

WORLD'S BIGGEST NITRATE PLANT

Mammoth Explosives Factory in Alabama Built in Eight Months.

ALL SPEED RECORDS BROKEN

Could Supply 13 Per Cent of Allies' Needs Had War Continued.

By GARRET SMITH.

Lifting the ban of war secrecy has just now brought to light for the first time one of the most stupendous feats of construction in history—the planning and building in less than one year of the largest ammonium nitrate plant in the world and of a city around it for the housing of its 25,000 workmen and their families. At the same time is revealed one of the chief reasons why Germany suddenly surrendered a year ago. The German high command knew that the United States was ready at Muscle Shoals, Alabama, to manufacture 13 per cent of all the high explosives needed by all the Allied armies on all fronts in the expected drive of the following spring.

The first person on construction work reached Muscle Shoals on November 26, 1917. On February 16, 1918, ground was first broken for a permanent plant building. On October 26, 1918, eight months and eight days later, the manufacturing plant had begun the production of ammonium nitrate.

When America entered the world war in April, 1917, she had no means of producing the enormous quantities of high explosives necessary to provide the huge army she planned to raise. The very fact that our industries were already worked to capacity providing ammunition to the allies seemed to make further production for our own use impossible.

Fertilizer Process Turned to War Use.

At this juncture the Ordnance Department turned to cyanamid, a commercial fertilizer, which had for some years been produced successfully at Niagara Falls, by a process the American rights of which were obtained in 1907 from Germany by Frank Sherman Washburn, head of the American Cyanamid Company.

By this process cyanamid was produced by extracting nitrogen from the air and combining it with calcium obtained from limestone rock and carbon from coke. By putting cyanamid through three more processes both ammonia and nitric acid can be extracted from it and combined into the explosive, ammonium nitrate. Mr. Washburn was invited to present plans and estimates for the construction in the shortest possible time of an ammonium nitrate plant at Muscle Shoals, Alabama, and a contract between his company and the United States was entered into under date of November 16, 1917.

To have general supervision of planning and carrying out the work an organization known as the Air Nitrates Corporation was formed to act as agent of the Ordnance Department. This corporation provided the general designs, supervised all the work and operated the camp, the town and the plant. It also installed all equipment in the chemical plant. The various other sections of the work were sublet to organizations that were specialists in the directions in which they were asked to help.

New City Built From the Ground.

It was necessary to build a new town to house the laborers. For this job Westinghouse Church Kerr Company was called in as contractor. This company also built the buildings of the chemical plant. Within four months 12,000 workmen had been assembled and a city capable of accommodating 25,000 inhabitants had been completed, with lodging, restaurants, stores, offices, police headquarters, schools, fire departments, hospitals, motion picture theaters, electric light and sewerage systems.

The construction of the plant proper was begun on February 16, 1918. Just eight months and eight days later the big plant began a steady output of ammonium nitrate. The plant contains 118 permanent buildings, with a roof area of over 26 acres.

To provide the electric current it was necessary to build a steam power electric plant, for it would have taken three years or more to complete the dam and hydro-electric station now under way. This plant, built by the J. G. White Corporation, is one of the largest steam plants for developing electrical energy in the world.

The output of the plant is 300 tons of ammonium nitrate a day, and this can be produced at Muscle Shoals at a cost less than one-half the standard fixed price paid by the Government for ammonium nitrate produced by other methods and one-fourth to one-fifth the cost of other high explosives of equal strength. Compared with the older process of making ammonium nitrate, the savings made by this plant would have paid the \$60,000,000 cost of the entire plant in about one and one-half years of operation.

As a military weapon it is one of the wisest and most economical expenditures that the Ordnance Department has undertaken. As an agent in stopping the war and as a future protection to the country its value is incalculable.

BIRD'S SONG IDENTIFIES IT

Once Heard, One Is Not Apt to Forget the Trill of the Beautiful Dickcissel.

As far as we are informed, there is but one American bird whose song can be heard above the roar and rattle of a swiftly moving train, when the receiving end is on the said train.

You may be "jazzing" along at sixty or seventy miles an hour in your comfortable Pullman seat, and over the tremendous hum and racket of the steel caravan will come to you from the little feathered fellow on the telegraph wire outside the incessant song of hot-weather joy.

