

INVENTORS OF BIG THINGS

United States Leads the World in the Matter of Making Scientific Discoveries.

ENGLAND IS A POOR SECOND

Born a belligerent person who didn't have anything else to do started a newspaper row, recently, as to which of the great civilized countries had produced the greatest inventions. It began with a gentle spear-tilting between advocates of German progress and persons who wished to demonstrate that the Germans did not have any monopoly on inventive genius, says the St. Louis Post-Dispatch.

It might have been avoided if the combatants had only taken the trouble to consult the encyclopedias in the reference room of any library. Here, for the mere trouble of looking, any person could have discovered in a few minutes that the United States has produced all other nations. For out of sixty-six epoch-making inventions twenty-nine of them were made in this country. England comes next with seventeen, France third with ten, Germany fourth with five, Italy fifth with two, and Brazil, Sweden and Austria with one each.

Improve Every Process. In this catalogue, a sharp distinction is drawn between the discovery of a scientific principle and the application of that principle in a successful mechanical device. In other words, the things counted are only the first practical developments of great scientific principles.

If scientific discoveries were classed as inventions, Germany would make a far better showing than it has in this list. German chemists have perfected processes now used throughout the industrial world and have improved almost every process they have taken in hand. But a discovery, such as radium, is not the same thing as an invention, such as the phonograph. The Germans, who have been pioneers in many frontiers of science, have neglected, relatively, that of mechanical invention.

The oldest invention catalogued in this list was the product of E. Torricelli, an Italian. Before his time mariners had very unsatisfactory means of forecasting great weather disturbances. By the application of a few well-understood scientific principles and the evolution of new ones Torricelli produced the barometer. This was in 1643.

The thermometer is an article of household necessity nowadays, yet, curiously enough, the first thermometer was not constructed until 1705, sixty-six years after Torricelli's barometer appeared. Its inventor was a Prussian named Fahrenheit, whose name today distinguishes the scale of measurements of the thermometers in common use in the United States.

Ben and His Kite. Every schoolboy knows about Benjamin Franklin and his kite, and every schoolboy knows that Franklin was the first inventor of a lightning conductor. To the printer-philosopher goes the credit of founding the American School of Invention, which has made so many brilliant achievements within the last half century.

The spinning jenny, which revolutionized methods of cloth weaving, was the invention of an Englishman, J. Hargreave. Thirty-one years later, in 1794, E. Whitely, an American, invented the cotton gin. A great part of the early manufacturing prosperity of our own country had its origin in these creations.

Equally as well known as Franklin's kite is James Watt's teakettle. If the former was the beginning of modern electrical mechanics, the latter was the beginning of modern power development, and Watts is immortal as the inventor of the steam engine. Watt, it will be remembered, was a Scotchman.

Raised letters for the skilled fingers of the blind is often considered a modern invention. The fact is that it was perfected in 1784, the inventor being V. H. Braille, an Englishman. At the same time J. Carriette, an Englishman, was working on a device he completed the following year. It was the first power loom. J. Jacquard, a Frenchman, invented the first pattern loom in 1801.

Weights the Bird Men. To another Frenchman, Montgolfier, must be ascribed the invention of the gas balloon. That was in 1783. It was more than 20 years afterward that two Americans, Orville and Wilbur Wright, invented a heavier-than-air machine that would fly under its own power.

W. Murdoch, an Englishman, in 1785, was the first to provide a practical means for using gas for illumination. Just ninety-five years later Wellbach, an Austrian, invented the incandescent burner for illuminating gas so commonly in use today over the whole civilized world.

Steam locomotion got its first start in England and the United States. It was in 1804 that R. Trevithick, a Briton, made the first steam engine to run on rails. Three years later Robert Fulton, an American, built the first steamboat. The tubular locomotive boiler was patented in 1828 by Squish, a Frenchman. The first portable steam fire engine was designed by Brathwaite and Ericsson, in England. J. Ericsson invented the first screw propeller for steamers in the United States in 1826.

