

choose to make a list of the fools they know, they can send it to the Theosophical Book Company.

— John Wiley & Sons announce as ready, "A Treatise on the Ordinary and Partial Differential Equations," by William Woolsey Johnson, professor of mathematics in the United States Naval Academy, Annapolis, Md.; "Submarine Mines and Torpedoes as applied to Harbor Defence," by John Townsend Bucknill, lieutenant-colonel Royal Engineers; "Elements of the Art of War," prepared for the use of the cadets of the United States Military Academy, West Point, N.Y., by James Mercur, professor of civil and military engineering; "A Laboratory Guide in Chemical Analysis," by David O'Brine, professor of chemistry in Colorado State Agricultural College; and "A History of the Planing-Mill," with practical suggestions for the construction, care, and management of wood-working machinery, by C. R. Tompkins, M.E.

— Messrs. Longmans, Green, & Co. announce that they have made arrangements to supplement their series, Epochs of Modern History, by a short series of books treating of the history of America, which will be published under the general title "Epochs of American History." The series will be under the editorship of Dr. Albert Bushnell Hart, assistant professor of history in Harvard College. Each volume will contain about two hundred and fifty pages, similar in size and style to the page of the volumes in the Epochs of History Series, with full marginal analysis, working bibliographies, maps, introductions, and index. The volumes will be issued separately, and each will be complete in itself. Those already arranged for will, it is hoped, provide a continuous history of the United States from the foundation of the Colonies to the present time, which shall be suited to class use as well as for general reading and reference. The volumes in preparation are as follows: "The Colonies (1492-1763)," by Reuben Gold Thwaites, secretary of the State Historical Society of Wisconsin, author of "Historic Waterways," etc.; "Formation of the Union (1763-1829)," by Albert Bushnell Hart, A.B., Ph.D., the editor of the series; and "Division and Re-union (1829-1889)," by Woodrow Wilson, Ph.D., LL.D., professor of history and political economy in Wesleyan University, Middletown, Conn., author of "Congressional Government," etc.

LETTERS TO THE EDITOR.

Are Beech-Trees ever struck by Lightning?

THIS is the question implied in your note on p. 7 of *Science* for July 5, 1889.

In August, 1885, at Mason, Ingham County, Mich., a number of men were at work harvesting wheat in a large field west of the village.

A heavy thunder-storm came up, and all but one of them, Aura Hines, fled for shelter to a saw-mill about a quarter of a mile distant. He said that his shoes hurt his feet, and he did not like to run so far; he would go to the woods, which bounded the field south, not far distant. After the storm (accompanied with heavy thunder and lightning) had passed, the men returned from the mill

to their work, but Hines did not appear. They went in search, and found him sitting under and against a large beech-tree, dead.

Without disturbing his position, they sent to the village for help, and I went and saw him.

The tree was a large and tall one, about two feet in diameter, and leaned a little eastward. A pile of brushwood had been burned on the east side, which had killed the tree on that side from the roots to the height of seven feet from the ground. The storm came from westward, and Hines sat on the east side crouched against the tree, which sheltered him from the rain. Two or three holes of half an inch diameter, near his right foot, showed where the current passed from the earth to his body, partly tearing the sole from his shoe, and passing through the crown of the coarse straw hat on his head, making a half-inch hole, as if a bullet had been fired through it; the broken straws pointing upward and outward.

There was a plain furrowed trace on the burned and dead bark of the tree above his head, to the green and living wood, but no farther.

The wood of the beech is very close grained, and in the living tree full of sap, and the green bark is also filled with sap, while the outer or ross bark is thin and quite smooth.

Has not such a tree the elements of a good conductor, over which the electric fluid passes, without shattering it or leaving a trace?

If this is true, beech-trees are probably struck by lightning as often as any others, but it leaves no trace of its passage over them.

H. D. POST.

Holland, Mich., July 14.

A Navajo Tree-Burial.

FOR a number of years I enjoyed the opportunity of studying the customs and traditions of three or four tribes of Indians in the vicinity of Fort Wingate, N. Mex., and during that period became very familiar with the method of disposing of their dead resorted to by the Navajos, one of the tribes to which I refer. They are, as we know, "cliff-buriers," as I have elsewhere described; and personally I never met with a case where they do not bury their deceased — men, women, and children — in the more capacious rents in the rocky cañons of the mountain-sides, where this tribe now inhabits. Recently, however, a well-authenticated case has been sent me where the Navajos had buried one of their dead children in a tree. This was done not long ago, only about a mile from Fort Wingate, and was discovered by Mr. Benjamin Wittick, who has taken an admirable photograph of the tree and the locality. The body of the child had been deposited, after having been wrapped in cloth and blankets, longitudinally on the limb of a large piñon-tree, about fifteen feet above the ground. A rude platform of dead and broken limbs was constructed to hold the body in position. Indeed, in all particulars the burial is characterized as a typical tree-burial, and is interesting from the fact that it constitutes such a remarkable departure from the general mortuary custom of that tribe of our Indians.

Takoma, D.C., July 16.

R. W. SHUFELDT.

INDUSTRIAL NOTES.

New Outfit of Electrical Engineering Apparatus for Princeton College.

MESSRS. JAMES W. QUEEN & CO. of Philadelphia, the well-known manufacturers and importers of electrical test instruments, report the sale of a bill of goods amounting to four thousand dollars to Princeton College for the equipment of their course in electrical engineering to be inaugurated in September next. The list embraces several of Queen's large Wheatstone bridge sets as devised by Professor William A. Anthony, and pronounced by Professor B. F. Thomas of Ohio State University "to be superior to Elliott's Dial Form." These sets, as well as several of the next size smaller, also ordered by Princeton College, are all guaranteed by Professor Anthony to be accurate within $\frac{1}{100}$ of one per cent. There is also a large \$375 reflecting galvanometer made for the special purpose of measuring high insulation resistance, the galvanometer itself having a resistance of 500,000 ohms. This will be

the only instrument of this character in the United States. For measuring induction co-efficients, etc., there is provided one of Ayrton & Perry's Secohmmeters. For the determination of magnetic constants there is a large Weber earth inductor which will be used, in addition to the Kew magnetometer already possessed by the physical department. There is also a Kohlrausch unifilar electro dynamometer for the measurement of very weak currents, such as those used in telephone work, etc. This suspension has the minimum amount of torsion as the current is conveyed out of the instrument by means of a platinum strip attached to the movable coil, and dipping into a dilute solution of sulphuric acid. A pair of Wiedemann's large dead beat reflecting galvanometers, Sir William Thomson's astatic reflecting galvanometer, one of Elliott's differential galvanometers as well as his ballistic instrument, a Wheatstone Kirchoff cylinder bridge, Kohlrausch's mirror differential galvanometer, condensers, telescopes, etc., go to make up the remainder of as fine an outfit of electrical test apparatus as has ever been sold at any one time in this country.