# ACHIEVEMENT OF GIANT GERMAN UNDERSEA MERCHANTMAN THRILLS MARITIME WORLD

## U. S. INVENTOR'S IDEAS BASIS OF **U-BOAT TRIUMPH**

Adoption and Development Responsible, Local Naval Constructor Says

### PERFECTED ENGINE VITAL

Through the adoption and developme the ideas of American naval architects and inventors, the German merchant submarine Deutschland came into the perfection by which she was enabled to make the 4000-mile trip aerosa the Atlantic in 16 days and arrive safely in Baltimore with her 1000-ton cargo. It was through the direct adaptation of the plans of Simon

direct adaptation of the plans of Simon Lake, of Bridgeport, Conn., that the Deutschland was prepared for the epochal voyage, making half of it under water.

This, at least, is the assertion of William A. Dobson, naval architect, who has planned submarines that have been built by the William Cramp & Sons Ship and Engine Building Company, of Beach and Ball streets, his employer.

ets, his employer. Germany," said Mr. Dobson, "is in the "Germany," said Mr. Dobson, "is in the advance of the remainder of the world in the perfection of submarines, and that per-fection came through the adoption of Ameri-

### A PERFECTED ENGINE.

"Germany is ahead of us now in her per-fection principally because she has dev-eloped the Diesel engine, a heavy oil engine that is the most adequate of its kind. The Deutschland was equipped with this Diesel engine. Other features of their updersea oats, however, are similiar to those of the

United States. "Simon Lakes, of Bridgeport, Conn., was the inventor of the first merchant sub-marine which later developed into the submarine which later available into the sub-marine torpedoboat. He showed his ideas to the Krupp firm in Germany in 1905 and afterwards asserted that the Krupps had taken his ideas and used them without offering any compensation. I believe this is so because I met Lake over there at the

is so because I met Lake over there at the time and knew that he had the plans which later were developed in Germany."

When Mr. Dobson read of the Deutschland's remarkable adventure, he said he had been "looking to see something of the sort." It is only the working out of the German submarine naval warfare, he said, for it is marrely a step from naval submarines. for it is merely a step from naval submarines to merchant gubmarines. "There will be many more things of greater importance accomplished by the undersea craft." Mr. Debson prephesied. "So far as long voyages by them are concerned, as far back as 1906 or 1907 a trip was made from Italy around

or 1307 a trp was made to stockholm, Sweden.

"Most of that trip, to be sure, was above water, but it pointed the way, nevertheless, to what could be done. It foretokened the coming of the Deutschland blockade runner.

Mr. Dobson said the safe voyage of the Deutschland should be a lesson to the United States authorities—should show that the United States is not immune from

underses attacks.
"It is a greater lesson to our naval and
military authorities," he said, "than to
any one else. They should see by it that we are not safe from attacks and more consideration should be given to those inventors who have presented devices by which we can be protected to some extent from submarines and undersea blockade

There is an invention now before the authorities that is not being given the con-eigeration it warrants. It is a vessel to be stationed at the bottom of the ocean for the detection and destruction of submarines. the detection and destruction of submarines. There is another invention of a system of 'mines that hear'—mines to be laid in the harbors that are equipped with telegraphic and seismograph-like instruments that locate submarines within certain imits of territory.

ENCOURAGE HOME INVENTORS These devices are not being given the consideration due them. The inventors, in order to receive rewards for their study and work, may have to go to Germany to market them, just as several such American things adopted by Germany have caused marvel at the ingenuity of Germany. It is natural that these men should go to another country when the American authorities are so apathetic about defensive

Germany with his plans for a submarine. His submarine was one that sank bodily instead of diving. The Germans now have that type of submarine and, as we have seen, have used it very advantageously. These boats, of which the Deutschland is direct descendant, was first made by the Submarine Boat Company of Bridgeport, Conn. "The United States is now using them

"The United States is now using them with the exception that we have not the highly perfected Diesel engine. The Electric Boat Company, however, is making here in the United States submarines with special heavy oil engines.

"Undorses craft have a future. They will yet do far more remarkable things than the Deutschland has done."

## BACK TO HOSPITAL A PATIENT

Boy Knocked Down After Calling on Sick Father-Now in Next

Dasire to visit his father, Morris Rabov o is recovering from an operation in Jewish Hospital, almost cost Charles Raboy, 12 years old, of 2555 South 13th atreet, his life.

After giving his parent a cheery good-

by at the hospital the boy started for home happy at the thought that his father would soon be home again. While he was crossing York road at Tabor street he was knocked down by a car speeding toward Willow Grove and thrown several feet.

