

**WHAT THERMIT DOES**

**New Compound Melts Iron and Refines All Metals.**

**Diametrically Opposite to Liquid Air and its Manifestations, But in Every Way as Spectacular, and More Useful.**

As wonderful in its production of high temperatures as liquid air is in its cold producing properties, ranks thermit, the latest invention. This marvelous new compound, to which its inventor, Dr. Hans Goldschmidt, of Essen, Germany, has given the name thermit, is made by combining in the proper proportions two elements most frequently occurring on the earth's surface, namely, oxygen, in the form of oxides, and aluminum, the metal found in common clay.

When these two substances are combined and then ignited an enormously high temperature, equal to the intense heat of the electric arc light, is instantly produced. The exact method of making the compound, the simplest way of obtaining the highest calorific value and the most practicable manner of utilizing the resultant energy created by this process of combustion have opened a new field of unlimited application and thus another science is brought into the realm of those termed exact.

"Aluminothermics, or aluminothermic science, is the designating title given to the new art and comes easily, and consequently, from its generic derivatives, aluminum, the metal employed, and thermal, meaning heat. While the reducing properties of aluminum were discovered, at least 50 years ago, the scientific investigators who studied these phenomena overlooked entirely its most essential characteristic. It remained for Dr. Goldschmidt to point out and invent a thermit mixture which, when once ignited in a single place, continued its self-combustion throughout its whole mass without any external source of heat. Thus a crucible filled with a seething mass of thermit hot enough for the production of artificial diamonds, or the welding of a crank shaft, can be held in the hands with impunity, and many other equally interesting and useful experiments may be performed utilizing a



**DR. HANS GOLDSCHMIDT.**  
(Inventor of Thermit, One of the Most Wonderful Compounds.)

temperature diametrically opposite to that of liquid air and in every way as spectacular.

But, says the New York Herald, unlike liquid air, the commercial value of thermit has already been proven beyond peradventure of a doubt. Its application in the production of pure metals and the facility with which gigantic pieces of metal are welded together are in evidence in many cities throughout continental Europe. The thermit compound is a grayish black powder, very like coarse gunpowder in appearance. When it is desired to obtain molten iron either in its pure state, for the arts, or for welding purposes the aluminum powder and ferro-oxide, or iron rust, are placed in a crucible made of magnesite or other suitable material having high heat-resisting qualities. Graphite or clay crucibles will not answer the purpose, for the heat is so intense that under its influence they commence to bulge until their distortion causes them to crack.

The thermit is ignited by putting in a small pinch of peroxide of barium, and a fuse is led to this and ignited. A reaction takes place almost immediately, and the solid oxygen contained in the iron oxide combines with the aluminum, forming an aluminum oxide, while the iron contained in the oxide of iron runs to the bottom of the crucible, in virtue of being heavier than the aluminum slag separated from it. The reaction producing this remarkable result takes place in less than one minute, without regard to the quantity of thermit used. Easy as it now seems after Dr. Goldschmidt has shown us how to use it, this simple formula is the key by which every door of the new science is unlocked and its secrets revealed. The experimenters who undertook to reduce aluminum during the last half century, without exception, heated the mixtures externally, and so used the oxygen of the air to support combustion, instead of igniting the substances internally and liberating enough oxygen to permit combustion to take place inside.

Second only in its usefulness to the production of pure metals, but capable of a more spectacular demonstration, is the thermit welding process. As a method for welding, thermit begins where the blacksmith's forge ends. It is not intended to use the new process for welding small pieces of iron or steel, but where broken pieces of metal of great size are to be repaired, especially in situ, it fulfills a place unsupplied by any other method known.

**Consumption Among Soldiers.**  
The mortality from consumption has decreased each year for several years in every army of the world except that of France, in which it has increased markedly.

**THE MULDOON FARM.**

**Beautiful Estate Presented by Well-Known Wrestler and Trainer to Catholic Church.**

"Billy" Muldoon, the famous wrestler, has just presented his extensive and beautiful estate, known as the "Muldoon's Farm," previously used as a training school of his art, of St. Patrick's Roman Catholic church of Belfast, N. Y., to be converted into a convent. The entire property has been given to Bishop Colton, of Buffalo, who was formerly pastor of St. Stephen's Roman Catholic church, in Twenty-eighth street, New York.

