

Pickett's Charge Is Repeated by the Marines



United States marines recently re-enacted the Battle of Gettysburg, but under modern conditions and by modern methods. Pickett's charge, as they made it, is here shown, the photograph being taken at the "Bloody Angle." At the right is seen Senator Pepper of Pennsylvania preaching to the marines on Sunday on the battlefield.

Concrete Finds Many New Uses

Range Varies From Art Windows to Swimming Pool for Hippopotamus.

DASH OF ROMANCE IN STORY

Portland Cement Has Been In Use Nearly Hundred Years—Development of Uses in Recent Years Remarkable.

Washington.—There is a dash of romance and a fairy story theme in the commonplace chug and rattle of the concrete mixer. Every one is conversant with the ordinary uses of Portland cement.

Perhaps some first impressions of this material date back to the delights of coasting on a bicycle over the even surface of a cement sidewalk—back in the days when cement sidewalks were considered more or less of a luxury. Perhaps it was a cellar floor, or a foundation, or the sight of workmen mixing cement mortar. Years ago cement was an established member of the construction family, but the development of its uses during the last few years has been so varied and remarkable that it is doubtful if the average citizen has even the remotest idea of it.

The historical incident which brought about the need for Portland cement was the construction of the Eddystone lighthouse in the English channel in 1759 by an engineer named John Smeaton, who while looking for a mortar for this purpose discovered that an impure limestone containing a certain amount of clay, when heated and crushed, produced a material which hardened and set.

Natural Cement Restricted.
The cement used by Smeaton marked the beginning of modern cement-making practice, but the early cements were different from the Portland cement of today, for natural cements depend on nature to prepare their material and are consequently restricted to the rocks having the proper proportions of materials in their makeup and any variation in the composition cannot be regulated.

Smeaton's discovery apparently stimulated interest in the industry. About 1768 James Parker of Northfleet, England, patented a process for manufacturing cement by turning impure limestone almost to vitrification in ordinary lime kilns, and grinding the resulting clinker to powder. He gave this material the name of Roman cement. In France there had been experimentation along similar lines.

The first recorded manufacture of this product in the United States was in 1819 in Madison county, New York, for the Erie canal project. Its use was developed by Benjamin Wright and Canvass White. All of the above cements may be classed as natural cement because they were prepared by burning a natural rock without previous preparation, and by grinding the burned product to a fine powder.

Almost a Century Old.
Almost 100 years ago, in 1824, a brick-layer of England, Joseph Aspdin, took out a patent for what he called Portland cement. He gave it this name because when hardened it resembled the famous stone found on the Isle of Portland off the coast of England. Aspdin's patent specified that definite amounts of clay and limestone be used, and described the process of amalgamating and clarifying these two materials in the manufacture of the product. This constitutes the distinction between natural and Portland cements.

Few attempts were made to produce Portland cement in the United States until about 1870. During the 70's, however, plants were operated at several points, including Wampum and Coplay, Pa.; Kalamazoo, Mich.; South Bend, Ind., and Rockport, Me.

Industry Grows Rapidly.
The remarkable growth of the industry, and the consequent development of new uses for the material is best shown by the annual output fig-

ures. In 1880 production of Portland cement in the United States was only 42,000 barrels; in 1890 it was 335,000 barrels; in 1900, 8,482,020 barrels; in 1910, 76,549,951 barrels and in 1920, 100,302,000 barrels.

One hundred million barrels of cement—the 1920 output—would be sufficient to build nine transcontinental highways, eight inches thick and eighteen feet wide from New York to San Francisco. Or it would build 1,000,000 six-room concrete houses with a porch and sidewalk thrown in. Or it would build twenty-three and one-half great pyramids like those of Egypt. Or it would build a sidewalk five feet wide and four inches thick that would reach from Washington to the moon—a distance of 243,000 miles.

The quantity of the output is shown by the fact that in 1921 the industry required nearly 8,000,000 tons of coal. The amount of coal burned in manufacturing a barrel of cement varies from 150 to 200 pounds, so that when purchasing a sack of cement the consumer is paying for nearly fifty pounds of coal.

Almost any one who builds nowadays uses concrete in some form or other. Concrete piles are the foundations of thousands of our large office buildings and the same material is used in the skeleton and framework of bungalow or skyscraper, concrete is as common to the contractor as flour is to the baker.