The youngster was taken to the hospital which he had just left and was placed on out alongside of the one occupied by his

"That's my daddy," he said as he stud-ied the features of Raboy. The boy's right log was fractured. His father was speedily asured that his son's injuries were not erious. The boy will be permitted to re-main at the institution until the father is

## WILLS ADMITTED TO PROBATE

Personal Effects of Mary N. Scarlett Appraised at Nearly \$54,000

Wills admitted to probate today were those of Jacob Zebandar, 502 Queen street, dermantown, which, in private bequeets, dispuses of property valued at 178,006; Mary F. Supples 811 North 53d street, 159,665; Carnarine E. Colline, 1834 Spring Carden street, \$10,000; Margaret B. Stanford, who died at Milton Point, N. Y. 15,000; Margaret B. Stanford, who died at Milton Point, N. Y. 15,000; Margaret B. Stanford, who died at Milton Point, N. Y. 15,000; Margaret B. Stanford, who died at Milton Point, N. Y. 15,000; Margaret B. Stanford, who died at Milton Point, N. Y. 15,000; Margaretta Breitmeyer, 810 North Oranna Mreet, 18132, and Mary M. John, 173 Hersh 87th street, \$1500. The personal effects of the estate of Mary N. Souriest have been appraised at \$15,8231; William mor, 1931, IS, 2nd Illian Morrow, 1831, 62.

NEW YORK, July 10.—Mrs. George Oncar Starr, widow of the former general managor of Barnum & Haftey's circus, arrived
Saturday from Liverpoel on the American
liner Philadelphia after carrying out ber
hatband's expressed wish by scattering his
sches to the four winds. Mr. Starr died
supering 10 years old, was known in the
that show world in the \$0s as Zasai, the human
sances ball. See Murder in Death in Creek on white was part in the body an unknown man was found floating in Purkness to Judy long a boarding a keeps, A black eye not man maring antique an action, and Course Modificationy to leave may be described what it was that

### Mother Shipton's Prophecy Again Hits Bull's Eye

Carriages without horses shall go And accidents fill the world with woe, Primrose Hill in Landon shall be And in the centre a Bishop's see; Around the world thoughts shall fly, in the twinkling of an eye.

Through the hills men shall ride, And no ass or horse be by their side A great man shall come and go. Iren in the water shall float, As easy as a wonder wat; Gold shall be found, and found in land that is not now known. Fire and water shall mere wonder do, England shall at lost admit a Jew The Jew that was held in scorn, Shall of a Christian be born and born A house of glass shal come to pass, In England—but alas, War will follow with the work in the land of Pagan and Turk; And State and State in ferce strife Will seek each other's life. But when the North shall divide the South An Eagle shall build in the Lion's mouther Taxes for blood and for war will come to every door.

Three times three shall lovely France Be led to play a bloody dance, Before her people shall be free Three tyrant rulers shall she see, The British Olive next shall che had Shall be seen book in hand,

All England's sons that plow the land Shall be seen book in hand, Learning shall so ebb and flow. The poor shall most wisdom know, The world then to an end shall come. In eighteen hundred and eighty-one.

FRENCH GAIN ON SOMME

Continued from Pase One Allied offensive the French have advanced

en a 15-kilometre front (about 10 miles), to

a depth of from 3 to 5 miles, it was stated semiofficially today. The greatest advance was made along the south bank of the Somme, where the capture of Blaches ad-

ranced the French front nearly six miles from its former position. The War Office today reported minor

In the Vosges, German detachments un-successfully attacked French positions at La Chapelotte five times during the night.

OFFICIAL TEXT.

The text of the official communique fol

North of the Somme the night was

South of the Somme our troops, con

tinuing their progress throughout the night in the region of Barleux, captured a line of German trenches between that village and Le Maisonnette. The un-wounded prisoners captured by us in

that sector yesterday and last night number 950.

In Champagne two surprise attack made by us were successful. South-east and west of Tahure and west of

the Butte Desmesnil we launched two attacks on a German trench which we captured and organized on a front of

500 yards. · About half a score of pris-

In the Argonne one of our recon

noitering parties penetrated at Fort de Paris into an army trench which was

cleared of defenders by means of gren-

On the front north of Verdun th

On the front north of Verdun Inbombardment continued in the regions
of Chattancourt, Felury and Laufes.
A strong enemy patrol was dispersed
with granades no these of Fleury.
In the Vosges enemy detachments attacked our positions in the region of

Chapelotte at three points. Cut to pieces by our machine guns, the enemy was unable to gain a footbold. He was

GROUND IN FIERCE FIGHT

A desperate battle of 8 hours' duration

has raged around Trones woods with German and British troops engaged, it was an-nounced in an official War Office report is-

The British captured the wood, which is

At one time the Germans succeeded in pen-

etrating the English trenches, but were driven out. The Germans lost an enormous

The text of the official report follows

During the past 48 hours the severest fighting has centred around Trones wood. This wood is triangular in shape, measuring 1400 yards north and south, with a southern base about 1400 yards wide. The Germans had creeted strong defenses with trenches and

strong defenses with trenches and barbed wire entanglements.

On the morning of July 8, after a heavy bombardment, we succeeded in capturing the southern end of the wood and subsequently extended the position northward, repulsing determined counter-attacks with heavy losses for the enemy.

On Sunday afternoon two more massed counter-attacks against the wood were crushed by our artillery.

