **Sur l'équipement électrique des submersibles**. (La lumière électrique, Paris, série 2, tome 10, 14 May 1910, p. 205-206.) **VGA**

A comment on the article by Breguet.

520. **Torka**, Johann. [Unterseeische Schifffahrt.] illus. (In his: Die Wunder der Technik. Berlin, 1910. 4°. p. 507-510.) **V**

Describes and illustrates Bauer and Holland boats.

521. **Das Ueber- und Unterseeboot**; system Carl Bayer. illus. (Kriegstechnische Zeitschrift, Berlin, Jahrg. 13, Heft 4, 1910, p. 176-180.) **VWA**

Curious and weird invention resembling a magnified seashell with an auxiliary bearing the engine.

522. **Unterseeboot mit Antrieb durch Verbrennungskraftmaschinen, deren nicht kon-**

densierbare Gase in druckfeste Behälter gepresst werden. (Schiffbau, Berlin, Jahrg. 12, 23 Nov. 1910, p. 135.) † **VXA**

Describes Krupp patent.

523. **Unterseeboote**. illus. (Illustrierte Zeitung, Leipzig, Bd. 135, 28 July 1910, p. 172-174.) * **DF**

Good historical sketch with illustrations of modern types.

524. **Weaver**, D. A. The cruise of the submarine torpedo boat Salmon from Quincy, Mass., to Hamilton, Bermuda, and return, July 5-17, 1910. (American Society of Naval Engineers, Journal, Washington, v. 22, Nov., 1910, p. 1089-1098.) **VXA**

Log of an extended deep-sea cruise made under the boat's own power, given by the commanding officer.

525. **Zimmer**, George Frederick. Suggested methods of escape from a sunken submarine. illus. (Cassier's magazine, New York, v. 37, Feb., 1910, p. 327-335.) **VDA**

Safety appliances described and illustrated.

- 525a. **Zur Entwicklung des Unterseebootwesens**. illus. (Nauticus: Jahrbuch für Deutschlands Seeinteressen, Berlin, Jahrg. 12, 1910, p. 262-275.) **VYL**

Naval strength of the navies tabulated, describing the submarines in detail. Illustrates types of the several navies. *Pluviôse*, *Foca*, *Grayling*, *C-23-26*, *D-1*, and the Burger boat.

1911

526. **Accident to the German Unterseeboot and the smart rescue of its crew by a salvage steamer**. illus. (Sphere, London, v. 44, 28 June 1911, p. 80-81.) * **DA**

Brief text.

527. [Apparat zur Rettung von Unterseebootsmannschaften.] (Schiffbau, Berlin, Jahrg. 12, 22 Feb. 1911, p. 336-337.) † **VXA**

Prize offered of 100,000 francs for life-saving apparatus.

528. **Die Bergung S. M. Unterseeboot U-3**. diagr. (Marine Rundschau, Berlin, Jahrg. 22, Teil 1, 1911, p. 313-326.) **VXA**

Reprinted in *Scientific American supplement*, New York, v. 71, 6 May 1911, p. 282-283, *VA*.

Methods of salvaging the submarine.

529. **Bergungsdock für Unterseeboote**. illus. (Schiffbau, Berlin, Jahrg. 12, 22 Feb. 1911, p. 329-331.) † **VXA**

Describes the salvage dock with illustrations of details.

530. **Bernay**, Henri. Progrès des sous-marins. (Journal de la marine: le yacht, Paris, année 34, 2 Dec. 1911, p. 753-754.) † **VXA**

Reprinted in American Society of Naval Engineers, *Journal*, New York, v. 24, 1912, p. 273-276, *VXA*. Abstracted in *Revista general de marina*, Madrid, tomo 70, May, 1912, p. 816-820, *VXA*.

Dreadnoughts versus submarines; in favor of greater displacement for modern submarines.

Non-official Publications, continued.

1911, continued.

531. **Bidault des Chaumes, A.** Nouveaux engins de relevage pour sous-marins. (Génie civil, Paris, tome 59, 24 June 1911, p. 153-158.) **VA**

The floating dock built at Kiel and the floating crane at Pola are described.

532. **Bingham, D. C.** The modern submarine a seaworthy and deadly craft. illus. (Scientific American, New York, v. 105, 9 Dec. 1911, p. 530-531, 534, 536.) **VA**

Discusses the possibilities and achievements of the submarine comparing it with other types of war vessel.

533. **Bonde, H.** Undervandsbaade. illus. (Ingeniøren, København, Aarg. 20, 29 July 1911, p. 267-275.) **VDA**

534. **Bozzi, Agostino.** L'application de l'électricité aux bateaux sous-marins. (With discussion.) (International Congress of Applied Electricity, Turin, 1911, Atti del congresso, v. 3, Rapporti, comunicazione e discussioni, Torino, 1912, p. 300-321.) **VGA**

Abstracted in *L'électricien*, Paris, série 2, tome 43, 13 April 1912, p. 227-230, 243-248, *VGA*; *Revista general de marina*, Madrid, tomo 71, Sept., 1912, p. 490-497, *VXA*; and in *Schiffbau*, Berlin, Jahrg. 13, 12 June-10 July 1912, p. 678-683, 728-732, 770-774, † *VXA*.

Discusses at length the types of batteries comparing space, weight, cost, and capacity.

535. **Chace, Merson S.** Results of experimental tank tests on models of submarines. tables. (Institution of Naval Architects, Transactions, London, v. 53, part 2, 5 July 1911, p. 61-70, 351-352.) **VXA**

Reprinted in *Engineering*, London, v. 92, 14 July 1911, p. 64-69, *VDA*.

"The results here given form a part of a series of a number of models of submarines tested at the United States Experimental Model Basin, Navy Yard, Washington. The tests comprise speed and power tests, also determination of the stream lines and lines of flow."—*Introduction*.

536. **Cohn, I. Franklin.** Notes on submarine cruising. (United States naval medical bulletin, Washington, v. 5, Oct., 1911, p. 455-457.) **WSR**

Effect on personnel of living conditions on board submarines.

537. "Das Daenische Torpedoboot "Soridderen." (Schiffbau, Berlin, Jahrg. 12, 22 March 1911, p. 411.) † **VXA**

Brief description of this boat.

538. **Development of the Holland submarine boat.** illus. pl. (*Engineering*, London, v. 92, 17 Nov. 1911, p. 655-660.) **VDA**

Abstracted in *Schiffbau*, Berlin, Jahrg. 13, 10 Jan. 1912, p. 317, *VXA*; American Society of Naval Engineers, *Proceedings*, Washington, v. 24, 1912, p. 348-349, *VXA*; and in *Revista general de marina*, Madrid, tomo 70, Jan., 1912, p. 308-316, *VXA*.

Detailed description of the boat built by the Nürnberg-Augsburgische Maschinenfabrik for Holland. Requirements set by the Dutch authorities and results of trials.

539. **Dietze, Karl.** (Letter to the editor.) (Schiffbau, Berlin, Jahrg. 12, 22 March 1911, p. 421.) † **VXA**

Discusses an article by H. Vogel appearing in the *Zeitschrift des Vereins deutscher Ingenieure*, Berlin, Jahrg. 55, 18 Feb. 1911, p. 240-246, *VDA*.

540. — The submarine vessel. diagr. (International marine engineering, New York, v. 16, Sept.-Oct., 1911, p. 357-360, 394-398.) † **VXA**

Relative efficiency of submarines and submersibles discussed.

541. (Die Einrichtung der Funkentelegraphie auf Unterseebooten.) (Schiffbau, Berlin, Jahrg. 12, 22 Feb. 1911, p. 336.) † **VXA**

Also brief mention on p. 131 and 377 of the same volume. Reports on experiments with wireless installations.

542. **Entdeckung von Unterseebooten.** (Schiffbau, Berlin, Jahrg. 12, 23 August 1911, p. 830.) † **VXA**

Experiments by the French aviator Aubrun in sighting a submarine from an aeroplane.

543. **Équevilley, Raymond d'.** Dampfkraftanlage für Unterseeboote. (Schiffbau, Berlin, Jahrg. 12, 11 Jan. 1911, p. 236.) † **VXA**

Specifications of patent with drawing.

544. **Field, C.** Submarines at La Rochelle. (Mariner's mirror, London, v. 1, July, 1911, p. 191.) **VXA**

Query as to presence of Drebbel's submarine at La Rochelle with Buckingham's fleet in 1627.

545. **Fletcher, R. A.** Warships of the twentieth century. illus. (In his: Warships and their story. London, 1911, 8°. p. 285-302.) **VXR**

Historical sketch.

546. **Gluth, Oskar.** Wilhelm Bauer, der Erfinder des unabhängigen Unterseeboots. Sein Werk und seine Enttäuschungen im Rahmen seines Lebens dargestellt. München: Hans Sachs-Verlag, 1911. 1 p.l., 58 p., 1 l., 1 pl., 1 port. 8°. **AN**

547. **Gouriet, M.** Les navires sous-marins "Holland." illus. (Génie civil, Paris, tome 60, 16 Dec. 1911, p. 121-124.) **VA**

Essential characteristics of the Holland boat.

548. (Hebes Schiff für Unterseeboote.) illus. (Schiffbau, Berlin, Jahrg. 13, 25 Oct. 1911, p. 59.) † **VXA**

Dimensions and description of the French floating dock.

549. **Hislam, Percival A.** Mr. Churchill's voyage beneath the waves: the tenth birthday of our underwater fleet. (Graphic, London, v. 84, 11 Nov. 1911, p. 694.) * **DA**

Voyage in the 72. Gives history of British submarine development.

550. **Howell, J. B.** Notes on lead storage batteries for submarines. diagr. (Ameri-

Non-official Publications, continued.
1911, continued.

can Society of Naval Engineers, Journal, Washington, v. 23, Feb., 1911, p.186-193.)

VXA

Article intended to place before officers and enlisted men the theory and practice of storage battery engineering.

550a. **Im Unterseeboot.** illus. (Illustrierte Zeitung, Leipzig, Jahrg. 136, 26 Jan. 1911, p. 146-147.) *DF

Illustrations only of the U-3 and crew.

551. **Laubeuf** submersible boat. illus. (Engineering, London, v. 92, 18 Aug. 1911, p. 226-228.) VDA

Abstracted in *Revista general de marina*, Madrid, tomo 70, Jan., 1912, p. 142-152, VXA.

Defines the submarine and submersible at length with full description of the Laubeuf type.

552. **Launching** of submarine Carp. illus. (Marine review, Cleveland, v. 41, Oct., 1911, p. 384-385.) †VXA

Specifications of the boat.

553. **Lueftungsvorrichtung** für Unterseeboote. (Schiffbau, Berlin, Jahrg. 12, 22 Feb. 1911, p. 343.) †VXA

Specifications of a patent taken out by the British Submarine Boat Company, Ltd., London.

554. **Michelsen.** Unterseeboots-Unfälle unter besonderer Berücksichtigung des Unfalls auf "U-3." Berlin: E. S. Mittler und Sohn, 1911. 40 p. illus. 8°. (Meereskunde. Jahrg. 5, Heft 5.) PSRA

Illustrations of these boats: H-3, A-12, C-22, Salmon, Pluviöse, Foca.

555. **Oil engines** for submarines. (Engineer, London, v. 111, 24 March 1911, p. 298-299.) VA

The heavy oil engine installed in the Norwegian submarine *Kobben*, a Korting 4-8 cylinder two-cycle engine.

556. **Periskop.** (Schiffbau, Berlin, Jahrg. 12, 8 Feb. 1911, p. 306.) †VXA

Description of patent of C. P. Goerz.

557. **Radiguer, Charles.** La navigation sous-marine. Paris: O. Doin et fils, 1911. xi p., 21., 361, xii p., 11. illus. 12°. (Encyclopédie scientifique. Bibliothèque de mécanique appliquée et génie.) VVV

Historical sketch followed by a discussion of form, propulsion and navigation.

558. **Rescue** of a sunken German submarine; how the U-3 was raised by a special floating dock built for the purpose. illus. (Scientific American, New York, v. 104, 28 Jan. 1911, p. 87.) VA

Brief note on the *Vulkan*.

559. **Results** obtained by the French navy in submarine navigation. (Royal United Service Institution, Journal, London, v. 55, Dec., 1911, p. 1581-1588.) VVA

Translated from the Chilean *Revista de marina*. Gives an account of the manoeuvres at Cherbourg and their results.

560. **Retungseinrichtung** für Unterseeboote. (Schiffbau, Berlin, Jahrg. 12, 26 April 1911, p. 503.) †VXA

Review of an article by Henri Bernay.

561. **Reventlow, Ernst, Graf zu.** Unterseeboote. illus. (Über Land und Meer, Stuttgart, Bd. 105, p. 48-49.) *DF

Popular article with good illustrations.

562. **The Riddle** of the sea: the death that moves beneath the waters. illus. (Illustrated London news, London, v. 138, 7 Jan. 1911, p. 9.) *DA

Brief text. Illustration represents a lateral view of the interior of a submarine showing engines in place.

563. **Schwimmdock.** (Schiffbau, Berlin, Jahrg. 12, 28 June 1911, p. 667.) †VXA

Very brief notice of the floating dock.

564. **Submarine** boat Skipjack. illus. (Marine review, Cleveland, v. 41, June, 1911, p. 234.) †VXA

Brief text.

565. **Submarines:** offensive and defensive. (Quarterly review, London, v. 215, Oct., 1911, p. 462-481.) *DA

An interesting compilation abstracted from the book by Murray F. Sueter and other sources.

566. **Submersible "Kobben"** for the Norwegian navy. illus. (Scientific American, New York, v. 104, 25 March 1911, p. 299.) VA

Germania, the type evolved by the Krupp Company, is the standard for the German navy.

567. **A Superficial** view of a submarine and underwater view. (Sphere, London, v. 46, 1 July 1911, p. 22, 23.) *DA

Very brief text. Good illustrations and sectional view of D2.

568. **Transportschiff "Kanguroo."** (Schiffbau, Berlin, Jahrg. 12, 24 May 1911, p. 578.) †VXA

Very brief mention of the *Kanguroo*. †VXA

569. **Ueber** das "Holland-Unterseeboot." (Schiffbau, Berlin, Jahrg. 13, 13 Dec. 1911, p. 179-180.) †VXA

Abstracted and translated from *Engineering*, London, 17 Nov. 1911. Detailed description of boats of the Holland type built after plans of the Holland Boat Company.

570. **Unterseeboot.** (Schiffbau, Berlin, Jahrg. 13, 13 Dec. 1911, p. 185-186.) †VXA

First of the "Whitehead Type." Detailed description.

571. **Das Unterseeboot "Mariotte."** (Schiffbau, Berlin, Jahrg. 12, 25 Jan. 1911, p. 264.) †VXA

Brief description of this boat.

572. **Unterseeboot "U 3."** (Schiffbau, Berlin, Jahrg. 12, 25 Jan. 1911, p. 261.) †VXA

Account of the disaster to the U-3.

Non-official Publications, continued.

1911, continued.

573. [Unterseeboot "U 3."] (Schiffbau, Berlin, Jahrg. 12, 8 Feb. 1911, p. 301.)

† VXA

Brief reference to the accident to the U-3.

574. [Unterseeboote Klasse E.] (Schiffbau, Berlin, Jahrg. 12, 14 June 1911, p. 621.)

† VXA

Brief description of the "E" class boats.

575. [Unterseebootsflottille.] (Schiffbau, Berlin, Jahrg. 12, 8 Feb. 1911, p. 300.)

† VXA

Brief list of the accidents to submarines of the German navy.

576. [Unterseebootsmotore.] (Schiffbau, Berlin, Jahrg. 12, 23 August 1911, p. 826.)

† VXA

Brief description of motors for submarines reprinted from *Kieler Zeitung*, 17 August 1911.

577. [Unterseebootsunfälle.] (Schiffbau, Berlin, Jahrg. 12, 26 July 1911, p. 742-743.)

† VXA

Provisions made for the salvage and safety of submarines in the German navy.

578. Verfahren zum Betriebe von Verbrennungskraftmaschinen in Unterseebooten. (Schiffbau, Berlin, Jahrg. 13, 27 Dec. 1911, p. 231.)

† VXA

Patent granted to Dr. George F. Jaubert for an internal combustion engine.

579. Vogel, H. Das moderne Unterseeboot. illus. (Verein deutscher Ingenieure, Zeitschrift, Berlin, Jahrg. 55, 18-25 Feb., 11 March 1911, p. 240-246, 298-305, 389-396.)

VDA

Bibliography, p. 396.

Discusses hull construction, machinery, motors describing minutely those of the M. A. N., Thornycroft and Diesel types, and problems of navigation.

Address delivered before the Bremer Bezirksverein on the 8th of April and 13th of May, 1910.

580. Vorrichtung zum Halten eines mittels Druckflüssigkeit heb- und senkbaren Schrohres von Unterseebooten in der Höchstlage. illus. (Schiffbau, Berlin, Jahrg. 13, 27 Dec. 1911, p. 232.)

† VXA

Patent obtained by Whitehead and Co. for keeping a periscope stationary in any position desired.

581. Watts, Sir Philip. History of submarine boat development. (Institution of Naval Architects, Transactions, London, v. 53, part 2, 7 July 1911, p. 331-337.)

VXA

Historical sketch beginning with Bushnell contained in a paper on warship building.

582. Werner, H. Unterseeboote. (Verein deutscher Ingenieure, Zeitschrift, Berlin, Bd. 55, 22 July 1911, p. 1216-1217.)

VDA

Austrian boats described.

583. What the new German submarines will be like inside. illus. (Sphere, London, v. 44, 18 Feb. 1911, p. 142.)

* DA

Brief text. Good illustrations of engines.

584. Wrecking submarine boat Vulcan. (International marine engineering, New York, v. 16, Sept., 1911, p. 362.)

† VXA

Brief description with dimensions.

1912

585. The A-3 disaster; the illfated craft and life saving devices. illus. (Illustrated London news, London, v. 140, 10 Feb. 1912, p. 196-197.)

* DA

Very brief text.

586. Air as conqueror of water; raising a sunken submarine. illus. (Illustrated London news, London, v. 140, 24 Feb. 1912, p. 293.)

* DA

Illustrates methods used for bringing the A-3 to the surface. Very brief text.

587. Air scout v. submarine; the first results of the Sphere's aviation experiments with submerged vessels. illus. (Sphere, London, v. 50, 6 July 1912, p. 14-16.)

* DA

Very brief text. Illustrations show photographs taken at various altitudes to test possibility of distinguishing form and position of submerged submarines.

588. Archimède. illus. (Journal de la marine: le yacht, Paris, année 35, 11 May 1912, p. 295.)

† VXA

No text.

589. An Auxiliary for submarine service. illus. (Engineer, London, v. 114, 27 Sept. 1912, p. 337-338.)

VA

Abstracted in *Revista general de marina*, Madrid, tomo 71, Nov., 1912, p. 765-767, VXA; and in *Mitteilungen aus dem Gebiete des Seewesens*, Pola, Bd. 41, No. 2, 1913, p. 200-206, VXA.

Describes the dock for testing submarines built at Spezia, giving dimensions and methods of applying tests.

590. Belli, Carlo M., and G. OLIVI. L'air dans les submersibles plongés. (xv. International Congress on Hygiene and Demography, Washington, 1912, Transactions, Washington, v. 5, part 2, 1913, p. 827-830.)

SPA

Considers the production of carbon monoxide and the methods of purifying the air.

591. Bluecher, Hans. Unterseeboote. illus. pl. (In his: *Moderne Technik*. Leipzig, 1912. f°. Textband, p. 523-524; Modellatlas, model 12.)

† VYC

The model is a superimposed plate showing parts.

592. Le Cargo-transport de submersibles Kangaroo. illus. (Journal de la marine: le yacht, Paris, année 35, 20-27 April 1912, p. 246, 270.)

† VXA

Detailed description with fine illustrations.

593. Chanieut. [Letter to the editor.] illus. (Schiffbau, Berlin, Jahrg. 13, 14 Aug. 1912, p. 860-862.)

† VXA

Letter accompanying illustrations of the testing dock for submarines at Spezia.

Non-official Publications, continued.

1912, *continued.*

594. **Charmoille.** Les sous-marins aux manoeuvres du nord. (Journal de la marine: le yacht, Paris, année 35, 31 Aug. 1912, p. 556-557.) † VXA

Reprinted in *Revista general de marina*, Madrid, tomo 71, Oct., 1912, p. 599-604, VXA.

595. **Cormorant** to the naval fish; the humming bird of death. illus. (Illustrated London news, London, v. 140, 8 May 1912, p. 753.) * DA

Brief text. Illustrations show the visibility of submarines from aeroplanes.

596. **Duquet, Alfred.** Submersibles turcs et cuirassés italiens. (Marine française, Paris, année 25, July, 1912, p. 293-298.) VXA

Turks have three submarines of newest type.

597. [Guns for submarines.] illus. (Nauticus: Jahrbuch für Deutschlands Seeintereessen, Berlin, Jahrg. 14, 1912, p. 223.) VYL

Brief text.

598. **Heavy oil engines;** submarine boats E-1 and E-2 are fitted with engines of the Diesel type, the first to be used for marine purposes in the United States; advantages of the design. (Marine review, Cleveland, v. 42, May, 1912, p. 143-145.) † VXA

Illustrations of engines.

599. [Hebedock für Unterseeboote.] illus. (Schiffbau, Berlin, Jahrg. 13, 10 April 1912, p. 528-529.) † VXA

Description of a salvage dock.

600. **Hegelbacher, Marcel.** Le "Kangaroo," navire pour le transport des sous-marins. illus. pl. (Génie civil, Paris, tome 61, 27 July 1912, p. 253-256.) VA

Construction and specifications of the boat, with exceptional illustrations and diagrams.

601. **Henley, Norman W.,** Publishing Co., New York. A modern submarine boat. New York: N. W. Henley Pub. Co., 1912. 11. diagr. 4°. † V XV

Diagram of a longitudinal section of a submarine, with marginal index of parts.

602. **Hoyer, Edgar Charles.** [Letter to Oswald Flamm.] (Schiffbau, Berlin, Jahrg. 13, 24 July 1912, p. 811.) † VXA

Communication from Mr. Hoyer, of the firm of Whitehead and Company, Fiume, regarding submarine construction at the company's yards.

603. [Kangaroo.] (Schiffbau, Berlin, Jahrg. 13, 8 May 1912, p. 601.) † VXA

Description of this submarine transport ship.

604. [The Kangaroo.] illus. (Schiffbau, Berlin, Jahrg. 13, 14 Aug. 1912, p. 858-859.) † VXA

Description of this transport ship for submarines, with diagrams and good illustrations.

605. **Klein, Marcell.** Zur Frage der Unterseeboots-Typen. illus. (Schiffbau, Berlin, Jahrg. 13, 24 July, 14 Aug. 1912, p. 793-798, 841-843.) † VXA

"Discussion of the relative merits of the various types of single-hull and double-hull submarines."

606. **Lancement de Kangaroo.** illus. (Journal de la marine: le yacht, Paris, année 35, 27 April 1912, p. 270.) † VXA

No text.

607. **Levering, Gustav.** Das Schnittmodell des ersten deutschen Unterseebootes "U 1" im Deutschen Museum in München. illus. (Illustrierte Zeitung, Leipzig, Bd. 138, 7 March 1912, p. 430.) * DF

Sectional model with description.

608. **Manetti, G.** Per assicurare automaticamente la stabilità longitudinale dei sommergibili. (Rivista marittima, Roma, anno 45, trimestre 1, January, 1912, p. 23-30.) VXA

Description of engines and an analysis of stability.

609. **Modern** submarine boats of the United States navy. illus. (International marine engineering, New York, v. 17, July, 1912, p. 257-262.) † VXA

Operation and construction of submarine with illustrations of interiors.

610. **Montero y de Torres, Enrique de.** Los modernos barcos submarinos al alcance de todos. Madrid: P. Orriero [1912]. 2 p.l., 441 p., 1 l., 6 folded diagrs., 1 folded map. illus. tables. 8°. V XV

Classification, characteristics and cruising radius, types of engines used with description, systems of propulsion.

The submarines of the great navies are described with tables for each country.

611. **Most** perilous of craft; in a submarine; and a safety helmet. (Illustrated London news, London, v. 140, 10 Feb. 1912, p. 199.) * DA

Excellent illustrations of the interior showing sleeping quarters and engine room.

612. **Nimitz, C. W.** Military value and tactics of modern submarines. diagr. illus. (United States Naval Institute, Proceedings, Annapolis, v. 38, Dec., 1912, p. 1193-1211.) VXA

Reprinted in *Revista marittima brasileira*, Rio de Janeiro, v. 70, Jan. - Feb., 1917, p. 493-510, VXA.

Means of communication, mobility, vulnerability, and offensive strength of submarines.

613. **Nouveau** type de sous-marin. (Moniteur de la flotte, Paris, année 59, 4 May 1912, p. 4, 10 Aug. 1912, p. 5.) † V YH

Reprinted in *Revista general de marina*, Madrid, tomo 70, June, 1912, p. 981-987, VXA.

Brief note on the exchange of patent rights by the Whitehead and Electric Boat Companies.

614. **Painlevé, Paul.** Les sous-marins dans les flottes française et allemande. (Marine française, Paris, année 25, June, 1912, p. 244-264.) VXA

Submarine equipment of France and Germany, with details of types.

Non-official Publications, continued.

1912, continued.

615. S., R. Le dock flottant pour relevage les sous marins. diagr. (*Journal de la marine: le yacht*, Paris, année 35, 25 May 1912, p. 324.) † VXA

Brief text.

616. Salving of submarine A-3; type of relief vessel our navy should possess. illus. (*Sphere*, London, v. 48, 24 Feb. 1912, p. 222-223.) * DA

Very brief text. Illustrates work of German salvage vessel.

617. Schwimmdock für Unterseeboote. (Schiffbau, Berlin, Jahrg. 13, 13 March 1912, p. 450-451.) † VXA

Dock built by the Fiat San Giorgio Co., Spezia.

618. Sectional view of a German submersible; general arrangement of the craft. Photographed from a model of the Unterseeboot "U 1"; Germany has now 36 boats built or building. illus. (*Sphere*, London, v. 49, 6 April 1912, p. 14.) * DA

No text.

619. Skerrett, Robert G. A combined salvage and testing dock for submarines. illus. (*International marine engineering*, New York, v. 17, August, 1912, p. 310-312.) † VXA

A novel auxiliary added to the Italian navy. The tests duplicate stresses of deep submergence.

620. — Salvage and testing facilities for submarines. illus. (*Scientific American*, New York, v. 107, 23 Nov. 1912, p. 436-437.) VA

Illustrates and describes boats and docks in France, Germany, and Italy, and those under construction in England.

621. Submarine disaster off the Isle of Wight. illus. (*Sphere*, London, v. 48, 10 Feb. 1912, p. 168.) * DA

Brief text. Sectional view of the A-3.

622. Submarine torpedo boat Seal. illus. (*Marine review*, Cleveland, v. 42, Oct., 1912, p. 339-340.) † VXA

The first boat of the Lake type to be built for the United States navy. Trials satisfactory.

623. Submarinos. (*Revista general de marina*, Madrid, tomo 71, Sept., 1912, p. 459-464.) VXA

624. Teitch, Clark. A modern submarine boat. New York: N. W. Henley Pub. Co., 1912. 1 diagr. 14 x 28 in. † V XV

A sectional view of a submarine showing the position of all parts, with list of parts. No other text.

625. The Transporter ship Kangaroo for submersible boats. illus. diagr. (*Engineering*, London, v. 94, 19 June 1912, p. 86-88.) VDA

Detailed description.

626. Trials of submarine F-3. illus. (*Marine review*, Cleveland, v. 42, July, 1912, p. 235-236.) † VXA

A sister ship of the illfated F-4, which was launched at the same time.

627. Das Unterseeboot A-3. (Schiffbau, Berlin, Jahrg. 13, 14 Feb., 13, 27 March 1912, p. 363, 448-449, 488.) † VXA

Discusses the disasters which befell the A-3 and other boats of the A type.

628. Unterseeboot vom "Fiat"-Typ. (Schiffbau, Berlin, Jahrg. 13, 24 Jan. 1912, p. 316.) † VXA

Submarine built for the British government by the Scott Shipbuilding and Engineering Company.

629. Unterseeboot Vendémiaire. (Schiffbau, Berlin, Jahrg. 13, 26 June 1912, p. 736.) † VXA

Briefly describes the accidents to this and other French submarines.

630. Unterseeboote Typ Fiat-San Giorgio — Entwurf-Laurenti. illus. (Schiffbau, Berlin, Jahrg. 13, 22 May 1912, p. 653.) † VXA

Photographs of the Italian submarines of these types, giving displacement, etc.

631. Unterseebootsheschiff. (Schiffbau, Berlin, Jahrg. 13, 25 Sept. 1912, p. 1010.) † VXA

Brief description of this boat *Schiff 96*.

632. Unterwasser- oder Tauchfahrzeug mit Einrichtungen zur Aufnahme und Legung von Minen. (Schiffbau, Berlin, Jahrg. 13, 28 Feb. 1912, p. 410-411.) † VXA

Description of patent granted to Julius Kritzler for a mine layer.

633. Werner. Die Stabilität der Unterseeboote während des Flutens. diagr. (*Marine-Rundschau*, Berlin, Jahrg. 23, Teil 2, p. 1073-1079.) VXA

Reprinted in *International marine engineering*, New York, v. 19, April, 1914, p. 163-166, † VXA.

The point of "sufficient" stability is discussed; also related subjects, shape and ballast, and tank position.

1913

634. Aarestrup. Unterseebootsbau. (Schiffbau, Berlin, Jahrg. 14, 23 July 1913, p. 860-863.) † VXA

Names the six chief firms building submarines, describing their boats.

635. Berling, G. Die Entwicklung der Unterseeboote und ihrer Hauptmaschinenanlagen. illus. charts. (Schiffbautechnische Gesellschaft, Jahrbuch, Berlin, Bd. 14, 1913, p. 109-155.) † VXA

Reprinted in *American Society of Naval Engineers, Journal*, Washington, v. 28, Feb., 1916, p. 177-202, VXA.

Tables giving relative power and weight of engines. Discusses the installation of storage batteries, electric motors and Diesel engines exhaustively.

*Non-official Publications, continued.**1913, continued.*

636. Carels, Georges. The present position of the Diesel engine, chiefly in marine propulsion. [With discussion.] illus. (North-East Coast Institution of Engineers and Shipbuilders, Transactions, Newcastle-upon-Tyne, v. 30, Nov., 1913, p.33-151.)

VXA

Abstracted in *Engineer*, London, v. 116, 5 Dec. 1913, p. 608-609, *VA*.