"Dick! Dick! Dickcissel!" Or, if you prefer another analysis: "Chip! Chip! Chee-chee-chee!"

So the Dickcissel has a distinct stunt of his own—something that no other bird can imitate or rival. Sometimes we think Dick is a bit proud of it, too, for he lines the railway right of way clear across the middle western and plains states in such numbers his song is ever in our ears while you are traveling.

The Dickcissel was formerly called the black-throated bunting and is a very beautiful creature as well as very useful. He is mostly of a rich yellow hue, with a black throat—but nobody need identify him by his dress, for his song is inimitable. In our experience we never heard any of the mocking birds attempt to imitate the "Chip! Chip! Chee-chee-chee!" of the hot-weather friend.

He is really a salamander of the air, too, for he is late in arriving and early in departing, and does his best vocal stunts when you and I are gasping beneath an electric fan. He eats lots of bugs and weed seeds and is a mighty good citizen.—Omaha World-Herald.

POETS BRAVE FIGHTING MEN

Writers of Deathless Lines Also Won Immortality on the Bloody Fields of Battle.

What power have the sacred Nine over their loved ones to make poets take to war?

Sidney, writer of deathless lines, died a gallant soldier.

Dante defended his tenets in arms. Byron contracted a mortal fever helping to free Greece from her tyranny, and Burns was a member of Scotch dragoons, with no opportunity arising for heroics that marked him a soldier. He was, however, valiant, and left what is probably the greatest war poem in all poetry, "Scots Wha Hae Wi' Wallace Bled!"

And now out of the great defenders of humanity in the war just being straightened out comes D'Annunzio, Italy's hard, fighting the fight of a captain who will hold out "if it lasts all summer!"

Joyce Kilmer sleeps in France. Allan Seeger is proud "a few brave drops were ours."

And Robert Service was at the front bringing in the mangled, and has given us a poem in his "Rhymes of a Red Cross Man," entitled "Grand Pere," that will make the bravest shudder.

O, ye, who called the land to arms, ye hypocrites that gave an outburst of fine fire with your pens, redder with shame and bow a humble head to these who, as Edwin Markham says, "fought the poetry they sang."—Milwaukee Sentinel.

Land Question in Chile.

The land question, particularly as it relates to the Indians, has of late been receiving attention from those interested in the future of Chile. The tendency has been to take every advantage of these natives, who, despite the many handicaps that official and unofficial greed have placed in their way, are admitted to be making substantial progress. They have, as might have been expected, shown themselves particularly proficient in agriculture and cattle breeding. Crying evils in the administration of the lands have been pointed out in the public press, but as yet the authorities do not seem to be sufficiently interested in remedying a state of affairs that does much to alienate the sympathies of an important, if subordinate, part of the population.

Preserving American Scenery.

While the members of the Associated Mountaineering Clubs of North America are not all devoted to mountaineering, they have a common bond of interest in the preservation of American scenery and in the protection of plant and bird life in their natural environment. The association is co-operating with the national park service for the creation and development of national parks and "monuments." A fine collection of literature on mountaineering has been formed by the association at the New York public library and bibliographies are being compiled and published. When this organization was founded in 1916, it embraced nine clubs and societies. Now there were 29 and the aggregate membership is over 45,000.

Bombarding Sky With Names.

By means of new wireless invention it will be possible to project sounds into the air which will enable an aviator to know exactly where he is. For example, suppose he were passing over Calgary, from the moment he approached the region he would receive the message "This is Calgary" until he had left it behind him. And so on with all places over which he may pass. In this way his chances of losing his way will be considerably diminished.

THIS CITY BUILT WHILE YOU WAIT

Fourth Largest Town in Alabama Full Grown in One Year.

HAD A MODEL GOVERNMENT

Permanent Settlement Around U. S. Nitrate Plant Presented Unusual Problems.

By GARRET SMITH.

The fourth largest city in Alabama, peopled with 25,000 souls of diverse races and religions, uprooted from far scattered communities in every part of the United States and Canada sprang into being almost overnight around the great new government ammonium nitrate plant down on the open cotton and corn fields at Muscle Shoals on the Tennessee River during the last year of the World War. Here was a problem in city building, municipal government and community welfare that has seldom been equalled and the success of its solution has never been excelled.