In the evening the enemy bombarded the wood and at 8 o'clock delivered two strong attacks from the east and

northeast. The first attack-was completely repulsed, but the second succeeded in penetrating the southern end of the wood. However, the Germans were immediately ejected, having suffered heavy losses. Later in the night the Germans made their fifth desperate attempt, but this attack also was

attempt, but this attack also was crushed. The enemy's casualties in those five fruitiess attacks were severe. At other places on the front progress has been made. Northwest of Contai-

maison we captured a small place of woodland with three guns during the morning, taking also several hundreds

On the Flandres front the enemy's artillery bombarded our tranches in the region of Hooge heavily for three

hours. Three successful raids were made by us against the German front line trenches in this region.

MADE BY FRENCH AND

British troops have penetrated the Trones woods and the French the villages of La-Maisonette, Barleux and Reconques, it was

ficially admitted today. Hand-to-hand fighting is going on with

out command in the village of Ovillars, north of the Somme. The report says in part:
On both sides of the Somme the fighting continues. Our brave troops repulsed the attackers. Though temporarily forced to yield ground, they promptly counter-attacked, electing the

Scatters Man's Ashes to Sea

BRITISH ON WEST FRONT

BERLIN, July 10.

BERLIN ADMITS GAINS

AROUND TRONES WOOD

LONDON, July 10.

patrols were dispersed.

oners were taken.

completely repulsed.

sued at noon.

number of men.

BRITISH TROOPS EXTEND

AND IN CHAMPAGNE

The talk turned to life on a submarine.
"Oh, yes," he said, "we had plenty to
eat. We could cook everything and we
had tinned meats, tinned fruits and tinned
bread—linned everything, just like in Well, what else, Captain?" he was

Continued from Page One

U-BOAT FLEET WILL ATTEMPT

"Well, we played the gramaphone while inder water and we had some champagne, port waiting for us, but I could submerge before leaving the river. Our ability to escape ought to be demonstrated by the Captain Koenig explained that his vessel

TO BREAK BRITISH BLOCKADE

carried no message from the Kalser to President Wilson nor any securities to be deposited here. He would take back, he and, "almost any kind of a cargo," although he didn't want to announce just when he fact that we were not seen at any time on

His written statement emphasized that the Ocean Transportation Company, Limited, feit it had taken only one step toward

### DEUTSCHLAND NOT CONVERTED WAR CRAFT: REAL COMMERCE CARRIER

The Deutschland is no converted war craft, but a brand new commerce carrier owned in Bremen. It is learned that it was from Bremerhaven that the Deutschland

started for this country. Although British and French cruisers stood guard off the Virginia Capes to intercept and prevent any attempt of the German submarine to enter the Chesapeake, the was submarine to enter the Cassapease, the vessel bobbed up within the three-mile limit at 1:45 o'clock Sunday morning. With the same daring and determination that enables the Germans to bring into Norfolk the prize ship Appam and the Prinze Eltel Friederich and Kron Prinz Wilhelm, with the cruisers standing guard just off the three-mile limit, so was the giant undersea. nerchantman brought in.

The 4000 miles from Germany were covered practically half above water and half submerged. With a speed of 15 knots an hour on top water and 12 knots submerged, the time required for the vessel to reach this country is a record one.

Not until hours after she arrived at Quarantine did American officials take any action. Then Customs Collector Ryan, with doctors and other officials, hoarded the Deutschland, examined her crew of 29, viewed her manifest and talked for a time with the blue-coated white-capped submariners.

activities at several other places on the French front. In the Argonne a French reconnaissance party cleaned up a German trench. North of Verdun, the sectors of Chattancourt, Fleury and Lausee were under bombardment and strong German patrols were dispersed. READY TO UNLOAD. When the examination was complete, the Deutschland, now flanked by scows and tugs, continued her way to the gun-protected wharf of her consignee, the Eastern Forwarding Company, Henry G. Hilken, senior member of the A. Schumacher & Co., interested in the North German Lloyd line and the forwarding concern, boarded her with his son, Paul G. L. Hilken, Swed-

ish vice consul and member of the North German Lloyd agency. Tears were in the men's eyes as they embraced the stolid Captain Koenig.

The Deutschland docked at an isolated The Deutschland docked at an isolated wharf belonging to the branch office here of the North German Lloyd, which has been closed down and barricaded since the European war began. Around the buildings at the entrance of the wharf is a fence of barbed wire, while doors are barricaded and guards at each one.

When the Deutschland was towed up beside the tiler not a single American cit-

beside the pier not a single American cit-izen was there to greet her. Germans alone, and only those Germans that were actively engaged in duties were permitted to get even within close view of the sub-

The submarine was tied up. Her crew was landed and taken into the dock offices and kept under guard. They were not permitted to leave the room. They must not take. They must not take. They must not even show the color of their uniforms. They must stay as completely within the building as they stayed

SCHOOLS AT CAPE MAY

FRIENDS DISCUSS

within the Deutschland on their trip to teach the world new methods of breaking block-

STRANGERS BARRED. Shortly after the Deutschland was tled up German hands got busy and hastily constructed a log fence around her in the water, extending far out into the harbor, prowater, extending far out into the harbor, preventing any tug or other vessel to approach even within good talking distance. Barbed wire was put above the logs, forming a high fence in the water. No man appeared on the submarine's deck. High up on her mast—tall for a submarine—flew the German flag. The Deutschland lay like a giant sea-turtle, flat, green and low upon the water. She was indeed "of low visibility."