A most comprehensive paper which undoubtedly entailed much labor. On pages 41 and 115 are references to the application of the Diesel engine to the submarine.

637. Cathcart, W. L. The visibility of submarines. (Scientific American, New York, v. 109, 16 Aug. 1913, p. 128-129, 134.)

VA

"Shows the effectiveness of aeroplanes in the detection of submerged submarines invisible from sea level."

637a. Dickinson, H. William. Robert Fulton, engineer and artist: his life and works. London: J. Lane, 1913. xiv p., 11., 333 p., 1 fac., 24 pl., 7 ports. 8°.

AN

Contains many letters, some of them reprinted from Mrs. Sutcliffe's book, concerning Fulton's experiments and experiences in France.

Opposite p. 82 is a plate of the *Nautilus*.

History of submarine navigation on p. 71-73, including notes on Drebhel and Bushnell.

638. Diesel, R. Die Entstehung des Dieselmotors. illus. (Schiffbautechnische Gesellschaft, Jahrbuch, Berlin, Bd. 14, 1913, p. 267-367.)

† **VXA**

Discusses applications of the Diesel motors.

639. The Draeger diver-salvage outfit. illus. (Illustrated London news, London, v. 143, 23 Aug. 1913, p. 300.)

*** DA**

Illustrations showing the helmets and apparatus used on the German salvage ship.

640. Edholm, Charlton Lawrence. Thirty-six hours under water; a submarine propelled by gasoline engines while submerged. illus. (Scientific American, New York, v. 108, 21 June 1913, p. 556.)

VA

Submarine invented by J. M. Cag.

641. Riennes, Gerard. The blindfold game; submarines, their duties and their dangers. illus. (Pall Mall magazine, London, v. 51, June, 1913, p. 727-734.)

*** DA**

Reprinted in *Living age*, Boston, series 7, v. 65, 31 Oct. 1914, p. 268-273, * *DA*.

Imaginative pictures and popular article on possibilities of submarines in warfare.

642. Geschützarmierung für Unterseeboote. (Kriegstechnische Zeitschrift, Berlin, Jahrg. 16, Heft 3, 1913, p. 106-107.)

VWA

643. Gradenwitz, Alfred. Rescue apparatus for the crew of a wrecked submarine. illus. (Scientific American, New York, v. 109, 22 Nov. 1913, p. 398.)

VA

Consists of jacket and breathing apparatus.

644. Gray, James G. The properties and methods of operation of gyroscopes. illus. (Institution of Engineers and Shipbuilders in Scotland, Transactions, Glasgow, v. 57, 16 Dec. 1913, p. 121-146.)

VDA

While not confined to a consideration of the gyroscope as applied to stability of submarines the article closes by saying "The principle is available for use in aeroplanes, torpedoes and submarines."

645. H., J. Aeroplanes et sous-marins. (Marine française, Paris, année 26, Oct., 1913, p. 435-437.)

VXA

Observations made from the aeroplane *Alger* to discover the positions of submarines *Turquoise* and *Topaze*.

646. Haken, W. Die Optik in der modernen Kriegführung. illus. (Illustrierte Zeitung, Leipzig, Bd. 140, 10 April 1913, p. 102-105.)

*** DF**

Description of the periscope manufactured by C. P. Goerz in Berlin.

647. A Hospital ship for submarines; a craft that copies the kangaroo. illus. (Graphic, London, v. 88, 19 July 1913, p. 117.)

*** DA**

Good illustrations of the *Kangaroo*. Very brief text.

648. Hubert, Edward. Submersiveis Laubeuf. illus. (Revista maritima brasileira, Rio de Janeiro, anno 63, Sept., 1913, p. 329-353.)

VXA

649. Klein, Marcell. Grundlagen zu einer Dynamik der Unterwasserfahrt. diagr. (Schiffbau, Berlin, Jahrg. 14, 12 March-9 April 1913, p. 425-432, 480-484, 541-546.)

† **VXA**

Bibliography, p. 546.

"Mathematical discussion of the underlying principles of the dynamics of submarine propulsion."

650. Laubeuf, Alfred Maxime. Submarines. illus. (Navy League annual, London, 1913-1914, p. 198-210.)

VXA

Discusses the advantages and disadvantages of increased displacement. Illustrations of the French boats *Delphin*, *Xiphias*, and *Foucault*.

651. Skerrett, Robert G. Russia's submarine cruiser. illus. (Scientific American, New York, v. 108, 26 April 1913, p. 376.)

VA

More than six times the tonnage of the next largest submersible, having 5,400 tons displacement. Sectional view.

652. Sleighing on the sea bottom; the boat drawing diver. illus. (Illustrated London news, London, v. 142, 1 Feb. 1913, supplement, p. viii.)

*** DA**

A submarine sledge. Very brief text.

653. Underwater craft versus air-craft; the submarine's new gun. illus. (Illustrated London news, London, v. 142, 22 Feb. 1913, p. 243.)

*** DA**

Illustrations of balloon-destroying Krupp gun.

Non-official Publications, continued.

1913, *continued.*

654. Underwater torpedo dreadnaught; a submarine cruiser. illus. (Illustrated London news, London, v. 142, 17 May 1913, p. 683.) *DA

Very brief text. Sectional view of the new type of submarine supposed to have been built for the Russian navy.

655. Unterseeboot "Gustave Zédé." (Schiffbau, Berlin, Jahrg. 14, 23 April 1913, p. 603.) †VXA

Briefly describes this boat of the French navy.

656. Zur Entwicklung des Unterseebootswesens. (Nauticus: Jahrbuch für Deutschlands Seeinteressen, Berlin, Jahrg. 15, 1913, p. 171-188.) VYL

Review of the submarine during the year with description of the Laurenti testing dock.

1914

657. Admiral von Tirpitz quoted. (Army and navy journal, New York, v. 52, 26 Dec. 1914, p. 529.) †VXA

Discusses the blockade.

658. Andler, S. Der Torpedowertschen; eine mathematische Studie. (Marine Rundschau, Berlin, Bd. 25, April, 1914, p. 512-525.) VXA

Illustrated with diagrams and tables.

659. Bannerman-Phillips, H. How inventors propose to save men from sunken submarines; detachable buoyant conning towers and their uses. illus. (Scientific American, v. 110, 27 June 1914, p. 516, 529.) VA

Describes the seventeen serious accidents that had occurred up to that date, also the inventions of E. J. Castle and G. F. Rose for rescuing men from sunken submarines.

660. Battles, D. R. U. S. submarine tender Fulton. (American Society of Marine Draftsmen, Journal, New York, v. 1, no. 3, 1914, p. 99-101.)

Special features and installations discussed.

661. Battleship versus the submarine. (Scientific American, New York, v. 111, 10 Oct. 1914, p. 298.) VA

Editorial discusses the efficiency of the submarine in the European war.

662. Battleship versus submarine; Sir Percy Scott's views on the position of the capital ship illustrated in a series of special Sphere diagrams. illus. (Sphere, London, v. 57, 20 June 1914, p. 337-339.) *DA

Brief text; illustrations show positions of blockading submarines.

663. Battleships and submarine attack. (Engineer, London, v. 118, 17 July 1914, p. 71-72.) VA

Abstracted in *Scientific American*, New York, v. 78, 15 Aug. 1914, p. 99, VA.

Editorial comment on Sir John Biles' paper on "Protection of battleships against submarine attack."

664. Benjamin, Park. Challenge of the submarine; can the battleship and the battle cruiser answer it? illus. (Independent, New York, v. 80, 5 Oct. 1914, p. 13-17.) *DA

A well illustrated article describing the fate of the *Hogue*, *Cressy* and *Aboukir*. Outlines the history of submarine purchases by the navies of the world.

665. Beresford, Lord Charles. (Address.) (North-East Coast Institution of Engineers and Shipbuilders, Transactions, Newcastle-upon-Tyne, v. 30, 1914, p. 360-366.) VXA

Lord Beresford's remarks on submarine warfare are interesting, but his views are mistaken as he asserts the submarine is a weapon of defense, not offense.

666. Biles, Sir John Harvard. On the protection of battleships against submarine attack. (Institution of Naval Architects, Transactions, London, v. 56, July, 1914, p. 257-270.) VXA

Abstracted in *International marine engineering*, New York, v. 19, Sept., 1914, p. 393, †VXA; *Mitteilungen aus dem Gebiete des Seewesens*, Pola, Jahrg. 42, No. 7, 1914, p. 843-845, VXA; *Engineer*, London, v. 118, 10 July 1914, p. 33-35, VA; *Engineering magazine*, New York, v. 47, Sept., 1914, p. 909-911, VDA; *Scientific American supplement*, New York, v. 78, 22 Aug. 1914, p. 114-115, illus., VA; *Génie civil*, Paris, année 65, 15 Aug. 1914, p. 312, VA; and in *Marine engineer and naval architect*, London, v. 37, June, 1915, p. 326-327, VXA.

Gives two methods of defense: first, the destruction of submarines; second, protection of the bottoms of ships.

667. Britain's power at sea; her fighting force — submarines. (Illustrated London news, London, v. 145, Aug. 8, 1914, supplement, p. xv.) *DA

Five illustrations of British submarines, class A, B, C, D, and E. No text.

668. Cleaning hulls of ships. (Marine engineer and naval architect, London, v. 37, Oct., 1914, p. 64.) VXA

Brief mention of submarine motor ship cleaner.

669. Clyde's first submarine. (Marine engineer and naval architect, London, v. 36, June, 1914, p. 416.) VXA

Describes briefly the *S I*, the first submarine built in Scotland.

670. Command of the sea. illus. (Illustrated London news, London, v. 145, 26 Sept. 1914, p. 260.) *DA

Brief reference.

671. Currey, E. Hamilton. Menace of the torpedo. (Nineteenth century, New York, v. 76, July, 1914, p. 153-165.) *DA

Gives outline of Whitehead torpedo; also describes the Cuniberti which is a compromise between a submarine and battleship.

Non-official Publications, continued.

1914, continued.

672. A **Daring** exploit. illus. (Navy and army illustrated, London, new series, v. 2, 26 Dec. 1914, p. 325.) † **VWZH**

Illustration of the *B-11* and her commander, N. D. Holbrook.

673. **Designs** and specifications of the M 1. (Army and navy journal, New York, v. 52, 7 Nov. 1914, p. 308.) † **VWA**

Brief statement of plans.

674. **Domville-Fife**, Charles W. Submarine engineering of today. A popular account of the methods by which ships are raised, docks built, rocks blasted away, tunnels excavated... Philadelphia: J. B. Lippincott Co., 1914. 1 p.l., ix-xvi, 17-323(1) p., 24 pl. illus. 12°. **VXV**

Contains references to submarine history, the development of the naval submarine, and the performances of early types. Suggestions on salvage by submarine boat advanced by Simon Lake, and a description of the Orylthe suit by which one may escape from sunken submarines.

675. — Submarines, mines and torpedoes in the war. London: Hodder & Stoughton, 1914. viii, (1)10-192 p., 1 diagr., 1 map, 8 pl. 12°. ("Daily Telegraph" war books. (no. 24.1)) **BTZE**

"In this volume it has been my aim not only to review the actual fighting underseas, but also to present a compendium of information relative to the submarine fleets and aims of the great naval powers." — *Preface*.

Chapter nine deals with anti-submarine tactics.

676. **Edison's** suggestion that submarines be equipped with fish gills to extract oxygen from sea water. (Army and navy journal, New York, v. 52, 17 Oct. 1914, p. 213.) † **VWA**

677. **Effectiveness** of submarines. (Army and navy journal, New York, v. 52, 28 Nov. 1914, p. 397.) † **VWA**

Abstract of article by Simon Lake on the future of submarines, which appeared in the *New York Sun*.

678. Die **Entwicklung** des Unterseebootes seit 1900. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Jahrg. 42, No. 7, 1914, p. 822-831.) **VXA**

Arranged by countries.

679. **Feldhaus**, Franz Maria. Tauchboot. illus. (In his: Die Technik. Leipzig, 1914. 4°. p. 1121-1124.) † **V**

Many quaint illustrations from old manuscripts.

680. **First** German submarine. (Scientific American, New York, v. 111, 12 Dec. 1914, p. 495.) **VA**

Brief account of the *Plongeur-Manier*, built in 1850.

681. **First** submarine for the Royal Australian navy. illus. (The Navy, London, v. 19, March, 1914, p. 67.) **VYB**

Brief note. Illustration of the *A.E.2* in v. 20, June, 1915, p. 179.

682. **Fisher**, C. W. Drydocking in canal locks. (Scientific American, New York, v. 110, 18 April 1914, p. 328-329.) **VA**

Drydocking submarines in the Panama canal.

683. **Foundering** of submarine "A 7." illus. (Sphere, London, v. 56, 24 Jan. 1914, p. 94.) * **DA**

Brief text. Excellent sectional view with portrait of the commander.

684. **Future** of the battleship as affected by the submarine. illus. (Current opinion, New York, v. 57, Nov., 1914, p. 336-337.) * **DA**

Quotes the opinion of the *Manchester Guardian* as to the respective merits of the "submarine and dreadnaught," giving the preference to the former.

685. **Future** of the submarine boat. (Engineering, London, v. 97, 12 June 1914, p. 813-814.) **VDA**

Abstracted in *Scientific American supplement*, New York, v. 78, 4 July 1914, p. 13, *VA*.

Editorial considering mechanical possibilities and recent developments.

686. **German** submarine. (Army and navy journal, New York, v. 52, 10 Oct. 1914, p. 165.) † **VWA**

Editorial on information available on submarine construction in foreign countries.

687. **German** submarine boats: interesting details of construction and fitting. illus. (Scientific American supplement, New York, v. 78, 5 Sept. 1914, p. 148.) **VA**

Describes interior of Krupp *Germania* type.

688. **German** submarine victory. (Literary digest, New York, v. 49, 3 Oct. 1914, p. 613-615.) * **DA**

Abstracts from daily press on German submarine incidents.

689. **German** submarines now operating against the British fleet in the North sea. illus. (Sphere, London, v. 59, 14 Nov. 1914, p. 164.) * **DA**

Sectional view with very brief text.

690. **Gofton-Salmond**, K. Coming of the submarine cruiser. (The Navy, London, v. 19, March, 1914, p. 67.) **VYB**

Table of classes of vessels of the British navy.

691. **Gray**, James G. On experiments leading up to new gyrostatic controls for torpedoes, submarines, airships and aeroplanes. illus. (Institution of Engineers and Shipbuilders in Scotland, Transactions, Glasgow, v. 58, 17 Nov. 1914, p. 87-106.) **VDA**

Principles and special applications.

692. **Greater** than dreadnoughts? Submarines — Holland to "E." (Illustrated London news, London, v. 144, 13 June 1914, p. 993-994.) * **DA**

Illustrations of classes of British submarines and typical types of other nations.

Non-official Publications, continued.

1914, continued.

693. **Gregory, J. S.** New things in war. (World's work, New York, v. 28, Sept., 1914, p. 97-102.) *DA

Aeroplanes versus submarines. Torpedoes described. Tabulated list of submarines of the belligerent nations.

694. **Groupe de sous-marins américains.** illus. (Journal de la marine: le yacht, Paris, année 37, 28 Feb. 1914, p. 133.) †VXA

Group of submarines to guard the Panama canal. Very brief text.

695. **Guenther, Hanns.** Unterseekreuzer. Die Kampfschiffe der Zukunft? illus. (Technische Monatshefte, Stuttgart, Jahrg. 5, 28 March 1914, p. 118-120.) VA

Description of proposed large submarine.

696. Has the arrival of the new submarine made the big battleship obsolete? illus. (Current opinion, New York, v. 57, Aug., 1914, p. 116-117.) *DA

Quotes the opinion of Sir Percy Scott as expressed in the *London Standard*.

697. **Hofe, Charles von, and D. J. WEIMANN-BISCHOFF.** Verwendung optischer Instrumente in der Marine. illus. (Dingler's polytechnisches Journal, Berlin, Bd. 329, Heft 46/7-48/9, 1914, p. 633-657, 675-681.) VA

Technical analysis of the periscope.

698. **Howell, J. B.** Davids of the deep; how underwater warfare is affecting naval strategy: the story of the U-9. illus. (Sunset, San Francisco, v. 33, Dec., 1914, p. 1196-1202.) *DA

Story of the sinking of the *Aboukir* by the U-9. Good illustrations.

699. **Hurd, Archibald Spicer.** Submarine in war; its menace and achievement. (Fortnightly review, London, new series, v. 96, Dec., 1914, p. 928-943.) *DA

Quotes from Sir Percy Scott's letter to the *Times* and discusses the accomplishments of submarines in the first months of the war.

Reprinted in *Living age*, Boston, series 7, v. 66, 27 Feb. 1915, p. 515-527, *DA.

700. **Jane, Fred T.** What dreadnoughts dread. illus. (London magazine, London, v. 31, Feb., 1914, p. 737-744.) *DA

A most interesting view of the power of the submarine and probable chances of Germany's stopping American "corn" ships in case of war.

701. **Johnson, Willis F.** Submarine and dreadnaught; which will survive? Steam battleships are a century old but submarines are much older. (Scientific American supplement, New York, v. 78, 22 Aug. 1914, p. 118-119.) VA

Historical sketch.

702. **Kraft, W.** Prüfdocks für Unterseeboote. illus. (Technische Monatshefte, Stuttgart, Jahrg. 5, 22 July 1914, p. 248-251.) VA

Pontoon dry dock for submarines.

703. **Krupp** guns for submarines. illus. (Engineer, London, v. 118, 27 Nov. 1914, p. 506, 510.) VA

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, Jan.-Feb., 1915, p. 206-207, VXA; and in *Mitteilungen über Gegenstände des Artillerie- und Geniewesens*, Wien, Jahrg. 45, 1914, p. 1268-1272, VWI.

Krupp guns for submarines brought out in 1913.

704. **Lancement d'un dock flottant pour le relevage des sous-marins.** illus. (Journal de la marine: le yacht, Paris, année 37, 4 April 1914, p. 221-222.) †VXA

Detailed description of the dry dock with illustrations.

705. **Latest** Lake submarine boats. (Army and navy journal, New York, v. 52, 10 Oct. 1914, p. 179.) †VWA

Abstracts from a talk on Modern instruments of war, by Lieut. W. L. Calhoun.

706. **Lessons** of the war. (World's work, New York, v. 29, April, 1914, p. 615-616.) *DA

Brief review of the position of the submarine in present naval activities.

707. **Lieut. Hinkamp's** report on density of water. (Army and navy journal, New York, v. 52, 31 Oct. 1914, p. 260.) †VWA

Interesting abstract from report showing the ballast necessary to trim under different densities of water.

708. **Limitations** of the submarine. (Engineer, London, v. 118, 31 July 1914, p. 120-121.) VA

Reprinted in *Scientific American supplement*, New York, v. 78, 5 Sept. 1914, p. 153-154, VA; and in *Revista general de marina*, Madrid, tomo 77, Dec., 1915, p. 864-867, VXA. Abstracted in *International marine engineering*, New York, v. 19, Oct., 1914, p. 460, †VXA.

Argues clearly that battleship is not doomed because of submarine. Lack of speed when submerged.

709. **Lysaght, S. R.** Our submarines. illus. (The Navy, London, v. 19, Dec., 1914, p. 343.) VYB

Poem.

Illustration of the D-5.

710. **M. de T., E. de.** Necesidad de los barcos submergibles en España. (Memorial de ingenieros del ejército, Madrid, época 5, tomo 31, March-April, 1914, p. 86-102, 107-123.) VWA

The importance of modern submarines and the advantages of acquiring a strong flotilla for the Spanish navy. The submarine power of other nations is considered.

711. **Middleton, J.** Sharpshooters of the sea. (World's work, New York, v. 29, Nov., 1914, p. 96.) *DA

Estimates the naval power, especially submarine power, of the nations at war.

712. **Modern** submarine warfare. illus. (Scientific American, New York, v. 111, 7 Nov. 1914, p. 376-377.) VA

Steel nets and other means of defense against submarine attack.

*Non-official Publications, continued.**1914, continued.*

713. **Morrison, J. H.** Development of submarines in United States. (American marine engineer, New York, v. 9, no. 11, Nov., 1914, p. 35-36.) † VXA

Reprinted from the *Maritime Exchange bulletin*.

714. **New type of submarine.** (Outlook, New York, v. 108, 2 Dec. 1914, p. 741-742.) * DA

715. **Note sur l'emploi des sous-marins actuels dans la bataille navale.** (Journal de la marine: le yacht, Paris, année 37, 25 July 1914, p. 466-467.) † VXA

Discussion of submarine tactics when acting with ships of the line.

716. **Les Nouveaux sous-marins australiens.** illus. (Journal de la marine: le yacht, Paris, année 37, 14 Feb. 1914, p. 106-107.) † VXA

Two submarines of the "E" type, British navy.

717. **Ocean-going submarines for the Germans.** (Scientific American, New York, v. 111, 12 Dec. 1914, p. 487.) VA

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 40, Jan.-Feb., 1915, p. 182-183, VXA.

Brief editorial on rumor of submarines of large displacement afterwards verified.

718. **La Perte du sous-marin Calypso.** illus. (Journal de la marine: le yacht, Paris, année 37, 18 July 1914, p. 451.) † VXA

Details of accident.

719. **Poincet.** La propulsion des sous-marins. illus. (Technique moderne, Paris, tome 8, 15 May 1915, supplement, p. i-x.) VA

Historical sketch and discussion of relative efficiency of Diesel engines and steam.

720. **Pollock, Alsager W. A.** Battleships, submarines, aircraft and the army. (United service magazine, London, v. 170 [new series, v. 49], August, 1914, p. 468-471.) * DA

Strategical foresight of Sir Percy Scott.

721. **Propulsion of submarines.** (Scientific American supplement, New York, v. 78, 14 Nov. 1914, p. 314.) VA

Reprinted from *The Times*, London.

722. **Question of the endurance of a submarine.** illus. (Sphere, London, v. 59, 24 Oct. 1914, p. 100.) * DA

Refuelling and provisioning of German submarines in British waters.

723. **Un Rapport allemand sur l'exploit du sous-marin allemand "U-9."** (Internationale Revue über die gesamten Armeen und Flotten, Cassel, Jahrg. 32, supplément 189, Dec., 1914, p. 334-336.) VWA

German report of the sinking of the *Aboukir*, *Hogue*, and *Cressy*.

724. **Record of submarines thus far.** (Army and navy journal, New York, v. 52, 14 Nov. 1914, p. 328.) † VWA

Editorial.

725. **Reference list of parts of submarine.** illus. (Scientific American, New York, v. 111, 5 Dec. 1914, p. 466-467.) VA

Double page sectional view of submarine with list of parts.

726. **Repair ships and their duties.** (Marine engineer and naval architect, London, v. 37, Nov., 1914, p. 107-109, 119-123.) VXA

While not confined entirely to repair ships for submarines that branch of the work is treated.

727. **Reuterdaahl, Henry.** Submarine in action. illus. (Collier's, New York, v. 54, 24 Oct. 1914, p. 16, 25.) * DA

Submarine's place in the present war.

728. **Rice, Isaac L.** [Comment on the submarine in the present war.] (Army and navy journal, New York, v. 52, 3 Oct. 1914, p. 132.) † VWA

Mr. Rice was president of the Electric Boat Company, which owns the Holland patents.

729. **Rise of the submarine.** illus. (Review of reviews, New York, v. 50, Nov., 1914, p. 625-627.) * DA

Good illustrations of British boats of the "E" class.

730. **S. Uit de geschiedenis der onderzeevaart.** (Nederlandsche Vereeniging "Onze Vloot," [Bulletin,] s'Gravenhage, Jaarg. 6, 1914, p. 33-40.) VYP

731. **Salvage of submarines.** (The Navy, London, v. 19, March, 1914, p. 72.) VYB

Submarines are provided with means of signalling their position by buoys.

732. **Schulze, Franz L. C.** Unsere Unterseeboote: geschichtliche Entwicklung und Wirkung dieser modernsten Waffe. Kassel: M. Brunemann, 1915. 64 p., 1 pl. illus. 8°. VYL p.v.2, no.4

733. **Scott, Sir Percy.** [Letters to the Times.] (Times, London, 5 June, 10, 16 July, 28 Sept. 1914.) * A

These famous letters have been the subject of so much discussion that the references have been included here.

734. — La menace des sous-marins. (Journal de la marine: le yacht, Paris, année 37, 1 Aug. 1914, p. 481-482.) † VXA

Translation of the much discussed letters to the *London Times*.

735. **Seaplane, submarine, and ship.** (Engineer, London, v. 117, 12 June 1914, p. 644-645.) VA

Reviews Sir Percy Scott's letter in the *London Times* on the question of aeroplanes and submarines rendering obsolete the battleship.

736. **Skerrett, Robert G.** Gambling with fate in the submarine. illus. maps. (Technical world, New York, v. 22, Oct., 1914, p. 212-215.) VDA

Describes in popular manner a modern submarine.

Non-official Publications, continued.

1914, continued.

737. The **Submarine**; its place in the war. illus. (Navy and army illustrated, London, new series, v. 1, 29 Aug. 1914, p. 39-41.) † VVZH

Exceptional illustrations showing planes and rudders, and the boats *D-1*, *D-4*, and *U-15*.

738. **Submarine** boats K-5 and K-6. illus. (Marine review, Cleveland, v. 44, April, 1914, p. 141.) † VXA

Brief text. Illustration shows hull lines.

739. **Submarine** tender Fulton; Diesel engines installed. illus. (International marine engineering, New York, v. 19, July, 1914, p. 285-287.) † VXA

Full description of the first ship of this type built for the United States navy.

740. **Submarine** victory above and below. (Literary digest, New York, v. 49, 31 Oct. 1914, p. 861.) * DA

Abstracts from the daily press at the time of the sinking of the *Hogue* and other British ships.

741. **Submarine** vindicated; the sinking of 3 large cruisers proves the deadly efficiency of submarine attack. illus. (Scientific American, New York, v. 111, 3 Oct. 1914, p. 272-273.) VA

Good illustrations of the interior of submarines.

742. **Submarines**. (Marine engineer and naval architect, London, v. 37, Aug., 1914, p. 24.) VXA

Editorial comment on new submarines under construction by the Barrow Company.

743. **Submarines**. (Technics, London, v. 2, July, 1914, p. 97.) VDA

Question of ballast and buoyancy briefly noted.

744. **Submarines** against cruisers. (Army and navy journal, New York, v. 52, 26 Sept. 1914, p. 113.) † VWA

Editorial comment on the destruction of the *Aboukir*, *Cressy* and *Hogue*.

745. **Submarines** in war. (Engineer, London, v. 118, 20 Nov. 1914, p. 487.) VA

Abstracted in *Army and navy journal*, New York, v. 52, 23 Jan. 1915, p. 651, † VWA.

Value of submarines in offensive and reconnaissance tactics.

746. **Submarines** and their propulsion. illus. (Sibley journal of engineering, Ithaca, N. Y., v. 29, Nov., 1914, p. 41-46.) VDA

Discusses the part the United States has played in the development of the submarine and the successive steps in propulsion from manual power to the highest type of Diesel engines. Illustrations of the *Goubet* and *Holland 9*.

747. **Submarines** to be built in the United States for belligerent nations. (Army and navy journal, New York, v. 52, 5 Dec. 1914, p. 427.) † VWA

Question whether this would violate neutrality.

748. **Submarines** versus dreadnoughts. (Nation, New York, v. 98, 25 June 1914, p. 747.) * DA

Admiral Sir Percy Scott's letter to the *London Times* quoted and discussed.

749. **Les Submersibles** Thermidor et Berthelot dans le bassin du Commerce à Lorient. (Journal de la marine: le yacht, Paris, année 37, 25 July 1914, p. 471.) † VXA

Illustration only.

750. **Teitch**, C. Sectional view of a modern submarine. (Scientific American, New York, v. 111, 5 Dec. 1914, p. 466-467.) VA

Large diagram showing the details of boat with list of parts.

751. **Testimony** as to our submarines. (Army and navy journal, New York, v. 52, 19 Dec. 1914, 9 Jan. 1915, p. 489, 597.) † VWA

Testimony of Commander Yates Stirling, jr., before the Naval Committee of the House. Editorial on p. 597.

752. **Tests** of the Edison storage batteries. (Army and navy journal, New York, v. 52, 7 Nov. 1914, p. 297.) † VWA

Brief editorial.

753. **Torpedoes** for submarines. (Army and navy journal, New York, v. 52, 19 Dec. 1914, p. 493.) † VWA

Brief comment advocating high speed rather than long distance torpedoes.

754. **Trip** of submarines through Cape Cod canal. (Army and navy journal, New York, v. 52, 28 Nov. 1914, p. 388.) † VWA

Editorial on the successful passage of the *K-5* and *K-6* through the canal.

755. **Unterseeboote**. illus. (Nauticus: Jahrbuch für Deutschlands Seeinteressen, Berlin, Jahrg. 16, 1914, p. 92-93.) VYL

Brief note on American submarines. Illustration facing p. 100 shows submarines in drydock at the Panama canal. On page 48 the launching of the *K-6* is illustrated.

756. **Unusual** experiences of Russian submarine. (Railway and marine news, Seattle, v. 12, March, 1914, p. 44-45.) † TO

Reprinted in *Literary digest*, New York, v. 48, 25 April 1914, p. 980-981, * D-1.

Salvage of the *Mingoa* after being nine hours under water with a crew of twenty men, all of whom were rescued.

757. **Walker**, Sydney Ferris. The submarine. illus. (In his: *Submarine engineering*. London, 1914. 12°. p. 26-36.) VXV

Popular description.

758. **Ward**, C. A. Modern submarine plans. (American Society of Marine Draftsmen, Journal, New York, v. 1, no. 4, 1914, p. 116-125.)

Abstracted in *Engineering magazine*, New York, v. 49, April, 1915, p. 96-99, 4 figs. VDA, and in *International marine engineering*, New York, v. 20, June, 1915, p. 276, † VXA.

Progress in details of construction, considering special types: Holland, Laubeuf, Krupp and Laurenti, and giving United States government requirements.

Non-official Publications, continued.

1914, continued.

759. **Weidert, F.** Entwicklung und Konstruktion der Unterseeboots-Selrohrre. (Schiffbautechnische Gesellschaft, Jahrbuch, Berlin, Bd. 15, 1914, p. 175-227.) † VXA

Exhaustive study of the periscope.

760. **Williams, Charles W.** Edison solves submarine's problem. illus. (Technical world, New York, v. 22, Feb., 1915, p. 814-818.) VDA

Details of the Edison batteries.

