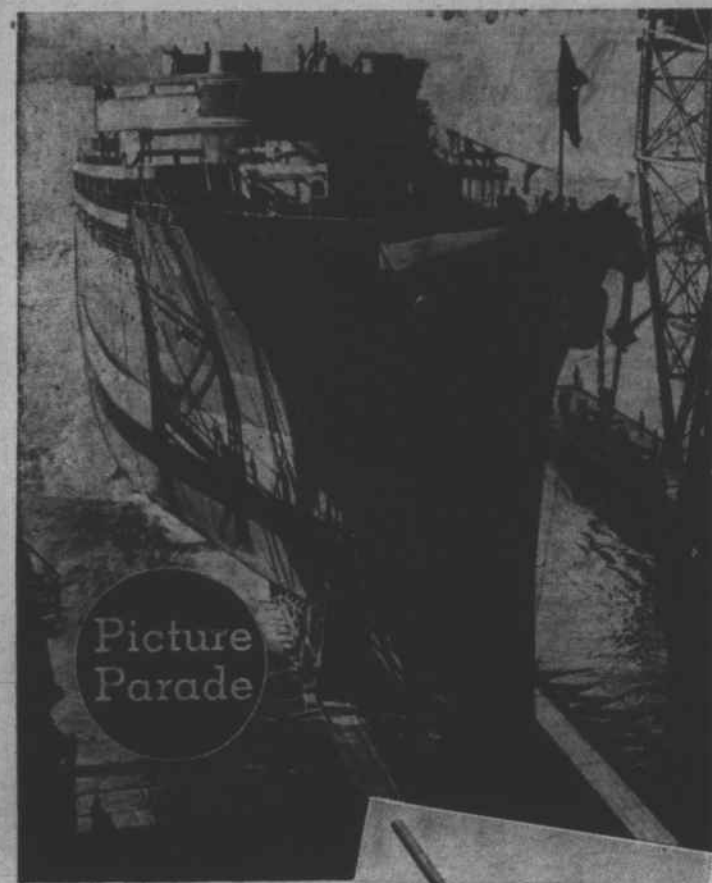


All Out for Defense

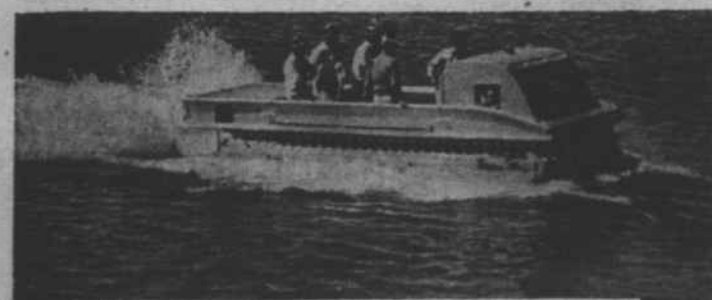
Engaged in the most gigantic armament program in world history, the U. S. expects to spend approximately \$28,480,000,000 on ships, tanks, planes, munitions, training camps and other defense needs during the next two years. While factories, ammunition plants and shipyards hum feverishly with production, the nation's inventive genius works behind locked doors to develop new types of mechanized equipment.



Picture Parade

With an appropriation of \$11,587,000,000 for a two-ocean navy, marine machine ships like the new \$14,000,000 Vulcan, recently launched, are necessary to service the mechanical needs of the country's battleships and cruisers at sea.

Right: The U. S. is spending several millions of dollars on anti-aircraft guns similar to this one. Shells travel 8 1/2 miles into the air. Germany's highest reach is said to be 7 miles.



Above: Amphibian tank, designed for quick and safe landing of men and materials under gunfire. Below: This "quad" car can travel over rough terrain at 60 miles an hour. Known as "jeeps," the cars are being produced by the Willys-Overland Co.



Above: This chocolate bar is known as "Ration D." It packs 600 calories. Left: New types of aerial combat, such as mine and torpedo laying, require ammunition of this type—said to be the costliest in the world.



Additional billions are being spent to build pursuit planes of this type—Lockheed's 590 m.p.h. speed marvel.