The "Muldoon farm" is well known throughout the United States as the place where many famous athletes have been trained into condition for championship contests, and where, also, many business and professional men have studied physical culture. The only condition which the former owner has attached to the transfer of the buildings and grounds to Bishop Colton is that it



**THE MULDOON MANSION.**  
(Given to the Catholic Church, Together with Model Farm.)

should always remain the property of the church, and that the mansion should be used exclusively as a convent, while the other buildings should be utilized for educational and charitable purposes. Bishop Colton will set about at once to convert the buildings into the uses for which they were given by the generous donor.

"I desired to give my property," said Muldoon, "to some church or organization where it could be converted into worthy, charitable purposes; and in looking over the field in New York I have finally decided to present it as a free gift to the Roman Catholic church, which, I feel confident, will carry out my wishes and desires."

It was at Muldoon farm that John L. Sullivan, the famous pugilist of his day, was rehabilitated. Hundreds of influential men, including leading representatives of the American financial and social world, have been visitors and temporary residents of Muldoon farm in years gone by and gratefully admit that the unique treatment they then received, coupled with the compulsory participation in novel exercises in physical culture that were enforced under the roof of the farm, was the chief factor in regaining for them health and happiness.

**NEW HEAD OF ARMY.**

**Gen. Adna R. Chaffee Has a Military Record Second to None in the Service.**

Gen. Adna Romanza Chaffee, who has succeeded Gen. Young as chief of staff of the army, is a soldier with an international reputation. He was a leading figure in the civil war, in campaigns against the Indians and in the Spanish conflict. He was born in Orwell, O., April 14, 1842, and entered the army in 1861 as a private. His gallantry won him a brigadier generalship, and when the war closed he was appointed a captain in the



**GEN. ADNA R. CHAFFEE.**  
(Gen. Young's Successor as Chief of Staff of the Army.)

regular army. Then followed his Indian service and for 27 years he was with the Sixth cavalry. In the Santiago campaign he won fresh laurels at Las Guasimas and El Caney, and next figured in the boxer uprising in China, when he commanded the American forces at the relief of Peking. Then he was assigned to the command of the Philippines, and was appointed military governor July 4, 1901. Col. Chaffee was relieved of this position the following year, returned to the United States and assumed command of the department of the east. He is held in the highest esteem by soldiers of all grades.

**Some Facts About Hayti.**

The island of Hayti, the home of the negro republic, is not excelled by any country in beauty or in the variety and richness of its products. At least 70 per cent. of its 1,250,000 people are illegitimate.

**Eiffel Tower Out of Plumb.**

The necessity for the removal of the Eiffel tower arises from the fact it has already leaned so far out of plumb that a small increase in the depression of its foundation at one side will place its center of gravity outside its base.

**SAINT JOAN OF ARC.**

**Maid of Orleans to Be Canonized by Catholic Church.**

**Ceremonies of Beatification Already Performed at Rome—After Rescuing France She Was Sold to Her Enemies.**

After nearly five centuries of misrepresentation and calumny, the congregation of rites of the Roman Catholic church has taken the first steps toward the canonization of Joan of Arc. After having suffered in her lifetime from the greed of her own countrymen, represented by her sale to the English by the duke of Burgundy, by royal ingratitude represented by the indifference to her fate of the worthless Charles VIII., for whom she saved his throne, by the church itself as represented by Cauchon, the bishop of Rouen, who, after declaring her guilty upon unproved charges of heresy, witchcraft and communication with evil spirits, turned her over to the secular authorities for burning at the stake, which neither the French nor the English prevented, she is now declared fit for beatification.

It is probable that from the historical point of view the real story of the peasant girl of Domremy, who left her father's sheep at the command of "the voices" and obeyed the instructions of Saints Catherine and Margaret by revealing her mission to the worthless dauphin, by raising the siege of Orleans, driving the English from most of their French possessions, and finally by conducting the dauphin to his coronation at Rheims, may never be told in all its details. Even contemporary historians differ according to the extent of their individual beliefs in supernaturalism. Those who were guilty of her betrayal and surrender invented all sorts of charges to excuse their action, and later historians, unable to account in a material way for her marvelous career, found themselves either forced to concede that that career was full of miracles or to doubt her very existence, which some have done even in the face of hard facts.

