Memorial to Joseph Priestley.—On July 31, 1874, many of the leading chemists of America met near the grave of Joseph Priestley, at Northumberland, to honor the memory of the man who had discovered oxygen one hundred years before. In an account of the proceedings detailed in the *American Chemist* for 1874 we are told that a movement was there begun which led later to the establishment of the American Chemical Society. As the foundation of the American Chemical Society has been thus linked with the name of Joseph Priestley, it would seem proper that his work as an investigator and philosopher and tireless searcher after truth should be commemorated in some lasting way.

To this end, the Council of the American Chemical Society adopted a resolution at its meeting in Urbana, in April, 1916, requesting the president to appoint a committee to devise and carry out a plan for a suitable memorial to Joseph Priestley. After careful consideration of various plans, the committee recommended: (1) That a bust portrait of Joseph Priestley be secured, to be a copy of the best available portrait; that this be retained as the property of the American Chemical Society, but be deposited as a loan to the National Museum in Washington. (2) That a gold medal be awarded at intervals of probably more than one year for superior achievement in chemical research; the award to carry with it the requirement that the recipient shall deliver an address before the general meeting of the society at the time of the presentation or at such other time and place as the Council may direct. Careful inquiry has convinced the committee that a fund of at least \$2000 should be secured to carry out this plan. It is requested that subscriptions be sent to the chairman or any member of the committee. The committee is composed of fifteen members, of which Dr. F. C. Phillips, University of Pittsburgh, is chairman.

The United States Rifle, Model 1917. S. TRASK. (*Arms and the Man*, vol. lxii, No. 22, p. 429, August 25, 1917.)—Tried and tested, the performance of the new service rifle of the United States Army, officially designated "U. S. Rifle, Model 1917," has exceeded the most sanguine hopes of its sponsors. It is under this name that the British Enfield rifle of 1914 adapted to United States ammunition is known. Some apprehension was felt as to the trustworthiness of the new rifle, but fortunately the adaptation has now progressed to a point fully demonstrating that the change has been accomplished with due regard to the safety of those who will use the arm. The dimensions of the metal in the model of 1917 are equal to, and in some parts greater than, those in the Springfield. This strengthening has been principally over the receiver and at the butt of the barrel. In addition, the bolt of the new model is of nickel steel, and the re-

ceivers either of nickel or carbon steel. Facts of considerable interest concerning the model of 1917 and the arm from which it was adapted are gradually becoming known, and a statement from an officer who has given much time and study to the matter adds some illuminating details to the facts already known. He says:

"When the question of the desirability of obtaining a flatter trajectory with small arms was opened it was found that with the service 0.303 British rifle, known as the short Lee-Enfield, it was not possible to obtain as flat a trajectory as desirable, but a compromise was made and the Mark VII ammunition was introduced. This mark of ammunition differs from the Mark VI in the bullet having a sharper point and weighing 174 grains instead of 215 grains, the ballistics obtained in the short Lee-Enfield rifle being 2440 f/s. muzzle velocity with the cartridge heated to 60° for a maximum chamber pressure of 45,400 pounds per square inch. This ammunition gives a maximum height of trajectory of just under 9 feet for a range of 800 yards.

"It was obvious that the desired maximum height of trajectory of 5¼ feet for this range could not be obtained in the short Lee-Enfield rifle, and the question of the introduction of a new design of rifle was taken up. This led to the design of a rifle of 0.276 bore firing a rimless cartridge, and at the outbreak of the present war the trials had almost reached finality. One thousand of the rifles had been made and issued to troops for trial, and the design of the rifle was favorably reported upon. The ballistics given by this rifle were 2800 f/s. muzzle velocity for a chamber pressure of 51,500 pounds per square inch. The diameter of the base of the cartridge was 0.526 inch.

"When the war broke out, all question of re-arming had to be dropped. A large number of rifles, however, were required, and as no gauges for the short Lee-Enfield rifle were available, and as it was considered that the 0.276 rifle was of simpler design for manufacture and that re-arming would be taken up again at the conclusion of the war, some of the 0.276 rifles were sent to rifle manufacturers in this country to see if they could make rifles similar in design, but barrelled to take the British 0.303 Mark VII cartridge. This led to the introduction of the rifle magazine 0.303, Pattern 1914. This rifle only differs in design from the 0.276 rifle in the dimensions of the interior of the barrel, in the magazine arrangements, which had to be made suitable for a 'rimmed' cartridge, and the graduations of the sights.

"The diameter of the base of the Springfield cartridge being 0.473 inch against 0.526 inch, and the chamber pressure in the Springfield rifle with the cartridge of Model 1906 and in the 0.276 rifle being the same, it will be seen that the 0.276 rifle was designed to stand a greater thrust on the breech bolt and recoil surfaces than the Springfield rifle."