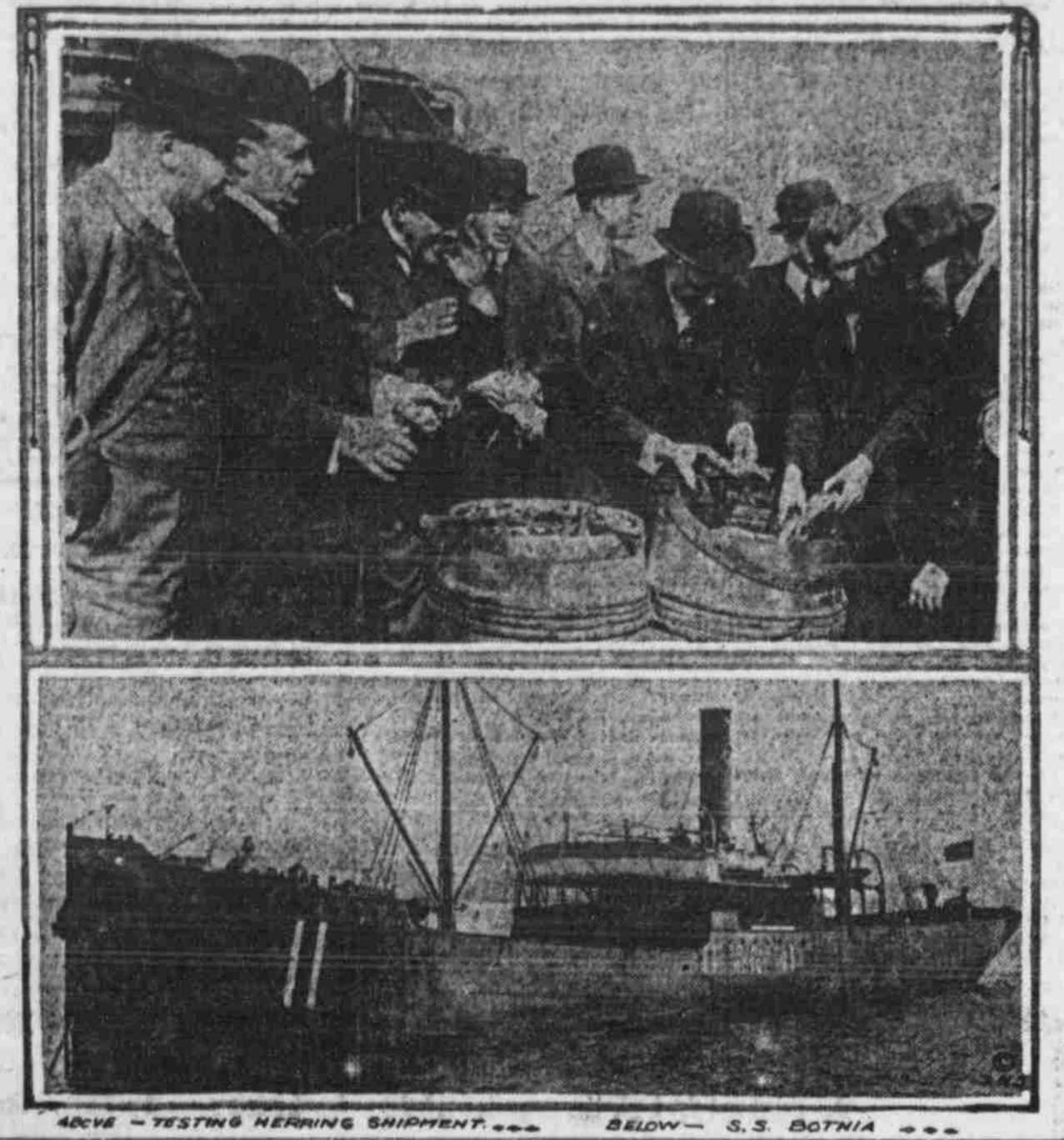
First Steam Hammer. J. Niswamth perfected the first steam hammer in Scotland in 1825. The rotary steam turbine engine was perfected in 1821 by C. Parsons, an Englishman.

The development of electrical mechanics has been the source of some of America's greatest inventive triumphs. H. Davy of England, perfected the first voltaic arc, and M. Paraday of England, in 1821, created the first servicable magnetoelectric induction apparatus. But the telegraph was invented by Morse, an American, in 1844. The electric locomotive was invented by Page, another American, in 1841. The electric cable was invented by C. Field, an American in 1860. The telephone was invented by A. G. Bell, an American, in 1876. Thomas A. Edison, an American, invented the phonograph in 1877; the incandescent electric light, in 1879; moving pictures (with M. Lubier of France), in 1888. The first electric light was perfected by L. Foucault, a Frenchman, in 1844, and the storage battery was invented by C. Faure, a Frenchman, in 1860, but the mercury vapor electric light was invented by Cooper Hewitt, an American, in 1900.