761. **Zemplén, Konstantin.** Strategisches über Unterseeboote. (Mitteilungen aus dem Gebiete des Seewesens, Pola, Jahrg. 42, No. 7, p. 878-888.) VXA

1915

762. **Abell, T. B.** The submarine. illus. (Marine engineer and naval architect, London, v. 37, April, 1915, p. 264-269, 286.) VXA

Extracts from a lecture by Prof. Abell before the Liverpool University Students' Engineering Society. Historical sketch and mode of operation of submarines. Diagrams of modern types.

763. **Adapting a submarine transporter for general cargo.** illus. (Shipbuilding and shipping record, London, v. 6, July 1, 1915, p. 12.) VXA

Reprinted in American Society of Naval Engineers, *Journal*, Washington, v. 27, Aug., 1915, p. 698-699, VXA.

The *Kangaroo*, designed to carry submarines to foreign owners, can be converted into a general cargo boat. Excellent illustrations.

764. **Admiral Grant recommends bigger coast defense submarines.** (Army and navy journal, New York, v. 53, 6 Nov. 1915, p. 305.) † VWA

Reprinted in the United States Naval Institute. *Proceedings*, Annapolis, v. 41, Nov.-Dec., 1915, p. 2064-2065, VXA.

Editorial on the statement of Admiral Grant urging the secretary of the navy to ask authorization of 800-ton submarines.

765. **Aldereguía, Claudio.** Acumuladores. (Revista general de marina, Madrid, tomo 77, Sept., 1915, p. 299-308.) VXA

Types, defects and possibilities of storage batteries discussed.

766. — Submergibles. diagr. (Revista general de marina, Madrid, tomo 76, April, 1915, p. 395-406.) VXA

Considers the principles of submergence and flotability.

767. **All submarines of "F" class have serious defects in common says naval board.** (United States Naval Institute. *Proceedings*, Annapolis, v. 42, Sept.-Oct., 1915, p. 1650-1651.) VXA

Abstracted from *New York Herald*, 1 Sept. 1915. Discussion of the report of the board of inquiry on the investigation of the "F 4" disaster.

768. **Amerikanische** Dieselmotoren. (Das Schiff, Berlin, 30 July 1915, Jahrg. 36, p. 248.) † VXA

Brief note on Diesel motors installed in the *L 5* and *L 7*.

769. **Amerikanische** Unterseeboote für England. (Das Schiff, Berlin, Jahrg. 36, 27 Aug. 1915, p. 280.) † VXA

Ten boats built by the Fore River Shipbuilding Co. for Great Britain.

770. **Anti-submarine.** (Army and navy journal, New York, v. 52, 3 July 1915, p. 1392.) † VWA

Letter to the editor suggesting protections against submarines.

771. **Armament of submarines.** (Army and navy journal, New York, v. 52, 7 Aug. 1915, p. 1561.) † VWA

Editorial comment on international phases of armament.

772. **Armored** submersible suggested by Ensign Bieg. (Army and navy journal, New York, v. 52, 27 Feb. 1915, p. 825.) † VWA

Editorial comment on Ensign V. N. Bieg's suggestion.

773. **Arrival of the super-submarine in the German navy.** illus. (Current opinion, New York, v. 59, July, 1915, p. 33-35.) * DA

Popular description of modern German submarine.

774. **Austrian submarine.** illus. (Scientific American, New York, v. 113, 18 Sept. 1915, p. 250.) VA

"Austrian fleet is thoroughly modern, oldest boats in service were completed in 1910; five latest in 1914." Gives description of these.

775. **Baby submarine.** (Scientific American, New York, v. 113, 9 Oct. 1915, p. 316.) VA

Reprinted in *Revista general de marina*, Madrid, tomo 77, Nov., 1915, p. 689-693, VXA.

Editorial comment on the Ford or Parker "Jitney" submarine.

776. **Baird, George Washington.** Additional notes on submarines. illus. (American Society of Naval Engineers, *Journal*, Washington, v. 27, Feb., 1915, p. 186-191.) VXA

Gives sketch of the efforts of Fulton, Bushnell, and Sims to solve the problem of submarine navigation.

777. **Battleships versus submarines.** illus. (Review of reviews, New York, v. 51, Nov., 1915, p. 311-314.) * DA

Defense against submarines and their weapon, the torpedo.

778. **Bellet, Daniel.** L'artillerie des bateaux sous-marins. (Revue du mois, Paris, tome 19, 10 Jan. 1915, p. 99-111.) * DM

Armament of French, German, and British submarines.

779. — Le rôle et l'avenir des bateaux sous-marins. (Revue politique et parlementaire, Paris, v. 82, 10 Feb. 1915, p. 145-149.) SEA

Place of the submarine in the present war and the probable submarine of the future.

Non-official Publications, continued.

1915, continued.

780. **Belloni**, Angelo. L'immersione dei sommergibili. (Rivista marittima, Roma, anno 48, trimestre 2, May, 1915, p. 185-199.) **VXA**

Reprinted in the *Revista general de marina*, Madrid, tomo 77, Aug., 1915, p. 131-149, *VXA*.

Explanation of submergence and navigation while submerged.

781. **Berggeen**, Paul H. Submarine propulsion. (Sibley journal of engineering, Ithaca, v. 30, Nov., 1915, p. 71-72.) **VDA**

Reprinted in American Society of Naval Engineers, *Journal*, New York, v. 28, Feb., 1916, p. 292-294, *VXA*.

Describes the type of machinery devised by d'Equelville to be used for propulsion, both on the surface and when submerged.

782. **Bertin**, L. Calcul de l'augmentation de vitesse ou de distance franchissable pouvant être obtenue par l'accroissement des sous-marins. (Institut de France.—Académie des sciences, Comptes rendus, Paris, tome 160, 6 April 1915, p. 423-426.) ***EO**

Reprinted in *Génie civil*, Paris, tome 66, 17 April 1915, p. 251-252, *VA*. Reviewed in *Engineering*, London, v. 99, 30 April 1915, p. 496, *VDA*.

Discusses greater displacement in submarine construction in order to obtain a greater cruising radius.

This paper appeared originally in the *Bulletin* of the Association technique maritime.

783. **Bieg**, V. N. Submarines and the future. (United States Naval Institute, Proceedings, Annapolis, v. 41, Jan.—Feb., 1915, p. 151-154.) **VXA**

Discusses their value in offensive and defensive warfare, also the general subject of construction.

784. **Blanchon**, Georges. Les sous-marins. 16 fig. (La nature, Paris, v. 43, 17 April 1915, p. 249-261.) **OA**

Covers very comprehensively the consideration of equilibrium, submersion while under way, motors, armament, and habitability of submarines.

785. — Les sous-marins et la guerre actuelle. Paris: Bloud et Gay, 1915. 38 p., 11 illus. 12°. ("Pages actuelles," 1914-1915. no. 20.) **BTZE (Pages)**

Deals with the history of the submarine during the present war. On page 10 is given a good explanation of the difference between the submarine and submersible.

786. **Blockade** by submarine. (Scientific American, New York, v. 112, 24 April 1915, p. 376.) **VA**

Editorial comment on the British blockade.

787. **Bombardment** of coast cities by submarines. (Army and navy journal, New York, v. 52, 21 Aug. 1915, p. 1612.) † **VWA**

Gives instances where submarines worked effectively in this new field of action.

788. **El Bote** automóvil contra el submarino. (Revista general de marina, Madrid, tomo 77, Dec., 1915, p. 867-872.) **VXA**

789. **Bravetta**, Ettore. Sottomarini, sommergibili e torpedini. Milano: Fratelli Treves, 1915. 2 p.l., [vii]-viii, 230 p. illus. 4°. **VXV**

Historical sketch followed by detailed description of the types of submarines. The illustrations of interiors are excellent.

790. **Buehrs**, M. Einrichtungen zur Vor- nahme von Unterwasser-Reparaturen an Schiffen. illus. (Praktische Maschinen- Konstrukteur, Leipzig, Jahrg. 48, 28 Jan.— 11 Feb. 1915, p. 25-26, 32-33.) **VDA**

791. **Campagna**, Enzo. La nave subac- quae: sottomarini e sommergibili. Milano: U. Hoepli, 1915. 4 p.l., [xi]-xii, 346 p., 5 diagrs. illus. 16°. (Manuali Hoepli.) **VXV**

Traces the history of the submarine from 332 B. C. to the year 1915. The chapter on propulsion gives details of engines and storage batteries in use on boats of various types. Excellent illustrations.

792. **Capt. A. W. Grant** commanding the Atlantic submarine flotilla. (Army and navy journal, New York, v. 52, 26 June 1915, p. 1356.) † **VWA**

Columbia to serve as flagship for Capt. Grant where school for the instruction of the personnel, officers and enlisted men, is established.

793. **Capt. A. W. Grant** detailed to duty in charge of the submarine flotilla. (Army and navy journal, New York, v. 52, 5 June 1915, p. 1261.) † **VWA**

794. **Captain Grant** and the submarines. (Army and navy journal, New York, v. 52, 19 June 1915, p. 1340.) † **VWA**

Capt. Grant assigned to the duties of organizing the submarine flotilla.

795. **Chalkley**, A. P. The machinery of modern submarines; various motor types. illus. (Scientific American, New York, v. 113, 3 July 1915, p. 26, 31, 33.) **VA**

Describes Augsburg four-cycle, Krupp, Diesel, Polar, Fiat two- and four-cycle, Sulzer two-cycle, and other types.

796. — Submarine engines. diagrs., illus. (American Society of Naval Engineers, *Journal*, New York, v. 27, May, 1917, p. 471-478.) **VXA**

Detailed discussion of the Diesel engines and comparison of this with other types of propulsive engines.

797. **Chalmers**, S. D. Periscopes. diagrs. (Nature, London, v. 95, 18 March 1915, p. 68-69.) **OA**

Reprinted in *Scientific American supplement*, New York, v. 79, 22 May 1915, p. 322, *VA*, and in Engineering Society of Pennsylvania, *Journal*, Harrisburg, Pa., 22 May 1915.

Trench and submarine periscopes described.

798. **Chapman**, L. B. Terrible underwater motor boat. illus. (Motor boating, New York, v. 15, Jan., 1915, p. 7-9.) † **VXA**

Description and illustrations of the types of motors used. *Salmon* illustrated.

799. **Chronology** of the submarine. (Scientific American, New York, v. 112, 5 June 1915, p. 514, 517, 519.) **VA**

Brief tabulation of the development of the submarine.

Non-official Publications, continued.
1915, continued.

- 800. Coleman, Frederick C.** Submarine for Austro-Hungarian navy; latest Krupp design in under water terrors. illus. (Scientific American, New York, v. 112, 23 Jan. 1915, p. 85, 89.) **VA**
Popular article on "U 3" and "4" type.
- 801. Commander Yates Stirling, jr.**, assigned to command of submarine flotilla. (Army and navy journal, New York, v. 52, 26 June 1915, p. 1361.) **† VWA**
With the increase of the number of undersea boats the importance of this command will become greater.
- 802. Condition of our submarines.** (Army and navy journal, New York, v. 52, 9 Jan. 1915, p. 597.) **† VWA**
Editorial comment on correspondence between Commander Yates Stirling, jr., and the Navy Department relating to the efficiency of submarines.
- 803. Cost of raising the "F 4."** (Army and navy journal, New York, v. 52, 26 June 1915, p. 1361.) **† VWA**
Brief editorial on the difficulties encountered.
- 804. Coustet, Ernest.** Les périscope de sous-marins. illus. (La nature, Paris, année 43, semestre 1, 26 June 1915, p. 409-411.) **OA**
Reprinted in *Scientific American supplement*, New York, v. 80, 23 Oct. 1915, p. 269-270, illus., *VA*, and in *Engineering magazine*, New York, Oct., 1915, p. 110-111, *VDA*.
Describes very carefully the construction and operation of the periscope.
- 805. Cunard liner "Lusitania."** pl. (Engineering, London, v. 99, 14 May, 1915, p. 537-538.) **VDA**
Circumstantial account of the sinking of the *Lusitania*.
- 806. Cunningham, Forbes.** Fighting under the sea. illus. (Export American industries, New York, v. 14, May, 1915, p. 37-43.) **† TLA**
- 807. Curtis, Stanley.** Under the sea in a submarine. illus. (Modern mechanics, Chicago, v. 30, Jan., 1915, p. 2-6.) **VGA (World's advance)**
Reprinted in *Literary digest*, New York, v. 50, 6 Feb. 1915, p. 238-239, **DA*.
Describes the trip of the author in an American submarine.
- 808. D., G.** Navigation of submarines and aircraft: a new scope for invention. illus. (English mechanic and world of science, London, v. 102, 24 March 1915, p. 494.) **VA**
A "locometer" illustrated and described — instrument enabling the pilot to locate position.
- 809. Day of the submarine.** (United States Naval Institute, Proceedings, Annapolis, v. 41, Jan. - Feb., 1915, p. 286.) **VXA**
Abstracted from the *London Times*, 24 Dec. 1914. "A reply by Admiral von Tirpitz to a question as to whether the day of large ships was over."
- 810. Death and life in a submarine.** (Literary digest, New York, v. 50, 10 April 1915, p. 831-834.) *** DA**
Quotes from interview with Thomas A. Edison on the disaster to the *F-4*.
- 811. Defective American submarines.** (Outlook, New York, v. 111, 8 Sept. 1915, p. 57.) *** DA**
Editorial on the disaster to the *F-4*.
- 812. Defense against a submarine.** (Army and navy journal, New York, v. 52, 22 May 1915, p. 1205.) **† VWA**
Cites speed of destroyers as greatest difficulty for submarine attack.
- 813. Defense against submarines.** (United States Naval Institute, Proceedings, Annapolis, v. 41, Nov. - Dec., 1915, p. 2069.) **VXA**
Brief excerpt from *New York Herald* of Nov. 9, 1915.
- 814. Dewitz, Hrolf von.** War's new weapons; an expert analysis in plain language of the weapons and methods used in the present great war. With introductory preface by Hudson Maxim. New York: Dodd, Mead & Co., 1915. xvi p., 11., 295 p., 16 pl. 8°. **VWE**
- 815. Dienstbach, C.** A submarine sunk by a Zeppelin. (Scientific American, New York, v. 112, 12 June 1915, p. 591.) **VA**
Brief note.
- 816. Dommett, William Erskine.** Submarine vessels, including mines, torpedoes, guns, steering, propelling, and navigating apparatus, and with notes on submarine offensive and defensive tactics, and exploits in the present war. London: Whittaker & Co., 1915. x, 106 p., 1 diag., 16 pl. 12°. **VXV**
- 817. Dubilier, William.** Fatal hum of the submarine. illus. (Popular science monthly, New York, v. 87, 6 Dec. 1915, p. 713-719.) *** DA**
Sound of the electric motors has a peculiarly high pitch and instrument here described detects this hum.
- 818. Electricity on board battleships and submarines at New York review.** illus. (Electrical world, New York, v. 65, 15 May 1915, p. 1263.) **VGA**
Describes briefly boats of the "K" type at that time in the North river.
- 819. Estrany, Jerónimo, editor.** Narciso Monturiol y la navegación submarina. Juicios criticos emitidos sobre los importantes trabajos realizados por este sabio inventor catalán, coleccionados por el Dr. D. Jerónimo Estrany... Barcelona: G. Gili, 1915. 152 p., 1 pl. illus. 8°. **VXV**
A collection of papers containing the biography of Narciso Monturiol, builder of the first Spanish submarine, and of Isaac Peral.
- 820. F., A.** La manœuvre du sous-marin prise et tenue de la plongée. Navigation

Non-official Publications, continued.

1915, continued.

sous-marine. illus. (Génie civil, Paris, tome 67, 25 Sept. 1915, p. 193-199.) **VA**

Considers problems of submergence; description and illustrations of the periscope.

821. — Les progrès récents dans la construction des sous-marins des États-Unis. illus. (Génie civil, Paris, tome 66, 17 April 1915, p. 241-245.) **VA**

Reviews the American practice in submarine building, giving descriptions of types. Illustrations of the *Salmon*, *D-3*, *F-1*.

822. — La transmission sous-marine du son et son application à la découverte des sous-marins. illus. (Génie civil, Paris, tome 67, 27 Nov. 1915, p. 343-346.) **VA**

The last paragraphs deal with the detection of submarines when submerged.

823. *Fertigstellung* des amerikanischen Tauchkreuzers "M 1." (Das Schiff, Berlin, Jahrg. 36, 22 Oct. 1915, p. 343-344.) † **VXA**

Brief description of the *M 1*.

824. Final trials and inspection of the U. S. submarines "K-3" and "K-4." (Army and navy journal, New York, v. 52, 24 April 1915, p. 1080.) † **VWA**

Very brief.

825. First Spanish submarine. (Scientific American supplement, New York, v. 80, 9 Oct. 1915, p. 229.) **VA**

Brief note on Monturiol's boat, the *Ictineo*, built in 1865 at Barcelona.

826. Fournier, Lucien. Le sous-marin de M. Simon Lake. illus. (La nature, Paris, v. 43, semestre 1, 19 June 1915, p. 405-408.) **OA**

Sketch of early American endeavors and of Mr. Lake's achievements.

827. French Laubeuf submarine boats. illus. (Engineering, London, v. 100, 9 July 1915, p. 29-32.) **VDA**

Evolution of Laubeuf type with description and illustrations of engines and typical boats. A sectional view is included.

828. Furbush, Grant E. Submarines. (American Society of Mechanical Engineers, Journal, New York, v. 37, May, 1915, p. 281.) **VFA**

Abstract of paper given before the Syracuse University student branch of the American Society of Mechanical Engineers.

829. Furer, J. A. How the submarine F-4 was lifted out of three hundred feet of water. illus. (Popular science monthly, New York, v. 87, Dec., 1915, p. 729-734.) *** DA**

Reprinted in *Scientific American*, New York, v. 113, 16 Oct. 1915, p. 336-337, 346-347, illus., *VA*.

Full details for the non-technical reader.

830. — The raising of the "F-4." (Army and navy journal, New York, v. 53, 13 Nov. 1915, p. 329.) † **VWA**

Abstract from report to the Navy Department.

831. — Raising the submarine F-4. illus. (Engineering news, New York, v. 74, 4 Nov. 1915, p. 880-884.) **VDA**

Abstracted, with illustrations, in *Engineering magazine*, New York, v. 50, January, 1916, p. 614-615, *VDA*.

Describes fully the operations, difficulties, and successful issue.

832. — Salvage operations on submarine "F-4." illus. (United States Naval Institute, Proceedings, Annapolis, v. 41, Nov. - Dec., 1915, p. 1833-1871.) **VXA**

Abstracted in *International marine engineering*, New York, v. 21, Jan., 1916, p. 37-38, † *VXA*.

History of the accident to the *F-4* and detailed account of the salvage operations. Charts and diagrams. Constructor Furer had charge of the work.

833. García de los Reyes, Mateo. Submarinos: propulsión única. (Revista general de marina, Madrid, tomo 77, Dec., 1915, p. 739-757.) **VXA**

Diesel motors and Edison batteries discussed.

834. Gautreau, J. B. Problem of anti-submarine defense. (Army and navy journal, New York, v. 53, 25 Dec. 1915, p. 533.) † **VWA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 42, Jan. - Feb., 1916, p. 267-268, *VXA*.

Note on future of large armored ships.

835. German submarine; how it does its deadly work. illus. (Sphere, London, v. 61, 20 May 1915, p. 223.) *** DA**

Brief text.

836. German submarine raid. (Marine engineer and naval architect, London, v. 37, March, 1915, p. 231-232, 257.) **VXA**

Tabulates results of German raids.

837. German submarines. (Army and navy journal, New York, v. 52, 27 Feb. 1915, p. 823.) † **VWA**

Abstract of interviews with Francis T. Bowles published in the *New York Herald*.

838. German submarines. (Army and navy journal, New York, v. 53, 30 Oct. 1915, p. 261.) † **VWA**

Effective weapon of destruction in hands of resourceful enemy.

839. German submarines U-8 and U-12. illus. (Engineer, London, v. 119, 12 March 1915, p. 250.) **VA**

Sinking of these boats.

840. Germany's large submarine as revealed by the camera during the capture of a Dutch liner "Batavier V" which was taken by a German submarine into Zeebrugge on Thursday, March 18. illus. (Sphere, London, v. 61, 3 April 1915, p. 4-5.) *** DA**

Very brief text. *U-36* illustrated.

841. Gray, James G. On experiments leading up to new gyrostatic controls for torpedoes, submarines, aeroplanes and airships. [With discussion.] (Institution of

Non-official Publications, continued.

1915, continued.

Engineers and Shipbuilders in Scotland, Transactions, Glasgow, v. 58, 1915, p. 87-106.) **VDA**

Abstracted in *English mechanic and world of science*, London, v. 100, 1 Jan. 1915, p. 491-493, *VVA*; and in *Proceedings of the United States Naval Institute*, Annapolis, v. 41, July-Aug., 1915, p. 1324-1326, *VXA*.

Explains the principles of the gyroscope and its applications to various moving bodies.

842. **Guihéneuc, Olivier.** Peut-on se défendre contre les sous-marins? (Correspondant, Paris, tome 260 (nouv. série, tome 224), 10 Aug. 1915, p. 516-533.) * **DM**

Defensive and offensive tactics discussed.

843. [Guns for submarines.] (Army and navy journal, New York, v. 52, 17 July 1915, p. 1451.) † **VVA**

Editorial comment on new 3-in. disappearing guns to be placed in U. S. submarines of the "M" and "N" classes.

844. **Hats off to the men in our submarines** — one of the crew of the E-14 in the Dardanelles. illus. (The Fleet, London, v. 11, 1 Sept. 1915, p. 263.) † **VYB**

Illustration only.

845. **Head of our submarine service.** (Army and navy journal, New York, v. 52, 12 Aug. 1915, p. 1596.) † **VVA**

Appointment of Capt. A. W. Grant.

846. **Hebeballons für Unterseeboote.** (Das Schiff, Berlin, Jahrg. 36, 26 March 1915, p. 104.) † **VXA**

Describes the use of balloons to bring a submarine to the surface after submergence. Reprinted from the *Magdeburgische Zeitung*.

847. **Hendrick, Burton Jesse.** Inventors of the modern submarine; John P. Holland, the Irish patriot. illus. (World's work, New York, v. 30, July, 1915, p. 284-294.) * **DA**

Excellent biography with several portraits of Holland and illustrations of his various boats, including the *Ram*.

848. — Terrible submarine. illus. (McClure's magazine, New York, v. 44, Feb., 1915, p. 32-41, 182.) * **DA**

Excellent survey of the development of the fighting submarine.

849. **Herberts, H. J.** Lifting magnets for submarine. (Electrical review, Chicago, v. 66, 3 April 1915, p. 645.) **VGA**

Letter to the editor on lifting magnets for the salvage of the *F-4*.

850. **Hering, Carl.** Boat design that eliminates bow waves and wake. illus. (Scientific American, New York, v. 113, 9 Oct. 1915, p. 325.) **VA**

Sucking water in at the bow and expelling it at the stern suggested as means of obviating wake.

851. **Hibbard, H. L.** Application of electricity in naval warfare. (Sibley journal of engineering, Ithaca, v. 29, May, 1915, p. 251-261.) **VDA**

Latter part of article describes the power plant of a submarine.

852. **Hinkamp, C. N.** Description and trials of U. S. S. *Fulton* (submarine tender no. 1). (American Society of Naval Engineers, Journal, Washington, v. 27, Nov., 1915, p. 897-910.) **VXA**

Detailed description of dimensions, hull, engines, equipment for machine shop work, and other features of the first vessel of this type built for the United States navy.

853. — Submarines — improvements. (American Society of Naval Engineers, Journal, Washington, v. 27, Feb., 1915, p. 171-185.) **VXA**

Abstracted in *Engineer*, London, v. 119, 19 March 1915, p. 280, *VVA*.

Improvements in efficiency and reliability of recent designs. Comprehensive review of engines, motors, batteries, gyroscopic compasses, ballast tanks, habitability, etc.

854. — Submarines and torpedoes. illus. (American Society of Naval Engineers, Journal, Washington, v. 27, May, 1915, p. 438-453.) **VXA**

Abstracted in *Canadian engineer*, Toronto, v. 29, 29 July 1915, p. 204-206, *VDA*; *Engineer*, London, v. 120, 2 July 1915, p. 19, *VVA*; and in *Scientific American supplement*, New York, v. 80, 28 Aug. 1915, p. 136-138, illus., *VVA*. Reprinted in *Revista general de marina*, Madrid, tomo 77, Sept., 1915, p. 383-393, *VXA*.

Interesting paper telling of actual operations necessary to submerge, to fire the torpedoes, and to navigate the submarine. Considers the personnel. Original paper gives more history than the abstracts.

855. **Hoar, Allen.** The submarine power plant. illus. (Sibley journal of engineering, Ithaca, v. 30, Nov., 1915, p. 59-63.) **VDA**

Reprinted in American Society of Naval Engineers, *Journal*, Washington, v. 28, Feb., 1916, p. 286-292, *VXA*; *American marine engineering*, New York, v. 11, Jan., 1916, p. 5-8, † *VXA*; and in *Mechanical world*, Manchester, v. 58, 31 Dec. 1915, p. 316-317, *VVA*.

Mr. Hoar, chief engineer of the L. A. Submarine Boat Company, discusses the present efficiency of the Diesel engine as a means of propulsion for submarines. Describes motors and Edison storage batteries and refers to a new patent system of propulsion not then made public.

856. **Hodges, W. R.** Who invented the periscope? (Scientific American, New York, v. 112, 6 March 1915, p. 217.) **VA**

Letter to the editor stating that the periscope was invented by Thomas Doughty in 1864.

857. **Horsnaill, W. O.** Electrical equipment of submarines. (Electrical review, London, v. 77, 2 July 1915, p. 3-4.) **VGA**

Brief notes on storage batteries as source of energy for wireless outfit, lighting, heating, and other appliances.

858. — Submarine versus surface craft for future navies. (Fortnightly review, London, v. 104, Oct., 1915, p. 659-669.) * **DA**

Discusses the capabilities of the submarine to carry out all the functions of the modern navy.

*Non-official Publications, continued.*1915, *continued.*

859. — War beneath the waves. 1, Submarines; 2, Torpedoes; 3, Submarine mines. (Chambers's journal, London, series 7, v. 5, March - May, 1915, p. 190-192, 198-200, 293-294.) *DA

Popular article with good general description of late types.

860. Hovgaard, George William. Present status of submarine boats; a discussion of the principal features of undersea war craft, their armament, manoeuvring, limitations, and military aim. illus. (Science conspectus, Boston, v. 5, no. 3, 1915, p. 57-72.) OA
Describes and defines "submersibles" and submarines. Gives dimensions of boats and costs. Good illustrations of the *Kangaroo*.

861. How to avoid the submarine pirate. illus. (Sphere, London, v. 60, 20 Feb. 1915, p. 191.) *DA

Brief text. Illustrations show the ships following zigzag course and enveloped in smoke to elude submarines.

862. Howard, Herbert S. Modern submarine torpedo boats of the United States and other navies. illus. (Engineering news, New York, v. 73, 24 June 1915, p. 1222-1223.) VDA

Reprinted in American Society of Naval Engineers, *Journal*, Washington, v. 27, Aug., 1915, p. 687-689, VXA.

Non-technical description. Illustration of the *E 2*.

863. — Submarines. (American Society of Marine Draftsmen, *Journal*, New York, v. 2, no. 2, 1915, p. 41-52.)

Historical review followed by an outline of the main features and principles of operation of modern submarines.

864. Hueffer, Oliver Madox. In a submarine. illus. (Harper's weekly, New York, v. 60, 15 May 1915, p. 460-462.) *DA

Good views of interior.

865. Hurd, Archibald Spicer. The submarine in war; its menace and achievement. (Living age, Boston, series 7, v. 66, 13 Feb. 1915, p. 515-527.) *DA

Achievements in the present war.

866. Hutchison, Miller Reese. The submarine boat type of Edison storage battery. Orange, N. J., 1915. 28 p. illus. diagr. 4°. VGF p. box

Cover title: Edison storage batteries for submarines.

867. Immune from submarine attack? (Practical engineer, London, v. 51, 29 April 1915, p. 213.) VDA

Brief editorial on an invention the nature of which is not disclosed.

868. Invisible periscope. (Engineer, London, v. 120, 20 Aug. 1915, p. 179.) VA

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, Sept. - Oct., 1915, p. 1682, VXA.

Very brief. To be accomplished by painting. Camouflage.

869. Is there any defense against the submarine? (Scientific American, New York, v. 112, 13 Feb. 1915, p. 152.) VA

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, March - April, 1915, p. 575-576, VXA.

Editorial comment without any attempt to answer the question.

870. Jane, Fred T. Submarines and aircraft. (Edinburgh review, London, v. 221, Jan., 1915, p. 140-150.) *DA

Historical review from the siege of Tyre, 332 B. C. Discusses the relative efficiency of ships of the line and submarines.

871. Johnson, Valentine Edward. Vessels of stealth: submarines. illus. (In his: Modern inventions. New York, 1915. 8°. p. 30-46.) V

Popular account of modern submarines.

872. K., T. J. Wie sieht das Unterseeboot? (Das Schiff, Berlin, Jahrg. 36, 16 July 1915, p. 231.) †VXA

An account of the navigation of a submarine and the use of a periscope.

873. Kearney, Thomas A. The submarine; its purpose and development. (United States Naval Institute, *Proceedings*, Annapolis, v. 41, July - Aug., 1915, p. 1239-1250.) VXA

Excellent historical sketch with discussion of methods of warfare when submarines are engaged.

874. Kempster, J. W. Submarines. (Marine engineer and naval architect, London, v. 37, May, 1915, p. 286.) VXA

Abstracted partly from lectures given by Prof. T. B. Abell and Mr. J. W. Kempster.

875. Kirchhoff, Hermann, editor. Otto Weddigen und seine Waffe. Aus seinen Tagebüchern und nachgelassenen Papieren, unter Mitwirkung der Familie, bearbeitet von Hermann Kirchhoff. . . Mit einem Titelbild und 63 Abbildungen. Berlin: Marineland-Verlag, 1915. 157(1) p., 16 pl., 1 port. 8°. (Unsere Seehelden. Bd. 2.) VYN

876. La Cérisaie, J. de. Précurseurs américains de la guerre sous-marine. illus. (La nature, Paris, année 43, semestre 2, 27 Nov. 1915, p. 351-352.) OA

Illustration of the *Whale*.

877. Lake, Simon. The art of submarine defense and offense as applied to international peace. illus. (Century, New York, v. 89, March, 1915, p. 724-732.) *DA

Potential power of submarines in warfare; also discussion of construction and difficulties of navigation.