Historical Highlights

by Elmo Scott Watson
(Released by Western Newspaper Union.)

A Modern Columbus
FOR more than three and a half centuries communication between Europe and America was a matter of weeks. Then on a July day 75 years ago it became a matter of split seconds. The man who brought about that miracle was an American whom a famous British statesman called the "Columbus of modern times, who, by his cable, has moored the New world alongside the Old." For this man was Cyrus W. Field, "Father of the Atlantic Cable."

Born in Stockbridge, Mass., in 1819, Field went to New York at the age of 15 to work for the famous merchant, Alexander T. Stewart. By the time he was 21 he had his own business and was able to retire at the age of 34.

About this time one of his brothers suggested to him the project of building a telegraph line across the Atlantic and young Field immediately took the matter up with a group of New York business men who agreed to contribute \$20,000 each. The enterprise was organized under the title of the New York, Newfoundland & London Telegraph and a committee was sent to Newfound-



CYRUS W. FIELD

land to get exclusive rights for 50 years to establish a telegraph line from the continent of America to Newfoundland to England.

The first efforts to lay the cable were unsuccessful. But Field's company persisted until finally in July, 1858, a British ship and an American ship, meeting in mid-Atlantic, spliced together two lengths of cable which they had on board and then started for opposite shores. On the same date, August 5, they arrived at their respective destinations. For the first time in history the two continents were linked together with a means of quick communication. The first message sent over the cable was a greeting from Queen Victoria to President James Buchanan on August 16.

On September 1 a great celebration, attended by more than 150,000 persons, was held in New York city



The Great Eastern laying the Atlantic cable.

in honor of Field. But their jubilation, in which the whole nation shared, was short-lived for within less than two months the cable ceased to function. As the threat of Civil War grew, Americans forgot the trans-Atlantic cable project.

Field tried to keep interest in it alive during the War Between the States. After the war was over the project was revived and the famous steamer, the Great Eastern, was chartered to lay a new cable twice as thick as the original line, with double the breaking strain.

On July 23, 1865, the Great Eastern left Ireland for Newfoundland. On August 2, when 1,186 miles had been laid, the cable suddenly parted and sank in 2,000 fathoms of water. Numerous attempts were made to retrieve the cable but they were unsuccessful. But Field would not give up. The next year another attempt was made and on July 27, 1866, the Great Eastern steamed into Trinity Bay, Ireland, amid the ringing of bells and the booming of cannon, and landed the end of the cable she had been laying. For the first time the two continents were permanently linked together and that link of communication has never been broken.

Field's persistence won him the acclaim of the whole world. Congress unanimously voted to present him with a gold medal and the thanks of the nation, and the prime minister of England declared that only the fact that he was a citizen of another country prevented his receiving high honors from the British government. It was the famous English statesman, John Bright, who called him the "Columbus of modern times." In 1867 the Paris exposition gave him the grand medal, the highest prize it could bestow.

Solar Periods Rule Forecasts

Weather Predictions Based By Scientist on Sun's Radiation.

WASHINGTON.—There are 10 long periods in the radiation of the sun, each with directly observable effects on the temperature and rainfall of earth.

These effects, however, vary with place and season and there is some as yet unknown factor that complicates long-range weather forecasting.

These most recent conclusions from the work of the Astrophysical observatory of the Smithsonian institution were announced by Secretary Charles G. Abbot. They may bring a step nearer the day when useful weather forecasts may be made for several years ahead based upon solar observations.

The sun's radiation also varies irregularly from day to day. These variations attend the sun's 27-day rotation, for the sun's surface has hot spots as well as cold spots upon it. Columns of finely divided matter shot from sun-spot regions appear to bombard the earth and veil the sun slightly when such sunspots are exactly central. Thus both increases and decreases of the sun's radiation affect us as the sun rotates.

Cloudiness Is a Factor.
An increase in the output of the sun, especially if of short duration, does not necessarily mean an increase in the temperature of the earth as a whole. Local conditions, such as cloudiness and location with respect to prevailing winds, have profound effects. In the past Dr. Abbot has been puzzled by apparent "changes of phase" in the weather effects of the long periods in solar variation. Almost precisely opposite weather results would sometimes ensue from the same solar phenomenon.

