

"Britannia" turned the tables by beating the big cutter by between three and four minutes in a strong breeze, and, similarly, "Columbia" was only one or two minutes ahead of "Defender" at the end of a 37-mile race sailed in a stiff breeze at the rate of over 12 knots an hour.

THE HEAVENS IN SEPTEMBER.

BY GARRETT P. SERVISS.

With the fall of the year the glories of the southern heavens depart, but high in the north the splendor of the stars is enhanced. September witnesses the beginning of the reign of the "royal house of Cepheus." Opposite to the Great Dipper, as it sinks toward the horizon westward from the pole, will be seen rising Cepheus, Andromeda, Cassiopeia, and Perseus. Cepheus lies between the head of the Northern Cross (Cygnus) and the Pole Star. Just east of Cepheus is Cassiopeia, unmistakable on account of its curious zig-zag figure, formed by five stars, four of the second and one of the third magnitude. South of Cassiopeia is Andromeda, marked by an extended row of four stars, three of the second magnitude, the most westerly and southerly standing at one corner of the Great Square of Pegasus. Following Andromeda and Cassiopeia from the northeast comes Perseus, the hero of the world-famous story which gave this group of constellations to the map of the sky. The Milky Way, running in bright reaches from Cygnus downward through Cassiopeia and Perseus, adds its sheen, like a royal baldrick, to the beauty of their stars. Between Cassiopeia and Perseus even a careless eye detects a curious shining spot. It is the celebrated gathering of minute stars constituting the "sword handle" of Perseus, and is one of the finest objects in the heavens for a low-power telescopic view. An opera-glass shows many of its twinkling multitude. Draw an imaginary line from the Pole Star through the bow-shaped row of stars marking the middle of Perseus, and extend it about ten degrees further south, and it will lead the eye to a little lone group, the brightest member of which is very famous under the name of Algol. It is, perhaps, the most remarkable variable star in the heavens. There will be a minimum of Algol on September 11 a little before 10 o'clock P. M., Eastern standard time.

THE PLANETS.

During September four of the planets will be in the constellation Virgo, viz., Mercury, Venus, Mars and Jupiter. Two of them, Jupiter and Mars, are in that constellation at the beginning of the month. Mercury and Venus enter it later, moving eastward from Leo.

Mercury is a morning star, reaching its greatest western elongation on the 5th, when it should be conspicuous before sunrise, since it is then within a few days of perihelion and consequently nearly at its greatest brilliancy. No planet undergoes such alternations of light and heat as those of Mercury. When in perihelion the sunlight falling upon its surface is more than twice as intense as in aphelion. At the end of the month, Mercury passes behind the sun, emerging as an evening star in October.

Venus is also a morning star, but much nearer the sun than Mercury, and on the 16th it will pass behind the sun in superior conjunction.

Mars, in Virgo, is an evening star, but inconspicuous.

Jupiter, in Virgo, is also, of course, an evening star, showing bright in the west after sundown. About the 6th Jupiter crosses the line from Virgo into Libra.

Saturn, in Ophiuchus, just north of Scorpio, will remain a conspicuous evening star during September, gradually drawing westward and setting earlier. Its brightest satellite, Titan, will be south of the planet on the 2d and the 18th, west on the 6th and the 22d, north on the 10th, and east on the 14th.

Uranus, in Scorpio, and Neptune, in Taurus, although wide apart, are both evening stars.

The sun enters Libra, and the astronomical autumn begins, on the 23d at 1 A. M., Eastern time.

THE WALTHAM WATCH TRADE-MARK.

A most interesting decision was rendered a few days ago by Judge Townsend in the United States Circuit Court for the Southern District of New York, in the case of The American Waltham Watch Company vs. Joseph H. Sandman.

The complainants, Messrs. Robbins & Appleton, are the makers of the well-known "Waltham" watch which is held in such high estimation both at home and abroad.