The Chicago Tribune says that from the religious point of view it is



**JOAN OF ARC.**  
(Maid of Orleans Who Has Just Been Made a Saint.)

clear that great injustice has been done to her and to her memory. There never was a more devoted adherent of the church, perhaps never a more deeply religious visionary than Joan of Arc. No one can doubt she believed she saw the figures of her two favorite saints in the clouds, heard their voices and their answers to her when she spoke to them. There was no point in her career when she did not seek spiritual guidance or believe she was under the protection of the saints, until after securing the coronation of the dauphin, which ended her mission, she remained in the field at his order and herself acknowledged that her saints had forsaken her. She was sold for gold by a greedy duke, one of her own countrymen, in alliance with the English. She was delivered by her purchasers to a malicious bishop, one of her own countrymen, who, when he failed to convict her of heresy, condemned her upon charges of intercourse with evil spirits, and delivered her to the civil authorities of Rouen, who soon regretted their action and eventually erected monuments to her memory.

Joan of Arc was burned at the stake at Rouen May 30, 1431. She was but 13 when France was overrun with Anglo-Picard and Burgundian troops, and in alleged visions she declared she had been called upon to deliver her country. The dauphin was induced to give her military command, and in several engagements she defeated the English; but in 1430 she was captured by the Burgundians at Compiègne and sold to the English for 16,000 francs. She was tried for sorcery and heresy, and the University of Paris finally pronounced against her, and though she consented to a formal abjuration of heresy, she was executed.

**Electricity from Cats.**

An Indian in St. Louis wants to exhibit at the world's fair in St. Louis the most unique feature yet offered. He promises to generate electricity from the fur of black cats. He will have a number of these cats chained in a row and will have their backs automatically stroked by machinery, and the electricity thus generated from each tabby will be transferred by means of wires to a storage battery and thence conveyed to the dynamo, which is movable. The inventor is from Posey county, and he claims to have been experimenting with the companion of witches for many years. His name, however, has not been given out, and the management has not passed upon the proposition.

**Cost of Producing Coffee.**

The average cost of labor in the production and preparation of coffee is 4.7 cents a pound.

**CORNELIUS VANDERBILT.**

**Young Millionaire May Be Candidate for Congress from Thirteenth New York District.**

Cornelius Vanderbilt will probably be chosen the republican candidate for congress from the Thirteenth district for next fall's election. The district leaders have decided to offer him the nomination, and all that now remains is to make Mr. Vanderbilt the candidate in his acceptance when the nomination is tendered. The leaders say their only fear on that point is that the young millionaire may not care to fight Francis Burton Harrison, who is now the democratic representative of the district. They roomed together at Yale and are the closest friends. The district is normally republican.

Though the heir of millions Cornelius Vanderbilt has not been content to spend his time in idleness or in dawdling around Newport. At Yale, from which



**CORNELIUS VANDERBILT.**  
(Millionaire, Inventor, Engineer and Possible Politician.)

he was graduated in 1835, he studied in the Sheffield Scientific school and prepared himself for the career of an engineer. That he was a practical engineer is evinced by the fact that he has invented and patented several devices for locomotives which have been put into general use. He has offices in New York city, where he employed 40 men, architects, engineers and draughtsmen, to assist him in the minor details of his work.

His marriage to Miss Grace Wilson against his father's wishes caused much comment in New York and subsequently caused his father to cut him off almost entirely in his will. Once when Miss Wilson had come to New York young Cornelius was sent to Paris, and when the Wilson family went to Paris his father sent secret agents to try and alienate the young couple.