878. — Modern submarines in war and peace. illus., diagr. (International marine engineering, New York, v. 20, July - Dec., 1915, p. 286-294, 349-355, 399-404, 450-456, 502-506, 559-562; v. 21, Jan. - April, 1916, p. 29-30, 75-78, 201-205.) †VXA

Abstracted in *Engineering magazine*, New York, v. 50, Oct., 1915, p. 104-107, VDA. The January, 1916 installment, relating to the possibilities of the

*Non-official Publications, continued.**1915, continued.*

submarine in polar exploration, is abstracted in *Littér-ary digest*, New York, v. 52, 19 Feb. 1916, p. 434, *DA.

Very comprehensive article, with admirable illustrations, by one qualified to speak authoritatively. Discusses the present status and future possibilities of the submarine.

879. — Submarine for hydrographic work. illus. (*Scientific American*, New York, v. 113, 25 Sept. 1915, p. 272-273.) VA

Abstracted in *Revista general de marina*, Madrid, tomo 77, Dec., 1915, p. 844-849, VXA.

Used to discover submerged rocks.

880. — Submarines that are strictly invisible. illus. (*Scientific American*, New York, v. 112, 16 Jan. 1915, p. 68-69.) VA

Abstracted in *Illustrated London news*, London, v. 146, 13 Feb. 1915, p. 210-211, *DA, and in *Army and navy journal*, New York, v. 52, 6 Feb. 1915, p. 729, †VVA.

Lake submarine fitted with "feelers," making it possible to pass through anchor cables and nets and attack a blockaded fleet.

881. Lanphier, R. C. Recent improvements in the electric lighting of steam railroad cars. diags., pl. (*American Institute of Electrical Engineers, Proceedings*, New York, v. 34, Aug., 1915, p. 1829-1846.) VVA

This article is referred to in several papers on the use of storage batteries in submarines.

882. Laubeuf, Alfred Maxime. Present condition of the submarine. illus. (*International Engineering Congress*, San Francisco, 1915, Transactions, v. 10, 1916, p. 263-295. [Paper no. 207.]) VDA

Reprinted in *American Society of Naval Engineers, Journal*, Washington, v. 28, Feb., 1916, p. 272-278, VXA, and in *Scientific American supplement*, New York, v. 81, 12 Feb. 1916, p. 112, VA.

Abstracted in *Engineering*, London, v. 100, 3 Dec. 1915, p. 579-580, VDA; *Mechanical engineer*, Manchester, v. 36, 10 Dec. 1915, p. 466-468, VFA; and in *Revista general de marina*, Madrid, tomo 77, Aug., 1915, p. 263-267, VXA.

Bibliography, p. 293-294.

A comprehensive consideration of the history and development of the submarine. Discusses the mode of construction, form, displacement, types for coast defense and for squadron cruising.

883. — Les sous-marins allemands et leur rôle dans la guerre actuelle. illus. (*Société des ingénieurs civils de France, Mémoires*, Paris, année 1915, v. 1, 1915, p. 91-116.) VDA

Abstracted in *Génie civil*, Paris, tome 66, 24 April 1915, p. 263-267, VA.

Discusses the principles of construction, especially of the German type *Germania*. Illustrations of the *Kobben*, *Narwhal*, *Sirène*, *Aigrette*, *Pluciose*, *U-5* and *U-1*.

884. — Sous-marins et submersibles, leur développement, leur rôle dans la guerre, leur rôle dans l'avenir, les sous-marins allemands. Paris: Delagrave [1915]. 2 p.l., 103 p., 2 l., 8 pl. diagr. 4°. (Collection de "La science au xx. siècle.") VVX

This famous designer of submarines has given us a book which includes admirable historical data as

well as discussion on modern boats, with plans and half-tones. There are chapters on the place of the submarine in the modern navy and possibilities in construction. Accidents and their causes are discussed and the boats of the German navy are described.

885. Legal status of the submarine. (Practical engineer, Manchester, v. 51, 4 March 1915, p. 103-104.) VDA

Editorial.

886. [Limitations of the submarine.] (Army and navy journal, New York, v. 52, 19 June 1915, p. 1323.) †VVA

Brief editorial on probable cruising radius of the future submarine.

887. Loading and firing submarine torpedoes. (*Scientific American*, New York, v. 112, 29 May 1915, p. 493.) VA

Gives details of the torpedoes.

888. Logical results of the submarine torpedo boat. (*Engineering news*, New York, v. 73, 24 June 1915, p. 1234-1236.) VDA

Potency of the submarine as an engine of war is discussed.

889. Look-out for submarines. (*Engineering*, London, v. 99, 14 May 1915, p. 552.) VDA

Reprinted in *United States Naval Institute, Proceedings*, Annapolis, v. 41, Nov. - Dec., 1915, p. 2069, VXA.

Brief note on Gardner method of gyroscopic control of look-out's observation seat.

890. Loss of "E 15" by stranding in the Dardanelles; some possibilities of the wheeled submarine. illus. (*Sphere*, London, v. 61, 1 May 1915, p. 120-121.) *DA

Brief text.

891. La Lutte entre les sous-marins et les grandes navires. (Génie civil, Paris, tome 66, 13 Feb. 1915, p. 107-108.) VA

Considers the accomplishments of the submarines of the various countries at war.

892. Main source of French munitions. illus. (*American machinist*, New York, v. 43, 29 July 1915, p. 177-182.) VFA

Describes boats constructed at the Creusot plant.

893. Middleton, James. Tirpitz the eternal. (*World's work*, New York, v. 29, April, 1915, p. 641-659.) *DA

Biographical sketch.

894. Modern submarine. illus. (*Scientific Australian*, Melbourne, v. 20, March, 1915, p. 68-69.) VA

Popular description.

895. Modern submarine; methods of control of the latest and most dreaded type of warship. (*Scientific American*, New York, v. 113, 3 July 1915, p. 16-17.) VA

Navigation problems.

896. Modern terror of the deep; a brief history of the development of the submarine with an analysis of the present types,

Non-official Publications, continued.
1915, continued.

their powers and limitations. illus. (Applied science, Toronto, v. 27 [new series, v. 10], June - July, 1915, p. 37-50.) **VA**

Analysis of present types; navigation, habitability, propulsion, armament, and military value considered.

897. **Moffett**, Cleveland. Fessenden oscillator to detect submarines. (Electrical review and western electrician, Chicago, v. 66, 17 April 1915, p. 738.) **VGA**

Abstracted from *New York Times*.

898. — A new defense against the submarine. illus. (American magazine, New York, v. 79, April, 1915, p. 11-15, 96-100.) **DA**

Report of an interview with Prof. Fessenden in which he describes the invention of the microphone and its uses.

899. **Morgan**, Gerald. Submarines. (New republic, New York, v. 4, 4 Sept. 1915, p. 127-128.) **DA**

Combating submarines.

900. **Motive** power of submarines. (Electrical review and western electrician, Chicago, v. 66, 6 March 1915, p. 410.) **VGA**

Editorial on types of engines.

901. **Motive** power for submerged operation of submarines. (International marine engineering, New York, v. 20, Nov., 1915, p. 514.) **VXA**

In answer to question as to reasons why internal combustion engines cannot be used for submerged propulsion.

902. **Muers**, P. Oil storage for submarines at sea. illus. (Petroleum world, London, v. 12, March, 1915, p. 131-133.) **VHY**

German oil supplies for submarines stored in cylindrical tanks, 150 feet by 30 feet, with capacity of 2,280 tons.

903. The "Nautilus." (Cleveland: Cleveland Twist Drill Co., 1915,) broadside. diagr. f°.
† **VXV**

"Robert Fulton, born in Pennsylvania in 1765, was the designer of the first successful submarine."

904. **Naval** constructor on the progress of the submarine. illus. (Review of reviews, New York, v. 51, April, 1915, p. 484-485.) **DA**

905. **Neff** submarine system. (Army and navy journal, New York, v. 53, 2 Oct. 1915, p. 144.) **VWA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 42, Jan. - Feb., 1916, p. 264, *VXA*, and in *Revista general de marina*, Madrid, tomo 77, Nov., 1915, p. 694-699, *VXA*.

Brief editorial.

906. Die **Neuen** dänischen Unterseeboote. (Das Schiff, Berlin, 20 Aug. 1915, Jahrg. 36, p. 271-272.) **VXA**

Brief description of submarines being built for Denmark.

907. Der **Neueste** amerikanische Unterseeboottyp. (Das Schiff, Berlin, Jahrg. 36, 26 Feb. 1915, p. 71-72.) **VXA**

Editorial on new submarines built for the United States navy by the Electric Boat Company.

908. **Neureuther**, Karl. Das Unterseeboot nach einem im B. Aero-Club 16. Febr. 15, gehaltenen Vortrag. München: A. Hertz, 1915. 23(1) p. illus. 8°. **VXC** p.v.22, no.14

909. **New** batteries of U. S. submarine "L-8." (Army and navy journal, New York, v. 52, 17 April 1915, p. 1034.) **VWA**

Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, May - June, 1915, p. 932-933, *VXA*.

L-8 was the first submarine to be built by the navy. Mrs. J. E. Sloane, Mr. Thomas Edison's daughter, asked to be sponsor.

910. **New** device to guide submarine pilots. (United States Naval Institute, *Proceedings*, Annapolis, v. 41, July - Aug., 1915, p. 1317.) **VXA**

Brief excerpt from *New York Times*, 21 June 1915, describing Hudson Maxim's indicator.

911. **New** submarine for the United States navy. (Army and navy journal, New York, v. 52, 12 June 1915, p. 1303.) **VWA**

Brief editorial on recommendations of Lieut.-Commander Stirling, jr., for larger submarines.

912. **New** United States submarines. (Army and navy journal, New York, v. 52, 20 March 1915, p. 918.) **VWA**

Brief reference to new type of submarine to be called the *Schley*.

913. **Nickel-iron-alkaline** cells for high-discharge-rate and submarine service. illus. (Electrical world, New York, v. 66, 13 Nov. 1915, p. 1103-1104.) **VGA**

Edison Storage Battery Company has developed a battery for submarines and locomotives.

914. **O'Niell**, Lionel. Menace of the submarine; its purpose in war, and defence against its attack. illus. (Navy and army illustrated, London, new series, v. 3, 20 Feb. 1915, p. 132-136.) **VWZH**

Place of the submarine in the present war. The question of aircraft against submarines. Illustrations of D-2, E-class boat, and a remarkable illustration showing a German submarine packed for shipment.

915. **Otto**, Friedrich. Das Unterseeboot im Kampfe. Leipzig: C. F. Amelang, 1915. 157 p., 30 pl. 12°. **VXV**

p. 69-92. Chronology of the submarine.

Written in popular fashion for the general reader. The accomplishments of the German submarines up to date of publication are noted.

916. **Our** deficiency in submarines. (Army and navy journal, New York, v. 52, 29 May 1915, p. 1237.) **VWA**

Editorial on Capt. Yates Stirling's testimony on United States submarines.

917. **Our** first submarine loss. (Literary digest, New York, v. 50, 10 April 1915, p. 792.) **DA**

Disaster of the *F-4*. Lists accidents in other navies.

Non-official Publications, continued.

1915, continued.

918. Our first submarine loss. illus. (Technical world, New York, v. 23, June, 1915, p. 442-443.) VDA

No text. Illustrations of the raising of the hull of the *F-4* and portrait of the commander.

919. Our lamentable lack of submarines. (Army and navy journal, New York, v. 52, 29 May 1915, p. 1240.) † VWA

Editorial comment on Secretary Daniels' determination to pay more attention to submarine development in the United States navy.

920. Overturning of a German submarine in the North Sea. illus. (Sphere, London, v. 61, 3 April 1915, p. 23.) * DA

Very brief text.

921. Pay of officers and men in submarine service. (Army and navy journal, New York, v. 52, 3 April 1915, p. 981.) † VWA

In view of the disaster to the *F-4* it is suggested editorially that men on submarine duty should receive additional pay.

922. Periscope—how it is constructed and manipulated; the searching eye of the submarine. illus. (Scientific American, New York, v. 112, 30 Jan. 1915, p. 96.) VA

History and methods of using.

923. Periscope of the submarine. (Marine engineer and naval architect, London, v. 37, May, 1915, p. 287.) VXA

Invention and principles of the periscope.

924. Plans for the fleet of submarines. (Army and navy journal, New York, v. 53, 13 Nov. 1915, p. 337.) † VWA

Editorial on new submarines for which the Navy Department asks bids.

925. Pollen, A. H. The submarine myth. (Dublin review, London, v. 156, April, 1915, p. 326-340.) * DA

Armament of submarines and possibilities in submarine warfare.

926. Pot, W. F. Het gebruik en de inrichting van onderzeesche vaartuigen. [With discussion.] (De Ingenieur, s'Gravenhage, Jaarg. 30, 6 Nov. 1915, p. 909-933.) VDA

Paper read before the Koninklijk Instituut van Ingenieurs, 12 June 1915.

General review of submarine design, machinery, and handling.

927. Prendergast, Maurice. Enemy submarine warfare examined: alternate activity and quietness; the "periodicity theory." illus. (The Navy, London, v. 20, Aug., 1915, p. 246-249.) VYB

Estimates of submarine construction in Germany during war times. Illustrations of a submarine and "saucy boat" and a diagram of a Krupp-Germania type.

928. — German submarines; an analysis of their numbers and types. (Navy, London, v. 20, June, 1915, p. 173-174.) VYB

Summary of German submarine flotillas according to the German naval law and according to Admiralty memorandum.

929. — The protection of warships against submarine attack. illus. (The Navy, London, v. 20, July, 1915, p. 212-215.) VYB

The detection of enemy submarines by wireless and oscillators, and defense by net, armoring, and bulkheads are discussed.

930. Principal submarine disasters in the last ten years. (United States Naval Institute, Proceedings, Annapolis, v. 41, July-Aug., 1915, p. 1320.) VXA

Table.

931. Procacci, Gianni. Perigrifi e periscopi. illus. (Rivista marittima, Roma, anno 48, trimestre 2, June, 1915, p. 361-397.) VXA

Detailed explanation of the periscope with descriptions of the various types: Russo-Laurenti, Grubb, Goerz, and others.

932. Protection against torpedoes. (Engineer, London, v. 119, 8 Jan. 1915, p. 41-42.) VA

Reprinted in *Scientific American supplement*, New York, v. 79, 13 Feb. 1915, p. 107, VA, and in United States Naval Institute, *Proceedings*, Annapolis, v. 41, March-April, 1915, p. 576-578, VXA.

Discusses the advisability of armored bottoms on ships.

933. Purifying the air of submarines. (Army and navy journal, New York, v. 52, 26 June 1915, p. 1372.) † VWA

Julian S. Bond, inventor, remained for seven hours under water to demonstrate a new process for chemically purifying the air in submarines.

934. Raising of the U. S. S. *F-4*. (Army and navy journal, New York, v. 53, 4 Sept. 1915, p. 6, 19.) † VWA

Reprinted in *Revista general de marina*, Madrid, tomo 77, Oct., 1915, p. 558-567, VXA.

Account of the salvage and abstract of statement issued by the Navy Department.

935. Report on the loss of the submarine "F-4." (Army and navy journal, New York, v. 53, 30 Oct. 1915, p. 276.) † VWA

Abstract of the report of the naval board to investigate the disaster to the submarine at Honolulu.

936. Report on the loss of submarine "F-4." illus. (United States Naval Institute, Proceedings, Annapolis, v. 41, Nov.-Dec., 1915, p. 2059-2064.) VXA

Reviews the report of the board of inquiry appointed by the Navy Department to investigate the disaster.

937. Reverchon, Léopold. La navigation sous-marine autrefois. illus. (La nature, Paris, année 43, semestre 1, 3 April 1915, p. 228-229.) OA

Reprints part of the quaint bit by Wilkins on framing an ark for submarine navigation, first printed in 1648.

938. Robinson, R. H. M. Modern submarine in naval warfare. (Journal of Franklin Institute, Philadelphia, v. 179, March, 1915, p. 283-311.) VA

Reprinted in *Scientific American supplement*, New York, v. 79, 8-15 May 1915, p. 296-298, 312-314, illus., VA. Abstracted in Worcester Polytechnic Institute, *Journal*, Worcester, Mass., v. 18, May,

Non-official Publications, continued.
1915, continued.

1915, p. 262-273, *VDA*; *English mechanic and world of science*, London, v. 101, 19 March 1915, p. 153-154, *V.A.*; and in *Review of reviews*, New York, v. 51, April, 1915, p. 484-485, * *DA*.

Motive power, equipment, and vulnerability of battleships to submarine attack.

939. — The submarine. (International Engineering Congress, San Francisco, 1915, Transactions, 1916, [v. 10,] p. 224-238. [Paper no. 205,]) **VDA**

"It seemed wise to confine this paper to the limitations of the present day submarine, to the engineering problems to be expected in the development of the sea-going fleet type of submarine, and to glance at the visible and prospective methods of solving the problems of development desired."

940. **Roji**, Arsenio. Acorazados y sumergibles. (Revista general de marina, Madrid, tomo 76, April, 1915, p. 419-427.)

Cruising radius. **VXA**

941. — Teoria de la inmersión de los sumergibles. (Revista general de marina, Madrid, tomo 77, Dec., 1915, p. 759-776.)

Mathematical treatise. **VXA**

942. Role of the submarine. (Army and navy journal, New York, v. 52, 27 Feb. 1915, p. 807.) **VWA**

Editorial comment on development of German submarines and operation in present war.

943. **Roosevelt**, Franklin D. Future of the submarine. (North American, New York, v. 202, Oct., 1915, p. 505-508.) * **DA**

Concludes that the submarine does not replace the battleship. Discusses cruising radius.

944. **Rubber's** vital part in the submarine. illus. (India rubber world, New York, v. 52, 1 June 1915, p. 478-482.) **VMA**

Uses of rubber as gaskets and seatings, in breathing apparatus and life-saving appliances.

945. **Salving** sunken submarines. illus. diagr. (Scientific American supplement, New York, v. 79, 10 April 1915, p. 232-233.) **VA**

Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, May - June, 1915, p. 950-954, illus., *VXA*.

Dwells upon the necessity of adequate salvage facilities to minimize the dangers of service. Illustrations of various salvage vessels in use in the French, German, and Italian navies.

946. **Schaffran**, K. Modellversuche zur Ermittlung der Fahrtstabilität von Unterseebooten. illus. (Schiffbau, Berlin, Jahrg. 16, 10 Feb. 1915, p. 205-212.) **VXA**

Abstracted in *International marine engineering*, New York, v. 20, Oct., 1915, p. 464, **VXA**, and in United States Naval Institute, *Proceedings*, Annapolis, v. 41, Nov. - Dec., 1915, p. 2068-2069, *VXA*.

Mathematical analysis of model experiments for determining the factors for stability of motion of submarine boats.

947. **Scientific** savagery. (Engineer, London, v. 119, 14 May 1915, p. 483-484.) **VA**

Editorial on the sinking of the *Lusitania*.

948. **Secor**, H. Winfield. Electricity, the power behind the submarine boat. illus. (Electrical experimenter, New York, v. 3, July, 1915, p. 104-105, 125-126.) **VGA**

Sectional view with list of parts. Very brief text.

949. **Secret** submarine program. (Army and navy journal, New York, v. 52, 3 April 1915, p. 971.) **VWA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, May - June, 1915, p. 919, *VXA*.

Editorial on lecture given by A. M. Laubeuf before the Society of Civil Engineers, March, 1915. Outlines German policy.

950. **Simon** Lake on invention and construction of submarines. (Army and navy journal, New York, v. 52, 3 April 1915, p. 968.) **VWA**

Brief editorial on article by Capt. Lake in the *New York Sun*.

951. **Sinking** of the submarine "U 8" off Dover March 4 by British destroyer. illus. (Sphere, London, v. 60, 20 March 1915, p. 292-293.) * **DA**

Brief text.

952. **Skerrett**, Robert G. Mother ships for submarines; a combined salvage and drydock vessel. diagr. (Scientific American, New York, v. 112, 8 May 1915, p. 430.) **VA**

A ship built by the Fiat-San Giorgio firm.

953. — The power plant of a submarine. illus. (Gas engine, Cincinnati, v. 17, June, 1915, p. 265-272.) **VFA**

A boat of 500 tons displacement is described with propulsive machinery necessary.

954. — Submarine to salve a submarine; how one underwater craft could aid another in an emergency. illus. (Scientific American, New York, v. 112, 10 April 1915, p. 342.) **VA**

Description of ship invented by Sloan Dannenhower and W. W. Wotherspoon.

955. **Sous-marins**. (Génie civil, Paris, tome 67, 14 Aug. 1915, p. 101.) **VA**

Brief note on development of German submarines during war time.

956. **Les Sous-marins** et la guerre actuelle. (Revue de Paris, Paris, année 22, tome 3, 15 May 1915, p. 362-375.) * **DM**

Historical sketch and outline of exploits of modern submarines.

957. **Spear**, Lawrence Y. The propulsion of submarines. (Mechanical engineer, London, v. 36, 17 Dec. 1915, p. 477-479.) **VFA**

Abstract.

958. — Submarine torpedo boats. illus. (International Engineering Congress, San Francisco, 1915, Transactions [v. 10,] 1916, p. 239-295. [Paper no. 206,]) **VDA**

Outlines development since the Russo-Japanese war with a speculation on construction since the beginning of the European war. Gives a clear and illuminating consideration of the main types and distribution with full details of the principal features of design and power equipment.

Non-official Publications, continued.

1915, continued.

959. — Submarines of today and tomorrow. [With discussion.] (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 23, Nov., 1915, p. 201-224.) **VXA**
 Reprinted in *Revista general de marina*, Madrid, tomo 78, Jan., 1916, p. 116-117, 255-265, *VXA*. Abstracted in American Society of Naval Engineers, *Proceedings*, Washington, v. 28, Feb., 1916, p. 278-286, *VXA*; *Mechanical engineer*, Manchester, v. 36, 17 Dec. 1915, p. 477-479, *VFA*, and in *International marine engineering*, New York, v. 20, Dec., 1915, p. 549, † *VXA*.
 Characteristics of the submarines of to-day and the possibilities of the future. Military and engineering problems are discussed at length. "Whether, and to what extent, the inferiority of the steam plant ... can be overcome remains a question of the future ... The steam engine is certain to be displaced by the Diesel."
960. **Speedy** motor boats for fighting submarines. illus. (Yachting, New York, v. 18, Dec., 1915, p. 240-241.) † **MNRA**
 Describes boat recently built at Greenport, L. I., for use in the Baltic. Will develop 30 miles an hour.
961. **Springer, J. F.** Raising the "F 4." illus. (Scientific American, New York, v. 112, 17 April 1915, p. 367-368.) **VA**
 Some of the difficulties encountered and how they were met.
962. **Stab** sharks of the German navy; the ten compartments of a modern German submarine. illus. (Sphere, London, v. 60, 27 March 1915, p. 336-337.) * **DA**
 Excellent sectional view of boat showing compartments with description of contents of each.
963. **Steam** turbines for submarines. (Marine journal, New York, v. 38, 23 Oct. 1915, p. 9.) † **VXA**
 Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, Nov. - Dec., 1915, p. 2065, *VXA*.
 Brief statement of possibilities of substituting steam turbines for internal combustion engines.
964. **Stiles, John C.** Confederate submarine warfare. (Army and navy journal, New York, v. 52, 17 April 1915, p. 1046.) † **VWA**
 Account of the first Confederate "David" torpedo boat and Confederate submarine.
965. **Stitch** in time saves nine: defense against submarines. (Scientific American, New York, v. 113, 4 Sept. 1915, p. 194.) **VA**
 Editorial advocating nets for harbor protection.
966. **Submarine** against submarine. (Army and navy journal, New York, v. 52, 31 July 1915, p. 1530.) † **VWA**
 Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, Sept. - Oct., 1915, p. 1685, *VXA*.
 Brief account of the sinking of the French submarine *Mariotte* by a German submarine in the Dardanelles.
967. **Submarine** as a commerce destroyer. illus. (Scientific American, New York, v. 112, 1 May 1915, p. 395.) **VA**
 Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, May - June, 1915, p. 940-943, illus., *VXA*.
 Describes the use of the disappearing gun.
968. **Submarine** at sea; ingenious construction and appliances by which the submarine has obtained its present efficiency. illus. (Scientific American, New York, v. 112, 3 April 1915, p. 310-311.) **VA**
 Popular article with excellent sectional views of German and Laurenti types; surface picture of the U. S. submarine G 2.
969. **Submarine** attack swift and silent: personal experience of an officer in the British merchant service describing how it feels to be torpedoed. (Marine review, Cleveland, v. 45, Sept., 1915, p. 328.) † **VXA**
970. **Submarine** boat strength and speed. (Engineering, London, v. 99, 30 April 1915, p. 496.) **VDA**
 Editorial review of article by E. Bertin appearing in *Génie civil*. Possibilities of increasing speed and radius of action by enlarging vessel.
971. **Submarine** catcher. illus. (Scientific American, New York, v. 113, 24 July 1915, p. 77.) **VA**
 Abstracted in *Literary digest*, New York, v. 51, 21 Aug. 1915, p. 346-347, * *DA*.
 Describes device for entangling the propellers with ropes, submitted by J. W. Reno.
972. **Submarine** defense for battleships. (Army and navy journal, New York, v. 52, 24 July 1915, p. 1497.) † **VWA**
 Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, Sept. - Oct., 1915, p. 1661, *VXA*.
 Reports on experiment conducted at Indian Head by the Bureau of Ordnance and Construction.
973. **Submarine** disaster at Honolulu. (Scientific American, New York, v. 112, 10 April 1915, p. 336.) **VA**
 Editorial comment on the disaster to the *F 4*.
974. **Submarine** exploit. (Engineer, London, v. 119, 20 Jan. 1915, p. 1.) **VA**
 Abstracted in *Army and navy journal*, New York, v. 52, 23 Jan. 1915, p. 651, † *VWA*.
 Editorial on Holbrook trip in the *B-11* in the Dardanelles.
975. **A Submarine** freight train; a possible explanation of German submarine activity. (The Navy, London, v. 20, July, 1915, p. 218.) **VYB**
 Description of Mr. Simon Lake's underwater supply ship with which the stores and fuel of submarines may be replenished.
976. **Submarine** hunting. (Army and navy journal, New York, v. 53, 11 Sept. 1915, p. 36.) † **VWA**
 Brief note.
977. **Submarine** in coast defense. (Army and navy journal, New York, v. 52, 13 March 1915, p. 876.) † **VWA**
 Letter to the editor on the lesser cost and the greater effectiveness of submarines as compared with battleships.

*Non-official Publications, continued.**1915, continued.*

978. The **Submarine** and its antidote. (Nautical magazine, Glasgow, v. 93, April, 1915, p. 323-325.) **VXA**

Style of gun best suited to cope with the submarine.

979. **Submarine** life-saving bulkhead. illus. (Practical engineer, London, v. 51, 1 April 1915, p. 161.) **VDA**

Editorial comment on a patent "enabling those within a submarine to escape."

980. **Submarine** menace. (Engineering, London, v. 99, 14 May 1915, p. 547-548.) **VDA**

Editorial on achievements of German submarines.

981. **Submarine** operation. (World's work, New York, v. 29, April, 1915, p. 673-674.) ***DA**

Exploits of submarines in early months of the war.

982. **Submarine** out of water. illus. (Leslie's weekly, New York, v. 121, 29 July 1915, p. 118.) ***DA**

Illustration of the stranded *H-3*.

983. **Submarine** steering gear. (Practical engineer, Manchester, v. 51, 1 April 1915, p. 162.) **VDA**

British patent.

984. **Submarine** storage battery maintenance. (United States Naval Institute, Proceedings, Annapolis, v. 47, Nov. - Dec., 1915, p. 2064.) **VXA**

Danger of charging storage batteries, based on an article by C. R. Lanphier on train lighting appearing in the American Institute of Electrical Engineers, *Proceedings*, New York, v. 34, Aug., 1915, p. 1839, *VGA*.

985. **Submarine** swatters. illus. (Motor boating, New York, v. 12, 25 Oct. 1915, p. 3-5.) **†VXH**

Popular description of submarine chasers, with specifications.

986. **Submarine** torpedo boat and its results. (Engineering news, New York, v. 73, 13 May 1915, p. 945-946.) **VDA**

Editorial on the sinking of the *Lusitania*.

987. **Submarined**. (Nautical magazine, Glasgow, v. 93, June, 1915, p. 531-533.) **VXA**

Relates experiences of an officer on a ship torpedoed by a submarine.

988. **Submarines**. (Army and navy journal, New York, v. 52, 31 July 1915, p. 1529.) **†VWA**

Training of men and officers for service by Capt. A. W. Grant.

989. **Submarines** betrayed by sound waves; detecting the presence of underwater craft fifty-five miles away by telephonic devices. illus. (Scientific American, New York, v. 113, 16 Oct. 1915, p. 333, 346.) **VA**

990. **Submarines** in the United States navy now using lead type of storage bat-

teries. (Army and navy journal, New York, v. 52, 7 Aug. 1915, p. 1574.) **†VWA**

Table showing old and new names of United States navy submarines.

991. **Submarines** or battleships. (Army and navy journal, New York, v. 52, 10 July 1915, p. 1432-1433.) **†VWA**

"Naval attachés now in the war zone up to this time have thrown no professional light on question of operations of submarines."

992. **Submarines** or battleships, which? The battleship—the foundation and supreme fighting unit of a modern navy. illus. (Scientific American, New York, v. 113, 18 Dec. 1915, p. 540, 545.) **VA**

993. **Submarines** pass through Cape Cod canal. (Army and navy journal, New York, v. 53, 30 Oct. 1915, p. 260.) **†VWA**

K 5 and *K 6* passed through on 7 Oct. 1915.

994. **Submarines** that crossed the ocean. (Scientific American supplement, New York, v. 80, 6 Nov. 1915, p. 293.) **VA**

Submarines that were built in Canada and sent to England.

995. **Submarines'** cruising radius. (Army and navy journal, New York, v. 52, 24 July 1915, p. 1499.) **†VWA**

Quotation from interview with Capt. Lake on the submarine *G 3* which he believes could cross the Atlantic.

996. **Submarinos** británicos. (Revista general de marina, Madrid, tomo 76, June, 1915, p. 744-748.) **VXA**

Building of submarines in England since 1901.

997. **Submarinos** portaminas. (Revista general de marina, Madrid, tomo 77, Dec., 1915, p. 833-838.) **VXA**

Brief note.

998. **Sui sommergibili**. (Rivista marittima, Roma, anno 48, trimestre 2, May, 1915, p. 232-235.) **VXA**

German naval policy in concentrating all energy on the construction of submarines. Includes table compiled by Sig. Laubeuf on the German submarine strength.