R. Loenneke of France, invented the stethoscope, in 1816. The next great invention of importance to the medical world was that of anesthetic surgery, by Lord Lister, a Briton. The X-ray was perfected by C. Roentgen, a German, in 1896. A radio-activity process was perfected in 1896 by H. Becquerel, a Frenchman.

Goodyear's Work. The Englishman, Paraday, in 1823, discovered a process for the liquefaction and solidification of gas. C. Goodyear, an American, in 1839, perfected the first

ICELAND HERRING CAN NOW BE SERVED ON AMERICAN TABLES—Above is shown railroad agents and government inspectors testing the shipment of 5,000 barrels of herring, and below is the steamer which brought them to the United States last week.



ABOVE—TESTING HERRING SHIPMENT. BELOW—S.S. BOTNIA

TEUTON ARMIES MENACE GREAT SERB ARSENAL

(Continued from Page One.)

finding an echo in the discussion as to the advisability of creating a British war council to consist of the premier, war secretary and first lord of the admiralty, to have supreme direction of the war. It is reported unofficially that King George, who was injured on Thursday by a fall from his horse, passed a good day yesterday.

Russ Army On Way to Bulgaria. COPENHAGEN, Oct. 30.—(Via London.)—Large contingents of Russian troops have set sail from the Black sea ports of Odessa and Sebastopol for the Bulgarian coast, the Berlin Tageblatt says.

The dispatch telegraphed to the Tageblatt from Bucharest says that the transports are conveyed by a strong squadron. The recent attack by Russian warships on the Bulgarian port of Varna, according to this account, was made in preparation for an attempt to land troops.

French Report Gains. PARIS, Oct. 30.—French progress last night at Bois de Hache and the repulse of a German attack this morning near Souches, are set forth in the official announcement given out by the French war office this afternoon.

The text of the communication follows: "In the Artois district last night we made progress at Bois de Hache and occupied a section of the enemy's trenches."

"To the southwest of Souches the Germans this morning undertook an attack in the vicinity of Hill No. 140. They were repulsed by a curtain of fire from the French machine guns."

In the Champagne district the fighting still is going on in the vicinity of the position known as 'La Courtine' with the greatest ferocity. On different occasions, the enemy has endeavored to recapture from us the trenches we took possession of yesterday. These four counter attacks all failed completely before the energetic resistance of our troops, who were successful everywhere in retaining the advances made."

"There has been no other important action on the remainder of the front."

FIRST SKIRMISH NEAR AGUA PRIETA

(Continued from Page One.)

the outlines of an Ethiopian, which rises out of the desert nine miles east of here, claimed the attention of all eyes today as marking the portal of a mountain pass through which General Villa was expected to swing tonight or tomorrow about 8,000 men to attack or besiege the Carranza garrison of Agua Prieta, Sonora, opposite here.

Besides his 8,000 soldiers, Villa was authoritatively reported to have twenty-eight field pieces of unknown caliber and efficiency. To oppose him General Pallas Calles, the Carranza commander, has approximately 3,700 troops, ten machine guns, and between thirty and forty mortars. Unless reinforcements come over the American side, via Eagle Pass, and arrive tonight, they will be too late for the opening gun of the battle.

As they sweep westward toward Agua Prieta, the Villa forces must pass near an encampment of troops stationed hardly a mile north of the border, where Brigadier General Thomas F. Lewis, who assumed command yesterday, has about 4,000 soldiers, with sixteen three-inch guns. The United States troops have definite orders to keep Mexican soldiers on their own side of the international line and to prevent them from shooting into the United States.

One of Them Came Out Ahead. Hoping to be the first to relate some welcome news, the youth rushed into the house and said: "I had a fight with Percy Raymond today."

NEBRASKA CASES DECIDED

Supreme Court Rules that Former Opinion in Madison Case is Good.

BOONE COUNTY CASE SETTLED

(From a Staff Correspondent.)

LINCOLN, Oct. 30.—(Special.)—The supreme court has decided that a former opinion rendered by it in the Madison county commissioner case was correct. In that opinion the holding of the Madison county district court was reversed.

The case was one in which a commissioner had been elected in 1908, 1909 and 1911. The statutes and some court opinions were in confusion and the officers and people of Madison county considered that the term of office of commissioner in counties not under town organization and having three commissioners was three years. At that time the law provided that a county commissioner should be elected annually for three years.