The job was in the hands of the Air Nitrates Corporation which had been organized under the direction of the Ordnance Department to build plant and city at Muscle Shoals. Early in January, 1918, this new town had a few temporary buildings and a population of 300. This had jumped by the middle of August to more than 21,000. A population multiplied by 70 in 7 months.

In the management of the new towns and army cantonments that sprang up during the war the old-time evils that attended the growth of mushroom cities have been avoided by the application of modern welfare systems. But nowhere were conditions more difficult than at Muscle Shoals. Here was a malarial region threatened at the same time with other deadly disease epidemics. Transportation was lacking. No nearby labor was available and the general labor shortage was at its most acute stage. Costs of labor and supplies were leaping over night. Furthermore, Muscle Shoals differed from all the other new war towns inasmuch as it was to be permanent.

New Government Devised.

The managers, besides city government, had to handle the entire retail business of the town. A camp supervisor's department was put in charge of the maintenance of all buildings, fire protection and sanitation. The camp supervisor looked after everything from the mending of a lock to the remodeling of groups of buildings or laying sewers or steam mains. For the bachelor contingent a commissary department was necessary.

The business department managed the stores, canteens, motion picture theaters, pool parlors, tailor shops, dry cleaning establishments, barber shops, newsstands, a hotel, a vegetable farm and a hog farm where 1,000 hogs were raised on the wastes from eating places. It maintained a slaughter house where these hogs were put through the regular packing house course. It operated a laundry which cleaned 7,493 pieces a day. Then there was a real estate department that rented and managed the family quarters and a housing department which assigned to quarters everybody excepting the families.

Under separate jurisdiction from its community director were the police.

The health department, in charge of a physician from New York city, started with a small office in one of the temporary buildings, and was soon full grown and splendidly equipped. Conditions were favorable to disease. The winter was the severest on record in northern Alabama. The men were compelled to work either in deep snow or mud above their knees. As a result a pneumonia epidemic developed among the Negroes that spring. Later in the year a typhoid epidemic was threatened. Moreover, the site of the plant was in the heart of the malaria district. But the pneumonia epidemic was checked, the typhoid threat nipped in the bud, and malaria stamped out.

A Health Record Established

The little first-aid hospital presently grew to a complete modern institution with a nurses' home and a separate dispensary for dental, eye, ear, nose, throat, genito-urinary clinics and a surgical dispensary for first-aid work.

During the eight months when the death rate was not affected by the influenza and pneumonia epidemics the general health rate was 12.4 per thousand per year, which is lower than in most cities in the same latitude and climate, and the pneumonia death rate during the epidemic was lower than in most army cantonments.

Much of the success of the health administration is due to the establishment of the Muscle Shoals sanitary district by the United States Public Health Service.

The education and welfare department also had a vital work to perform. There was a school population of over 1,000. The Secretary of War created the community organization branch of the Ordnance Department which, with advice and aid of some of the greatest school men of the country, prescribed the courses of study and recruited teachers from the best established systems.

ANOTHER DAVIS JURY HAS BEEN DISCHARGED

Unable to Reach an Agreement After Forty-Seven Hours' Deliberation—Vote Was Eight to Four.

After forty-seven hours' deliberation the jury which heard the second trial of George Davis, 1512 North Twenty-eighth street, charged with assault with intent to murder Mayor Smith during the court house riot, reported that it was unable to reach an agreement and was discharged at 4:45 Monday by Judge Redick.

The vote stood eight to four throughout the entire time the jurors deliberated, they reported, but no indication was given as to whether the majority was for conviction or acquittal.

Judge Redick called the jury in at 2 o'clock and inquired if there was any possibility of an agreement.

"I don't believe there is the slightest chance of a verdict, your honor," replied the foreman.

"Your honor, I am convinced that we could stay in there for a year without coming any nearer to an agreement," said one of the other jurors.

Judge Redick then inquired if there was any disposition on the part of any juror to refuse to discuss the case. The foreman said there was not, but that there had been no change in the vote since the first ballot was taken. Judge Redick then sent the men back to the jury room with a request that they try again to reach a verdict. At 4:45 they were again called in and discharged.