Recent work has convinced him, however, that this is explainable. It depends on the season of the year. For example, he says, take an 8 1/2-month period—one which he actually has found in the solar variations. Every time it recurs in the same season it will have the same effects at a given station, so far as itself is concerned. Other simultaneously operating solar variations may, of course, partially modify the effects.

Lists Solar Periods.
The solar periods now listed by Dr. Abbot range from 8 1/2 to 273 months. The latter, about 23 years, appears to be the major period in which all the others repeat themselves and the most successful long range forecasts to date have been based upon it. They have been reasonably accurate for two or three years in advance.

Dr. Abbot has analyzed temperature and precipitation records for Copenhagen, Vienna and New Haven for the past 140 years and found that solar periodicities continued with unaltered phase throughout this period. They were sufficient to account for all departures from normal temperatures.

Dr. Abbot gives examples of fairly successful weather forecasts five years in advance. These are made by finding the average effect of each of the 10 long solar periods on weather for 50 years back. These separate effects are then combined for the five years to come.

Sees Farmers Prepared

For Big Role in Defense

WASHINGTON.—The nation received assurance from R. M. Evans, agricultural adjustment administrator, that American farmers would produce enough food and fiber supplies for use as "a weapon for defense and later in the peace negotiations to use as an instrument for building a decent world."

Evans told the annual national AAA conference here that the triple-A farm-control program was so arranged that it could handle adjustments upward or downward as required for defense, thus making agriculture better prepared for the present emergency than any other industry.

Changes in Street Names

Makes Life Confusing

BUFFALO.—Life is all rather confusing to Roland F. Bessel—and the local police is forced to agree.

Appearing in court for failing to report a change in address on his driver's license, Bessel told the court that he hadn't moved at all—only that the street's name had been changed twice.

"I couldn't keep up with the changes in the street name," the defendant said. "Even now there is another change pending."

"Case dismissed," sympathized the court.

Scholars Must Salute

Flag or Be Expelled

AUGUSTA, GA.—"Salute the flag or be expelled" is the substance of the measure adopted by the Richmond county board of education, following refusal by three pupils, members of one family, to salute the flag.

In support of the measure Superintendent S. D. Copeland advised that a court decision in a similar case in Atlanta had made the act of expulsion legal.

Industries Expand Research Rapidly

2,350 Companies Use 70,033 Persons in This Work.

WASHINGTON.—Industrial research has now become one of the major activities of business in this country, with 2,350 companies employing 70,033 persons exclusively in research work. The annual cost of these activities exceeds \$300,000,000 and absorbs about 6 per cent of the net income of industry, according to a report of the national research council and the national resources planning board.

Professionally trained persons now engaged in industrial research include 15,700 chemists, 14,980 engineers, 2,030 physicists, 1,955 metallurgists, and about an equal number of bacteriologists and biologists. An additional 33,480 persons are employed in technical, administrative and clerical positions.

In 1920 only about 300 laboratories were engaged in research activities, and the personnel was about 9,300.

In addition to industrial plants, the federal government maintains many research laboratories which co-operate in industrial activities that promise to redound to the public good, among them the laboratories of the bureau of agricultural chemistry and engineering. The department of agriculture is now building four new regional research laboratories which will give co-operative assistance to industrial research plants. The bureau of standards is also frequently called upon to assist in trade association research activities.

Latest statistics show that the chemical and allied industries employ the greatest number of research workers. Next come the petroleum, electrical communication and electrical machinery, and the rubber industries.

B.V.D. Is Air Industry's Own Alphabetical Agency

WASHINGTON.—America's aircraft industry, it was disclosed by P. G. Johnson, president of the Boeing Aircraft company of Seattle, has taken a leaf from the government's book of alphabetical agencies and created one of its own—the B.V.D. committee—as part of the country's national defense and aid-to-Britain program.