After the vessel was locked securely from prying eves that might approach either hy

prying eyes that might approach either by land or water. Captain Koenig, the com-mander, entered the pier offices of the company and went into consultation with Paul G. L. Hilken, Swedish Vice Consul here and senior member of the firm of A. Schumacher & Co., representing the submarine's owners.

Captain Keenig walked out of the office captain keenig waiked out of the office after his conference quite as if he were unconscious of the fact that he had the eyes of the world turned upon him. He did not seem to see those who questioned him. He looked at newspaper men clamoring around him as if they were unreal. Not a word did he speak. Hilken, who accompanied him to the door, said Captain Koenig could not speak English.

"If he could he wouldn't." Hilken added. "He does not like the English very much, and he does not want to speak their language."

Later Captain Koenig, through an in-terpreter, gave a brief, disconnected account of his experiences in crossing the Atlantic. RETURN CARGO.

The dyestuffs began to pile up in a ware house filled with \$600,000 worth of nickel and supplies which the Deutschland plans to take back to the Fatheriand, if she can again scoff at alled patrols and skirt the cruisers that seek her destruction. Whatever happens to the submarine, he

performance just ended is one of the greatest feats of maritime history. The Deutsch-land has created a record that will change rules of war, upset the blockade and bring into play a new means of war-time traffic The Deutschland started from Bremen, Germany, for her trip to the United States. She slipped out of the Kiel Canal on June 23 and reached Norfolk during the night of

From officials of the Schumacher Comstraits of the German people was what brought the Deutschland to America. Ger-many must have certain supplies that she can get nowhere else. The Deutschland has

uly 8, 16 days.

## U-BOAT'S TRIP STRIKES AT BRITISH BLOCKADE

Conference Has Established Kindergartens on the Sands Under to Admit England's Stand Direction of Teachers Is Illegal

By a Staff Correspondent

CAPE MAY, July 10 .- The third day of the Friends' General Conference began with divine worship at 10:30 in the tent. Mrs. Harbert Worth, Mrs. Sarah Flitcraft and Mrs. Sarah Linvill all made short talks and Isaac Wilson offered prayer. The most in-teresting part of the meeting, however, was the talk given by Elbert Russell, professor of biblical literature in Johns Hopkins University.

about seven miles southwest of Bapaume on the Somme River front, and had to with-stand furious counter-attacks, but held on. An interesting fact in conection with the conference is that kindergartens, under the direction of several teachers from the Friends' Central School, at 15th and Race streets, have been established. Tents have been erected on the sand and there, amid ocean breezes, the kiddles play while their ore serious mothers and fathers attend the

various meetings.

After meeting on Sunday morning, George A. Walton, principal of the George School, called a meeting of the alumni of the school and all who are in any way interested in its activities. There he called upon various men and women, some lawyers, teachers and engineers, and asked them to tell just how the George School had helped each one. All voiced the sentiment that the principals of high living taught by the Friends fit one for any walk of life. They also spoke a good word for Swarthmore College, which institution most of them

entered after leaving George School.

The morning session today was held in
the Methodist Church owing to the rain. Elbert Russell spoks on "The Message of Paul," and said among other things that ome of the greatest religious thinkers such as Martin Luther and Calvin, had re-ceived courage and help from the epistics

of Paul.

The round table talks were conducted at 3:15 o'clock, the subjects being as follows:
"Principles of Priends." George H. Nutt;
"First Day Schools Organizing for Efficiency," Herbert P. Worth; "Work Among Colored People." Miss Helen Underhill Wood; "Temperance," Joel Borton.

At 11:20 George A. Walton delivered the third of a series of talks on "Development of the Religious Life," his particular thams this morning being "Sacrifee."

theme this morning being "Sacrifice."

Men will have haseball, and if the Phillies or Athletics cannot be tranported to Cape May, they said. "We'll have baseball, any-

May, they said. "We'll have baseball, anyway." The boys will play the girls and at 3.30 the married men will play the single ones. Much fun is in store for the Friends and the rest of us, there is no doubt.

And let me tell you these same, clear thinking men and women are having the time of their lives. The Rad Mill Dance Payillon has been donated to them for the remainder of the week, and the floor was so crowded en Saturday evening that some of the rest of us had to get off. The members

the rest of us had to get off. The members of the Baseball Committee include Mr. and Mrs. Dudley Perkins, Newlin L. Booth, H. Moore, Fraderick N. Price, Philip T. Sharp-less and Mr. and Mrs. Henry W. Winder-

At 7:45 o'clock Bird T. Baldwin will At 7:45 a'clock Bird T. Baldwin will speak on "Some Problems of Education in the Society of Friends," and John W. Carr will talk on "Moral and Religious Education in the Schoola." At 8:45 tonight an allegory, by Myrtle Glenn Roberts, will be given. The cast of charciers is as follows: The Woman, Violet E. Rose; the Man, Joseph H. Watson; the Son, Walter S. Pedrick; the Hardman, Lewis H. Kirk. Scenes: The foot of the rainbow; the house of love; the Princess' knotl. The play will take place in the auditorium tent.