The following is a brief summary of the principal points in the decision:

Complainant is and has been for nearly fifty years a manufacturer of watches at Waltham, Massachusetts; it was practically the pioneer in the watch business in this country; prior to 1854, the date of the establishment of its business, only two attempts had been made in this country to manufacture watches, both of which were unsuccessful; its business has grown to an enormous extent, nearly eight millions of watch movements being sold by it, all of which, with but few exceptions, have borne the name "Waltham," and over a million of dollars have been expended by it in advertising and

familiarizing the public with its watches. It appears that originally the name "Waltham" was thus used in a geographical sense, but by continued use it has acquired a secondary meaning as a designation of watches of a particular class, and purchasers have come to understand that watches stamped with the name "Waltham" are watches made by complainant.

In 1895, one E. A. Locke, for whom this defendant was sole selling agent, began the manufacture of watches at Waltham under the name of "Columbia Watch Company." Said Locke was not a resident of Waltham.

Said Locke has made watches similar in appearance to those manufactured by complainant, and stamped with the words "Waltham, Mass." They were sold for a much lower price than those of complainant.

The complainant claimed that by the use of the name "Waltham" purchasers were actually deceived into believing they had purchased the original Waltham watches, when in reality they had bought watches of defendant's manufacture.

The controlling questions herein have been elaborately discussed by Judges Knowlton and Holmes of the Supreme Judicial Court of Massachusetts in *Am. Waltham Watch Company vs. United States Watch Company (Mass.)* In the views therein expressed, I heartily concur.

The ground of said decisions is that such conduct is in violation of the law against unfair trade, and is intended to deceive and defraud the public and to deprive the complainant of the trade and good will to which it is entitled.

In the course of his opinion Judge Knowlton said:

"I am of the opinion that this word (Waltham) has acquired a secondary meaning in connection with the plaintiff's watches, of which the defendant has no right to avail itself to the damage of the plaintiff, and that there should be an injunction against the use by the defendant of the word 'Waltham' or the words 'Waltham, Mass.' upon the plates of its watches without some accompanying statement which shall clearly distinguish its watches from those manufactured by the plaintiff. I find that the use of the word 'Waltham' in its geographical sense, on the dial, is not important to the defendant and that its use should be enjoined. Specimens of watch movements were put in evidence by the plaintiff which showed that it would not be difficult to make prominent upon the plate, in connection with the words 'U. S. Watch Co., Waltham, Mass.' the words 'No connection with the Am. Waltham Watch Co.' or 'Not the original Waltham Watch Co.' or similar explanatory statements."

And Judge Holmes, delivering the opinion of said court sustaining the decision of Judge Knowlton, said:

"Whatever might have been the doubts some years ago, we think that now it is pretty well settled that the plaintiff merely on the strength of having been first in the field may put later comers to the trouble of taking such reasonable precautions as are commercially practicable to prevent their lawful names and advertisements from deceitfully diverting the plaintiff's custom."

A decree may be entered for an injunction and an accounting.

DEATH OF PROF. BUNSEN.

In the death of Robert Bunsen science has suffered a most severe blow. He was almost the last of the great men who have made modern science what it is to-day. His long and useful life was filled with the most splendid achievements in many sciences, but it was as a chemist that he will be chiefly remembered.

Robert Wilhelm Eberhard von Bunsen was born in 1811 at Göttingen, where his father was a professor; naturally he matriculated at the university, studying under Gauss. He graduated in 1830, then went to Paris; he then spent a year in Berlin and a year in Vienna. In 1833 he became professor of chemistry at the Polytechnic School in Cassel. In 1838 he was appointed to the chair of chemistry in the University of Marburg, where he remained for thirteen years. He afterward went to Breslau, from whence he removed to Heidelberg; where his brilliant researches were instrumental in giving that university the high place which it occupies to-day.