The committee, consisting of 60 engineers and other technicians, derived its designation from the three West coast plants which supplied its personnel—Boeing, Vega and Douglas. It was organized when the war department and the Office of Production Management decided to speed up the production of long-range, four-engine bombers, in the President's new production goal of 500 such ships a month in the defense and aid-to-Britain program, by having Boeing "flying fortresses" built not only in Seattle but also by the Vega Airplane company, a Lockheed subsidiary, and the Douglas Aircraft company, in the Los Angeles area.

Infant Mortality Cut Heavily in 20 Years

TORONTO.—Infant mortality in the United States has declined by 45 per cent over a period of 20 years, and the death rate among children from 1 to 14 years old has decreased by 60 per cent, Dr. Louis I. Dublin told the annual meeting of the American Institute of Actuaries here.

Dr. Dublin, who is vice president and statistician of the Metropolitan Life Insurance company, presented the figures in a study of infant mortality made jointly with Mortimer Spiegelman of the same company.

The improvement has been accelerated in the past decade, the report stated, pointing out that in the years 1920-'29 infant mortality declined 23 per cent, while in the years 1930-'39 it declined 30 per cent.

"Equally important, there is no sign of slackening in the rate of improvement," the report said. It added that such extraordinarily low mortality rates have been reached by some of the ages within the 1 to 14-year group that further appreciable reduction appears difficult.

Overly Cautious Driver

Called Safety Hazard

ANN ARBOR, MICH.—The mental and physical incompetencies aren't the only hazards to highway traffic safety, in the opinion of Dr. Lowell S. Selling.

Dr. Selling, attached to Detroit recorder's court psychopathic clinic, finds equally potentially harmful the indifferent, the indolent, the overly cautious and the irritable motorists.

Also dangerous, he thinks, are farmers, who, after the slow tempo of the country, find metropolitan traffic bewildering and drive around as on open roads.

Girls Now Sailors

On Russian Vessels

MOSCOW.—Girls are being taken aboard Soviet vessels to serve as sailors and navigators, Kimsomol Pravda, paper of the Communist youth organization, announced.

It said the White Sea Omega Steamship line had given jobs to 30 girls, some of them veterans of the Finnish war.



WHO'S NEWS THIS WEEK

By LEMUEL F. PARTON
(Consolidated Features—WNU Service.)

NEW YORK.—A few years ago, Anita Loos' maid used to deliver to her every day a dash of gopher dust from Harlem. We have not heard of that anymore. **Strung Manuscript Across Continent;** her this still goes on, but the charm seems to be still working. All goes well as "Blossoms in the Dust" gets warm, almost fulsome from the critics. Miss Loos did the screen play for Ralph Wheelwright's story. It taps deep founts of tears and rages far from Miss Loos' "Gentlemen Prefer Blondes," and its Lorelei Lee, the alluring and unabashed gold digger of 1925. It's one of those "where are they now?" stories, with Miss Loos sitting pretty, literally and figuratively, as a deft, swift, work-milklike story adapter, scenarist and remodeler in Hollywood—one of the best.

The pint-size girl with bang-weight 87 pounds, height four feet, eleven inches—was riding on the train from California to New York in 1925, considerably bored. She started writing up this gold digger Lorelei, with a soft-stub pencil, in big, round letters. The manuscript strung along clear through Kansas and Indiana and on to New York, and was almost as big as Miss Loos, what with those big rope-trick letters, when she landed here.

It brought her something over \$900,000. It was translated into virtually every language except Eskimo and pigeon-talk, and in England its sales passed those of any other American book. She later wrote "But Gentlemen Marry Brunettes."

Her talent for humor may have been inherited from her father, a country newspaper publisher and humorist of the Bill Nye school, of Sissons, Calif., where Miss Loos was born. She was a shy, quaint little thing, hanging around the newspaper shop, helping polish up a gag or feed the fatted. When she was 14, she sent a story to the New York Morning Telegraph. They printed it. A year later David Griffith sent for a girl who had sent a scenario which had set his assistants to whooping joyously.