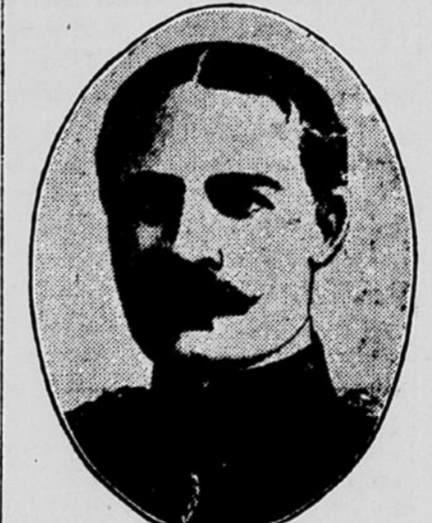
After his father's death Cornelius forced the other heirs to give him his share of the \$100,000,000 estate. This was not absolutely essential to his comfort, as he had an independent income of \$20,000 a year and his bride brought him \$2,000,000.

**WHITE HOUSE DANCES.**

**Maj. McCawley Chosen by President and Mrs. Roosevelt to Take Charge of Them.**

The social world is greatly interested at the announcement that Maj. Charles L. McCawley is to be Col. Symon's aid in social functions at the white house. Col. Symon, as military aid to the president, has charge of these functions, but he has found the task too much for him in addition to his duties as superintendent of public buildings and grounds. So he has appointed Maj. McCawley to take care of the dances and other social functions at the white house.

Maj. McCawley is one of the best dancers in the army and is the man who



**MAJ. C. L. McCAWLEY.**  
(Major Domo of Social Functions at the White House.)

leads the cotillions with Miss Alice Roosevelt at the dances she attends here. He is the president's personal selection as her partner.

Maj. McCawley will have his office in the Lemon building at Washington, and will do nothing but carry out the wishes of the president and Mrs. Roosevelt as to their entertainments, as well as act as major domo on all occasions when there is nothing of a social nature in the white house.

The president's social staff formerly consisted of the military aid, naval aid and two others. The great number of entertainments at the white house since Mr. Roosevelt became president has gradually increased the staff until it numbers nine.

**Desertions from the Army.**

During the official year the army lost 7 per cent. of its enlisted men by desertion, or enough to make six full regiments. Half as many more were dishonorably discharged.

**American Model Best.**

The Bavarian government has decided to construct a large number of new locomotives upon the models of the American locomotives introduced by the railways of Bavaria four years ago.

**NORTH DAKOTA NEWS**

**Pathetic.**

It is pathetic to see the way the Indians receive the news that congress is about to pass a bill by which the white man may take their lands without asking their consent. This action was predicted years and years ago by Sitting Bull and other irremediables, who claimed it was better to die fighting than to see their last remaining lands taken from them. Indians of this generation will not fight; they will gradually settle the Indian question by dying. The taking away of their surplus lands will hasten the process, as they cannot live and farm on 160 acres west of the Missouri.

Although the papers say the Rosebud and Totten lands are worth \$10 an acre immediately they are proved up, it is asserted it is ridiculous to give the Indian over \$2.50 an acre. The Indians say all they want is to be let alone with the little land they have. They do not want to sell at all.

**Wild and Tame.**

Master Anthony Erickson, of Grass Lake township, near Wilton caught a young wild duck in the spring of 1901. The duck became quite tame and stayed with the tame ducks on the farm. In the spring of 1902 the duck left, and no trace of her could be found. Anthony mourned his pet as lost. At dusk one evening late in the fall of the same year she came back. Anthony thinking it a wild duck went for his gun, but found her in the chicken coop with the tame ducks. It stayed all that winter and in the spring took the same kind of leave as the spring before, staying away all summer, and returned again last fall and is now spending the winter on the farm. Was it instinct that brought the duck back?

**National Guard.**

The North Dakota national guard concluded an interesting session at Fargo. A lot of routine matters were disposed of and among the new business was the organization of a regimental ambulance and signal corps. This completes the regimental organization.

The militia is reported in excellent condition. The next annual meeting will probably be held in Bismarck. The new officers are:

President, Lieutenant Colonel Treumann, Grafton; first vice president, Captain Purden, Wahpeton; second vice president, Sergeant Garvey, Grand Forks; secretary, Captain Boyd, Hillsboro; treasurer, Lieutenant Lewis, Fargo. Company B of Fargo gave the delegates a ball tonight.