14,000 Vehicles on Jersey Road in Day COLLINGSWOOD, N. J., July 10.—The ras advent or summer than the break of day rea-terday and continued until late last night. It was estimated that 14,000 automobiles and materoycles passed along the White Horse Pike between here and Haddon Heights bound for shore resorts.

Germans Hope to Force Neutrals

BALTIMORE, July 10 .- The successful rsubmarine Deutschland to be the basis for a diplomatic struggle b Germany to force neutral countries to admit the illegality of the British blockade of the ports of the Central Alles. E. Haniel von Haimhausen, first counselor for the German embassy, arrived in Baltimore today to take charge of the diplomatic developments fol-lowing the arrival of the Deutschland. He

gave the German position thus:
"The arrival of the submarine merchant-man Deutschland and the reported plans for sending others to this country from Ger-many will prove that the pretended British-French blockade of German ports is broken.

Counselor von Halmhausen at once got in ouch with the officials of the submarine line, and with Captain Paul Koenig, of the line, and with Captain Paul Roenig, of the submarine. He said he would keep Am-bassador von Bernstorff informed as to the delevopments of the situation here and would handle any diplomatic business that

### BERNSTORFF DECLARES U-BOAT IS PRIVATE VENTURE ONLY

NEW YORK, July 10 .- Count von Berr storff, German Ambansador to the United States, had no official notice of the Deutschland's arrival up to midnight last night, but "had been given to understand" that she
was on her way. So far as he knows, he
asserted, the submarine voyage is a private
adventure of the North German Lloyd Line.

The Ambassador reached the Ritz-Caritor Hotel late last night, having spent the day at the German summer Embassy at Rys. "My knowledge of the Deutschland's arrival has come only through newspaper sources and from what I have been told," he declared. "I have received no official information either regarding the trip or the years," and party al." the vessel's safe arrival."

"Did you know that the Deutschland was n her way across?" he was asked.
"I had been given to understand that

she was," he replied.
"Did your information come from an official source?" His answer was a shrug of his shoulders nd a slight elevation of his gyebrows. Questioned about the ownership of the out, the Ambassador said:

"So far as I know, she is a private ship, sent across by the North German Lloyd STATE CLOSES ORPET CASE

## Illinois Prosecutor Says Girl Victim Was Not a Suicide

WAUKEGAN, Ill., July 10.—Basing his pies on the statement that "Marian Lambert had everything to live for, nothing to die for," Assistant State's Attorney Bunyard, in opening the closing arguments for the State today, asked the jury to convict furnet of Marian's murdet. Orpet of Marian's murder.

Runyard deciared that alienists, who had stifled that Marian's frame of mind indicated suicide, knew nothing of the girl her seif. He asked the jury to believe testi-mony of Marian's parents and friends that she was always happy. Special Presecutor Joselyn, who will close for the State, will probably not demand the death penalty.

Bible Class Institute Opens Today The second annual Bible Class Institute will open this afternoon at the Lutheran Theological Seminary, Mount Aty, and more than \$40 Sunday school teachers are expected to attend. Clergymen and Sunday school workers will deliver addresses. The course of instruction will cover a pride range and will include the air principles complained to be the barie of Lutheran Bible Isaching.

## UNDER OCEAN SHIP **OWNERS ASKED TO** START LINE HERE

Commerce Chamber Wants Direct Imports of Dyes and Materials

TEXTILE INDUSTRY

Steps have been taken by William A. Sproull, Commissioner of Transportation of the Philadelphia Chamber of Commerce, to get in touch with the owners of the Ger-man submarine Deutschland which arrived in Baltimore today, and endeavored to ar-

in Baltimore today, and endeavored to arrange to have such boats land at this port where they can discharge their cargoes of dyestuffs in the heart of the textile manufacturing centre of the United States, where they are so urgently needed.

Mr. Sproull hopes that a line of undersea boats will be established to ply between Philadelphia and other ports.

"Our port facilities here are not excelled by any others in the country," he said, "and the peculiar contour of our coast at the Delaware Capss is such that U-boats the Delaware Capes is such that U-boats would be far out to sea before they would be beyond the protection of the three-mile

Rudolph Uffenheimer, an importer of Rudolph Uffenheimer, an importer of hops with offices in the Bourse, who is a native of Bavaria, said he was not surprised by the exploit of the Deutschland, "because the British blockade is a joke, any way." As a further demonstration of the truthfulness of this statement he exhibited a picture of his niece, received severally and the statement of the statement of the statement he exhibited a picture of his niece, received severally statement of the statement eral days ago from Germany, and a letter in which she said that since the beginning

of the war she had gained 20 pounds, in-dicating that no one in the Fatherland, in Mr. Uffenheimer's opinion, is starving.
"The Deutschland has shown that the world should wake up to the fact of Ger-man resourcefulness." said Mr. Uffenheimer, "and accord Germany consideration because of that fact." of that fact.