During the last ten years Portland cement has revolutionized the paving industry. Thousands of miles of concrete roads have been built and every year sees an increasing number contracted for. Last year almost 6,000 miles of 18-foot concrete highway were constructed in this country. City streets are paved with concrete, alleys are paved with the same material, curbs and gutters, sidewalks, fence posts, ornamental lighting standards, park benches, statuary, swimming pools—into every sort of civic improvement cement enters in some way or other.

Portland cement has accomplished wonders for the farmer. The same kind of cement that paves his roads, and gives him access to his markets is used in constructing his house and barns. It is used for silos and water troughs, replacing the old wood structures. Hogs are given concrete feeding floors so that no feed is lost in the mud. Concrete smoke houses care for the meat and concrete ice houses hold the winter crop of ice. Concrete corn cribs save corn from rats and mice and concrete well platforms and hitching posts are thrown in for good measure.

The railroads turn to Portland cement for a myriad of uses. Bridges, abutments, trestles, retaining walls, grade crossings, platforms, station

HEADING OFF RABIES



Recently at David A. Wark's Hazel head kennels, Closter, N. J., the Englewood Kennel club, under sanction of the board of health of that town, opened the first dog clinic of its kind ever projected. Under the direction of Dr. Wark, the Englewood city council provides that dogs may run the streets unmuzzled if they are inoculated with canine rabies vaccine. Dogs so treated are immune from the rabies for a period of six months.

It is not foolhardy for a man determined to die within one hour to wait, rather than partake of an unpleasant drink? Two seconds would finish it all right away, still I am hesitating and add more time to my life, which, in fact, I already ended. The morphine has put me in a condition of absolute mental calmness. I am not attempting to review my past life, and do not try to look into the future, as I believe that death is the end, and that there is no hereafter.

My thoughts are with my beloved wife, whose love and devotion has made me extremely happy for many years, and with my two grandchildren, unconsciously brought sunshine to my life.

Although I deeply regret the grief my voluntary parting from life for a time must bring on my beloved ones, ill health and late reverses make my step desirable.

7:17 p. m.—Did I not know that I have taken sufficient poison to warrant

houses, culverts—wherever there is construction there is a use for cement. Uses widely varied.

Coal dealers store coal in concrete bunkers or bury it in concrete pits. Huge stadiums for football or base ball games are constructed of concrete. In Boston a concrete swimming pool for a baby-hippopotamus is being constructed in Franklin park, while in St. Louis concrete is being used in making rock dens for the bears in the zoo.

In Saganoseki, Japan, an American engineering firm has erected the tallest concrete chimney in the world. Big ships of concrete have long since ceased to be a novelty. Stone boats that float and carry heavy cargoes from port to port is enough to make the dreamer of Arabian Nights turn over in his sarcophagus—and incidentally they are making first class sarcophagi out of concrete these days.

The same sack of cement that is used for making an art window or a transom could equally well be used for the construction of a manhole or a manger, an incinerator or a piece of concrete drainage pipe, a flume or a rock porch, a trolley pole or a cistern, a mine shaft or a safety island at a street crossing, a shingle or a tank, a statue or a subway, a tank or a tennis court, for tree surgery or water trough, laundry tub or dipping vat, bank vault or lawn roller,

Suicide Doctor Writes of Dying

Milwaukee Physician Calmly Re-counts His Sensations as the Poison Works.

TOOK BIG DOSE OF MORPHINE

Ill Health and Business Reverse Made the Step Desirable, He Writes in Last Message—Ended With Cyanide.

Milwaukee, Wis.—Dr. A. J. Herschman, sixty-two years old, scholar, philosopher, and linguist, who professed disbelief in all religion, but who had Christ the greatest man who ever lived, died by his own hand here. Doctor Herschman swallowed poison and then attempted to write out, as death came on, what was in his mind. Here is his farewell note, started just after swallowing the poison, and the additions he made while awaiting death:

"Personally I have been kept so busy on this last day in the effort to straighten out matters without overlooking anything that no time is left for petty thoughts. Besides, many clients interrupted me, keeping me from meditation. I nevertheless wound all up, and at 5:40 p. m. took twelve and one-half grains of morphine, which will be a sufficient quantity, but which works slowly. Now, at 6:45 p. m., I feel somewhat drowsy, but far away from eternal sleep.