999. **Talbot**, Frederick Arthur Ambrose. Submarines, their mechanism and operation. London: W. Heinemann, 1915. x, 274 p. illus. 12°. **VXV**

Popular non-technical book.

1000. **Tendencies** in submarine design. (Engineering record, New York, v. 71, 3 April 1915, p. 417.) **VDA**

Editorial.

1001. **Terror** of naval warfare. illus. (Leslie's weekly, New York, v. 121, 30 Sept. 1915, p. 340.) ***DA**

Illustration only of the *D-3*. Good picture of a periscope.

1002. **Tests** of new submarines. (Army and navy journal, New York, v. 53, 2 Oct. 1915, p. 148.) **†VWA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 41, Nov. - Dec., 1915, p. 2066, *VXA*.

Brief note on the unofficial test of the *M-1* in a gale off Cape Cod.

Non-official Publications, continued.

1915, continued.

1003. **Tirpitz**. (Die Zukunft, Berlin, Bd. 91, 24 April 1915, p. 97-117.) *DF

Biographical sketch.

1004. **The Torpedo**. illus. (Marine engineer and naval architect, London, v. 38, Aug., 1915, p. 7-10.) VXA

History and description with good illustrations and cross section diagram.

1005. **Trials of the submarine tender Fulton**: first U. S. naval vessel to be fitted with Diesel engines. illus. diagr. (International marine engineering, New York, v. 20, Feb., 1915, p. 76-78.) †VXA

1006. **Tygard**, James W. New Tygard engine for improving submarine service. (Applied science, Toronto, v. 10, Aug., 1915, p. 97-98, 116.) VA

Editorial comment on page 116.

Compressed air for propelling submarines.

1007. **Undersea supply bases?** (Army and navy journal, New York, v. 52, 13 Feb. 1915, p. 746.) †VWA

Abstract from interview with Capt. Simon Lake in the *New York Times*, on the possibilities of such bases which he considers quite feasible.

1008. **Unearth old submarine**. illus. (Technical world, New York, v. 23, April, 1915, p. 224.) VDA

Illustration only of old submarine hull unearthed in the Kiel canal, built in 1864.

1009. **Violle**, J. Du rôle de la physique à la guerre. De l'avenir de nos industries physiques après la guerre. Paris: Berger-Levrault, 1915. 91(1) p. illus. 16°. (Pages d'histoire, 1914-1915. fasc. 66.) BTZE (Pages)

Contains historical sketch of the submarine, with tables of French types.

1010. **Visibility of a submarine from an aeroplane.** (Scientific American, New York, v. 112, 6 March 1915, p. 237.) VA

Answer to query giving experiments that have been made and results.

1011. **Voice from the depths**. (Literary digest, New York, v. 50, 8 May 1915, p. 1107.) *DA

On the disaster to the *F-4*, reprinting portions of report made by Lieut. Sakuma Tsutomu at the time of the sinking of the Japanese submarine in 1910.

1012. **Vom Unterseeboot**. (Das Schiff, Berlin, Jahrg. 36, 19 March 1915, p. 95.) †VXA

Very brief.

1013. **Von Tirpitz and his navy**. (Scientific American, New York, v. 113, 16 Oct. 1915, p. 334.) VA

Editorial on submarine warfare.

1014. **Vries**, W. P. de. De duikboot en haar rol in den Europeeschen oorlog. Naar de nieuwste bronnen bewerkt. Amsterdam: Gebr. Graauw, 1915. 82 p., 11., 8 pl. 12°. VXC p.v.21, no.7

Historical sketch, followed by an account of the submarine in the present war. Excellent illustrations.

1015. **Waddington**, J. F. First electrically propelled submarine vessel. (International marine engineering, New York, v. 20, Aug., 1915, p. 362.) †VXA

1016. **Wade**, Herbert T. Edison submarine boat storage battery. illus. (Scientific American, New York, v. 112, 15 May 1915, p. 450, 461-462.) VA

Describes the characteristics and advantages of the Edison batteries.

1017. — Germany's submarines. (Review of reviews, New York, v. 51, June, 1915, p. 722-723.) *DA

Germany's building programme.

1018. **War under the sea**; the submarine torpedo boat and the submerged mine are revolutionizing naval strategy. illus. diagr. (Popular mechanics magazine, Chicago, v. 23, March, 1915, p. 327-338.) VFA

A detailed description in simple language telling of the equipment, power plant, habitability, method of submergence, firing of torpedoes, etc.

1019. **Warning flag**. (Marine review, Cleveland, v. 45, Dec., 1915, p. 453.) †VXA

Flag to indicate that submarines are operating in the vicinity.

1020. **Waveless boat**. (Scientific American, New York, v. 113, 20 Nov. 1915, p. 447.) VA

Letters from C. E. Duryea, A. L. Kimball and Carl Hering on Mr. Hering's article appearing in the *Scientific American*, 9 Oct., p. 325.

1021. **Who invented the periscope?** (Scientific American, New York, v. 112, 6 March 1915, p. 217.) VA

Letter to the editor with brief history of the periscope.

1022. **Williams**, Charles W. Edison solves submarine problem. illus. (Technical world, New York, v. 22, Feb., 1915, p. 814-818.) VDA

Explains emanations of chlorine gas from other batteries and how the Edison battery avoids this.

1023. **Wilson**, W. G. Single-gun submersible battleships. (Army and navy journal, New York, v. 52, 29 May 1915, p. 1227.) †VWA

Letter to the editor advising "a multiplicity of small and speedy warships."

1024. **Winslow**, Erving. Put the submarine on its defense. (Army and navy journal, New York, v. 52, 15 May 1915, p. 1164.) †VWA

Letter to the editor on use of submarines in warfare.

1025. **Wood**, Norman H. Main-motor-starting switchgear used on modern German submarines. diagr. (Electrical review, London, v. 76, 28 May 1915, p. 763-764.) VGA

Abstracted in *Electrical world*, New York, v. 65, 19 June 1915, p. 1614, VGA.

Technical discussion of motors.

1026. **Work on the submarine F-4**. (Army and navy journal, New York, v. 52, 31 July 1915, p. 1517.) †VXA

Statement of Stephen Drellisbrak, diver, given to the *Brooklyn Eagle* and reprinted here.

Non-official Publications, continued.

1915, continued.

1027. **Work** of submarines. (Army and navy journal, New York, v. 52, 13 March 1915, p. 871.) † VWA

Editorial comment on exploits of German submarines and place of these boats in the present war.

1028. **Zack, M.** Note sur la marche en plongée des sous-marins. diagr. (Génie civil, Paris, v. 66, 5 June 1915, p. 362-363.) VA

Calculations on the resistance of submarines.

1916

1029. **Aftermath** of U-boat visit. (Army and navy journal, New York, v. 54, 21 Oct. 1916, p. 243.) † VWA

Report of various movements instituted to enforce neutrality when U-boat attacked British ships off Nantucket.

1030. **Allemandy, Victor E.** Wonders of the deep; the story of the Williamson Submarine Expedition. London: Jarrold & Sons [1916?]. 94 p., 9 pl. 4°. PSR

Biographical sketch of the Williamson brothers, and account of their apparatus for obtaining submarine photographs and methods of work. Illustrations are taken from the film pictures.

1031. **Argument** for big submarines. (Scientific American, New York, v. 115, 19 Aug. 1916, p. 168.) VA

Reprinted in *Revista general de marina*, Madrid, tomo 79, Sept., 1916, p. 377-379, VXA.

Editorial on wide cruising radius and habitability of submarines of greater displacement.

1032. **Atkinson, A. S.** The submarine motors. illus. (Gas review, Madison, Wis., v. 9, Nov., 1916, p. 5, 6, 8, 10.) VFA

A non-technical survey of the question of propulsion for submarines, describing the engines now in use.

1033. **Belknap, Reginald R.** The torpedo and submarine branches of the German navy. (United States Naval Institute, Proceedings, Annapolis, v. 42, Sept. - Oct., 1916, p. 1485-1508.) VXA

Reprinted in *Revista general de marina*, Madrid, tomo 80, June, 1917, p. 734-743, tomo 81, July, 1917, p. 35-41, VXA.

Standing organization of this branch of the German service is fully outlined.

1034. **Bids** for fleet submarines. (Army and navy journal, New York, v. 53, 19 Feb. 1916, p. 802.) † VWA

Bids for two submarines were opened 16 Feb. 1916.

1035. **Bishop, Farnum.** The story of the submarine. New York: Century Co., 1916. xv, 211 p. illus. 12°. V XV

Written for the non-technical reader, and outlines the history of the submarine from 1624 to the present time.

1036. **Brazilian** submarine depôt motor ship "Ceara." illus. pl. (Engineering,

London, v. 101, 16-30 June 1916, p. 569, 613-616.) VDA

Abstracted in *Revista general de marina*, Madrid, tomo 78, March, 1917, p. 395-396, VXA.

Detailed description with good plates and curves of stability, conditions under loads, and trims. Designed by Laurenti.

1037. **Bremen.** (Army and navy journal, New York, v. 54, 28 Oct. 1916, p. 260.)

Editorial on merchant submarine. † VWA

1038. **Brent, Loring.** A motion picture drama from the ocean bottom. illus. (Scientific American, New York, v. 115, 22 July 1916, p. 78-79.) VA

Describes the submarine built to obtain pictures for the film version of Jules Verne's story.

1039. **British** submarine chasers. illus. (Scientific Australian, Melbourne, v. 21, June, 1916, p. 101.) VA

Very brief.

1040. **Byrne, Donn.** Underseaboat F-33. illus. (Scribner's magazine, New York, v. 59, Jan., 1916, p. 29-38.) * DA

Fiction.

1041. **Can** battery explosions on submarines be prevented? illus. (Popular science monthly, New York, v. 88, March, 1916, p. 394-395.) * DA

Explains attempts that have been made to ventilate batteries.

1042. **Captures** German mine-laying submarine. illus. (Scientific American, New York, v. 115, 19 Aug., 4 Nov. 1916, p. 177, 403.) VA

1043. **Cargo** carrying submarine. (Marine journal, New York, v. 38, no. 42, 22 July 1916, p. 4.) † VXA

Brief editorial on the *Deutschland*.

1044. **Cerio, Edwin.** The rapid-fire, "revolver" principle applied to the submarine torpedo tube. (Scientific American, New York, v. 114, 15 April 1916, p. 395, 409.) VA

Loading and firing device with revolving magazine.

1045. **Claudy, C. H.** Inside a submarine. (McBride's magazine, New York, v. 97, Feb., 1916, p. 153-155.) * DA

1046. **Combination** helmet and suit used in escaping from disabled submarine. illus. (Scientific American, New York, v. 114, 17 June 1916, p. 642.) VA

Brief description.

1047. **Commander Horton's** submarine in a Baltic ice field. illus. (The Fleet, London, v. 12, March, 1916, p. 19.) † VYB

Illustration only.

1048. **Connolly, J. B.** Sea babies. illus. (Collier's weekly, New York, v. 57, 12 Aug. 1916, p. 8-9, 35-36, 39.) * DA

Mr. Reuter Dahl illustrates with fanciful pictures Mr. Connolly's fanciful tale.

1049. **Cruise** of the super-submarine. (Living age, Boston, v. 290 [series 8, v. 4], 9 Sept. 1916, p. 688-690.) * DA

Account of Capt. König's voyage, reprinted from the *London Nation*.

Non-official Publications, continued.

1916, continued.

1050. **Davidson**, G. C. Practical phases of a submarine merchant service. (Motorship, Seattle, v. 1, August, 1916, p. 5.) † **VXA**
Brief article.

1051. **Davis**, G. E. U. S. S. Bushnell, submarine tender no. 2. (American Society of Naval Engineers, Journal, Washington, v. 28, Aug., 1916, p. 669-691.) **VXA**
Detailed description and discussion of equipment.

1052. **Defensa submarina**. (Revista general de marina, Madrid, tomo 79, Aug., 1916, p. 253-254.) **VXA**

Brief reference to means of protecting battleships from submarine attack.

1053. **Denny**, George C. A submarine that 'stings' battleships. illus. (Illustrated world, New York, v. 25, April, 1916, p. 248.) **VDA**

A submarine equipped with gas to overcome foe and capture ship.

1054. **De Peyster**, F. A. Submarines vs. battleships. (Scientific American, New York, v. 114, 22 Jan. 1916, p. 99.) **VA**

Letter to the editor in reply to a letter by R. L. Gordon, appearing in the *Scientific American*, 8 Jan. 1916.

1055. — Why does not the submarine give submarine warnings? (Scientific American, New York, v. 114, 29 April 1916, p. 449.) **VA**

Letter to the editor.

1056. **De Deutschland**. illus. (Nederlandsche zeeuwen, s'Gravenhage, Jaarg. 15, 1 Sept. 1916, p. 282.) † **VXA (Vereeniging)**

1057. **The Deutschland case**. (Marine journal, New York, v. 38, no. 42, 22 July 1916, p. 3.) † **VXA**

Editorial.

1058. **Deux types nouveaux de sous-marins allemands**. Le poseur de mines "C-5"; le transatlantique "Deutschland." illus. (Génie civil, Paris, tome 69, 5 Aug. 1916, p. 92-94.) **VA**

1059. **Doing away with the submarine storage battery**. (Popular science monthly, New York, v. 88, May, 1916, p. 654-656.) **DA**

Popular description of the Neff system of compressed air diver.

1060. **Donoso Cortés**, Ricardo. Las grandes conquistas científicas. Cómo nació el submarino. illus. (Por esos mundos, Madrid, año 17, Jan., 1916, p. 74-82.) **DR**

1061. **Ducking under the blockade; the voyage of the Deutschland**. (Independent, New York, v. 87, 24 July 1916, p. 112-113.) **DA**

Brief historical sketch leading up to the trip of the *Deutschland*.

1062. **Dutton**, Arthur H. Submarine not an innovation. (Overland monthly, San

Francisco, new series, v. 67, Feb., 1916, p. 143-145.) **DA**

From Bushnell to Holland.

1063. **Du Verseau**, pseud. Un sous-marin allemand poseur de mines pêché par les Anglais. illus. (La nature, Paris, année 44, semestre 2, 9 Sept. 1916, p. 169-172.) **OA**

Translated and abstracted in *Literary digest*, New York, v. 53, 28 Oct. 1916, p. 1104-1105, illus., **DA**.

Detailed description of the *Uc 5*.

1064. **E-2 disaster and submarine motive power**. (Outlook, New York, v. 112, 26 Jan. 1916, p. 163-164.) **DA**

Reviews the findings of the board of preliminary investigation on the disaster in the Brooklyn navy yard.

1065. **Ejercicios de la flotilla de submergibles**. (Revista general de marina, Madrid, tomo 78, Feb., 1916, p. 245-246.) **VXA**

Discussion of Brazil's submarine flotilla.

1066. **Electrical device detects submarines twenty miles away**. illus. (Electrical experimenter, New York, v. 3, Jan., 1916, p. 461-462.) **VGA**

William Dubilier's detector, a telephone apparatus which conveys the sound of the propellers.

1067. **Elmer Ambrose Sperry**. port. (National cyclopaedia of American biography, New York: J. T. White & Co., 1916, v. 15, p. 22-23.) **R-AGZ**

Biographical sketch.

1068. **Escape and capture undersea**. (Literary digest, New York, v. 52, 12 Feb. 1916, p. 388.) **DA**

Quotes from story in the *New York Evening Post*.

1069. **Explosion in submarine E-2**. (Army and navy journal, New York, v. 53, 19 Feb. 1916, p. 786-787.) † **VWA**

Report of the court of inquiry which investigated the explosion.

1070. **F., A.** Les tendances actuelles dans la construction des sous-marins. (Génie civil, Paris, tome 68, 22 Jan. 1916, p. 50-54.) **VA**

Difference between submarines and submersibles defined, the increase possible in displacement, the types in use at present, and the future of submarine navigation and construction are discussed.

1071. **El Factor "desplazamiento" de los submarinos**. (Revista general de marina, Madrid, tomo 79, Sept., 1916, p. 377-379.) **VXA**

1072. **First undersea trader reaches U. S.** German submarine *Deutschland* on peaceful mission to America proves worth of craft for commercial purposes in wartime. illus. (Marine review, Cleveland, v. 46, August, 1916, p. 274-275.) † **VXA**

1073. **Fleet submarines**. (Army and navy journal, New York, v. 53, 19 Feb. 1916, p. 783.) † **VWA**

Editorial on the proposed increase in the size of submarines.

*Non-official Publications, continued.**1916, continued.*

1074. **Flowers, J. B.** Torpedo screen for ship under way. (Scientific American, New York, v. 115, 4 Nov. 1916, p. 406, 421.) **VA**

Whirling steel disks lowered over the side to deflect torpedoes.

1075. **French, G. R. W.** Diving operations in connection with salvage of the U. S. S. "F 4." (United States naval medical bulletin, Washington, v. 10, no. 1, Jan., 1916, p. 74-91.) **WSR**

Detailed report from a medical standpoint of the diving operations, with diagrams and descriptions of the apparatus used.

1076. **Frissell, Varick.** What I saw of the German submarine U-53. (Outlook, New York, v. 114, 25 Oct. 1916, p. 421-422.) ***DA**

Report of correspondent — aged 13.

1077. **Furer, J. A.** Salvage equipment used in raising submarine F-4. diagr., pl. (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 24, Nov., 1916, p. 15-19.) **VXA**

Abstracted in *Motor ship and motor boat*, London, v. 26, 11 Jan. 1917, p. 21-22, †*VXA*.

Minutely describes equipment; windlass salvage method and submersible pontoon method.

1078. **Gala, Leandro.** La nave sommergibile. (Civiltà cattolica, Roma, anno 67, v. 1, 18 March 1916, p. 692-705; anno 67, v. 2, 6 May 1916, p. 311-323.) ***DO**

1079. **German** merchant submarine "Deutschland." illus. (United States Naval Institute, Proceedings, Annapolis, v. 42, July - Aug., 1916, p. 1307-1311.) **VXA**

Excerpts from the daily papers on the occasion of the first arrival of the *Deutschland* in Baltimore. Excellent though brief description of the ship.

1080. **German** submarine on American coast. (Army and navy journal, New York, v. 54, 14 Oct. 1916, p. 211.) †**VWA**

Full details of the German attack off Nantucket.

1081. **German** submarine mine-layer U C-5. illus. (Army and navy journal, New York, v. 53, 29 July 1916, p. 1544.) †**VWA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 42, Sept. - Oct., 1916, p. 1678. *VXA*.

Brief description.

1082. **German** submarines C 5 and *Deutschland*. illus. (Engineer, London, v. 122, 28 July 1916, p. 74.) **VA**

Brief account.

1083. **German** submersible blockade runner *Deutschland*. Construction and interior arrangement of the first U-boat merchantman. illus. (Scientific American, New York, v. 115, 22 July 1916, p. 82-83.) **VA**

Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 42, Sept.-Oct., 1916, p. 1675-1676, illus., *VXA*. Reprinted in *Revista general de marina*, Madrid, tomo 79, Sept., 1916, p. 357-360, *VXA*.

Good description with excellent pictures including a sectional view.

1084. **German** submersible brings 280 tons of dyestuffs into Baltimore. illus. (Oil, paint and drug reporter, New York, v. 90, 17 July 1916, p. 15.) **VOA**

Brief account.

1085. **German** submersible cargo vessel. (Engineering, London, v. 102, 14 July 1916, p. 40.) **VDA**

Detailed description of the *Deutschland*.

1086. **Germany's** merchant submarine. (Army and navy journal, New York, v. 53, 15 July 1916, p. 1481.) †**VWA**

Brief editorial review of Capt. König's voyage.

1087. **Germany's** pacific submarine invasion of the United States. illus. (Current opinion, New York, v. 61, Aug., 1916, p. 79-81.) ***DA**

Comments of daily papers on the trip of the *Deutschland*. Portrait of Capt. König.

1088. **Germany's** underwater street to America. illus. (Literary digest, New York, v. 53, 22 July 1916, p. 169-171.) ***DA**

Comments reprinted from the daily press upon the arrival of the *Deutschland*.

1089. **Gordon, G. L.** Submarine question. (Scientific American, New York, v. 114, 19 Feb. 1916, p. 197.) **VA**

Letter to the editor from Mr. Gordon.

1090. **Guihéneuc, Olivier.** Dreadnought ou submersible?... Paris: Perrin & Cie., 1916. 2 p.l., 316 p. 12°. **VYAD**

Concerning German submarines and the role of the submarine in the European war. Defense against submarines and the armament. The revolution effected in maritime warfare is discussed and Sir Percy Scott's letters to the *London Times* are reprinted in an appendix.

1091. **Haenen, Frédéric de.** In a British submarine. illus. (Illustrated London news, London, v. 149, 15 July 1916, p. 65.) ***DA**

No text.

1092. **Halsey, William H.** The submarine: its casualties in peace and war. (Military surgeon, Washington, v. 38, Jan., 1916, p. 50-56.) **WSA**

Paper read at the annual meeting of the Association of Military Surgeons, Sept., 1915.

Medical officers on submarines must be concerned largely with the prevention of disease and accidents. "Every officer and man is necessary to the proper handling of the boat. . . . So necessary is it that every officer and man be physically able and well, that an illness which is only slightly incapacitating might affect the safety of the boat and endanger the lives of all on board." Eyestrain and deafness are two of the afflictions to which the crew are subject.

1093. **Hannay, D.** Achievements of the submarine. (Living age, Boston, v. 288, 5 Feb. 1916, p. 323-329.) ***DA**

Review of Sir Percy Scott's opinions in view of subsequent achievements of the submarine.

1094. **Hirsch, G.** Aboard the *Deutschland*. (Independent, New York, v. 87, 24 July 1916, p. 128-129.) ***DA**

Sensational account.

Non-official Publications, continued.
1916, continued.

1095. Hirshberg, Leonard Keene. German submarines use alkali battery. (Gas review, Madison, Wis., v. 9, Jan., 1916, p. 48, 50.) **VFA**

Quotation from Rear Admiral Yates Stirling on German submarines and report of new batteries used in them.

1096. Hoar, Allen. The submarine torpedo boat; its characteristics and modern development. New York: D. Van Nostrand Co., 1916. xv, 211 p., 4 diagrs. illus. 8°. **VXV**

"For the general reader, also for the technical man or naval engineer who has not specialized in the subject. Traces the development of the submarine and tells in as simple language as possible the various requirements of design and of power plant. There are also conclusions drawn as to future development, a consideration of defense against submarine attack, and of technical evolutions as well as brief descriptions of tender and salvage ships, torpedoes and submarine mines. In addition to the many interesting half-tone illustrations there are several large-size plates, showing plans and sections."—*The New York Public Library, New technical books, Nov., 1916.*

1097. Hovgaard, George William. Submarine boats. illus. (American-Scandinavian review, New York, v. 4, May–June, 1916, p. 142–150.) **IEP**

1098. How König dodged the British. (Literary digest, New York, v. 53, 18 Nov. 1916, p. 1354.) ***DA**

Reprint of Capt. König's story from the *Chicago Daily News*.

1099. How the submarine is navigated: in the absence of lights and buoys position must be reckoned by propeller revolutions. Instruments developed for submarine navigation. illus. (Marine review, Cleveland, v. 46, May, 1916, p. 163–164.) **†VXA**

Describes vacuum pump used to indicate propeller revolutions.

1100. How a submarine is sunk. (Marine journal, New York, v. 38, 22 Jan. 1916, p. 4.) **†VXA**

Methods by which a submarine reaches awash and totally submerged condition, and the use of the fins.

1101. How to build a model submarine with wireless control. illus. (Everyday mechanics, New York, v. 1, Jan. – July, 1916, p. 104–110, 174–182, 228–236, 322–329.) **VA**

Working drawings and full details.

1102. Improved submarine made from odds and ends. illus. (Scientific American, New York, v. 114, 10 June 1916, p. 623.) **VA**

"U-23" made of wash boiler and garden hose.

1103. Izaguirre, Salvador M. Submarinos. (Sociedad cubana de ingenieros, Revista, Habana, tomo 8, Nov., 1916, p. 819–823.) **VDA**

Brief historical outline.

1104. Jacob, Harvey D. Submarines as merchantmen. illus. (Case and comment, Rochester, v. 23, Sept., 1916, p. 277–280.) **XAA**

Adjustment of laws to fit the arrival of the *Deutschland*.

1105. John Philip Holland. port. (National cyclopaedia of American biography, New York: J. T. White & Co., 1916, v. 15, p. 4–5.) ***R–AGZ**

Biographical sketch.

1106. Keith, H. H. W. The submarine of today. (Technology monthly and Harvard engineer, Boston, v. 3, May, 1916, p. 5–9.) **VDA**

"Every man should, to some extent, know the construction, running and general features of the submarine. [This] article gives a splendid conception of the submarine to-day."—*Editor's note.*

1107. Kuh, Lloyd M. Saving men from sunken submarines. illus. (Popular science monthly, New York, v. 89, Dec., 1916, p. 803–805.) ***DA**

Life-saving devices—detachable conning tower, and other apparatus.

1108. Lake, Simon. The development of the submarine. illus. (Brooklyn bulletin, National Electric Light Association, Brooklyn, v. 8, April, 1916, p. 10–24.) **VGA**

Reprint of an address given by Mr. Lake before the Brooklyn Company, March 29, 1916. Historical sketch with excellent sectional illustrations of types.

1109. — The submarine—its status today and its possibilities in the near future. illus. (New York Electrical Society, Transactions, New York, new series, no. 7, 1916, p. 44–58.) **VGA**

The building programmes of the world's navies in regard to submarine power.

1110. Lisle, T. Orchard. Craig-Diesel engines for U. S. submarines. illus. (Motorship, Seattle, v. 1, Nov., 1916, p. 8–9.) **†VXA**

United States navy has recently awarded order to the Craig Engine and Machine Company for two engines for installation in submarines. Specifications given.

1111. Man-controlled torpedo. illus. (Scientific American, New York, v. 115, 28 Oct. 1916, p. 393.) **VA**

This is practically a one-man submarine with stern capable of being detached.

1112. The Middle West and the submarine war off our coast. (Outlook, New York, v. 114, 18–25 Oct. 1916, p. 362, 371, 414–415.) ***DA**

Telegrams received from L. W. Nieman of the *Milwaukee Journal* and H. J. Haskell of the *Kansas City Star* in response to a request from the *Outlook* for a statement of the reception in the Middle West of the news of the submarine raid on neutral ships off Nantucket.

1113. Miessner, Benjamin Franklin. Radiodynamics, the wireless control of torpedoes and other mechanisms. New York: D. Van Nostrand Company, 1916. v, 206 p. illus. diagr. 8°. **PGO**

Wireless control of submarines also discussed.

Non-official Publications, continued.

1916, continued.

1114. **Mine sweeping.** (United States Naval Institute, Proceedings, Annapolis, v. 42, July - Aug., 1916, p. 1311.) **VXA**

Brief report from *New York Times*, 23 June 1916. This division of the fleet watches for submarines as well as gathering in the mines.

1115. **Mining by submarine.** (Army and navy gazette, London, v. 57, 29 July 1916, p. 483.) **† VWA**

Brief note on the *Uc-5*, captured German mine-layer.

1116. **Mirrors on submarines would make them invisible inventor declares.** (World's progress, Washington, v. 1, no. 21, May, 1916, p. 6.) **VA**

Invention of Patrick Keen.

1117. **Motor boat submarine destroyers for the U. S. navy.** (Scientific American, New York, v. 114, 26 Feb. 1916, p. 219.) **VA**

Brief note on plans of the Navy Department.

1118. **Naval appropriation act.** (Army and navy journal, New York, v. 53, 19 Aug. 1916, p. 1640-1641.) **† VWA**

Mentions briefly the money to be expended on submarines and equipment.

1119. **Naval appropriation bill in the House.** (Army and navy journal, New York, v. 53, 3 June 1916, p. 1289.) **† VWA**

Amended naval budget to include fifty submarines.

1120. **Neeser, Robert Wilden.** The submarine in war. illus. (Scribner's magazine, New York, v. 59, Jan., 1916, p. 39-57.) *** DA**

General information concerning the submarine. Illustrations of the German submarines *U-1*, *U-12*, *U-11*, the French *Palaçois* and the Russian *Kaiman*.

1121. **Neff system of submarine propulsion.** (Army and navy journal, New York, v. 53, 6 May 1916, p. 1147.) **† VWA**

Editorial on recommendation of Secretary Daniels to give the system a trial to determine how noisy the engines will prove to be and the appearance of air bubbles on the surface.

1122. **Neff system of submarine propulsion.** illus. (Army and navy register, Washington, v. 60, 2 Sept. 1916, p. 289-290.) **† VWA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 42, Sept. - Oct., 1916, p. 1676-1677, *VXA*.

Details of Neff system evolved with idea of developing single unit of power for surface and submerged navigation.

1123. **New submarine campaign?** (Literary digest, New York, v. 53, 22 July 1916, p. 179-180.) *** DA**

Comments reprinted from the German press on the arrival of the *Deutschland* in America on her first voyage.

1124. **New type of high speed motor boat to be used in defense against the submarine.** (Army and navy journal, New York, v. 53, 21 Jan. 1916, p. 687.) **† VWA**

Brief editorial.

1125. **Nimitz, C. W.** Submarine engines of the German navy. illus. (American Society of Naval Engineers, Journal, Washington, v. 28, May, 1916, p. 487-497.) **VXA**

Describes and discusses the engines of the Augsburg, Nuremberg, Krupp, and other types.

1126. **Nordmann, Charles.** La torpille et les immerisibles. (Revue des deux mondes, Paris, période 6, tome 36, 1 Nov. 1916, p. 217-228.) *** DM**

Defines submarines and submersibles and considers the potentialities of the modern submarine.

1127. **Nos sous-marins le Bernouilli et le Curie.** (Moniteur de la flotte, Paris, année 63, 18 Nov. 1916, p. 1-2.) **† VYH**

Achievements of these boats.

1128. **Novel type of submarine.** illus. (Motorship, Seattle, v. 1, Nov., 1916, p. 16.) **† VXA**

Trumble one-man submarine.

1129. **Los Nuevos sumergibles.** (Revista general de marina, Madrid, tomo 78, June, 1916, p. 799-802.) **VXA**

German submarines.

1130. **Original ambitions of the submarine.** (Everybody's magazine, New York, v. 35, Sept., 1916, p. 381-382.) *** DA**

Brief article on the history of submarines with a word on Henry Ford's one-man boat.

1131. **Palmer, Russell.** The motive power of the M. S. Deutschland. illus. (Motorship, Seattle, v. 1, Dec., 1916, p. 3-4.) **† VXA**

Illustrations show the control station and the engine room, the boat on the ways, and a portrait of Gotthold Prusse who superintended the construction of the boat. On page 5 is a letter from J. L. Bogart on the motors of the *Deutschland*.