George S. Webster, Director of Wharves, Docks and Ferries, said the trip of the Deutschland had surprised him and that the world must be in a similar state of mind by "this latest revelation of daring and resourcefulness." He believed that inasmuch as the Deutschland got into port it would not be very much of a problem to get out again.

## DIESEL ENGINE GAINS IN COSTS AND COMFORT: INVENTOR WON MEDAL

Cuts Fuel Charges in Half and Reduces Distressing Heat in Close Quarters

MAKER'S TRAGIC END

Diesel Engine Uses Less Fuel; Cooler for Sailors

The Diesel does away with the need of a torch for heating up.
It starts on compressed air. It uses 50 per cent, less fuel than

the triple expansion steam engine. The greatest advantage is that practically no heat is given off from the engine and the crew is not affected when the submarine is sub-

merged.
The Diesel uses .45 pounds of crude oil per brake horsepower, while the steam engine takes 1 pound per indicated horsepower.

into Baltimore this morning after a trip of 4000 miles, 1900 of it under water, men in all walks of life have been asking, "What sort of engine did the Germans use to accomplish such a wonderful feat? How could they do it? What is the secret?"

It remained for L. D. Levekin, the engineer of the New York Shipbuilding Company at Camden, N. J., an authority on such subjects, to clear up the question nd explain how and why it was possible accomplish the feat.

Mr. Lovekin, who has spent years on the study of such problems, is in a position to know about this Diesel type of engine used in the Deutschland. It was but a few months ago that the New York Shipbullding Company obtained rights to manufacture the type of oil engine used in the Deutschland in her epoch-making trip.

COMPRESSED AIR USED. "In the first place," said Mr. Lovekir today. The Dignel engine used in the Deutschland, in which crude oil is used, is ignited by compression within the cylinder itself. The principle, which was invented by Dr. Rudolph Diesel, of Munich. Havaria, avoids the use of any torch for heating up and it avoids the use of any torch for heating up and it avoids the use of a hot bulb, such as and it avoids the use of a hot buib, such as has been in general use in oil engines for many years.

"As I said it starts on compressed air and after a few strokes the oil is injected and ompression itself ignites the oil so that no ectric spark or other means of ignition are

"The invention of the Diesel engine aused world-wide comment on account of its wonderful sconomy, and was recognized by every scientific body in the world at the time it was first announced, about six or seven years ago, after the inventor had spent 15 years on it," added Mr. Lovekin, He then spoke of the tragic death of Doctor Diesel, who jumped into the accoun-from an ocean liner on his way from Holand to London about two rears ago. He said he thought the inventor's mind had been affected by his work. Doctor Diesel himself gave a lacture in the Engineers' Society Bullding, New York, some years ago on the Diesel oil engine, and was given a medal of honor by the American Society of Mechanical Engineers. of Mechanical Engineers.

SEVERAL TYPES OF ENGINES "There are several types of the Diesel engines," added Mr. Levekin, returning to the subject of the engine itself. "They are built on the two cycle and the four cycle type. The variation in designs however are largely in the datalis. While Dr. Diesel invented the principle itself used by all, many engineers have constructed details which have added to the efficiency of the Diesel. of the Diesel.

"The engine such as is used in the

A German Submarine! My Gawd! Cries Skipper

BALTIMORE, July 10.-Half a dozen sharp blasts from an air whistle came out of the darkness not far from the pilotboat Relief off

Cape Henry a few minutes before 2 o'clock in the morning.
Capt. Fred Cooke, of the pilotboat, brushed away his megaphone.
"What craft is that?" called Skipper Cooke. "It is the German underwater

liner Deutschland," came the answer "My Gawd!" gasped Skipper Cooke. "I—I'll be alongside in a minute."

### GREAT U-BOAT LOCKED IN BALTIMORE DOCK

boat hove to within perhaps a little more than 100 feet of a black hulk just like all the other black hulks in the harbox Figures moving about against the sky were discernible, and the red glows of the cigar-cites moved slowly to and fro. Figures on the deck of a submarine always stand out against the sky. There is nothing else for them to stand out against. Besides the Deutschland the Timmins, the newspaper boat and the West Indian fruit steamships Bella, Bibao and Antares, there

were no other boats in that immediate part of the harbor. It was still very dark; the reflection of Baltimore's lights was brighter than the East, but the German officers and men were on deck. There was ease and swing in their walk across the narrow deck.

Like a watchdog lashed to its master for the greater safety of both, the little Timmins and her crew guarded the precious Deutschland. The newspaper's boat cruised inquiringly around and the beams of a searchlight glared full in the faces of the amateur navigators. It followed the little motorboat entirely around and when it drew abreast of the cabin of the Timmins, an oil-skin clad seaman stepped to the rail and

"What do you want?"
He got little in the way of an immediate answer but grins, and fearing perhaps that be might be actually told what the visi-tors wanted, be rather hastly withdrew into the cabin. The slow circle around the U-boat went on then unhindered. SIDES GREEN AS THE SEA.