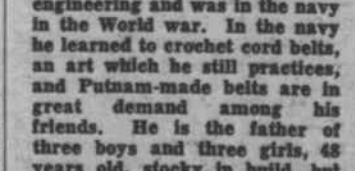
"What can I do for you, my child?" he asked when the tiny girl with bangs and pigtails came in. The Loos girl showed him her summons to Hollywood. There she was and is. In the years between she had become a pretty good actress, appearing in San Francisco and other California cities.

JUST a year ago, Roger L. Putnam, go-getting mayor of Springfield, Mass., was much in the news with the Putnam plan to break bottlenecks in industry. He **Finance, Rapidly Forging Into Lead** caught the nation's attention by his success in achieving co-operation among the city, industry and labor, the most important detail of his formula being the training of labor by the city, to fit specific needs. He's in the news as Springfield's defense director with some snappy suggestions about the swift and effective integration of civilians and officials, and private and public facilities. His successful battles with two floods and a hurricane give weight to his words.

He's Harvard, 1915, did a P.G. stretch at M.I.T., worked at engineering and was in the navy in the World War. In the navy he learned to crochet cord belts, an art which he still practices, and Putnam-made belts are in great demand among his friends. He is the father of three boys and three girls, 45 years old, stocky in build, but quick-moving both in person and speech. He is president of the Package Machinery Co.

More, and more management, as above, is coming to the top, as against finance. Note James Burnham's new book, "The Managerial Revolution,"—malign over there still benign over here.

With Inconveniences If you will enjoy the fire, you must put up with the smoke.



Black Leaf 40

KILLS LICE

Just a dash in feathers, or spread on roosts.

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Mistakes to Be Avoided In Summer Care of Dogs

"DOG DAYS" are coming, but they needn't bother your dog. With simple, right summer care he'll be healthy and cool as a cucumber! Do not clip him, for he sheds his undercoat, leaving his outer coat to protect him against the



Baths, Clipping Can Be Harmful. hot sun, flies and mosquitoes. Comb and brush him regularly—but do not give him too many baths, as this removes the oil he needs to keep his coat healthy.

Our 25-page booklet gives the simple all year-round care that keeps a dog healthy. Tells how to choose your pet, feed, house-break and groom him; how to train him to do clever tricks. Advice on dog sicknesses; has information on dog accessories. For your copy send order to:

READER-HOME SERVICE
635 Sixth Avenue New York City
Enclose 10 cents in coin for your copy of HOW TO CHOOSE AND CARE FOR YOUR DOG.
Name
Address

Three-Day Sabbath

The Kheyzurs of the Caucasus mountains of Russia are the only people who observe a three-day sabbath, Friday, Saturday and Sunday, reports Collier's. Their only liquor is a beer brewed and served by the church at religious festivals and whose women are forbidden to have children during the first three years of their married life.

INDIGESTION

may affect the Heart
One trapped in the stomach or gut may not like a hair-trigger on the heart. At the first sign of distress seek relief and relief comes from the famous Pinkham's Compound for Indigestion. If the PINKHAM DOESN'T BRING YOU BETTER, return bottle to us and receive DOUBLE MONEY BACK, etc.

Two Powers
There are but two powers in the world, the sword and the mind. In the long run the sword is always beaten by the mind.—Napoleon I.

"MIDDLE-AGE" WOMEN

38-52 yrs. old
NEED THIS ADVICE!!

Thousands of women are helped to go smiling thru distress peculiar to women—caused by this period in life—with Lydia E. Pinkham's Vegetable Compound—famous for over 50 years. Pinkham's Compound—made especially for women—has helped thousands to relieve such weak, nervous feelings due to this functional disturbance. Try it!

When Men Want
Men will not bend their wits to examine whether things were with they have been accustomed be good or evil.—Hooker.

STOMACH SUFFERERS

Don't despair—"MAYEK" formerly known as "Marr's Wonderful Stomach Remedy," beneficially used by thousands for over 30 years, tends to relieve the discomforts of temporary constipation with gas in the intestine. "MAYEK" thoroughly cleans and lubricates the intestines, tends to eliminate poisons, waste, and acids. One dose helps to convince that life is worth living. Druggist or send U. S. to Superior Products, Broadway Beach, New York. BOTTLES OF SUPERS TABLETS, used in years for indigestion and laxative.

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