The high court holds that this law should be disregarded because the law now calls for a four-year term.

The fact that there was a failure to give the statutory notice of election of county commissioner will not of itself invalidate the election. But if it appears that such failure has prevented the election generally from voting upon a question, it cannot be held that their has been an election upon that question.

Will Hold Job in Boone. A. J. Tisthammer, elected as county commissioner of Boone county in 1914, will hold that office for four years, according to an opinion of the supreme court which holds that the election court which holds office for four years shall be elected in 1914 for a term of four years and one in 1918 for a term of four years.

The said act was a legislative construction of former conflicting statutes, and establishes that subsequent to the act of 1905 and the amendment of the constitution no valid election could be held in such counties in the odd numbered years.

The action is one brought in the district court of Boone county, by I. H. Delarm, to restrain the county clerk from issuing a certificate of election to Tisthammer, who had been elected at the November election. The relator, who was filling an unexpired term, brought suit to restrain Tisthammer from taking office, and the district court denied his application. The high court sustains the action of the lower court.

Douglas Case Reversed. In an opinion written by Chief Justice Morrissey of the supreme court, the judgment of the Douglas county district court is reversed in a case, where S. J. Coffman attempted to force his partner, Matt Malone, to buy out his partnership in a commission business in South Omaha. The district court found for Hoffman, but the higher court reverses the lower court and sends the case back for a retrial.

Malone claimed that the contract made between Coffman and himself, was for no other purpose than to influence Amos Snyder, the third partner, to sell out his interest in the business for \$1,500, which was successful. The question then came up as to the disposition of the Snyder stock and in the settlement Malone refused to take the check of Coffman and demanded cash. The latter then insisted that Malone buy his stock and over this controversy the suit was brought.

GEORGE S. WARD WILL BE HEAD OF BROOKLYN FEDS

NEW YORK, Oct. 30.—Announcement was made at the headquarters of the Federal league today that George S. Ward is to be elected president of the Brooklyn club, to succeed his brother, the late Robert B. Ward, at the next meeting of the stockholders. Mr. Ward was closely associated with his brother in the affairs of the Brooklyn club, and is said to have similar views regarding its policy.

Apartment, flats, houses and cottages can be rented quickly and cheaply by a Bee "For Rent."

WOMAN IS KILLED BY TRAIN NEAR WALNUT

ATLANTIC, Ia., Oct. 30.—(Special Telegram.)—Mrs. Edgington, aged about 40, who lived near Walnut, was struck by Rock Island eastbound local No. 26 this morning two miles east of Walnut and instantly killed. The inquest will be held Monday. Deceased leaves a husband, but no children. The body was brought to this city and taken to her home near Walnut.

MAN DROPS DEAD AT AVOCA

MINNEAPOLIS, Oct. 30.—(Special.)—Peter Hillmuth, aged 45 years, dropped dead here this morning at 10 o'clock in the office of Paulsen's rooming house. He had worked here for several years as a baker and had no known relatives. Death was due to heart trouble.

FAST TIME IN CROSS-COUNTRY

MINNEAPOLIS, Oct. 30.—Wisconsin won the five-mile cross-country race in the dual meet with Minnesota, this afternoon. Fred Watson of Minnesota broke the course record in 16:24.

CASES OF UNCONSCIOUS WIT

Making Bad Bulls in Times Past Has Given the Opinion that Makers Were Wise Men.

SOME SPECIMENS ARE CITED

It was Sir Richard Steele who said that the "bull" was a result of climate, and that if an Englishman were born in Ireland he would make just as many. The collection of this form of wit is very timely. Now, of all times, we need wit and kindly humor. And those qualities being in generous measure to J. C. Percy, whose book of "Bulls and Blunders" has given us an hour or two of delightful relaxation, says T. P. a Weekly.

Mr. Percy gives a fine specimen from old times: "Grose, in his 'Dillo,' relates it as a fact that in May, 1794, a bill relating to franking was sent from Ireland for the royal assent. One clause enacted that every barrister who, from illness or any other cause, should be unable to write, might authorize another to frank for him, provided that on the back of the letter so franked the member gave under his hand a full certificate of his inability to write."

Even Cobbett managed to perpetrate the following sentence in "Rural Rides": "I saw no corn standing in ricks, a thing I never saw before and would not have believed it had I not seen it."