**Irrigation.**

Secretary Brown of the state irrigation association calls upon the residents of the state and the members of the association for funds where-with to continue the irrigation propaganda. The executive committee recently suggested the propriety of a contribution of \$100 from the coffers of each organized county in the state, but so far only a few have responded. The association also issues membership certificates to all citizens of the state who forward \$2 to the secretary. Recent letters from the state's representatives at Washington indicate that more careful surveys will be made in this state the coming season with a view to establishing some irrigation works if possible.

**Had a Good Time.**

A number of young people at Thompson visited the school house at that place at midnight, removed the desks from the floor and indulged in all they had done there would have all they had done there would have been little said, but they proceeded to demolish all the glass in the windows and broke up a couple of seats. A number of arrests will follow—and the members of the dancing party will find that paying the fiddler in court will perhaps come pretty high.

**Wolf Bounty.**

The new wolf bounty law is more exacting than the old one. The skin, hide, both ears and tail of the slain animal must be exhibited, and at least two persons must make affidavit that the animal was killed in the county from which it is proposed to collect the bounty. A clause requiring a certificate of good character should have been added.

**Burned to Death.**

Alfred Offald, a laborer asleep in a hay loft of a barn located in the business district of Portal, was burned to death at 2 o'clock in the morning. Two horses in the barn were also cremated, and for a time the entire town was in danger of destruction. Prompt work on the part of the citizens saved the village. The origin of the fire is a mystery.

**News Notes.**

A business men's club has been organized at Velva. The merchants of Steele have adopted the early closing rule. Ed. Dawson of Courtenay drew a ten year sentence for burglary. Officers made a raid on the saloon at Buford and gathered in a lot of liquor evidence. The proprietor was out at the time, and he has not been in since. A committee has been appointed to loop up a site for the new armory at Grand Forks. Geo. H. Phelps of Fargo, was elected R. E. Grand Commander of the Knights Templar. A man giving his name as Fred Williams was arrested at Breckenridge on complaint of Sheriff Moody of Wahpeton, N. D., on a charge of burglary in the first degree. The contractor for the new Jim river bridge on the line between Foster and Stutsman counties has completed the work and is ready to turn it over to the county.

**THE NEWS IN BRIEF.**

**For the Week Ending Jan. 23.**

At Brighton, Col., the Adams county courthouse was burned to the ground. The Kentucky legislature passed a bill appropriating \$1,000,000 for a new state capitol.

Mayor J. M. May, inventor of farm machinery, died in Cedar Rapids, Ia., aged 90 years.

Mrs. Ruth Brown Thompson, daughter of John Brown, the liberator, died at Pasadena, Cal.

Mrs. Louisa Eliott, 28 years of age, killed her two children and herself in New York city.

William Sparrow and wife, old residents at Kasson, Minn., were asphyxiated by coal gas.

G. A. Tressler, of Springfield, O., has been elected president of Midland college at Atchison, Kan.

The will of former Gov. Asa S. Bushnell, of Ohio, distributes an estate estimated at \$7,000,000.

Burglars took \$1,200 from the bank at Jonestown, Miss., and \$500 from the state bank at McLean, Neb.

The distillery plant of Mihalovitch, Fletcher & Co. at Cincinnati was burned, the loss being \$250,000.

Franklin Union No. 4 of Pressfeeders in Chicago was placed in the hands of a receiver by Judge Brentano.

Andrew Carnegie has given \$15,000 to build a library at Talladega college, a colored school at Talladega, Ala.

A plea for ship subsidies was made by Senator Hanna at the national board of trade convention banquet at Washington.

Gov. Yates has filed a protest against the Illinois state tax rate of 52 cents per \$100 valuation with the secretary of state.

Secretary Hay left Washington for Thomasville, Ga., where he expects to remain two weeks as the guest of Col. Payne.

"Kid" Carter knocked out Joe Choyinski in the first round of a fight at Boston and the police arrested both principals.

New coaches which, it is claimed, cannot be telescoped, are being tried by the Chicago & Eastern Illinois Railroad company.

The New York Central railroad will try to break the world's speed record of 128 miles an hour made at Prossen, Germany.

Control of the copper supply and markets of the world has passed to the hands of the Standard Oil company and the Rothschilds.