Puts Off Deadly Draught.
"I intend to follow the morphine with a draught of cyanide of potassium, the deadliest of all poisons, but am putting it off until the morphine's effects will be more marked and my extreme reluctance to swallow the nasty cyanide be overcome.

"Is it not foolhardy for a man determined to die within one hour to wait, rather than partake of an unpleasant drink? Two seconds would finish it all right away, still I am hesitating and add more time to my life, which, in fact, I already ended. The morphine has put me in a condition of absolute mental calmness. I am not attempting to review my past life, and do not try to look into the future, as I believe that death is the end, and that there is no hereafter.

My thoughts are with my beloved wife, whose love and devotion has made me extremely happy for many years, and with my two grandchildren, unconsciously brought sunshine to my life.

Although I deeply regret the grief my voluntary parting from life for a time must bring on my beloved ones, ill health and late reverses make my step desirable.

7:17 p. m.—Did I not know that I have taken sufficient poison to warrant

Husband May Talk to No Woman but His Wife

John Haas of Chicago is restrained by court order from "visiting, seeing, talking to, or riding with any woman in the world except his wife."

Another injunction restrained Haas' mother-in-law from "visiting, talking with, or in any way interfering with the domestic happiness or conjugal felicity" of Haas and his wife.

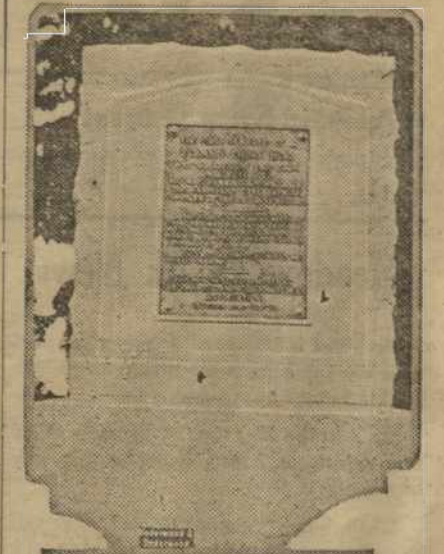
The restraining orders followed a reconciliation after Mrs. Haas had sued for a divorce. She said her husband would not forget other women, while he asserted his mother-in-law caused all the trouble.

These Are Daugherty's Busy Days



With the exception of the White House, the Department of Justice contains the office of the busiest man in Washington. Attorney General Daugherty, in shirt sleeves, is practically "tied" to his desk these days reading and answering the hundreds of letters and telegrams from all parts of the United States sent by people in all walks of life and bearing on the various phases of the coal and rail strikes.

POLAND CHINA MEMORIAL



This monument was erected by the Ohio Poland China Breeders' association on the farm of W. C. Hankinson, now deceased, eight miles west of Lebanon, Warren county, Ohio, to commemorate the issuance of the first pedigree for a Poland China hog. This pedigree was also the first written for any breed of hogs, and the monument is the first erected marking the place of an organization of any breed of stock, so far known. The monument was dedicated with an original poem to the honor of the Poland China hog by Mary Hankinson, granddaughter of the man who owned the farm, and was unveiled by Mrs. Hankinson, his widow. About 1,000 persons from all parts of the country attended the affair.

suns have been named Plaskett, for their discoverer.

Doctor Plaskett estimated that the suns burn at a temperature of 30,000 degrees Fahrenheit as they whirl around one another. One, the more massive, is believed to be 70 times the bulk of our sun. The lesser is 63 times heavier.

Extraordinary Scientific Achievement.
With the aid of a very delicate selsometer the shock of the Atlantic ocean beating upon the west coast of Ireland has been felt and recorded in Birmingham, England.

DISCOVERS HUGE TWIN SUNS

Canadian Astronomer Says They Burn at Temperature of 30,000 Degrees.

Victoria, B. C., Canada.—"Twin" suns, fifty-two quadrillion miles from earth, have been discovered by Dr. J. S. Plaskett, director of the Dominion of Canada's astrophysical observatory through the observatory's big 72-inch reflector telescope.