1132. **Peril of the submarine.** (Scientific American, New York, v. 114, 29 Jan. 1916, p. 120.) **VA**

Abstracted in *Revista general de marina*, Madrid, tomo 78, March, 1916, p. 403-405, *VXA*.

Editorial on the dangers of submarine warfare, both to the crew and the enemy.

1133. **Periscope of the submarine.** (Scientific American supplement, New York, v. 81, 26 Feb. 1916, p. 135.) **VA**

1134. **Perte du sous-marin Foucault.** (Moniteur de la flotte, Paris, année 63, 30 Sept. 1916, p. 1.) **† VYH**

Brief note.

1135. **Question of submarines.** (Army and navy journal, New York, v. 53, 19 Feb. 1916, p. 800-801.) **† VWA**

Report of testimony given before the Military Committee of the House by Rear Admiral A. W. Grant.

1136. **Reginald Aubrey Fessenden.** port. (National cyclopaedia of American biography, New York: J. T. White & Co., 1916, v. 15, p. 21-22.) *** R - AGZ**

Biographical sketch.

1137. **Rodgers, W. L.** On the suitability of current design of submarines to the

*Non-official Publications, continued.**1916, continued.*

needs of the United States navy. (Society of Naval Architects and Marine Engineers, Transactions, New York, v. 24, Nov., 1916, p. 109-134.) **VXA**

Abstracted in *Engineer*, London, v. 123, 16 Feb. 1917, p. 153-154, *VA*; *Génie civil*, Paris, tome 70, 14 April 1917, p. 48-49, *VA*; *International marine engineering*, New York, v. 21, Dec., 1916, p. 544-546, † *VXA*; *Engineering*, London, v. 102, 1 Dec. 1916, p. 529-530, *VD.A*; *Journal of the United States artillery*, Fortress Monroe, v. 47, March-April, 1917, p. 250-256, *VVA*; and in *Shipbuilding and shipping record*, London, v. 8, 28 Dec. 1916, p. 596-598. *VXA*.

Strategic and tactical considerations, with statement of modifications and varieties of design of submarines to meet requirements.

1138. Rud, A. The submarine killer. illus. (Illustrated world, Chicago, v. 25, June, 1916, p. 455-456.) **VDA**

Reprinted in *Revista general de marina*, Madrid, tomo 79, Sept., 1916, p. 388-390, *VXA*; United States Naval Institute, *Proceedings*, Annapolis, v. 42, July-Aug., 1916, p. 1311-1312, *VXA*; and in *Literary digest*, New York, v. 52, 24 June 1916, p. 1842, * *DA*

American built motor boats used as submarine chasers.

1139. S., H. N. Submarines or battleships? (United service magazine, London, new series, v. 53, May, 1916, p. 166-173.) * **DA**

Discounts achievements of submarines in favor of battleships.

1140. Schneiders build 12,000 H. P. submarines. illus. (Motorship, Seattle, v. 1, Dec., 1916, p. 7.) † **VXA**

Note on the offer of the Schneiders to permit the United States to construct the Laubeuf submarine in America.

1141. Seagoing submarines and their torpedo armament. (Scientific American, New York, v. 114, 15 April 1916, p. 396.) **VA**

Editorial explaining types of submarines.

1142. Seaman, W. Report on the recovery, identification and disposition of the remains of the crew of the "F-4." illus. (United States naval medical bulletin, Washington, v. 10, Jan., 1916, p. 91-96.) **WSR**

"Opinions as to the condition of the remains among professional men varied from complete obliteration to a fair state of preservation."

1143. Secor, H. Winfield. Combating the submarine by electrical means. illus. (Electrical experimenter, New York, v. 3, Sept., 1916, p. 184-185.) **VGA**

Gardiner's electrically controlled torpedo.

1144. Signaling to submarines. (Electrical world, New York, v. 68, 16 Sept. 1916, p. 553-554.) **VGA**

Abstracted in *Literary digest*, New York, v. 53, 14 Oct. 1916, p. 946, * *DA*.

Arrival of the *Deutschland*.

1145. Simon Lake. port. (National cyclopaedia of American biography, New York: J. T. White & Co., 1916, v. 15, p. 5-6.)

Biographical sketch of Mr. Lake. * **R-AGZ**

1146. Skerrett, Robert G. Heavy-oil engines for submarine service. illus. (Gas engine, Cincinnati, v. 18, April, 1916, p. 163-170.) **VFA**

"Enables the reader to understand the make-up of heavy-oil motors." Carels, Krupp, Fiat, and Burmeister & Wain engines described.

1147. — Need of an efficient mother ship for the submarines of the United States navy. illus. (International marine engineering, New York, v. 21, May, 1916, p. 234-238.) † **VXA**

Description of new type of submarine mother ship designed by Major Laurenti for the Fiat-San Giorgio, Spezia, Italy.

1148. Snare of the nets. map. (Literary digest, New York, v. 52, 8 Jan. 1916, p. 62.) * **DA**

Reviews article appearing in the *Vossische Zeitung* describing defense against submarines in the English Channel.

1149. Status of the submarine. (International marine engineering, New York, v. 21, April, 1916, p. 175-176.) † **VXA**

Submarine may be called a perfected craft.

1150. Stored energy of the submarine: the silent power that has made underwater navigation possible. illus. (Scientific American, New York, v. 114, 12 Feb. 1916, p. 178-179.) **VA**

Description of plates of storage batteries, filling plugs, and other details.

1151. Story of the submersible freighter *Deutschland*. illus. (Motorship, Seattle, v. 1, Aug., 1916, p. 3-4, 21.) † **VXA**

Drawings of the engines of the *Deutschland*.

1152. The Story of the war: the merchant submarine. (Outlook, New York, v. 113, 19 July 1916, p. 633-634.) * **DA**

Editorial on the arrival of the *Deutschland*.

1153. The Submarine. (Army and navy journal, New York, v. 53, 8 Jan. 1916, p. 587.) † **VWA**

Editorial pointing out the limitations of the submarine in coast defense and aggressive warfare.

1154. The Submarine. (National review, London, v. 67, May, 1916, p. 445-452.) * **DA**

Strategy between fleets.

1155. The Submarine blockade runner, a U-boat to carry contraband cargoes. illus. (Popular science monthly, New York, v. 89, August, 1916, p. 227-229.) * **DA**

Describes a patent taken out by Mr. Simon Lake.

1156. A Submarine "curtain of fire." (Scientific American, New York, v. 114, 22 Jan. 1916, p. 94.) **VA**

Editorial on a reported invention.

1157. Submarine destroyers. illus. (Popular science monthly, New York, v. 89, Aug., 1916, p. 180-182.) * **DA**

Fast motor boats to be used to hunt submarines.

1158. Submarine of fifty years ago. illus. (Harper's weekly, New York, v. 62, 19 Feb. 1916, p. 176.) * **DA**

Reprints from *Harper's weekly*, 10 May 1861 and from *New York Times*, 1915.

Non-official Publications, continued.

1916, continued.

1159. **Submarine** invented by Yale freshman in 1771. (Patent news, Washington, D. C., v. 5, May, 1916, p. 3.) **Patents Room**

Brief sketch of Bushnell's invention.

1160. **Submarine** invention enables boats to remain under water. (Patent news, Washington, D. C., v. 5, June, 1916, p. 1.) **Patents Room**

Brief note on invention of Hudson Maxim to enable submarines to get bearings and sights while under water.

1161. The **Submarine** is not new: Robert Fulton built an undersea boat for the great Napoleon in 1801. (World progress, Washington, v. 1, Oct., 1916, p. 1-2.) **VA**

Brief note on the *Nautilus*.

1162. **Submarine** merchantman. (Nation, New York, v. 103, 13 July 1916, p. 27.) * **DA**

Editorial on the arrival of the *Deutschland*.

1163. **Submarine** motion pictures. (Marine engineer and naval architect, London, v. 38, Jan., 1916, p. 141.) **VXA**

Reviews the Williamson expedition pictures.

1164. **Submarine** nets for the navy. (Scientific American, New York, v. 114, 6 May 1916, p. 464.) **VA**

Editorial pointing out defensive value of nets.

1165. The **Submarine** that dived but once. illus. (Popular science monthly, New York, v. 88, March, 1916, p. 391.) * **DA**

A submarine constructed twenty years ago in Chicago.

1166. **Submarine** warfare: early history of underwater craft and their recent uses in naval activities. illus. (Scientific American, New York, v. 114, 5 Feb. 1916, p. 142-143.) **VA**

Illustration of the first German submarine, with portrait of Wilhelm Bauer.

1167. **Submarines** in the merchant service. (Scientific American, New York, v. 115, 22 July 1916, p. 76.) **VA**

Editorial comment on the *Deutschland* as to its status as a merchant vessel.

1168. **Submarines** for Japan. (American Society of Naval Engineers, Journal, Washington, v. 28, Feb., 1916, p. 319.) **VXA**

Brief note on new submarines of the Laurenti type for the Japanese government. Reprinted from *Page's engineering weekly*.

1169. El **Submarino** dinamitero. illus. (Por esos mundos, Madrid, año 17, Oct., 1916, p. 441-444.) * **DR**

Details of the German mine layer *Uc-5*.

1170. El **Submarino** lanzaminas. (Revista general de marina, Madrid, tomo 79, Aug., 1916, p. 241-243.) **VXA**

Description of a German mine layer.

1171. El **Submarino** "Neff." (Revista general de marina, Madrid, tomo 79, Oct., 1916, p. 519-520.) **VXA**

Note on the American submarines of the "Neff" type.

1172. **Submarinos** [Portugal]. (Revista general de marina, Madrid, tomo 79, Oct., 1916, p. 545-546.) **VXA**

Brief note on the new submarines for the Portuguese navy.

1173. **Submergence** test of a submarine. (International marine engineering, New York, v. 21, April, 1916, p. 176.) † **VXA**

United States navy requirements for final test of submarines and manner of conducting tests.

1174. **Sub-surface** blockade running. illus. (Scientific American, New York, v. 115, 12 Aug. 1916, p. 151-159.) **VA**

Probable conditions of *Deutschland's* running the British blockade off Chesapeake bay on her return trip.

1175. Los **Sumergibles** de escuadra. (Revista general de marina, Madrid, tomo 78, May, 1916, p. 667-668.) **VXA**

Brief description of the *Schley*.

1176. **Talbot**, Frederick Arthur Ambrose. The modern submarine. illus. (In his: All about inventions and discoveries. New York [1916]. 8°. p. 71-84.) **V**

Popular account.

1177. **Tale** of the sole survivor of a submarine attack. (Current opinion, New York, v. 61, July, 1916, p. 67-69.) * **DA**

1178. **Thrills** below the sea. (Literary digest, New York, v. 53, 22 July 1916, p. 205-206.) * **DA**

Reprint from New York *Evening Post* of article purporting to be an account written by a German submarine commander.

1179. **Torpedo** tubes. (Marine engineer and naval architect, London, v. 38, Jan., 1916, p. 124-125.) **VXA**

Describes in some detail the two general types of tubes for launching torpedoes: the above-water, or deck pattern, and the submerged, or under-water pattern.

1180. **Two** years of submarine warfare. (Engineer, London, v. 122, 20 Oct. 1916, p. 342-343.) **VA**

Refers to Sir Percy Scott's letter written to the *London Times* showing how fully subsequent events justified Sir Percy's opinion.

1181. **U** boats' oil storage... The discovery and destruction of a submerged depot. (Oil news, London, v. 4, 22 Jan. 1916, p. 41, 44.) † **VHY**

Comment on the account printed in the *Scotsman* of Edinburgh of the finding of submerged tanks for supplying submarines. Tanks designed on Jack-Doxford balanced-pressure system.

1182. **U-boat** reaches Baltimore. (Independent, New York, v. 87, 17 July 1916, p. 85.) * **DA**

Very brief note.

1183. "**U-35's** visit to Cartagena — a prediction. (United States Naval Institute, Proceedings, Annapolis, v. 42, July-Aug., 1916, p. 1306-1307.) **VXA**

Reprinted from *New York Times*, 25 June 1916. Speculates on peace letter said to have been carried by the submarine.

Non-official Publications, continued.

1917

1916, continued.

- 1184. Villard, Oswald Garrison.** Submarine and the torpedo in the blockade of the Confederacy. (Harper's magazine, New York, v. 133, June, 1916, p. 131-137.) * **DA**
Similarity of situation of the present British blockade and that maintained in the Civil war. Details of the *David* and the *Hunley*. Good history of early efforts to construct submarines in America.
- 1185. W. Unterseebootmaschinen.** (Dingler's polytechnisches Journal, Berlin, Bd. 331, 19 Feb. 1916, p. 58-59.) **VA**
Compares the Vickers, Sulzer, Fiat, Krupp, and Augsburg-Nürnberg engines. Reprinted from *Oel-motor*.
- 1186. W., S. F.** Submarine of today and tomorrow. (Indian and eastern engineer, Calcutta, v. 38, June, 1916, p. 218.) **VDA**
Reviews briefly development in recent years.
- 1187. Whelpley, James D.** America and the U-53. (Fortnightly review, London, v. 106, Nov., 1916, p. 871-878.) * **DA**
Reprinted in *Living age*, v. 291, 9 Dec. 1916, p. 579-583, * *DA*.
International aspect of the arrival of the *Deutschland*.
- 1188. When** Fulton suggested submarine warfare; is the history of more than a century ago being repeated in part today? illus. (Scientific American, New York, v. 115, 18 Nov. 1916, p. 458-459.) **VA**
Details of the *Nautilus*.
- 1189. When** the submarine was a new thing. (Literary digest, New York, v. 53, 9 Sept. 1916, p. 630, 632-633.) * **DA**
Reprints from the Philadelphia *Public Ledger* account of a "cub" reporter's sensations when fulfilling an assignment, when, with Simon Lake, he went for a trip in the *Argonaut*.
- 1190. Wilhelm, Donald.** Etiquette of submarining. illus. (Illustrated world, New York, v. 26, Dec., 1916, p. 518-520, 624, 626.) **VDA**
The visit of the *U-53* to Newport, R. I.
- 1191. Wireless** equipped submarine. illus. (Wireless age, New York, v. 3, June, 1916, p. 605-616.) **VGA**
Description in popular style of apparatus and some account of its development.
- 1192. Wood, Norman H.** The electrical equipment of a modern foreign submarine boat. illus. (Electrical review, London, v. 79, 4-11 Aug. 1916, p. 115-117, 163-165.) **VGA**
Reprinted in *Electrical news*, Toronto, v. 25, 15 Sept. 1916, p. 24-25, 15 Oct. 1916, p. 25-27, *VGA*.
Detailed description of the electrical pumping apparatus, storage batteries, lighting, cooking and electric firing devices.
- 1193. Zack.** Sur la résistance des coques sous-marines. (Génie civil, Paris, tome 69, 16 Dec. 1916, p. 410-411.) **VA**
Mathematical treatise.
- 1194. Aboard** the merchant submarine "Deutschland"; a description of the German blockade runner based on a visitor's notes. illus. (Scientific American, New York, v. 116, 10 Feb. 1917, p. 151.) **VA**
Article is based on notes made by Mr. Reuter Dahl during a visit to the *Deutschland*. Cover picture is a fanciful illustration made by the artist.
- 1195. Admiral Benson** on submarines. (Army and navy journal, New York, v. 55, 29 Sept. 1917, p. 155-156.) † **VVA**
Brief note on German submarines in American waters.
- 1196. Adventures** in U-boats: German submarine commanders give their experiences. (Motor ship and motor boat, London, v. 27, 20 Sept. 1917, p. 222-223.) † **VXA**
Very spectacular and unconvincing.
- 1197. Aldereguia, Claudio.** Paradojas submarinas. (Revista general de marina, Madrid, tomo 80, June, 1917, p. 723-733.) **VXA**
Equilibrium and stability of submarines with operations of submergence and rising.
- 1198. American** built submarine for Spain; the 800 ton Isaac Peral which represents the latest development of the art. illus. (Scientific American, New York, v. 116, 3 Feb. 1917, p. 118-119.) † **VA**
- 1199. American** design for submarine chaser. illus. (Motor ship and motor boat, London, v. 26, 3 May 1917, p. 312, 313, 7 June 1917, p. 403.) † **VXA**
J. M. Watts designs and other general types are illustrated.
- 1200. American** submarine chasers; proposed patrol boats and the men to man them. illus. (Motor ship and motor boat, London, v. 26, 5 April 1917, p. 241-242.) † **VXA**
Plans of boats designed by G. F. Crouch and W. H. Hand, jr.
- 1201. The Anti-submarine** nets our tars are making. illus. (Popular science monthly, New York, v. 91, Oct., 1917, p. 488-489.) * **DA**
Brief text.
- 1202. Archer, F. P.** Suggested submarine chaser. (Scientific American, New York, v. 116, 26 May 1917, p. 523.) **VA**
Letter to the editor suggesting the old revolving cannon as a means of fighting submarines.
- 1203. Auld, Robert W.** Shallow-draft ships and the submarine. (Scientific American, New York, v. 116, 23 June 1917, p. 619.) **VA**
Letter to the editor.
- 1204. Automatic** acetylene buoying device for raising crippled submarines. illus. (Acetylene journal, New York, v. 18, May, 1917, p. 601.) **VOA**
Musoforiti system.

Non-official Publications, continued.

1917, *continued.*

1205. **Bedell, C. H.** The submarine. illus. (American Society of Mechanical Engineers, Journal, New York, v. 39, April, 1917, p. 281-291.) **VFA**

Abstracted in *Universal engineer*, New York, v. 26, July, 1917, p. 15-31, *VDA*.

Non-technical paper on the operation of the submarine.

1206. **Bellot, Hugh H. L.** Submarine warfare and sea power. (United service magazine, London, new series, v. 55, Sept., 1917, p. 431-440.) ***DA**

Evolution in strategy due to the introduction of the submarine into modern naval warfare.

1207. **Benjamin, Park.** Submarine problem. (United States Naval Institute, Proceedings, Annapolis, v. 43, Aug., 1917, p. 1847-1850.) **VXA**

"Don'ts" for the would-be inventor sending suggestions to the navy. Reprinted from the *Providence Journal* and *New York Times*.

1208. **Bienaimé.** La guerre sous-marine. (Moniteur de la flotte, Paris, année 64, 12 May 1917, p. 1-2.) **†VYH**

Reprint of article by Admiral Bienaimé printed in *L'Opinion*. A study of the Allied navies before the war and since 1914.

1209. **Blockading** the blockader. (Scientific American, New York, v. 116, 19 May 1917, p. 484.) **VA**

Editorial on report that German submarines are equipped with net cutters. Nets to be provided with contact mines.

1210. **Bogert, John L.** The submarine problem. illus. (Pacific marine review, San Francisco, v. 14, Aug., 1917, p. 64-67.) **†TRA**

1211. **Bradlee, F. B. C.** A submarine of 120 years ago invented by Robert Fulton. illus. (International marine engineering, New York, v. 22, July, 1917, p. 312-313.) **†VXA**

Circumstantial account of Fulton's efforts and successes.

1212. **British submarine C 34.** illus. (Motor ship and motor boat, London, v. 26, 25 Jan. 1917, p. 58.) **†VXA**

Illustration only.

1213. **C., W. L.** Conflict of opinion as to destroyers. illus. (Iron age, New York, v. 100, 30 Aug. 1917, p. 480-481.) **VDA**

The programme of the Emergency Fleet Corporation.

1214. — Submarine warfare restricts exports. (Iron age, New York, v. 99, 8 March 1917, p. 602-603.) **VDA**

1215. **Callan, John G.** Submarines. (Wisconsin engineer, Madison, v. 21, April, 1917, p. 295-303.) **VDA**

Reprinted in *Technology monthly*, Boston, v. 4, Nov., 1917, p. 9-13, *VDA*.

General outline.

1216. **Captured** German submarine, exhibited in Central Park, New York. illus. (International marine engineering, New York, v. 22, Nov., 1917, p. 518.) **†VXA**

Illustrations only.

1217. **Cary, Harold.** Hatching our mosquito fleet. illus. (Illustrated world, New York, v. 27, May, 1917, p. 390-393.) **VDA**

Engines and armament of submarine chasers.

1218. **Cease** building submarine chasers. (Army and navy journal, New York, v. 55, 11 Aug. 1917, p. 1664.) **†VWA**

Submarine chaser is considered a failure.

1219. **Cerio, Edwin.** The 'multi-tubular' submarine. illus. (Scientific American, New York, v. 116, 28 April 1917, p. 415.) **VA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 43, June, 1917, p. 1297-1300, *VXA*.

The inner hull to be composed of a series of tubular compartments so that injury to one part does not necessarily cripple the craft. Sectional view.

1220. **La Chasse aux sous-marins.** (Revue scientifique, Paris, année 55, 8 Sept. 1917, p. 529-531.) **OA**

The copy coming to the Library has been so censored that there is very little information left. The article as it stood in its original form must have contained much valuable material.

1221. **Clark, F. Huntington.** Circumventing the submarine menace. (American machinist, New York, v. 46, 15 March 1917, p. 478.) **VFA**

Advises building an enormous number of small wooden freight boats equipped with internal combustion engines.

1222. — How to circumvent the submarine. (Army and navy journal, New York, v. 54, 10 March 1917, p. 888.) **†VWA**

Letter to the editor suggesting small wooden ships, with description of suitable equipment.

1223. **Claudy, C. H.** Building the emergency fleet; plans for the construction of wooden ships at the rate of three a day. (Scientific American, New York, v. 116, 19 May 1917, p. 488.) **VA**

While not on submarines this question has been precipitated by the submarine and hence is included in this list.

1224. **Contractor's** methods save stranded submarine. (Engineering news-record, New York, v. 78, 24 May 1917, p. 417.) **VDA**

Refers to the salvage of the *H-3*.

1225. **Convoying** as an answer to the submarine. illus. (Scientific American, New York, v. 117, 10 Nov. 1917, p. 345.) **VA**

1226. **Covington, C. L.** Blockading with nets. (Scientific American, New York, v. 116, 2 June 1917, p. 547.) **VA**

Letter to the editor.

1227. **Crossman, E. C.** Gas engine drive for submerged submarines. illus. (Scientific American, New York, v. 117, 25 Aug. 1917, p. 132, 146-147.) **VA**

Experiment to supplant storage batteries with the Neff system of propulsion.

*Non-official Publications, continued.**1917, continued.*

1228. Currey, M. I. Forerunners of the U-boats. (United service magazine, London, new series, v. 55, July, 1917, p. 295-303.) *DA

The crimes of the pirates compared with present day U-boat outrages.

1229. Daredevil Whiting the human torpedo. (Literary digest, New York, v. 55, 6 Oct. 1917, p. 43, 46-47.) *DA

Reprinted from the *Philadelphia Public Ledger* telling of Whiting's experience of being fired through the torpedo tube of a submarine.

1230. Dayral, Louis. Disappearing guns for submarines. illus. (Scientific American supplement, New York, v. 84, 25 Aug. 1917, p. 116-117.) VA

Mechanism devised by the French for operating them.

1231. The Destroyer, the trawler and the depth bomb. illus. (Scientific American, New York, v. 117, 27 Oct. 1917, p. 309.) VA

1232. Eaton, F. S. Nets for protection against torpedo attack. (Scientific American, New York, v. 116, 9 June 1917, p. 575.) VA

Letter to the editor.

1233. Efficiency of submarine chasers. (United States Naval Institute, Proceedings, Annapolis, v. 43, April, 1917, p. 791-792.) VXA

Reprinted from *New York Times* on construction of 550 motor boats by the Electric Boat Company, Bayonne.

1234. Electric zig-zagger aids ships to foil U-boats. illus. (Electrical experimenter, New York, v. 5, Oct., 1917, p. 367, 414-415.) VA

Electric motors swing the rudder.

1235. Ellis, W. A. To solve the submarine problem. (Army and navy journal, New York, v. 54, 19 May 1917, p. 1224.) †VWA

Brief letter advising attack of submarines by submarine at German bases.

1236. An Emergency means for bringing damaged submarines to the surface. illus. (Scientific American, v. 116, 26 May 1917, p. 526.) VA

Describes an invention of Anthony Musoroffiti whereby canvas bags in the ballast tanks are inflated by gas in case of injury to the apparatus usually used.

1237. Engineering contractors recover stranded submarine H-3 after naval plan of salvage fails; hull is jacked out of sand and moved overland for repairs. (Engineering news-record, New York, v. 78, 24 May 1917, p. 395-396.) VDA

1238. Engines of the Deutschland. illus. (Motorship, Seattle, v. 2, March, 1917, p. 12.) †VXA

Brief text.

1239. Eppley, Marion. Anti-submarine patrol; how submarine chasers round up underwater craft. illus. (Scientific American, New York, v. 116, 3 March 1917, p. 222-223.) VA

Maneuvering and scout work.

1240. F., A. Le moteur unique dans la navigation sous-marine. diagr. (Génie civil, Paris, tome 70, 31 March 1917, p. 205-209.) VA

System devised by M. Cardile, wherein an internal combustion motor is used for both surface and submerged navigation.

1241. — La protection sous-marine des navires de commerce. diagr. (Génie civil, Paris, tome 71, 29 Sept. 1917, p. 209-211.) VA

Protection of the hulls of ships as proposed by M. Pugliese.

1242. The First high-speed submarine chaser. illus. (Motorship, Seattle, v. 2, April, 1917, p. 18.) †VXA

Mercury II, British chaser.

1243. Fiske, Bradley Allen. An air battle to check submarines. (Flying, New York, v. 6, Sept., 1917, p. 671-672.) †VDS

Abstracted in *Army and navy journal*, New York, v. 54, 30 June 1917, p. 1431. †VWA

Reprint of a letter to Alan R. Hawley of the Aero Club of America, on attacking submarines by hydro-aeroplane equipped with torpedoplanes.

1244. — To strike at the German fleet and U boat bases from the air. (Flying, New York, v. 6, July, 1917, p. 477-479.) †VDS

Abstract of statement to the Senate sub-committee on Military Affairs.

1245. Fowle, G. M. Anti-submarine device. (Scientific American, New York, v. 116, 31 March 1917, p. 325.) VA

Letter to the editor suggesting steel plates suspended from the ship.

1246. Fox, Edward L. Meeting the submarine problem. illus. (Illustrated world, New York, v. 27, July, 1917, p. 696-700.) VDA

Some account of German boats.

1247. Fresh air for submarines. (Heating and ventilating engineer, New York, v. 14, Feb., 1917, p. 49.) VEWA

Scott-Bond process for purifying air.

1248. Fuller, J. F. Bishop Wilkins on submarines and aeroplanes in 1648. (United service magazine, London, new series, v. 55, June, 1917, p. 206-212.) *DA

Reprinted in *Kerry archaeological magazine*, Cork, v. 4, Oct., 1917, p. 163-170, CT.

Summarizes an interesting bit of history and contains a sketch of Bishop Wilkins' life.

1249. G., A. La guerre sous-marine. illus. (La nature, Paris, année 45, semestre 1, 2 June 1917, p. 337-343.) OA

Abstracted in *Revista general de marina*, Madrid, tomo 80, June, 1917, p. 817-826, VXA.

Chief characteristics of German submarines, with table.

Non-official Publications, continued.

1917, continued.

1250. **German** submarine being launched by a floating crane. illus. (Motor ship and motor boat, London, v. 27, 13 Sept. 1917, p. 207.) † VXA

No text.

1251. The **German** submarine Deutschland. (Engineering, London, v. 103, 9 March 1917, p. 231.) VDA

1252. **German** submarines and our harbors. (Scientific American, New York, v. 116, 10 Feb. 1917, p. 148.) VA

Editorial advising the netting of the entrances to American harbors.

1253. **Germany's** present method of building submarines wholesale. (Current opinion, New York, v. 62, May, 1917, p. 339.) * DA

Abstract from London Mail. Submarine parts are standardized and assembled.

1254. **Gernsback**, H. Blinding the submarine. illus. (Electrical experimenter, New York, v. 5, Aug., 1917, p. 234-235.) VGA

Use of the searchlight even in daylight.

1255. — Combating the torpedo. illus. (Electrical experimenter, New York, v. 5, May, 1917, p. 10-11, 68, 70.) VGA

Plan proposed is to fight torpedoes with torpedoes electrically controlled. Gives details of firing torpedoes from submarines. Reprinted from *New York American*, April 15, 1917.

1256. A **Giant** submarine. (Motorship, Seattle, v. 2, March, 1917, p. 6.) † VXA

Russian submarine.

1257. **Gibson**, Charles R. War inventions and how they were invented: an interestingly written description of the many appliances and weapons used in war, and how they work, told in simple language. London: Seeley, Service & Co., Ltd., 1917. 2 p.l., (1)10-255(1) p., 8 pl. 12°. (The science for children library.) V

1258. **Goodrich**, Caspar F. The submarine. (The nation, New York, v. 104, 14 June 1917, p. 706-707.) * DA

Abstracted in *Army and navy journal*, New York, v. 54, 7 July 1917, p. 1466, † VWA.

Present status of the anti-submarine campaign discussed. Places German submarine losses as "astoundingly great."

1259. The **Great** emergency. (Scientific American, New York, v. 116, 12 May 1917, p. 464.) VA

Editorial on report of the increase of German submarines.

1260. **Grey**, C. G. Aircraft against submarines. illus. (Flying, New York, v. 6, May, 1917, p. 275-276.) † VDS

1261. La **Guerra** submarina. (Revista general de marina, Madrid, tomo 80, June, 1917, p. 817-829.) VXA

1262. The **Gun** as an answer to the submarine. illus. (Scientific American, New York, v. 117, 4 Aug. 1917, p. 74, 84.) VA

1263. **Guns** for patrol craft and chasers. illus. (Motorship, Seattle, v. 2, Aug., 1917, p. 12.) † VXA

Driggs semi-automatic guns described.

1264. **Handling** a submarine. illus. (Popular science monthly, New York, v. 91, Aug., 1917, p. 168-169.) * DA

Answers many questions which are continually asked.

1265. **Hay**, Marley F. Influence of the war on submarine policy. New York, 1917. 9 p. 4°.

Advance copy of paper to appear in the *Transactions* of the Society of Naval Architects and Marine Engineers, New York, v. 25, 1917. VXA.

Reprinted in Engineers Club of Philadelphia, *Journal*, v. 34, Dec., 1917, p. 576-580, VDA; and in *Motorship*, Seattle, v. 3, Jan., 1918, p. 7-8, 16, † VXA.

Considers the larger submarines developed since the declaration of war in 1914.