Her sides are of the green of the sea itself. Had there been the hand of a master painter on the crest of every wave that has washed her on the long trip, no greater resemblance to real water could have been achieved in the Deutschland's coloring. In the gray murk that hung over the harbor. she looked a grayish green; in a brilliant sunlight she would undoubtedly look as brilliant as the ocean. Her deck is almost level; there is but

little decline, except at the end. The com-ning tower used for navigation purposes when she is not submerged encloses the way from below, and a strong steel ladder, up and down which agile chauffeur-like sailors jumped, leads to the entrance. Two lofty steel masts, from which the wireless apparatus spreads, appeared to be secured through the hull. From the bow mast flew the smoky yellow fisg of quarantine; from the mast aft flew a flag very much like the Stars and Stripes, though with fewer stars. It is said to be the flag of the Ocean Transportation Company, and from a little mast in the stern in the morning breeze straight-ened out the red, white and black of Ger-

The Timmins' searchlight was inde-fatigable. It swept the harbor from side to side, it rested persistently on boats that ap-proached as though seeking to divine their mission, it glared brutally into the cameras just when dawn was breaking sufficiently to permit the photographers to get at work.
At eight minutes of 5 o'clock the blast
of a steam whistle came out from the quarantine side of the harbor and a little boat steamed slowly out. The yellow flag of quarantine flew from her masts, too. It was the hospital boat, E. Clay Timanus, with Dr. Thomas L. Richardson, chief of the quarantine station, and his assistant, Dr. John C. Travers, aboard, beside Mrs. Rich-ardson and her guest from North Carolina, eth Monroe, and a little squad of sleepy newspapermen and photog-raphers. Behind her came the tug Grey-hound, full from lower deck to the top of the pilot house of motion picture cameras, each manned by a man turning a crank for

dear life. "dear life."
Crowds of travelers from Boston, aboard a Merchants and Miners' steamship that came into the harbor at that point, got a complete view of the whole scene. They complete view of the whole scene. They crowded against the rail and were perfectly silent as the boat steamed by the waiting submarine, too full of eyes for

words.

By 13 minutes after 5 the Timanus had pulled alongside the Deutschland, and Doctor Richardson and Doctor Travers were preparing to enter the U-boat for a medical examination of the crew—the first invasion of the history-making craft by Baltimore

ans.

The yellow flag on the submarine went down when the physicians' feet touched the bridge, and the crew lined up on deck for Doctor Richardson found every

excellent shape, though some of them were slightly underweight, he said. This, he de-clared, might have been due to the artificial air they had had to breathe when the boat submerced. submerged.

submerged.

Their bill of health, issued in Bremen, on June 13, and signed by William Thomas Fee. American Consul, gave the captain's name as Paul Koenig, and the number of the crew as 29, including the commander. It asserted that the gross tonnage of the vessel was 791, and the net tonnage 414. It declared the boat to be engaged in freight rade between "Bremen, Germany, and Boston, or other East Atlantic ports," and under the heading "history of cargo" it was said to be carrying dyestuffs in good condi-tion, and a water and food supply. The boat sailed from Bremen on June 14, the bill of health declared, stopped at Helgostayed there 9 days, and then set out for Baltimore.

Dector Richardson asked Captain Koenig why he had stayed in Helgoland for 9 days and the submarine captain replied with a mysterious amile: "We had good reason for staying."

"CLEAN AS A WHISTLE." Dr. Richardson's examination was brief

but thorough, and during his stay in the ship he had a little time to look over her interior. The doctor is no submarine expert, and he knew nothing of the supernature of her equioment, but the principal impression he got, he said, was that she was "as clean as a whistle." He saw no evidence of agreement nor any means of figures. dences of armament nor any means of fir-ing torpedoes, had the boat been equipped with any. Below the water line the in-terior of the vessel went down for a depth of about 14 feet, he said, and comfortable living quarters took up a great deal of the room. The Deutschland had spent most of her trip on the surface, the captain told Dr. Richardson, though she had submerged at the slightest suspicion of a heafile ap-

The engine such as is used in the Deutschland uses about 45 of a pound of crude oil per brake horespower. A triple expansion steam engine as is used in the average eteamship uses about 15 pounds of water per indicated horsepower, and with the steam engine it is ascessary to use hollers in order to generate the steam and either coal or oil for fuel.

"If oil is used for fuel in order to put comparison of the Diesel and triple expansion on the Same basis, we can conservatively state that an evaporation of 15 pounds of water per pound of oil is about all that can be expansion engine and hollers, will require about one pound of oil per horse power, while with a Diesel engine it will only require about 45 or a little less than our half as much fuel as required by the steam our hough to snap at the feet of intruders. amouth of fase and cheery of manner.

But apparently he and his men have received some frighte on their way across the sea. They allowed no one except the physicians to set foot on the boat. There is a little bridge running out from her side and Doctor Richardson asked permission for his wife to step upon it—fust that and no more—to say that she had been on the giant submersible. Such permission was fatly refused. Paul Hillen, of the Eastern Forwarding Company, on the tug Timmins wanted to come sheard. There wasn't a chance. The little lifes, a launch of the Eastern Forwarding Company, seened slowly back and forth before the Deutschland as though to seep at the feet of intruders.