Scientists said the discovery was one of the outstanding astronomical achievements of recent years. The

Measure Great by Yardstick

British Museum Finds Shakespeare Leads in Estimate by Comparing Book Lists.

IS DIFFERENT IN NEW YORK

Gives Washington Second Place Instead of Luther as in the British Test—New York Expert Says Test Not Valuable.

New York.—They went through the British museum in London the other day with a yardstick and measured the columns of lists of books. The British museum is the leading library in the world, and the men with the yardstick thought that the length of the lists of books about history's principal characters would determine precedence in greatness.

Now what character would you suppose to be far in the lead for the number of books concerned with him? Is he a soldier, statesman, scientist? Perhaps the average person would guess rightly. Of the 4,000,000 books in the British museum the most that bear the name of one man are by or about Shakespeare.

A guess as to the person occupying second place is most difficult. The men with the yardstick announce a

surprising measuring result. Martin Luther is second to Shakespeare, but the officials of the New York Public Library believe that many pamphlets must have been counted as books to give Luther this place. Luther was the cynosure of tractarians of several centuries.

The British List.
This list of the first 60 of the world's greatest, arranged in rank determined by the yardstick, is taken from the British publication, John O'London's Weekly:

- | | |
|--------------------|---------------------|
| 1. Shakespeare. | 31. Wagner. |
| 2. Luther. | 32. Louis XVI. |
| 3. Cicero. | 33. Goldsmith. |
| 4. Goethe. | 34. Galen. |
| 5. Dante. | 35. Xenophon. |
| 6. Aristotle. | 36. Swift. |
| 7. Homer. | 37. Dumas. |
| 8. Virgil. | 38. Swedenborg. |
| 9. Horace. | 39. Aschylus. |
| 10. Napoleon. | 40. Livy. |
| 11. Cervantes. | 41. Terence. |
| 12. Milton. | 42. Tennyson. |
| 13. Scott. | 43. Aesop. |
| 14. Dickens. | 44. Aristophanes. |
| 15. Charles I. | 45. Defoe. |
| 16. Plato. | 46. Victor Hugo. |
| 17. Schiller. | 47. Cromwell. |
| 18. Voltaire. | 48. Tasso. |
| 19. Tolstoy. | 49. Calvin. |
| 20. Bunyan. | 50. Wesley. |
| 21. Byron. | 51. Gladstone. |
| 22. Euripides. | 52. Plautus. |
| 23. Sophocles. | 53. Bacon. |
| 24. Julius Caesar. | 54. Chaucer. |
| 25. Moliere. | 55. Burns. |
| 26. Petrarch. | 56. William III. |
| 27. Plutarch. | 57. Johnson. |
| 28. Hippocrates. | 58. Rousseau. |
| 29. Tacitus. | 59. Louis XIV. |
| 30. Pope. | 60. Queen Victoria. |

When shown this list H. M. Lydenberg, assistant director of the New York Public Library said:

"The list is interesting, but the method of measuring greatness certainly is of no value. For example, Queen Victoria was in sixtieth place when the measurements were taken. But a great many books are appearing that deal with Victoria, and in a short time she may move up to No. 50, so that such a system of precedence would be a shifting standard.

Countries Would Vary.

"If these measurements were of any value in determining greatness, every library would have a different ranking of the most useful people in history. I believe Shakespeare probably would lead in most cases, but in America Lincoln and Washington would occupy important positions, while in the British museum they do not appear, nor any other American, among the first sixty. At the Harvard library, for instance, Xenophon would be among the leaders because of the great Xenophon library there."

Out of curiosity Mr. Lydenberg took a yardstick and went to the reference room of the New York Public Library, where it was found that there were 60 inches of closely compressed cards relating to volumes by or about Shakespeare.

After some search it was found that George Washington was second to Shakespeare with 27 inches of reference cards. Then came Napoleon, Goethe and Lincoln. In that order, followed by Cervantes, Scott, Luther and Aristotle.

Easy to Keep This Luncheon Cold



Luncheon served on a deep counter of solid snow was one of the unique features of the celebration for the seven hundred bankers who visited Paradise Inn, Rainier National park, Washington, on their way to the annual convention of the American Institute of Bankers in Portland, Ore.