1266. — Secrets of the submarine. New York: Dodd, Mead and Co., 1917. ix p., 3 l., 229 p., 14 pl. 12°. V XV

Non-technical book with simple explanations of principles of navigation and construction of submarines, the machinery and operation thereof.

1267. **Herron**, William. Welding and soldering on submarines. illus. (Welding engineer, Chicago, v. 2, Feb., 1917, p. 39-41.) VIA

1268. **Hislam**, Percival A. Some points in the U-boat campaign. illus. (Scientific American, New York, v. 116, 30 June 1917, p. 644.) VA

1269. — A submarine survey. (United service magazine, London, v. 54, Feb., 1917, p. 344-356.) * DA

Survey of the place of the submarine in the present war.

1270. **Holland**, John P., the younger. Submarine boat. (Scientific American supplement, New York, v. 83, 30 June 1917, p. 406-407.) VA

1271. **Hovgaard**, George William. The flotability and stability of submarines. diagr. (Engineer, London, v. 123, 13 April 1917, p. 340-343.) VA

A paper read before the Institution of Naval Architects, 29 March 1917, and to appear later in the *Transactions* of the society.

Reprinted in *Engineering*, London, v. 103, 13 April 1917, p. 346-349, VDA. Abstracted in *Génie civil*, Paris, tome 71, 25 Aug. 1917, p. 123-126, VA, and in *Shipbuilding and shipping record*, London, v. 9, p. 342-344, VXA.

Mathematical analysis.

1272. **How** submarines feel their way when submerged. illus. (Scientific American, New York, v. 117, 14 July 1917, p. 25, 36.) VA

Device to determine location by revolutions of the propellers.

1273. **How** submarines got their peculiar name. (Popular science monthly, New York, v. 90, April, 1917, p. 541.) * DA

Names of submarines of United States Navy.

Non-official Publications, continued.

1917, continued.

1274. **How** U-boats are hunted. (American marine engineer, Norfolk, Va., v. 12, April, 1917, p. 10.) † **VXA**

Admiral W. S. Sims describes how the British Channel is patrolled for submarines.

1274a. **Hutter**, Julien Eugène. Les sous-marins... Paris: Berger-Levrault, 1917. 114 p. 16°. (Pages d'histoire, 1914-1917. [fasc.] 130.) **BTZE (Pages)**

1275. **Ideal** submarine. (Scientific American, New York, v. 116, 13 Jan. 1917, p. 56.) **VA**

Editorial on the principle of compromise that controls submarine construction.

1276. An **Ideal** submarine chaser; a 135-footer that will be ten times as effective as the 110-footers now building. (Motorship, Seattle, v. 2, June, 1917, p. 7.) † **VXA**
Specifications with engine installations.

1277. **Interior** of German submarine. illus. (Motor ship and motor boat, London, v. 26, 21 June 1917, p. 440.) † **VXA**
Illustration only.

1278. **Interior** of submarine. illus. (Motor ship and motor boat, London, v. 26, 4 Jan. 1917, p. 6-7.) † **VXA**
No text.

1279. **Internal** construction and operation of the German U-boat. illus. (Scientific American, New York, v. 116, 9 June 1917, p. 572-573, 583.) **VA**

Illustrations show transverse, vertical and horizontal sections of the U-boat, with detailed description.

1280. El "**Isaac Peral**." (Revista general de marina, Madrid, tomo 80, March, 1917, p. 393-397.) **VXA**

Displacement and propulsive power discussed in some detail.

1281. **Joly**, J. Origin of the submarine. (Blackwood's magazine, London, v. 202, July, 1917, p. 106-117.) * **DA**

Interesting bit of history, with abstract from Wilkins' *Mathematical magic*, 1680.

1282. **Kellog**, E. W. Anti-submarine protection. (Scientific American, New York, v. 116, 2 June 1917, p. 547.) **VA**

Letter to the editor.

1283. **Kipling**, Rudyard. Sea warfare. London: Macmillan & Co., Ltd., 1917. v. 222 p. 12°. **VYC**

1284. **Lake**, Simon. Submersible merchant ships. (Scientific American, New York, v. 117, 22 Sept. 1917, p. 207.) **VA**

Letter to the editor on suggestions received for fighting submarines.

1285. **Land**, E. S. Submarine hulls. New York, 1917. 8 p. 4°.

Advance copy of paper to appear in the *Transac-*

tions of the Society of Naval Architects and Marine Engineers.

Reprinted in *Motorship*, Seattle, v. 3, Jan., 1918, p. 33-34, † *VXA*.

Considers single and double hulls, comparing strength, submerged resistance, and advantages and disadvantages of both types.

1286. **Launching** of an N-type submarine. illus. (Scientific American, New York, v. 116, 5 May 1917, p. 439.) **VA**

Brief note.

1287. **Lecky**, Prescott. Chasing submarines with motor-boats. illus. (Popular science monthly, New York, v. 91, July, 1917, p. 82-85.) * **DA**

How these boats are built.

1288. **Limitations** of submarines described by Vice Admiral Sims. (United States Naval Institute, Proceedings, v. 43, July, 1917, p. 1559-1561.) **VXA**

Reprinted from *New York Times*, 20 May 1917.

1289. **Lisle**, T. Orchard. The submarine depot motor ship Caera. illus. (Motorship, Seattle, v. 2, Sept., 1917, p. 3-4.) † **VXA**

General specifications and details of engines.

1290. — Submarine Diesel-type engines of the world's navies. illus. (Motorship, Seattle, v. 2, April, 1917, p. 3-10.) † **VXA**

A comprehensive article assigning the type to each navy and describing the Krupp, Nurnburg, Augsburg, Vickers, Scott-F. I. A. T., Schneider, Normand, Sabathe, Loire, Werkspoor, F. I. A. T., Sulzer, Polar, Nobel, Nlsec, Busch-Sulzer, Southwark-Harris, and Craig types, each engine being illustrated.

1291. **Locating** and destroying submarines with red light. illus. (Electrical experimenter, New York, v. 5, July, 1917, p. 165, 215.) **VGA**

A powerful beam of red light is projected from the ship below the water line. With a glass a submarine crossing the path of light could be detected instantly.

1292. **McGarvie**, H. F. Inventors who have tried to construct an undersea boat. (Military Service Institution, Journal, Governors Island, N. Y., v. 60, Jan. - Feb., 1917, p. 114-116.) **VWA**

Reprinted from the *New York Sun*.

Brief survey of history from 1749 to John P. Holland.

1292a. **Marantonio**, R. Ventilación y renovación del aire respirable en el sumergible "Balilla." (Revista general de marina, Madrid, tomo 80, Feb., 1917, p. 187-197.) **VXA**

Natural and mechanical ventilation of submarines. Reprinted from *Annali di medicina nautica e coloniale*.

1293. **Marine** camouflage and its relation to the U-boat campaign. illus. (Scientific American, New York, v. 117, 1 Sept. 1917, p. 158.) **VA**

1294. **Maxim**, Hudson. Great U-boat peril. (Scientific American, New York, v. 116, 12 May 1917, p. 472, 478.) **VA**

Torpedo proof freight and troop ships advocated.

*Non-official Publications, continued.**1917, continued.*

1295. — How to make ships torpedo proof. Principle employed similar to the gun silencer. diagr. (Scientific American, New York, v. 116, 9 June 1917, p. 578-579.)
VA

1296. **Merchant** submarine company. (United States Naval Institute, Proceedings, Annapolis, v. 43, July, 1917, p. 1562.)
VXA

Brief abstract from *New York Herald*, 22 May 1917, on \$10,000,000 company incorporated with Simon Lake as president.

1297. **Merchantship** as a submarine destroyer. illus. (Scientific American, New York, v. 117, 22 Sept. 1917, p. 208, 219-220.)
VA

1298. **Mr. Ford's** baby submarine. (Scientific American, New York, v. 116, 24 Feb. 1917, p. 196.)
VA

Editorial.

1299. **Morgan**, James Morris. Pioneer iron-clad. illus. (United States Naval Institute, Proceedings, Annapolis, v. 43, Oct., 1917, p. 2275-2282.)
VXA

Illustration of the *H. L. Hunley* from an old painting.

1300. **Motor** craft as submarine destroyers and patrol boats. illus. (Motorship, Seattle, v. 2, May, 1917, p. 3-6.)
† VXA

Engines and equipment for motor boats.

1301. **Navy** men lost by submarine attack. (Army and navy journal, New York, v. 54, 5 May 1917, p. 1162.)
† VWA

Brief note on the sinking of the *Vacuum*.

1302. **Navy** and the war. (Military Service Institution, Journal, Governors Island, v. 60, Jan. - Feb., 1917, p. 71-87.)
VWA

Compares the possible results of the blockade with submarine warfare waged by the Germans.

1303. **The Net** as a weapon of offense. illus. (Scientific American, New York, v. 117, 28 July 1917, p. 56.)
VA

1304. **Nets** and steel plates as a defense against the torpedo. illus. (Scientific American, New York, v. 116, 16 June 1917, p. 596.)
VA

Placing and effectiveness of nets and plates.

1305. **New Austrian** submarine Commander Von Falkenhausen in the Adriatic. illus. (Motor ship and motor boat, London, v. 26, 8 Feb. 1917, p. 105.)
† VXA

Illustration only.

1306. **New device** for raising submarines. (Marine journal, New York, v. 39, 28 April 1917, p. 7.)
† VXA

Reprinted in United States Naval Institute, Proceedings, Annapolis, v. 43, June, 1917, p. 1300, VXA.

Very brief account of Anthony Musorofitti's device for tanks attached to deck of submarine.

1307. **Nutting**, William Washburn. "Strafing" the German submarine. illus. (Collier's weekly, New York, v. 59, 9 June 1917, p. 7.)
* DA

Reprinted in United States Naval Institute, Proceedings, Annapolis, v. 43, Aug., 1917, p. 1627-1630, VXA.

Evolution of the submarine since the beginning of the war.

1308. — The submarine swatter; an instrument but two years old upon which we base our hope of foiling the U-boat. illus. (Scientific American, New York, v. 116, 5 May 1917, p. 438-439, 455.)
VA

Fast motor boats. Illustrates the flag ship *Chingachgook*.

1309. **Oil** engine progress in Germany; some impressions regarding the development of submarine and other engines for ship propulsion. (Motor ship and motor boat, London, v. 26, 31 May 1917, p. 383.)
† VXA

Failure of the Krupp two-cycle engine and the output of the firm is discussed, together with designs and output of the M. A. N. Co.

1310. **One** man submarine. (World's progress, Washington, v. 1, Jan. - Feb., 1917, p. 1.)
VA

Very brief description of a patent granted to M. J. Trumble.

1311. **Periscopes** explained by German naval officer. illus. (Motor ship and motor boat, London, v. 27, 30 Aug. 1917, p. 169.)
† VXA

Goerz dead disc periscope illustrated and described.

1312. **Persius**, L. Hardships of the U-boat service — leading German naval critic praises the men who torpedo merchant ships. (Current history magazine, New York, v. 6, July, 1917, p. 90-92.)
BTZE

Translated from the *Berliner Tageblatt*.

1313. **Plan** to beat submarines. Mosquito fleet of small defensively armed cargo boats proposed. (Iron age, New York, v. 99, 8 March 1917, p. 601.)
VDA

Proposes a large fleet of small ships that would only be visible ten miles off, whereas large ships are visible thirty miles off.

1314. **Principles**, promising and otherwise, which may be applied to detecting the U-boats. illus. (Scientific American, New York, v. 117, 7 July 1917, p. 10-11, 20.)
VA

Methods of detection, nets, mine fields, etc.

1315. **Projet de sous-marin** commercial de 5000 tonnes. (Génie civil, Paris, tome 71, 14 Jan. 1917, p. 30.)
VA

Mr. Lake's idea of commercial submarines announced long before the advent of the *Deutschland*.

1316. **Protecting** a convoy by overlapping lines of towed nets or plates. illus. (Scientific American, New York, v. 117, 11 Aug. 1917, p. 97, 107.)
VA

*Non-official Publications, continued.**1917, continued.*

1317. Protection, internal to the ship, against the torpedo. illus. (Scientific American, New York, v. 117, 29 Sept. 1917, p. 224-225, 233, 235.) **VA**

Bulkheads and armor.

1318. Question of submarines. (Army and navy journal, New York, v. 54, 17 Feb. 1917, p. 779-780.) † **VWA**

Editorial report of debate on naval appropriation bill in the House of Representatives, 10 Feb. 1917.

1319. The Quick helm and the submarine. (Scientific American, New York, v. 116, 16 June 1917, p. 591.) **VA**

Brief note on this chance to escape the submarine.

1320. Real problem of the submarine. illus. (American machinist, New York, v. 47, 12 July 1917, p. 78-80.) **VFA**

Detection of submarines either from airplanes or by a modification of the telephone. Also describes protective devices.

1321. Le Renflouement du sous-marin allemand U-G-12 et son utilisation par la marine italienne. illus. (Génie civil, Paris, tome 70, 16 May 1917, p. 343-344.) **VA**

History of submarines in Germany. Illustrations of the *U-G 12*.

1322. Report on Edison battery. (Army and navy journal, New York, v. 54, 27 Jan. 1917, p. 699.) † **VWA**

Report by Lamar Lyndon to secretary of the navy.

1323. Rich, H. Thompson. Holland, Wright, Lewis, and Company. (Forum, New York, v. 58, Sept., 1917, p. 283-293.) * **DA**

1324. Robbins, Thomas. The submarine and kindred problems. (American machinist, New York, v. 47, 27 Sept. 1917, p. 553-556.) **VFA**

Remarks to persons offering suggestions to the nation in regard to submarine campaign.

1325. Rousseau, A. Sous-marins et blocus. Paris: F. Alcan, 1917. 64 p. 8° **VYAD**

A discussion of the English blockade.

1326. Safety at sea. (Scientific American, New York, v. 117, 1 Sept. 1917, p. 152.) **VA**

Editorial on suggestions for fighting submarines.

1327. Salvaging the submarine H-3. illus. (International marine engineering, New York, v. 22, Sept., 1917, p. 396-398.) † **VXA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 43, Oct., 1917, p. 2367-2370, plate on p. 2295, *VXA*.

Feat accomplished by the Mercer-Fraser Company in taking the boat a mile overland.

1328. Saving ships with paint and smoke. illus. (Scientific American, New York, v. 117, 15 Sept. 1917, p. 188, 197-198.) **VA**

Minimizing the menace of the submarine with camouflage.

1329. Secor, H. Winfield. How the submarine can hit a ship it never sees. illus.

(Electrical experimenter, New York, v. 5, July, 1917, p. 167.) **VGA**

Microphone signalling between submarines gives range to attacking submarine.

1330. — Locating hidden submarines by electricity. illus. (Electrical experimenter, New York, v. 4, April, 1917, p. 869-870.) **VGA**

Describes a patent by Patrick B. Delaney for the detection of submarines or wrecks by electrodes placed at a given distance apart in the water.

1331. — Locating the submarine by radio. illus. (Electrical experimenter, New York, v. 5, Dec., 1917, p. 509-510, 572.) **VGA**

L. W. Bishop's multi-audi-phone radio and telephone amplifier.

1332. — A one man electric submarine. illus. (Electrical experimenter, New York, v. 5, May, 1917, p. 5-6, 47.) **VGA**

Design of E. R. Lyon for one-man boat electrically propelled.

1333. Shaw, J. C. Danish submarine Diesel type engine. illus. (Motorship, Seattle, v. 2, May, 1917, p. 17.) † **VXA**

1334. Shegog, John. Notes on our inadequate submarines; a weapon neglected in the land of its inception. illus. (Scientific American, New York, v. 116, 3 March 1917, p. 229.) **VA**

Describes new types. Illustrates the *M-1*.

1335. Simon Lake — himself. port. (Saturday evening post, Philadelphia, v. 190, 20 April 1917, p. 27, 126.) * **DA**

Brief autobiography.

1336. Simpson, Thomas H. The submarine "chaser" and its work. illus. (Navy and merchant marine, Washington, v. 1, April, 1917, p. 27-32.) **VXA**

General.

1337. Sims, William S. How U-boats are hunted. (Army and navy journal, New York, v. 54, 3 March 1917, p. 844.) † **VWA**

Brief report of Admiral Sims' remarks before the House Committee on Naval Affairs.

1338. (Sinking of U. S. submarine). (Army and navy journal, New York, v. 55, 22 Sept. 1917, p. 129.) † **VWA**

Brief note.

1339. Skerrett, Robert G. The menace of the undersea. illus. (Gas engine, Cincinnati, v. 19, June, 1917, p. 261-269.) **VFA**

Speculations on Germany's building policy.

1340. — Submarine freighters of large tonnage. illus. (Illustrated world, New York, v. 28, Sept., 1917, p. 28-32.) **VDA**

Mr. Simon Lake would combat war submarines with submarine freighters.

1341. Small ships an answer to the submarine. (Scientific American, New York, v. 116, 17 March 1917, p. 276.) **VA**

Editorial. \$100 to \$135 per ton for small fast ships.

*Non-official Publications, continued.**1917, continued.*

1342. **Smoke screen** as defense against submarines. (Scientific American, New York, v. 116, 20 Jan. 1917, p. 77.) VA
Very brief note.

1343. **Spiegel von und zu Peckelsheim**, Edgar, Freiherr. The adventures of the U-202; an actual narrative. New York: Century Co., 1917. vii p., 2 l., 3-202 p. 12°. VTM

1344. **Stirling**, Yates, jr. The submarine. (United States Naval Institute, Proceedings, Annapolis, v. 43, July, 1917, p. 1371-1390.) VXA

Development of submarine construction, operation, and tactics.

1345. **Stokes**, Clifford K. Wanted—700 submarines. (Forum, New York, v. 58, Aug., 1917, p. 125-131.) *DA

Comparative cost and efficiency of submarines and battleships.

1346. **Submarine** as an anti-U boat weapon. (Scientific American, New York, v. 117, 6 Oct. 1917, p. 240.) VA

Editorial.

1347. The **Submarine** as a mother ship for seaplanes. (Scientific American, New York, v. 116, 10 March 1917, p. 256.) VA

Editorial.

1348. **Submarine** chasers. (Army and navy journal, New York, v. 54, 23 June 1917, p. 1399.) †VWA

Brief note denying statement that construction was behind schedule.

1349. The **Submarine** and kindred problems. (Engineer, London, v. 124, 19 Oct. 1917, p. 329-330.) VA

A statement by the United States Naval Consulting Board as to the thousands of suggestions and plans presented for the solution of the submarine and kindred problems, calling attention to some misconceptions as to the fundamental elements of the problem.

1350. The **Submarine** peril and the remedy. (Flying, New York, v. 6, Aug., 1917, p. 577-579.) †VDS

Reprints the letters of Admiral Fiske of June 30 and July 7, 1917, to President Hawley of the Aero Club of America, regarding the use of the aeroplane to combat the submarine.

1351. **Submarine** problem. (Industrial management, New York, v. 53, July, 1917, p. 484-485.) VDA

Editorial.

1352. **Submarine** tender *Fulton*. illus. (Motor ship and motor boat, London, v. 26, 1 March 1917, p. 186-187.) †VXA

Plans and illustrations of engines. Brief text.

1353. **Submarines**. (Engineer, London, v. 123, 16 Feb. 1917, p. 157.) VA

Reprinted in *Revista general de marina*, Madrid, tomo 80, Feb., 1917, p. 199-204, VXA.

Editorial on Capt. Rodgers' paper.

1354. **Submarines** and destroyers. (American marine engineer, Norfolk, Va., v. 12, May, 1917, p. 8-9.) †VXA

1355. **Submarines** and destroyers. (Army and navy journal, New York, v. 54, 24 March 1917, p. 974.) †VWA

Answers questions asked concerning the firing of torpedoes and defense against submarines.

1356. **Submarines** in the Adriatic. illus. (Engineer, London, v. 123, 11 May 1917, p. 416-417.) VA

Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 43, Aug., 1917, p. 1611-1615, VXA.

Austrian submarines at the beginning of the war and possible augmentation.

1357. **Submarines** or capital ships? (Army and navy journal, New York, v. 54, 24 Feb. 1917, p. 825.) †VWA

Brief editorial.

1358. A **Submersible**, anti-submarine buoy. illus. (Scientific American, New York, v. 117, 13 Oct. 1917, p. 268.) VA

1359. **Submersible** freighter versus the submarine. (Scientific American, New York, v. 116, 26 May 1917, p. 518.) VA

Editorial on running the blockade with submarine freighters.

1360. **Submersible** the ultimate answer to the submarine—some particulars of a 5,000-ton, 8-knot freighter for transatlantic service. (Scientific American, New York, v. 116, 2 June 1917, p. 552, 562.) VA

Advises Deutschlands for the United States.

1360a. **Sutphen**, Henry R. Building submarine chasers by standardized methods. (Society of Automobile Engineers, Journal, New York, v. 1, no. 1, July, 1917.)

1361. **Terror** of the sea. illus. (Popular science monthly, New York, v. 90, April, 1917, p. 546-551.) *DA

How submarines are driven and submerged. With portrait of Simon Lake on p. 480 of the March issue.

1361a. **To build** 345 patrol boats for the Navy. illus. (Rudder, New York, v. 33, May, 1917, p. 329-331.) †MVRA

Award of contracts let by Navy Department, with costs and specifications.

1362. **Tolstoy**, A. N. Under seas: a submarine story. (Bookman, New York, v. 45, April, 1917, p. 163-170.) *DA

1363. **Torpedo** net and its prey. illus. (Scientific American, New York, v. 116, 14 April 1917, p. 377.) VA

Brief note.

1364. **Truck** heavy submarine sections through New York streets. illus. (Engineering news-record, New York, v. 79, 1 Nov. 1917, p. 828-829.) VDA

Fifty and sixty-ton sections of the *Uc5*.

Non-official Publications, continued.

1917, *continued.*

1365. **True** and false anti-submarine strategy. (Scientific American, New York, v. 116, 30 June 1917, p. 638.) **VA**

Reprinted in United States Naval Institute, *Proceedings*, Annapolis, v. 43, Aug., 1917, p. 1842-1843, *VXA*.

Editorial.

1366. **Twenty** years development of the Holland submarine: growth from the 73-ton, 6-knot boat of 1895, to the 1454-ton, 20-knot fleet boat of 1915. illus. (Scientific American, New York, v. 116, 31 March 1917, p. 322-323, 332.) **VA**

Sectional view of the *Schley*.

1367. The **U-boat** menace. (Scientific American, New York, v. 116, 5 May 1917, p. 436.) **VA**

Editorial on delay in building operations in the Navy Department.

1368. **United States navy**: types of American submarines and submarine chasers. illus. (Illustrated London news, London, v. 150, 14 April 1917, p. 432-433.) ***DA**

Brief text. Illustrates the *K-6*, boats of the D and E class, and chaser *Lynn*.

1369. **United States navy men** sink enemy submarine. (Army and navy journal, New York, v. 54, 9 June 1917, p. 1339.) **†VWA**

Sinking of German submarine by the *Silvershell*.

1370. **Vanadium** bronze submarine castings. illus. (Foundry, Cleveland, v. 45, March, 1917, p. 121.) **VIA**

Vanadium bronze has been found to fulfill exacting requirements for Diesel engine beds and torpedo tubes.

1371. **Ventilation** for submarines discussed by New York Chapter of the American Society of Heating and Ventilating Engineers. (Heating and ventilating magazine, New York, v. 14, April, 1917, p. 50-51.) **VEWA**

Abstracts from Lieut. McWhorter's paper.

1372. **Waldeyer-Hartz, von**, The U-boat and the dreadnought. (United States Naval Institute, Proceedings, Annapolis, v. 43, Oct., 1917, p. 2364-2367.) **VXA**

Translated from the *Illustrirte Zeitung*, Leipzig, of 12 July 1917.

Claims that the submarine has driven the armored ship into harbor, from whence it dare not come out. An amusing article.

1373. **Walker, J. Bernard**. Closing the North Sea with a bomb-curtain. illus.

(Scientific American, New York, v. 116, 23 June 1917, p. 616-617.) **VA**

Bombs floated at a depth of two hundred feet and fastened to steel nets.

1374. — Past results and the promise of the future. (Scientific American, New York, v. 117, 8 Dec. 1917, p. 436-437.) **VA**

1375. — The torpedo can be beaten by the watertight bulkhead. illus. (Scientific American, New York, v. 117, 18 Aug. 1917, p. 112-113, 123.) **VA**

1376. **What** the airmen can do in the hunt for the elusive U-boat. illus. (Scientific American, New York, v. 117, 21 July 1917, p. 41.) **VA**

1377. **Wireless** equipment for the submarine chaser. (Scientific American, New York, v. 117, 7 July 1917, p. 13-14.) **VA**

$\frac{1}{2}$ kilowatt set weighing 180 pounds, sending a remarkable range.

1378. **Woodhouse, Henry**. Submarine hunting by aircraft. illus. (In his: Text-book of naval aeronautics. New York, 1917. f°. p. 38-50.) **†VDY**

First printed in *Flying*, New York, v. 6, May, 1917, p. 267-273, **†VDS**. Abstracted in *Journal of the Franklin Institute*, Philadelphia, v. 183, June, 1917, p. 798-799, *VA*.

This branch of air work has become an established science.

1379. **Yachtsmen** enrolling for defense. (Rudder, New York, v. 33, May, 1917, p. 339-340.) **†MVRA**

Reprinted in *Journal of the American Society of Mechanical Engineers*, New York, v. 39, May, 1917, p. 457-458, *VFA*, and in *Proceedings of United States Naval Institute*, Annapolis, v. 43, June, 1917, p. 1253-1254, *VXA*.

Twelve hundred yachts offered for submarine service.

1380. The **Zig-zag** course as a defense against submarines. illus. (Scientific American, New York, v. 117, 14 July 1917, p. 31.) **VA**

Abstracted in United States Naval Institute, *Proceedings*, Annapolis, v. 43, Aug., 1917, p. 1836-1839, *VXA*.

The zig-zag control board for plotting courses and method of attacking ships employed by submarines.

1918

1381. **Submarine** activity, evasion and patrol work in the zone. illus. (Motorship, Seattle, v. 3, Jan., 1918, p. 25-27.) **†VXA**

Motorships without stacks or masts are hard to detect by the submarine lookout.

OFFICIAL PUBLICATIONS

1885

1382. **United States.** — Office of Naval Intelligence. Papers on naval operations during the year ending July, 1885. Washington: Gov. Prtg. Off., 1885. 135 p. diags., maps, pl. 8°. (General information series. no. 4.) **VYEB**

The Nordenfelt submarine boat, p. 134-135.

1886

1383. **United States.** — Office of Naval Intelligence. Papers on squadrons of evolutions and the recent development of naval matériel. June, 1886. Washington: Gov. Prtg. Off., 1886. 4 p.l., 3-265 p. diags., maps. 8°. (General information series. no. 5.) **VYEB**

The trial of the Nordenfelt submarine boat at Landskrona in September, 1885, p. 258-259; Tuck's submarine torpedo-boat, p. 259; The Goubet submarine torpedo-boat, p. 260.

1889

1384. **United States.** — Office of Naval Intelligence. Naval mobilization and improvement in matériel. June, 1889. Washington: Gov. Prtg. Off., 1889. vii, 485 p. diags., maps, pl. 8°. (General information series. no. 8.) **VYEB**

Submarine boats, p. 438, 453-455.

Details of construction of the *Gymnote*, *Peral*, and *Goubet*; the latter to be tested for counter-mining. Mention is made of the construction of three boats for Russia.

1890

1385. **United States.** — Office of Naval Intelligence. A year's naval progress. Annual of the Office of Naval Intelligence. June, 1890. Washington: Gov. Prtg. Off., 1890. 408 p. diags., maps, pl. 8°. (General information series. no. 9.) **VYEB**

Submarine torpedo-boats, p. 32-36; Submarine torpedo-boat *Peral*, p. 43-45.)

The *Gymnote* and *Goubet* are described in detail, also the nautical qualities of these boats. The accounts of the performances of the *Peral* are reprinted from the press notices appearing at the time of the trials.

1891

1386. **United States.** — Office of Naval Intelligence. The year's naval progress. Annual of the Office of Naval Intelligence. July, 1891. Washington: Gov. Prtg. Off., 1891. 491 p. diags., maps, pl. 8°. (General information series. no. 10.) **VYEB**

The *Peral*, p. 51-52; *Plongeur*, p. 64-65.

Brief notes.

1894

1387. **United States.** — Navy Department. Report of the secretary of the navy [for 1894]. Washington: Gov. Prtg. Off., 1894. 683 p. 8°. (U. S. 53. cong., 3. sess. House exec. doc. 1, part 3; serial 3303.) * **SBE**

Submarine torpedo boats, p. 20-21; Submarine boat, p. 253; Submarine torpedo boats, p. 336-353.

These early reports are wonderfully interesting and even brief references have been included. On p. 291-293 is contained a report relative to tests made with torpedo nets, with plates showing braids and weaves; p. 337-338 contain a table giving comparative data of the Nordenfeldt and Holland boats, being a consideration of two designs submitted to the Navy Department.

1895

1388. **United States.** — Navy Department. Report of the secretary of the navy [for 1895]. Washington: Gov. Prtg. Off., 1895. lvii p., 11., 569 p. 8°. (U. S. 54. cong., 1. sess. House doc. no. 3.) * **SBE**

Submarine boats, p. xv, 218.

Brief notes.

1896

1389. **United States.** — Office of Naval Intelligence. Notes on the year's naval progress. July, 1896. Washington: Gov. Prtg. Off., 1896. 239 p. diags., pl. 8°. (General information series. no. 15.) **VYEB**

Five submarine torpedo boats [for Brazil], p. 20.

Illustration of type.

1898

1390. **United States.** — Naval Affairs Committee (Senate). Submarine boat Holland. Letter from the secretary of the John P. Holland Torpedo-Boat Company, of New York, transmitting a copy of the report of Lieut. Nathan Sargent, United States Navy, on the performance of the Holland, a submarine boat built by the company. [Washington, 1898.] 11 p. 8°. (U. S. 55. cong., 2. sess. Sen. doc. no. 226; serial 3610.) * **SBE**

Interesting chapter on the tactical value of the submarine.

1899

1391. **United States.** — Naval Affairs Committee (Senate). Submarine torpedo boat Holland. Official reports, Navy Department's requirements, testimony of naval experts, newspaper articles, etc., showing that the Holland has fulfilled every requirement laid down for a successful submarine boat and is a complete success, and, in the words of Chief Engineer John Lowe, U. S. N. (in his report to the secretary of the

*Official Publications, continued.**1899, continued.*

navy), "she is an engine of warfare of terrible potency, which the government must necessarily adopt into its service." [Washington, 1899.] 24 p. 8°. (U. S. 56. cong., 1. sess. Sen. doc. no. 14; serial 3844.) *SBE

Prescribed tests and results of official trials are given, also the names of officers and crew.