## U. S. OFFICIALS LEAVE TO PROBE **U-BOAT STATUS**

Assistant Navy Secretary and Captain Huse to Investigate

ALLIES' ENVOYS ACT

WASHINGTON. July 16 .- Assistant Secretary of the Navy Franklin D. Roosevelt and Captain Harry McL. P. Huse, of the Naval War College, left for Baltimore at noon today to investigate the status of the German supersubmarine Deutschland. Upon their report will depend the decision of the State Department in the matter. The report received by the Treasury Department from customs officials, who boarded the Deutschland at Baltimore, was that she is not a warship. The report contended that she is not even an armed merchantman, for she has no guns or armament of any

kind aboard. The State Department immediately was informed of the ship's status by the Treasury Department. The report, while preliminary, is considered definitely to establish the Deutschiand's status.

The investigation to be made by Assistant Secretary Roosevelt and Captain Huse was lecided upon today following a conference between Acting Secretary of State Frank Polk and Acting Secretary of the Treasury Byron T. Newton. It was agreed that, inasmuch as a new international prec-edent must be established by the decision in this case, the examination would be made by experts from the Navy Department, Until it has been made it will not be de-termined whether the cargo on the craft is to be unleaded. Collector Ryan, in his wn report, says that the cargo is valuable dyestuffs and certain drugs manufactured only in Germany and used for the treat-ment of certain diseases, the supply of which in the United States has been ex-

which in the United States has been exhausted for some time.

Both France and Great Britian have formally called to the attention of the State Department the presence of the Deutschland in American waters and have asked that her status be determined. Acting Secretary of State Polk, in announcing this today, said that the request was entirely a formal one. He announced that the question of the ownership of the that the question of the ownership of the Deutschland probably would be raised by the embassies. He said, however, that if the complete examination shall determine that the vessel is unarmed and entirely a merchantman she undoubtedly will be so regarded by this Government.

## U-BOAT LINE COULD FLOOD U. S. WITH BONDS

German-Owned American Securities Offered Market by Means of Transatlantic Ship

The intial success of the trip of the confidence in the experiment as to result in the dumping of American securities held in Germany on our markets here in the near future. This is the general opinion of banks and financiers engaged in foreign exchange business. It is estimated that there are held in Germany at present anywhere from \$100,000,000 to \$500,000,000 American ecurites, largely railroad and steel stocks and bonds. Should a number of boats like the Deutschland arrive with any large quantity of these securities in the near future the effect on the security market would be serious. Chandler Bros. & Co., stock brokers, 1838

Chestnut street, who recently floated sugof \$10,000,000 each are of the opinion that the Deutschland does not carry any American securities, but with the success of this first trip established they see no reason why in subsequent trips securities may not be safely carried. They believe the German mark will immediately increase in value, more on account of the sentimental value attached to this performance than to any other basis.

S. E. Ruth, in charge of the Foreign Ex-change Department of the Philadelphia Na-tional Bank, is of the opinion that any effect that might have been produced by the bringing over of a large amount of Ameri-can securities by the Deutschland has been largely discounted by the knowledge of her anticipated arrival. He said that Mr. Schu-macher, the Baltimere representative of the Hamburg-American Line in Baltimere, was in Philadelphia a few days ago and mads it generally known that the submarine was expected in Baltimore in a few days. At another of the large financial institutions which does a large foreign exchange business it was said that the sentimental ef-fect of the arrival of the Deutschland would

be an increase in the price of the German mark from 73 1/4 to at least 77. BATHERS THRONG CLEMENTON

Lakes Nearby Crowded on Hot Sunday 30,000 There CLEMENTON, N. J., July 10 .- Yester-CLEMENTON, N. J.. July 10.—Yester-day was declared the banner Stunday this season for the various resorts and takes dotting this vicinity. The heat of the cities in the last few days brought thousands of persons from Camden. Philadelphia and other nearby towns here by train, trolley and motor. By noon bathing space in the two takes where swimming is permitted was almost at a premium and continued so throughout the afternoon.

It is estimated that between Clementon Park and Pilling's Park there were close rk and Pilling's Park there were close 30,000 persons here during the day.

Thousands of others remained all day, TOO LATE FOR CLASSIFICATION HELP WANTED-FEMALE

Large numbers came early in the morning

a dip in the lakes and returned

CHAMBERWORK and waiting - White girl, with reference: suburbs during summer. Apply until noon, 818 N. Broad. COOK chambermaid, Protestant; suburbs; seed reference. Meet employer Monday, 11:30 a.m. Room 205, 808 Chesinut st. HELP WANTED-MALE

ELT PRESSMEN and all-around workmen steady work and bust wages for first-class men. Apply Mr. Waterhouse care E. Haughton & Co. 240 W. Somerset. ply James Irvin. 25th and Moore. Other Classified Ads on Pages 14 and 15

# Niagara Falls

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