Among his earliest researches were those on Cadet's Fuming Arsenical Liquid and his memoirs on the subject are classical. Next he turned his attention to the examination of the chemical changes that occur in the blast furnace, and in 1838 he proved, by accurate analyses, that by the gases escaping at least 42 per cent of the heat evolved from the fuel is lost and that in view of the ease with which such combustible gas could be collected and led off to a distance for subsequent use, a new and important source of economy in iron manufacture was rendered possible. He invented the hot blast, which has enriched every person in the civilized world. His measurement of gases coming from the furnaces was reduced to so fine a point that vast economies were introduced. His discoveries proved lucrative and he was able to travel and carry on geological investigations, of which he was very fond, in Italy and Iceland, studying volcanic phenomena in the former and geys-

ers in the latter country. His theory of geysers is still accepted by many scientists. It was about 1841 that he began his studies on electrolysis and the electric arc. In the same year he invented the battery cell which is named after him. It was of the greatest possible use until the introduction of the dynamo. He prepared a number of metals by electrolysis which had hitherto been produced only in minute quantities. His studies in the more abstract branches of chemistry were at once recognized as of prime importance. His researches on spectrum analysis were most important and his researches and investigations smoothed the way for other chemists. Laboratories of the great institutions of our own and other lands are to-day full of the contrivances of which he was the originator and the Bunsen burner and the filter pump need only be cited. The burner in particular was one of the most valuable inventions ever made; it is used in gas stoves in hundreds of thousands of our homes, and it is equally important in metallurgical processes.

In 1852, when he accepted a call to Heidelberg, it was considered that was the greatest university to which a professor could give his services and he remained faithful to Heidelberg University notwithstanding the flattering offers which were made by the Berlin and other universities.

In collaboration with Kirchoff, he practically created three special branches of science, spectroscopy as a department of optics, spectroscopic astronomy, and spectroscopic chemistry, and we can even foretell with considerable accuracy, by means of his devices, the discovery of new elements.

In looking over the names of the scientists of the last half century, it is almost impossible to find one whose personal contributions to science for the good of the world have been so great as those of Bunsen, and the many hundreds of pupils who during the last half century have been benefited by personal contact with him are now doing the world's work in chemistry in hundreds of laboratories.

He died on August 16 at his home at Heidelberg, Germany.

JAMES RICHARDSON.

James Richardson, who was for several years a valued editorial writer on the SCIENTIFIC AMERICAN, died August 15, at Clear Lake, Sullivan County, N. Y. His death was very sudden and unexpected. He left this city in his usual health not many days since, and no word had been received from him since he reached there. He had been a sufferer from heart disease.

Mr. Richardson was fifty-nine years of age; his birthplace was in the Adirondacks. After he received his education at the Albany Normal School, he went to Kentucky and taught school for several years. He went to the front and served as a private in the Union army until the close of the war. After this he accepted a place on the editorial staff of the SCIENTIFIC AMERICAN, which he filled acceptably for a number of years.

He resigned his position on this paper to become the editor of a promising magazine called *Mastery*. After this his contributions appeared occasionally in the SCIENTIFIC AMERICAN.

He was the inventor of typewriters and calculating machines, and was an enthusiastic naturalist and deeply interested in scientific advancement.

DEATH OF DR. D. G. BRINTON.

Daniel Garrison Brinton, M.D., the celebrated ethnologist, died at Atlantic City, New Jersey, on July 31, at the age of 62 years. He was born at Westchester, Pa., and graduated from Yale College in 1858; then he took a course of medicine at Jefferson College, graduating with the degree of Doctor of Medicine in 1861. After a year spent in study in Europe, he entered the United States Volunteer Army and served in the medical corps in the Civil War, becoming medical director of the 11th Corps. He was finally honorably discharged with the brevet rank of Lieutenant-Colonel. He did good service in the field and in the military hospitals. It was, however, as an anthropologist that Dr. Brinton was known all over the world. He was most deeply interested in American ethnography and ethnology, and his knowledge of American languages enabled him to publish a series of books that won him world-wide reputation for profound learning. His views were original and his knowledge was unlimited. Scholars did not always, however, agree with his conclusions. We have at various times published some of Dr. Brinton's lectures, which are remarkable for their lucid style and masterly array of data.

JAPAN PURCHASES BRIDGES.

The Imperial Government Railroad, of Japan, has ordered from the Pencoyd Iron Works between seven and eight thousand tons of steel bridges which are to be delivered within a year. The order consists of 45 one hundred foot spans and a number of two hundred foot spans. This is the largest export bridge construction contract ever placed in the United States, and it goes to the builders of the Atbara bridge in the Soudan.