1900

1392. **United States.** — Bureau of Construction and Repair (Navy Department). Annual report...for the fiscal year ending June 30, 1900. Washington: Gov. Prtg. Off., 1900. 188 p. diags., pl. 8°. **VYEB**
Submarine boats, p. 28-29.
Sectional view of the Holland type. Brief text.

1393. **United States.** — Bureau of Navigation (Treasury Department). Annual list of merchant vessels of the United States, with the official numbers and signal letters awarded them by the commissioner of navigation...also lists and distinguishing signals of vessels of the United States navy... for the year ended June 30, 1900. Washington: Gov. Prtg. Off., 1900. vii, 423 p. ob. 8°. **TRD**

First mention of submarines in the navy list.

1394. **United States.** — Naval Affairs Committee (Senate). Submarine torpedo boat Holland. Copy of contract between the Navy Department and the Holland Torpedo Boat Company for the purchase of the submarine torpedo boat Holland. [Washington, 1900.] 3 p. 8°. (U. S. 56. cong., 1. sess. Sen. doc. 321; serial 3868.) *SBE

1395. **United States.** — Navy Department. Annual reports for the year 1900. Washington: Gov. Prtg. Off., 1900. 1258 p. 8°. (U. S. 56. cong., 2. sess. House doc. no. 3; serial 4098.) *SBE

Submarine torpedo boats, p. 11-12; Submarine torpedo boat Holland, p. 584-585; List of submarine boats in the navy, p. 792-793.

1396. **United States.** — Office of Naval Intelligence. Notes on naval progress. July, 1900. Washington: Gov. Prtg. Off., 1900. 303 p. diags., pl. 8°. (General information series. no. 19.) **VYEB**

Submarine boats, p. 48-49.

Results of trials of the French boats *Morse* and *Narwhal*.

1901

1397. **United States.** — Naval Affairs Committee (Senate). Holland submarine boat. Letter of Admiral George Dewey, United States Navy, addressed to Hon. William M. Stewart, dated January 28, 1901, testifying

to the great value of the Holland submarine boat for coast and harbor defense, and repeating his testimony in favor of said boat given before the House Committee on Naval Affairs April 23, 1900. [Washington, 1901.] 4 p. 8°. (U. S. 56. cong., 2. sess. Sen. doc. 122; serial 4039.) *SBE

Admiral Dewey advocates submarines for coast defense and for the protection of the Panama Canal.

1398. — Holland submarine torpedo boat. Papers on the military value of the Holland submarine boat and the need of additional boats of the Holland type. [Washington, 1901.] 32 p. 8°. (U. S. 56. cong., 2. sess. Sen. doc. 115; serial 4039.) *SBE

Letters and testimony of naval officers regarding the merits of the Holland boat, also a letter from John P. Holland comparing the achievements of the French *Narval* with those of the *Holland*.

1399. **United States.** — Navy Department. Submarine boat Holland. Letter from the secretary of the navy, transmitting, in compliance with resolution of the Senate of December 10, 1900, copies of all reports in the possession of the Navy Department and extracts from reports on file in the Bureau of Navigation, concerning the submarine boat Holland. [Washington, 1901.] 13 p. 8°. (U. S. 56. cong., 2. sess. Sen. doc. 71; serial 4033.) *SBE

1902

1400. **United States.** — Bureau of Construction and Repair (Navy Department). Annual report...for the fiscal year ending June 30, 1902. Washington: Gov. Prtg. Off., 1902. 240 p. 8°. **VYEB**

[Account of the progress of construction on the Plunger, Adder, Grampus, Moccasin, Pike, Porpoise, and Shark.] p. 43-44.

1401. **United States.** — Naval Affairs Committee (Senate). Staff corps increase. Submarine boats. Hearings before the Committee on Naval Affairs of the Senate. Washington: Gov. Prtg. Off., 1902. 103 p. 8°. (U. S. 57. cong., 1. sess. Sen. doc. no. 395; serial 4245.) *SBE

Submarine boats, p. 32-103.

Statements made by Mr. I. L. Rice and Mr. M. C. Butler on behalf of the Holland boat, by Mr. Simon Lake on behalf of his own boat, and by Mr. Thomas J. Moriarty on behalf of the boat named for him. In the appendix is the story of The invisible destroyer, being an account of the Moriarty boat.

1402. **United States.** — Naval Affairs Committees (Senate and House). Moriarty submarine boat. Hearings before the Committee on Naval Affairs of the Senate and House of Representatives. Statements of Clarence W. De Knight, counsel, and Thomas J. Moriarty, president of the Newport Manufacturing Company, and inventor. Washington: Gov. Prtg. Off., 1902. 49 p. 8°. (U. S. 57. cong., 1. sess. Sen. doc. 407; serial 4247.) *SBE

*Official Publications, continued.**1902, continued.*

1403. United States.— War Department. Holland submarine boats. Report of the army board to the secretary of war on the value of Holland submarine boats for harbor and coast defenses. (Washington, 1902.) 4 p. 8°. (U. S. 57. cong., 2. sess. Sen. doc. no. 52; serial 4420.) *SBE

Major Arthur Murray and others conclude that the submarine as an element of coast defense, when measured by its probable moral effect, is incalculable.

1903

1404. United States.— Bureau of Construction and Repair (Navy Department). Annual report... for the fiscal year ending June 30, 1903. Washington: Gov. Prtg. Off., 1903. 207 p. 8°. VYEB

[Account of the progress of construction on the Plunger, Adder, Grampus, Moccasin, Pike, Porpoise, and Shark.] p. 38-40.

1405. United States.— Naval Affairs Committee (House). Bribery charges. Report (and hearing in compliance with H. Res. no. 404). (Washington, 1904.) 163 p. 8°. (U. S. 57. cong., 2. sess. House report no. 3482; serial 4414.) *SBE

Representative Lessler charged that he had been approached to support the proposition to buy more Holland submarine boats.

1406. — Bribery charges. Views of the minority in compliance with H. Res. no. 404. (Washington, 1903.) 2 p. 8°. (U. S. 57. cong., 2. sess. House report 3482, part 2; serial 4414.) *SBE

1904

1407. Argentine Republic.— Ministerio de Marina. Submarines "Lake" and "Holland." Report of Commander L. A. Lan, Argentine navy. Translation by Mr. M. E. Beall, U. S. War Department. Buenos Aires, 1904. 40 p., 1 pl. 8°. (Review of naval publications. no. 87.) VXA

Very complete technical description of these boats.

1408. France.— Ministère de la Marine. Délivrance d'armes portatives aux sous-marins. 22 Sept. 1904. (Bulletin officiel de la marine: partie principale, Paris, tome 113, année 1904, p. 930-936.) VXA

1409. — Délivrance aux sous-marins de vêtements imperméables et de bottes de mer. 8 April 1904. (Bulletin officiel de la marine: partie principale, Paris, tome 113, année 1904, p. 271-272.) VXA

1410. — Durée de l'embarquement sur les sous-marins. 21 July 1904. (Bulletin officiel de la marine: partie principale, Paris, tome 113, année 1904, p. 579-580.) VXA

1411. United States.— Navy Department. Tests of submarine boats. Letter from the acting secretary of the navy, in response to a Senate resolution of January 13, 1904, stating that in his opinion it is incompatible with the government interests to disclose any information relating to the tests of submarine boats. (Washington, 1904.) 1 p. 8°. (U. S. 58. cong., 2. sess. Sen. doc. no. 140; serial 4589.) *SBE

1905

1412. France.— Ministère de la Marine. Approbation des nouvelles annexes relatives à la répartition du matériel des défenses sous-marines et des défenses fixes. 12 Dec. 1905. (Bulletin officiel de la marine: partie principale, Paris, tome 114, année 1905, p. 1063-1081.) VXA

1413. — Décision présidentielle allouant une indemnité mensuelle de 30 francs aux officiers subalternes non commandants, embarqués sur les bâtiments affectés aux flottilles de torpilleurs et de sous-marins des mers de Chine et obligés de se loger à terre à leurs frais. 17 April 1905. (Bulletin officiel de la marine: partie principale, Paris, tome 114, année 1905, p. 382-383.) VXA

1414. — Indemnités et suppléments de vivres revenant au personnel des sous-marins. 11 Dec. 1905. (Bulletin de la marine: partie principale, Paris, tome 114, année 1905, p. 1005-1006.) VXA

1415. — Modifications aux tarifs des indemnités à allouer aux scaphandriers pour l'exécution des travaux sous-marins. 28 March 1905. (Bulletin officiel de la marine: partie principale, Paris, tome 114, année 1905, p. 284-285.) VXA

1416. — Rapport au Président de la République française, suivi d'un décret et d'un arrêté ministériel portant suppression du Service des Défenses Sous-marines et réglant la répartition de ses attributions. 28 July 1905. (Bulletin officiel de la marine: partie principale, Paris, tome 114, année 1905, p. 783-813.) VXA

1417. — Rapport au Président de la République française, suivi d'un décret portant suppression des commissions locales des défenses sous-marines. 28 Feb. 1905. (Bulletin officiel de la marine: partie principale, Paris, tome 114, année 1905, p. 213-215.) VXA

1418. — Remplacement de l'appellation de "Défenses mobiles" et de "Stations de sous-marins" par celle de "Flottilles de torpilleurs" et de "Flottilles de sous-marins." 17 Jan. 1905. (Bulletin officiel de la marine: partie principale, Paris, tome 114, année 1905, p. 151-152.) VXA

Official Publications, continued.

1905, continued.

1419. — Tour de départ colonial des officiers-marinières, faisant partie des équipages des sous-marins. 7 Aug. 1905. (Bulletin officiel de la marine: partie principale, Paris, tome 114, année 1905, p. 776.) **VXA**

1420. **Great Britain.** — Admiralty. Fleets (Great Britain and foreign countries). Return "showing the fleets of Great Britain, France, Russia, Germany, Italy, United States of America, and Japan, distinguishing: — battleships, built and building; cruisers, built and building; coast defence vessels, built and building; torpedo vessels, torpedo boat destroyers, torpedo boats, and submarines, built and building." "Return to show date of launch, displacement, and armaments reduced to one common scale (in continuation of Parliamentary Paper, no. 136, of session 1904)." London: Eyre & Spottiswoode, 1905. 87(1) p. f°. (Gt. Br. Parl. Papers. 1905, v. 48.) * **SDD**

1906

1421. **France.** — Ministère de la Marine. Adoption du signe distinctif porté par les équipages des sous-marins. 26 June 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 597.) **VXA**

1422. — Affectation aux flottilles de sous-marins de la Métropole et d'Algérie-Tunisie des hommes ayant servi dans les flottilles de sous-marins aux colonies. 30 Oct. 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 865.) **VXA**

1423. — Arrêté sur l'embarquement des officiers de marine et des officiers mécaniciens dans les flottilles de sous-marins. 27 Nov. 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 994-998.) **VXA**

1424. — Coffres à médicaments pour torpilleurs et sous-marins. Coffres à médicaments pour bâtiments dépourvus de médecin. 20 July 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 657-670.) **VXA**

1425. — Décision présidentielle allouant le traitement de table aux commandants des flottilles de sous-marins lorsqu'ils prennent le commandement des torpilleurs convoyeurs des sous-marins de leur flottille. 28 Sept. 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 821.) **VXA**

1426. — Délivrance de bibliothèques de bord aux flottilles de sous-marins et de torpilleurs, défenses fixes et ateliers centraux

de la flotte. 30 Nov. 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 954-956.) **VXA**

1427. — Indemnités de charge à allouer sur les torpilleurs autonomes submersibles et les bateaux sous-marins. 11 June 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 558.) **VXA**

1428. — Indemnités de vivres attribuées aux équipages des sous-marins en tournées. 28 Sept. 1906. (Bulletin officiel de la marine: partie principale, Paris, tome 115, année 1906, p. 815.) **VXA**

1429. **Great Britain.** — Admiralty. Fleets (Great Britain and foreign countries). Return "showing the fleets of Great Britain, France, Russia, Germany, Italy, United States of America, and Japan, on the 31st day of March 1906, distinguishing: — battleships, built and building; cruisers, built and building; coast defence vessels, built and building; torpedo vessels, torpedo boat destroyers, torpedo boats, and submarines, built and building." "Return to show date of launch, displacement, and armaments reduced to one common scale (in continuation of Parliamentary Paper, no. 96, of session 1905)." London: Eyre & Spottiswoode, 1906. 129 p. f°. (Gt. Br. Parl. Papers. 1906, v. 70.) * **SDD**

On p. 86-91 appear tables giving name or number, date of launch, displacement, armament, and other information relating to the submarine boats of the navies of the world.

1907

1430. **United States.** — Naval Affairs Committee (House). Hearings before the Committee on Naval Affairs of the House of Representatives on estimates submitted by the secretary of the navy. 1906-07. Washington: Gov. Prtg. Off., 1907. 366, 576 p. 8°. * **SBF**

Statement of Hon. William H. Humphrey, member of Congress from Washington, [part 2,] p. 517-518.

Statement of Wesley L. Jones, member of Congress from Washington, [part 2,] p. 519-523.

Extract from report of board on comparative trials of submarines and subsurface boats, submitted under date of May 31, 1907 [and supplemental report under date of July 2, 1907], [part 2,] p. 565-571.

Mr. Humphrey advocates submarines and torpedo boats to guard Puget Sound. In Mr. Jones' statement are abstracts from Vice Admiral Fournier's report on submarines.

The trials refer to tests made with the *Octopus* and *Lake*.

1908

1431. **France.** — Ministère de la Marine. Adoption du même numérotage pour les flottilles de torpilleurs et de sous-marins stationnées dans le même port. 19 Aug. 1908. (Bulletin officiel de la marine: partie principale, Paris, tome 117, année 1908, p. 834.) **VXA**

*Official Publications, continued.**1908, continued.*

1432. — Au sujet de la période d'embarquement des enseignes de vaisseau sur les sous-marins. 1 Aug. 1908. (Bulletin officiel de la marine: partie principale, Paris, tome 117, année 1908, p. 806.) **VXA**

1433. — Décret portant règlement sur la solde des marins du corps des équipages de la flotte et des marins indigènes. 11 July 1908. (Bulletin officiel de la marine: partie principale, tome 117, année 1908, no. 19 bis.) **VXA**

1434. — Gratifications, pour travaux sous-marins, à allouer au personnel de la défense fixe des ports militaires et aux marins indigènes. 10 Sept. 1908. (Bulletin officiel de la marine: partie principale, Paris, tome 117, année 1908, p. 891.) **VXA**

1435. — Instructions concernant le mode d'application du décret du 7 janvier 1908 sur la solde aux flottilles de torpilleurs et de sous-marins. 30 April 1908. (Bulletin officiel de la marine: partie principale, tome 117, année 1908, p. 519-520.) **VXA**

1436. **Great Britain.** — Admiralty. Fleets (Great Britain and foreign countries). Return "showing the fleets of Great Britain, France, Russia, Germany, Italy, United States of America, and Japan, on the 31st day of March 1908, distinguishing:—battleships, built and building; cruisers, built and building; coast defence vessels, built and building; torpedo vessels, torpedo boat destroyers, torpedo boats, and submarines, built and building." "Return to show date of launch, date of completion, displacement, horse-power, and armaments reduced to one common scale (in continuation of Parliamentary Paper, no. 184, of session 1907)." London: Eyre & Spottiswoode, Ltd., 1908. 72 p. f°. (Gt. Br. Parl. Papers. 1908, v. 65.) ***SDD**

1437. **United States.** — Navy Department. Cost of two submarine torpedo boats for Puget Sound and one for Grays Harbor, Washington. Letter from the secretary of the navy, submitting a report as to the cost of two submarine torpedo boats to be stationed on Puget Sound and one submarine torpedo boat to be stationed at Grays Harbor, in the state of Washington. (Washington, 1908, 2 p. 8°. (U. S. 60, cong., 1. sess. Senate doc. 186; serial 5264.) ***SBE**

1438. — Estimate for submarine torpedo boats. Letter from the acting secretary of the treasury, transmitting a copy of a communication from the secretary of the navy submitting an estimate of appropriation for submarine torpedo boats. (Washington, 1908, 2 p. 8°. (U. S. 60, cong., 1. sess. House doc. no. 466; serial 5375.) ***SBE**

1439. **United States.** — Select Committee under House Resolution 288 (House). Report (and hearings, March 9-April 30, 1908, of the select committee appointed pursuant to House resolution 288. Washington: Gov. Prtg. Off., 1908. 87, 1909 p. 8°. (U. S. 60, cong., 1. sess. House report no. 1727; serial 5227-5228.) ***SBE**

Investigation of charges by George L. Lilley against the Electric Boat Company of New Jersey.

1909

1440. **France.** — Ministère de la Marine. Régularisation des cessions de chapitre à chapitre dans les flottilles de torpilleurs et de sous-marins situées hors des ports chefs-lieux. 15 March 1909. (Bulletin officiel de la marine: partie principale, Paris, tome 118, année 1909, p. 294.) **VXA**

1910

1441. **France.** — Ministère de la Marine. Arrêté ministériel pour la mise au concours d'appareils de sauvetage d'équipages des sous-marins. 7 Dec. 1910. (Bulletin officiel de la marine: partie principale, Paris, tome 122, année 1911, semestre 1, p. 1-8.) **VXA**

1442. — Attribution de matelots cuisiniers aux centres principaux des flottilles pour la préparation des aliments à bord des sous-marins en tournée. 21 March 1910. (Bulletin officiel de la marine: partie principale, Paris, tome 119, année 1910, semestre 1, p. 612-613.) **VXA**

1443. — Au sujet du commandement des torpilleurs et sous-marins de Rochefort — La Pallice. 28 September 1910. (Bulletin officiel de la marine: partie principale, Paris, tome 125, année 1912, semestre 2, p. 1553-1554.) **VXA**

1444. — Décision ministérielle relative au changement de flottilles du personnel affecté aux sous-marins. 21 May 1910. (Bulletin officiel de la marine: partie principale, Paris, tome 119, année 1910, semestre 1, p. 1130.) **VXA**

1445. **United States.** — Naval Affairs Committee (House). Hearings before the Committee on Naval Affairs of the House of Representatives on estimates submitted by the secretary of the navy, 1910. Washington: Gov. Prtg. Off., 1910. vi, 1341, 9 p. 8°. ***SBF**

Purchase of submarine boats, p. 687-703.

Unexpended balances for the purchase of submarines, p. 877.

Statements of William E. Humphrey and others regarding the efficiency of submarine boats for harbor defense.

*Official Publications, continued.*1910, *continued.*

1446. — Hearings on H. R. 19617 and H. R. 19618 providing for an increase of the navy by purchase of ten submarine boats, and so forth. Washington: Gov. Prtg. Off., 1910. 19 p. 8°. **VYEB**

1447. **United States.** — Navy Department. Supplemental estimates, increase of the navy. Letter from the secretary of the treasury, transmitting with a copy of a communication from the secretary of the navy submitting supplemental estimates for increase of the navy. (Washington, 1910, 12 p. 8°. (U. S. 61. cong., 2. sess. House doc. no. 834; serial 5836.) ***SBE**)

1911

1448. **France.** — Ministère de la Marine. Arrêté ministériel modifiant l'arrêté du 3 mai 1910, sur le fonctionnement du service dans les flottilles de sous-marins. 8 Dec. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 123, année 1911, semestre 2, p. 1280-1281.) **VXA**

1449. — Arrêté ministériel modifiant l'arrêté du 30 juillet 1910 sur le service courant dans les équipages de la flotte, et l'arrêté du 3 mai 1910 réglementant le fonctionnement du service dans les flottilles de sous-marins. 8 Oct. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 123, année 1911, semestre 2, p. 740-741.) **VXA**

1450. — Au sujet d'une réglementation commune aux deux flottilles de torpilleurs et de sous-marins de Brest. 25 Jan. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 122, année 1911, semestre 1, p. 185-188.) **VXA**

1451. — Au sujet des signaux indiquant la présence des sous-marins dans les ports de commerce. 21 Feb. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 122, année 1911, semestre 1, p. 356.) **VXA**

1452. — Les bottes de mer seront remplacées par des sabots-bottes à bord des torpilleurs et des sous-marins. 5 Jan. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 122, année 1911, semestre 1, p. 49-50.) **VXA**

1453. — Délivrance de voltmètres aux sous-marins d'un tonnage supérieur à 300 tonnes (instructions complémentaires). 12 Dec. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 123, année 1911, semestre 2, p. 1290.) **VXA**

1454. — Mode de décompte des rations acquises par les membres des tables des sous-marins de Rochefort-La Pallice. 20

March 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 122, année 1911, semestre 1, p. 464-465.) **VXA**

1455. — Rapport au Président de la République française, suivi d'un décret modifiant le décret du 4 mars 1910 portant réorganisation des flottilles de torpilleurs et de sous-marins. 8 Oct. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 123, année 1911, semestre 2, p. 742-743.) **VXA**

1456. — Réglementation commune aux deux flottilles de torpilleurs et de sous-marins de Brest. 4 Nov. 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 123, année 1911, semestre 2, p. 948-949.) **VXA**

1457. — Les torpilleurs et sous-marins compléteront mensuellement leurs approvisionnements à trois mois de matières consommables. 10 June 1911. (Bulletin officiel de la marine: partie principale, Paris, tome 122, année 1911, semestre 1, p. 1077-1078.) **VXA**

1458. **United States.** — Naval Affairs Committee (Senate). Navy yearbook, 1911. Washington: Gov. Prtg. Off., 1911. 807 p. 8°. **VYEB**

Submarine torpedo boats, p. 737.

Table of the submarines of the United States Navy, giving the former names and official number and also the official name from the *A-1* to *K-3*.

1912

1459. **France.** — Ministère de la Marine. Abrogation de la circulaire du 19 janvier 1912 (B. O., p. 70) et modifications aux règlements d'armement spéciaux des sous-marins types Pluviôse et Émeraude. 24 Aug. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 125, année 1912, semestre 2, p. 428-430.) **VXA**

1460. — Au sujet des peintures à employer à bord des sous-marins. 20 Jan. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 124, année 1912, semestre 1, p. 74-75.) **VXA**

1461. — Commandement de torpilleurs et de sous-marins par des enseignes de vaisseau de 1^{re} classe. 22 Aug. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 125, année 1912, semestre 2, p. 420.) **VXA**

1462. — Les commissaires des flottilles de torpilleurs et de sous-marins en France ne peuvent obtenir la résidence libre. 29 April 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 124, année 1912, semestre 1, p. 826.) **VXA**

1463. — Fixation de l'effectif définitif à attribuer aux sous-marins type Brumaire et

*Official Publications, continued.**1912, continued.*

Pluviôse. 13 May 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 124, année 1912, semestre 1, p. 1067.) **VXA**

1464. — Fusion administrative des torpilleurs et des sous-marins de Brest, de Toulon et de Bizerte. 13 Dec. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 125, année 1912, semestre 2, p. 1552-1553.) **VXA**

1465. — Les hommes débarqués des sous-marins peuvent être affectés à des postes au choix sans être astreints à accomplir au préalable une année d'embarquement au tour de liste. 10 Dec. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 125, semestre 2, p. 1524.) **VXA**

1466. — Modification aux conditions d'allocation de la prime de o fr. 42 aux équipages des sous-marins. 13 Aug. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 125, année 1912, semestre 2, p. 368-369.) **VXA**

1467. — Modification à l'effectif des sous-marins type Brumaire et Pluviôse (équipage supplémentaire). 17 Sept. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 125, année 1912, semestre 2, p. 545.) **VXA**

1468. — Modifications à apporter au règlement d'armement spéciaux des sous-marins types Pluviôse et Émeraude. 19 Jan. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 124, année 1912, semestre 1, p. 70-73.) **VXA**

1469. — Les officiers-mariniers, quartiers-maitres et marins autorisés à changer de flottille de sous-marins, par application de la décision ministérielle du 21 mai 1910, ont droit à des frais de déplacement. 13 July 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 125, année 1912, semestre 2, p. 62.) **VXA**

1470. — Situation, au point de vue du traitement de table, des officiers admis temporairement à la table du Service central des groupes de torpilleurs et sous-marins. — Retenue à opérer sur leur traitement de table. 4 June 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 124, année 1912, semestre 1, p. 1268-1269.) **VXA**

1471. — Supplément d'outillage à accorder aux flottilles de torpilleurs et de sous-marins. 22 Feb. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 124, année 1912, semestre 1, p. 336-337.) **VXA**

1472. **United States.**—Naval Affairs Committee (House). Hearings before Committee on Naval Affairs of the House of Rep-

resentatives on estimates submitted by the secretary of the navy, 1912. Washington: Gov. Prtg. Off., 1912. v, 1984 p. 8°. ***SBB**

On p. 1121-1125 is a description of a device for leaving a submerged submarine in event of accident, submitted by William A. Stevenson. The statement of Naval Constructor H. A. Evans (p. 1127-1130) contains a reference to submarines built for the Chilean government.

1913

1473. **France.**—Ministère de la Marine. Au sujet des montres à délivrer aux sous-marins. 24 Dec. 1913. (Bulletin officiel de la marine: partie principale, Paris, tome 128, année 1913, semestre 2, p. 2001.) **VXA**

1474. — Au sujet des réadmissions et rengagements des marins embarqués sur les contre-torpilleurs et sous-marins des escadres. 29 Sept. 1913. (Bulletin officiel de la marine: partie principale, Paris, tome 128, année 1913, semestre 2, p. 1340.) **VXA**

1475. — Au sujet d'un stymographe Banaré à allouer à chaque sous-marin. 1 Oct. 1913. (Bulletin officiel de la marine: partie principale, Paris, tome 128, année 1913, semestre 2, p. 1381.) **VXA**

1476. — Au sujet de la vérification semestrielle du réglage des torpilles des sous-marins. 2 June 1913. (Bulletin officiel de la marine: partie principale, Paris, tome 127, année 1913, semestre 1, p. 733-734.) **VXA**

1477. — Conditions de prêts à des particuliers de docks de relevage de sous-marins. 28 Feb. 1913. (Bulletin officiel de la marine: partie principale, Paris, tome 127, année 1913, semestre 1, p. 273.) **VXA**

1478. — Délivrance aux sous-marins type Pluviôse d'un coffret métallique pour la conservation des fonds. 30 Dec. 1912. (Bulletin officiel de la marine: partie principale, Paris, tome 127, année 1913, semestre 1, p. 14.) **VXA**

1479. — Gratifications pour travaux sous-marins à allouer aux marins des directions de port et au personnel des défenses fixes des ports militaires. 16 July 1913. (Bulletin officiel de la marine: partie principale, Paris, tome 128, année 1913, semestre 2, p. 77-78.) **VXA**

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On p. 646-660 is a statement of Hon. Josephus Daniels concerning the Lake submarines of the G class, descriptions and appropriations. In the continuation of this statement, on p. 843-847, is incorporated a letter from Mr. Simon Lake regarding the position of the government toward the submarine question.

In a statement of Hon. Rufus Hardy, p. 857-865, appears a translation of an article, printed in the *Berliner Tageblatt*, March 13, 1913, relating to the substitution of submarine boats for torpedo boats. Other discussions follow concerning the question of protection of the Canal Zone by a submarine flotilla.

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1494. — Transfert du chapitre 27 au chapitre 46 des filets de barrage, des filets indicateurs de sous-marins, ainsi que des matières et objets approvisionnés en vue de la confection du matériel envisagé. 23 Dec. 1916. (Bulletin officiel de la marine: partie principale, Paris, tome 134, année 1916, semestre 2, p. 629.) **VXA**

1495. United States. — Bureau of Construction and Repair (Navy Department). Annual report...for the fiscal year 1916. Washington: Gov. Prtg. Off., 1916. 38 p. 8°. **VYEB**

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1496. United States.—Naval Affairs Committee (House). Fleet submarines. Report to accompany H. R. 13670. (Washington, 1916.) 5 p. 8°. (U. S. 64. cong., 1. sess. House report no. 492.)

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1498. — Navy yearbook, 1916. Washington: Gov. Prtg. Off., 1916. 762 p. 8°.

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History of appropriations for submarines and sub-surface boats, p. 624-625; List of submarines (showing contractor and place where built), p. 625-626; List of submarines (when authorized, first and last commission, and price), p. 627-628.

This historical sketch and these tables appear annually in the yearbook, therefore only the most recent edition has been mentioned here. For earlier tabulations the preceding numbers may be consulted.

1499. United States.—Senate. Vessels sunk by German submarines, mines, or warships. Data concerning the sinking of neutral vessels belonging to Norway, Sweden, Denmark, and Holland, and which were sunk by German submarines, mines, or warships between the dates, August 1, 1914, and March 25, 1916. Washington: Gov. Prtg. Off., 1916. 6 p. 8°. (U. S. 64. cong., 1. sess. Sen. doc. no. 381.)

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1500. United States.—Naval Affairs Committee (House). Hearings before Committee on Naval Affairs of the House of Representatives on estimates submitted by the secretary of the navy, 1917. Washington: Gov. Prtg. Off., 1917. iv, 1207, xviii p. 8°.

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On p. 48-50 the subject of nets for harbor and battleship defense is discussed, including the estimates allowed for the purchase of nets.

A statement made by Rear Admiral R. S. Griffin is given on p. 139-160, in which he discusses the

contracts and appropriations for thirty submarines, their equipment, design, and propulsive power. Quite an exhaustive discussion of storage batteries and their defects appears on p. 149-151.

In a statement made by Admiral W. S. Benson, on p. 564-570, he discusses the use of submarines in war tactics.

Admiral C. J. Badger and Rear Admiral Fletcher in a statement, p. 653-675, give their opinions regarding the German submarines of large displacement and of mother ships for cruising submarines.

Secretary Daniels and Lieut. McCandless give a statement (p. 695-837) regarding proposed submarines, with a table showing price, design, and special features. The question of storage batteries is discussed and a note is given stating the different troubles that have arisen with the Edison batteries. The history and reports on the batteries of the *E-2* are given in full.

Admiral W. S. Sims makes a statement regarding the battle of Jutland (p. 839-877) in which he discusses the strategic value of the submarine, advocating strongly submarines of large displacement.

A statement of Mr. J. W. Powell of the Fore River Shipbuilding Corporation on p. 1038-1041 contains references to the steel required in the construction of submarines.

On p. 1141 is the letter of Secretary Daniels to Mr. Padgett concerning the Riker battleship hunting submarine.

1501. United States.—Naval Consulting Board. The submarine and kindred problems. New York, 1917. 15(1) p. 8°. (Bulletin no. 1.) **Econ. Div.**

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