Humor expresses itself in action as well as words. The Irish rebels of 1796 enacted a "bull" of a remarkable kind. They wished to annoy the Hon. John Bercorford, a banker. So, forgetting that every bank note that is lost reflects a bank of liability, they collected at great expense a pile of Bercorford paper money and burnt it with great sound and fury.

Mr. Percy tells another story, this time of a psychologic "bull," from beyond the Rhine: "There is a most excellent story of a German maid, who had petitioned the authorities to remove a great hill from in front of her house, in order that she might get an unobstructed view of the river Rhine. The authorities were unobbliging and pigheaded, and would not move the hill. The old maid pleaded, but quite in vain. But she was a pious Bible-reading woman, and a liberal descendant of Martin Luther into the bargain. She remembered the text about the faith that can move mountains, and she resolved to try it on the great, troublesome hill that cut off her view of the beautiful Rhine. She decided upon a night of the prayer that with implicit confidence that her prayer would be answered. All night long she wrestled like Jacob of old. In the morning she rose, with radiant countenance, confidently drew the curtain of her window that looked toward the mountain, staggered back with apparent surprise, and exclaimed: 'And there it stands, just as I expected!'"

An Irish M. P., somewhat wearied by debate, perpetrated the following: "If you leave this question to us for three years, we will settle it tomorrow morning."

It Falls to Cure. "Sir Edward Carson," says the author, "is specially addicted to the Taurus Hibernicus, which long residence in London has failed to cure. I have just room for two prime Caronian specimens. The latter leader said, 'Mr. Asquith was like a drunken man walking along a straight line—the further he went the sooner he fell.' At Mount Edgecombe Sir Edward referred in cordial terms to the gentleman I see behind me. And his friend, Mr. F. E. Smith, M. P., in discussing the Parliament act with its famous preamble, referred to them as two bills, the younger of which had not yet been born."

With these gems it would be hard to compete. But the book is full of them. Scottish, Australian and American all contribute to this lucky tub of verbal topography.

The mixed metaphor, like the "shibboleth," often is the result of looking on the wine when it is red. But sometimes, as in the following instance, it is the result of a vigorous attempt at vituperation:

"There was an editor of a local paper in a little Wisconsin town who was a source of perennial joy. It is on record in his files, observed by an appreciative local reader, that one week, while rebuking some heinous charge by the opposition, he announced that 'chickens, like two-edged swords, ofttimes come home to roost.' On another occasion, in handling the case of a contemporary, he said: 'Thus, the black lie, issuing from his base throat, becomes a boomerang to his hand, and he is holed by his own petard, and finds himself a marked man.'"

Into the Wall Ring. Mr. Percy's personal circle seems to be a promising ball ring. He gives the following: "I heard my wife say to a gardener, 'You have done your work very well. If I want another man I'll send for you.' Speaking of a recent Christmas shopping experience in Grafton street, my 'better half' remarked: 'I simply couldn't get into Messrs. So and So's on account of the rush, and getting out was worse.' My colleague (Mr. Meoody) took me for a motor run through Woklow, taking in an extra detour just to show me a bridge that had been washed away."

One cannot really 'rob' Mr. Percy's store of stories. For every one we take out half a dozen seem to come in. And his child humor is prolific: "Desmond," said the teacher, "what is the spinal column?"

"The spinal column," said Desmond, "is what my head sits on one end and I sit on the other."

Here is a piece of scriptural history parodied in fine style: "A school boy wrote the following terse narrative about Elijah: "There was a man named Elijah. He had some bears and lived in a cave. Some boys tormented him. He said: 'If you keep on tormenting those at me, I'll turn the bears on you and they'll eat you up.' And they did, and he did, and the bears did."

Two American stories are too good to miss. We hope they will not be regarded as a breach of neutrality: "An American teacher had visitors at school one afternoon and naturally was anxious for her pupils to make a good impression. "William," she asked a rosy-faced lad, 'can you tell me who George Washington was?'"

"Yes, ma'am," was the quick reply. "He was an American general."

"Quite right," replied the teacher. "And can you tell us what George Washington was remarkable for?"

"He was remarkable because he was an American and 'told the truth.'"

Here is another excellent Washington story: "The teacher was hearing the history lesson. Turning to one of the scholars who asked 'James' what was Washington's farewell address?"

The boy arose with promptitude and answered, 'Heaven, ma'am.'"

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