A. J. McLaurin and H. D. Money have been elected by the Mississippi legislature to succeed themselves in the United States senate.

A Brooklyn (N. Y.) wife beater was sent to prison for eight years on his eighth appearance before the courts on the same charge.

Mrs. Lindsay Allison, who claimed to be the oldest resident in the United States, died at Pensacola, Fla., at the age of 133 years.

While handling a gun he did not know was loaded Charles Crabtree, a 12-year-old boy at Burlington, Ia., accidentally killed his mother.

The Olyphant breaker and washery of the Delaware & Hudson company at Olyphant, Pa., was destroyed by fire, throwing 2,500 persons out of work.

A movement is under way to secure investigation by the national government into the causes of fires and to avert the great loss of life and property.

Cured of a broken neck, James Dunn, 17 years old, has been discharged from a hospital in New York, where he had spent five months in a plaster cast.

W. J. Bryan, in an address at a Lincoln (Neb.) banquet given in his honor, opposed abandonment of "bimetallism" or change in party's tariff attitude.

Santa Fe railroad officials were elated over a life sentence given John Divine for wrecking the Colorado express on October 30, by which 25 were injured.

The latest reports to the American board in Boston from the relief centers in Macedonia show that there are now 100,000 persons homeless and without means of support.

A battle at Puerto Plata between San Domingo revolutionists and government forces was practically refereed by the United States naval commander, who finally stopped it.

**THE MARKETS.**

New York, Jan. 23.	
LIVE STOCK—Steers	47 1/2 @ 50
Hogs, State, Penn.	3 30 @ 3 40
Sheep	4 00 @ 4 50
FLOUR—Winter Patents	4 75 @ 5 00
WHEAT—May	92 1/2 @ 92 3/4
RYE—State and Jersey	50 1/2 @ 50 3/4
CORN—May	50 1/2 @ 50 3/4
OATS—Track White	45 1/2 @ 45 3/4
BUTTER	10 1/2 @ 10 3/4
CHEESE	10 1/2 @ 10 3/4
EGGS	24 @ 31
CHICAGO.	
CATTLE—Fancy Steers	45 @ 45 1/2
Red Texas Steers	3 40 @ 3 45
Medium Beef Steers	3 30 @ 3 35
Plain Beef Steers	3 30 @ 3 35
Common and Rough	3 00 @ 3 50
HOGS—Assorted Light	4 70 @ 4 90
Heavy Packing	4 85 @ 4 95
Heavy Mixed	4 55 @ 4 90
SHEEP	3 30 @ 3 50
BUTTER—Creamery	14 @ 21
Dairy	14 @ 19
EGGS—Fresh	24 @ 25 1/2
POTATOES (per bu.)	15 @ 17
MESB PORK—Cash	12 75 @ 13 25
LARD—Cash	7 07 @ 7 10
GRAIN—Wheat, May	90 1/2 @ 91 1/4
Corn, May	49 1/2 @ 50
Oats, May	41 1/2 @ 41 3/4
Barley, Fancy	60 @ 61
Rye, May	59 @ 60
MILWAUKEE.	
GRAIN—Wheat, No. 1 Nor'n	88 @ 90
Corn, May	48 1/2 @ 49 1/2
Oats, Standard	40 1/2 @ 41
Rye, No. 1	61 1/2 @ 61 3/4
KANSAS CITY.	
GRAIN—Wheat, May	74 1/2 @ 74 3/4
Wheat, July	71 1/2 @ 71 3/4
Corn, May	41 1/2 @ 42
Oats, No. 2 White	38 @ 39
ST. LOUIS.	
CATTLE—Beef Steers	32 30 @ 32 50
Texas Steers, Grass	2 40 @ 2 50
HOGS—Packers' Best Heavy	4 60 @ 4 90
Butchers' Best Heavy	4 75 @ 5 15
SHEEP—Natives	3 75 @ 4 50
OMAHA.	
CATTLE—Native Steers	31 50 @ 32 00
Stockers and Feeders	2 75 @ 3 00
Cows and Heifers	2 75 @ 2 75
HOGS—Heavy	4 25 @ 4 50
SHEEP—Wethers	3 75 @ 4 00