County Attorney Shotwell said Davis will probably be placed on trial a third time, but that he could not say definitely.

Charges of conspiracy to murder William Brown, the Negro who was lynched by the mob, and unlawful assemblage and rioting are also pending against Davis.

Davis' first trial resulted in a disagreement of the jury December 30.

MAGAZINE COMPLIMENTS NEGRO NAVIGATORS

"That Negroes Can Be Good Navigators and Seamen Has Been Known From the Days of Egypt's Maritime Glory"—"Negro Masters Have Commanded Trading Ships in the British, French, Portuguese, Brazilian and Long Distance Trades—Most of the West Indian Pilots Are Colored."

Half a century ago ocean-going vessels were navigated by white men exclusively and persons of a darker hue could only find employment in a subordinate capacity on the ships which sailed the seven seas. Nowadays steamers manned by Japanese officers and sailors predominate in the Pacific and are to be found in all quarters of the globe. With the advent of the Black Stars Line, which is to be owned, controlled and manned by black men exclusively, the erstwhile monopoly of the white race in the shipping field is threatened from another quarter.

That Negroes can be good navigators and seamen has been known from the days of Egypt's maritime glory. The Krumen, famous throughout the West coast of Africa as mariners, have furnished many recruits for British war and merchant ships.

In more recent days Negro masters have commanded trading ships in the British, French, Portuguese and Brazilian coasting and long-distance trades. Most of the West Indian pilots are colored and Caribbean crews are almost universally black. There is nothing in the record of the black race, therefore, to justify doubts as to their being capable navigators. But success of the Black Star Line as a trading venture and as an instrumentality of disposing of goods made by Americans to African Negroes will depend on the business acumen displayed by its backers. In these days of intense Negro race-consciousness the furtherance by the black people of America of trade relations between themselves and their kin in other countries should result in some interesting developments.—The Nautical Gazette.

MANY FOREIGN STUDENTS IN AMERICAN COLLEGES

The University of Wisconsin Alone Has Representatives From Fifteen Countries—China Leads List.

Madison, Wis., Jan. 19.—Exactly eighty-six foreign students, representing fifteen countries, are attending the University of Wisconsin this year, making 1 per cent of the total enrollment, according to figures just compiled. China leads the list with twenty-four students; Norway is second with seventeen, and the Philippine Islands rank next with fourteen; Canada sends nine; France, five; Japan, five; India, two; Peru, two; Porto Rico, two, and Armenia, Brazil, England, Guatemala, Colombia and Iceland, one each. Iceland has never sent a student to Wisconsin before.

The largest number of foreign students heretofore enrolled at the university was sixty-nine in 1916-17. In the year 1917-18, fifty-three foreign students attended the university.

Amusements for Employees.

The secret of having thoughtful care for the amusement of employees is got a new discovery. It has been in use for more than a generation by one of the most successful department store proprietors now in this country. The "Bon Marche" also introduced the idea in Paris years ago. New York merchants arrange picnics and dances for their woman and man clerks.

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FOR COLORED.

I have a number of bargains in houses, 4, 5 and 7 rooms; well located, and able to sell for \$150.00 and up; cash; balance monthly payments.—Davis, Webster 2420.—2t

Words That Mean Much.

The sonorous opening of Lincoln's Gettysburg speech, "Four score and seven years ago," is not equivalent to eighty-seven years ago! Prose hath her baronies, no less than poetry. It is such subtleties that make up the full effect of literary expression. "Victuals" is not equivalent to "food." "Deathlessness" is not the same as "immortality"—as Lowell showed when he suggested that we try converting Wordsworth's title, "Intimations of Immortality" into "Hints of Deathlessness."—North American Review.

Puzzle for the Jury.

Here is a summing up which is hard to beat for succinctness: "Gentlemen of the jury: In this case the counsel on both sides are unintelligible, the witnesses incredible, and the plaintiffs and defendants are both such bad characters that to me it is a matter of indifference how you give your verdict."

Two Things Seemed Evident.

An Irishman was brought up for stealing ducks. The evidence against him was overwhelming, yet witnesses followed on each other's heels to testify to his white and blameless life and his stainless character. "Gentlemen of the jury: The judge summed up, "I think you will agree with me that the prisoner stole the ducks, and that he is the most popular man in the county."



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